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AUTHOR

LUIGI CORVO
Department of Management and Law
University of Rome "Tor Vergata" (Italy)
luigi.corvo@uniroma2.it

LAVINIA PASTORE
Department of Management and Law
University of Rome "Tor Vergata" (Italy)
pastore@economia.uniroma2.it

The Usefulness of Sharing Social Impact Data. Early Findings from an International Benchmarking on SROI Assessments

ABSTRACT

This paper aims at investigating a perspective for the social impact measurability by collecting and analysing open data at the international level. Our goal is to shed light on the unlocked potential of the knowledge produced by a global community of scholars and practitioners engaged in social impact measurement processes. Global open data on social impact assessment (SIA) have been mapped and collected in a database using the impact chain as a reference point for choosing the variables. In this paper, we focus on the potential use of these data to enable forecasting analysis about the expected social value and to inform decision-making processes aimed at responding to complex social challenges. The early findings suggest the opportunity of a wider action-research initiative, by engaging different typologies of stakeholders and organizations aimed at incorporating social impact as a key strategic driver.

KEY-WORDS

SOCIAL IMPACT ASSESSMENT, SROI, IMPACT CHAIN

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1. Introduction

Over the last few years, attention has focused on the study of different models of measurement and evaluation of value that cannot be directly recognised through conventional financial metrics (Grieco, Michelini and Iasevoli, 2015; Nicholls, 2015; OECD, 2015; Nicholls, 2018).

This growing attention has led to changes in organizations that operate in the third sector and in hybrid companies, which, at various levels, are increasingly trying to find credible solutions to demonstrate the social value generated through processes of measurement and social impact assessment (SIA).

Issues in SIA are receiving more attention from a whole range of social enterprises, in what Young, Searing and Brewer (2016) define as the "social enterprise zoo", each with a different approach and purpose.

At the same time, governments, on a regional and national scale, have started programmes to strengthen their ability to assess the social value generated by the evolution of the traditional welfare state. They are in the difficult position of having to respond to a growing demand for public goods and services with fewer resources available for public financing; yet, at the same time, being faced with challenges concerning the management of public debt as dictated by spending constraints and increasing social needs from an ageing population and multiple immigration (OECD, 2018).

Assessing social impact is still not easy today, largely because of the difficulties in identifying qualitative and quantitative metrics to demonstrate the extent to which social impact is generated. Extant literature shows that, despite growing interest in social entrepreneurship and social innovation research (Phillips et al., 2014), little attention has been paid to the application of theoretical models.

In many of the existing contributions, the effort needed to align theory and practice is noticeable. These studies show that in academic discourse, there are many assumptions which practitioners are not able to follow for various reasons. For Smith and Stevens (2010), this is particularly true for SIA models where the developed metrics range from highly qualitative, self-developed input measures to more sophisticated quantitative output and impact measures. However, the SIA process is widely carried out by both profit and non-profit organizations.

This paper intends to shed light on social impact measurability with regard to policies, programmes, projects, and activities through the collection and the analysis of social impact data generated globally so far.

A social impact data mapping has been conducted through the identification of SIA reports repositories that have collected two decades of practices. It is worth anticipating that the research underpinning this paper uses open access SIA reports repositories of assured SROI (Social Return on Investment) assessments, and that the paper presents the results of one third of the mapped available population.

Social impact data mapping requires the integration of big data studies and applications within the social impact assessment framework. Research on big data is a growing scientific field since 2011, when the most important global consulting companies have devoted attention to the topic

through reports, international conferences and the reorganization of business strategies. Big data can be defined as the massive data collections showing three peculiar characteristics, called the "3 Vs" of big data (Davis, 2014):

1. Large Volumes, in terms of quantitative consistency of the data stock.
2. High Velocity, as regards the fluidity of data collection and renewal.
3. Great Variety, with reference to the spectrum of information that can be derived from the data.

Akter introduces two additional aspects (bringing the Davis model from 3 to 5Vs), which are truthfulness and value, underlining the importance of verifying both the reliability and the possible usability of the data (Akter et al., 2016). Desouza and Smith, in reference to the actual usability of data, introduce the element of processability, attributing to big data the characteristic of being too complex to be processed with traditional database management tools and thus linking them to machine learning technologies and artificial intelligence (Desouza and Smith, 2014).

An important step in the direction of our analysis is taken by the study by Opresnik and Taisch, which links the big data phenomenon to the different types of source-contexts from which they derive, distinguishing:

- Data generated by traditional companies;
- Machine-generated data, that is data obtained thanks to sensors and other internet of things devices;
- Social data, particularly relevant for this research (Opresnik and Taisch, 2015).

The most interesting theoretical perspective for us, however, originates from the intersection of the two research fields just described. We could call it "big data for social good". In this field, on the contrary, there is still an insufficient presence of studies and elaborations. Although big data have been put at the service of the resolution of complexities related to the technical and economic sphere (Chen, Chiang and Storey, 2012), no analysis has been carried out in detail with respect to the social value of big data (Agarwal and Dhar, 2014). Social big data is understood as data that arises from social interactions and behaviours able to leave traces in the web context (or out of it but that can be integrated through the internet of things systems).

Since 2011, the year in which McKinsey published the report "Big data: The next frontier for innovation, competition, and productivity", a growing interest has been activated with respect to the potential use of data to improve productivity and competitiveness of organizations.

The concept of big data for social good is the one applied behind the research question on the data related to SIA. It is clear that data on SIA does not yet have the volume necessary to be framed as big data. What interests the authors is their potential and they put them already in this perspective. Indeed, the issue of how to measure social/environmental value is experiencing a moment of extraordinary interest, based on requests made by different actors:

- The UN requires robust metrics to be able to link information flows related to territorial projects to information cascades that support the SDGs.
- Banks and financial actors need simplified and consistent metrics to make allocation decisions in response to the growing propensity of savers/investors to place resources on impact securities.

- The Public Administration (PA), also due to the scarcity of resources, but even more because of the increasingly complicated relationship between institutions and citizens, intends to provide evidence of the social value generated by public programs.
- For profit companies and social enterprises. For profit companies try to be increasingly identified as subjects that aim not only at maximizing profit but also at creating conditions of greater social and environmental sustainability (at least from a narrative point of view). Social enterprises are driven both by regulatory reforms (for example in Italy with the reform of the Third Sector Code) and by new financial policies (impact funds) to provide evidence of the social impact that they are able to generate.

In this paper, we intend to focus on a specific potential of big data that might reduce the social impact measurability gap and support decision-making processes aimed at responding to complex social challenges.

For this purpose, we have created an impact database by importing the variables of the impact chain (Clark et al., 2004) and the SROI ones (Then et.al., 2017) and by producing an impact benchmarking using only certified data (for instance from Social Value International). The wider research is an ongoing project that has become an academic spin-off named "Open Impact".

The paper is organized as follow: a literature review on social impact assessment; a methodological section that explains the source of the data and the analysis; the findings section where a preliminary elaboration of the database is presented, and a conclusion section that highlights the implications for researchers and practitioners (with a specific attention to policy makers).

2. The "what", "who" and "how" issues about social impact assessment

In recent years, public discourse, above all at an international level, has increasingly resorted to the use of the term impact, often accompanied by an adjective (economic, social, environmental) and increasingly included in a— at least apparently—broader evocation of the concept of sustainability (OECD, 2019).

The definition of "impact" has been largely discussed in literature (Dietz, 1987; Emerson, 2003; Vanclay, 2003; Maas and Liket, 2011; Arvidson and Lyon, 2014; Grieco, Michelini and Iasevoli, 2015; Nicholls, 2018).

Indeed, SIA combines social research, public involvement, planning, and management of social change (Bakar et al., 2014). The relation between impact and complexity appears particularly interesting considering the systems change perspective and the possibility of legitimating the forms of value generation unrecognized by the conventional financial metrics (Hervieux and Voltan, 2019).

Assessing the impact means building and transmitting a set of information capable of broadening and deepening knowledge on the value generated to better orient decision-making processes at different levels (Lyon and Sepulveda, 2009; Grieco, Michelini and Iasevoli, 2015; Then et.al, 2017).

According to Chmelik, Musteen and Ahsan (2016) social impact is a multidimensional construct that requires an integrated framework. To outline the boundaries of this framework it is crucial to focus on the "what" of the impact. Products, services, projects (which we will call in more generic terms "activities") that an organization provides and engages with represent the first possible "what"; the organization itself is another possible "what" (Klemelä, 2016). For instance, Epstein and Yuthas (2014) define impact as the environmental and social effects from the activities of an organization. Cordery and Sinclair (2013) underpin that this distinction is not always very clear to pursue due to the number of interconnected contributors. Here it opens up the issue of internal and external stakeholders and exogenous factors (Barraket and Yousefpour, 2013).

This distinction arises from a different way of understanding the essence and function of an organization considering it as a biological organism that generates value even for the sole way of being "in the world", i.e., being in society (Parente et.al, 2020*)*. This explains, therefore, the reason why discussions on the impact assessment of activities and the impact assessment of organizations overlap.

Another central issue is the debate about "who" is affected by the discussion on impact. The most immediate answer would be that every organization generates effects of positive or negative change in the medium to long term capable of affecting the well-being of people, the community and the collectivity. Therefore, every change-maker is interested, but with quite a different priority and relevance levels. Some scholars argue that the main subject affected by the impact assessment is the PA (Massey and Johnston-Miller, 2016). It should be emphasized that the focus on policy impact is part of the studies on public management, further reinforcing the theoretical and empirical lines critical to new public management and giving substance to the paradigm of public governance (for instance, Brudney and England, 1983; Osborne, 2010; Pestoff, Brandsen and Verschuere, 2015).

If the PA is the main subject affected by the impact assessment, all actors with whom the PA, directly or indirectly, establishes relationships for the creation of public value are subjects as well. When PA adopts new public governance paradigm it becomes an enabler of a multi stakeholder network. A specific interest is found for social enterprise as key actors in welfare services delivery (Pestoff, Brandsen and Verschuere, 2015; Hervieux and Voltan, 2019). Indeed, social enterprises are mentioned as a major subject interested in SIA, since through it they could be able to measure their results in coherence with their mission (Bengo at.al., 2016).

The impact discourse affects also profit-oriented companies and private financial entities, as an evolution of CSR studies and the concept of blended value proposition (Emerson, 2003; Parsons and Moffat, 2014). The impact investors community has contributed to the spread of Impact Reporting and Investment Standards (now IRIS+) developed by the Global Impact Investing Network (GIIN) to report on the impact of their investment in the sector. Sustainability and Environmental, Social, and Governance (ESG) accounting practices for businesses have been largely shaped by the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB).

Summarizing, therefore, we find impact as an element of relationship between different organizational configurations that populate a redesigned geography of value, where distinctions and perimeters are no longer marked by mere formal elements, but by different visions, intentions and values. To address the issue of who is interested in the SIA, Klemelä (2016) examines the role of legitimation means from the perspective of different stakeholders.

The latest topic most discussed in SIA literature refers to the "how", i.e., the issue of methodology. Until now, research in this field has almost never led to shared solutions and this finds a direct demonstration in the plurality of models adopted for the measurement and evaluation of social impact—76 models mapped in literature, see Grieco, Michelini and Iasevoli (2015)—which is representative of strongly differentiated approaches and tools. Fragmentation among SIA models and variety is high: apart from the very few models that present clear methodology and characteristics, for instance SROI (see Then et al., 2017), most of the models are not standardized (at least in the process). This variety certainly covers a broader range of dimensions to assess social value and adapts to the diversity of each subject (from for-profit companies to social enterprises, from benefit companies to non-profit companies), but, at the same time, it has the limitation of making the scalability of the assessments much more difficult (Arce-Gomez, Donovan and Bedggood, 2015). The fuzziness of the SIA models also affects impact finance, which is supposed to be the system where these news metrics are taken into account (Spiess-Knafl and Scheck, 2017).

3. Method

The methodology used can be schematically represented in four essential steps: (i) mapping of data sources, (ii) data collection, (iii) data analysis and (iv) systematization. The first two describe the sample of the research and its characteristics, while the other two describe the method of analysis.

Before getting into each step, it is important to describe the choice of the unit of analysis. As pinpointed in the literature review section there is a great fragmentation in SIA practice. Even so, the SROI (Social Return on Investment) is the most frequently used metric in social impact assessment (Nicholls, 2009; Then et al., 2017; Hervieux and Voltan, 2019). There are many reasons for this "success". Among them the fact that there is a shared process described in the "A Guide to Social Return on Investment" by The SROI Network (2012) and its nature of pseudo-financial parameters (Klemelä, 2016). Because of its wide use, the literature about SROI limitations and strengths is growing (see McLoughlin et al., 2009; Arvidson et al., 2013; Luke, Barraket and Eversole, 2013; Millar and Hall, 2013; Arvidson and Lyon, 2014; Arvidson, Battye and Salisbury, 2014; Pathak and Dattani, 2014).

Aside from critiques, SROI is so spread that it led to the creation of a SROI Network where SROI-reports are collected and archived. There are two kinds of reports: assured SROI and not-

assured. The assured reports are reports that have been checked for their compliance to all the principles of SROI (assurance is a procedure provided by The SROI Network). Since SROI is the most spread methodology around the world and there are open access archives of practice, SROI reports constitute the main unit of analysis of this research. Even though the research project aims at collecting a variety of SIA applications with different methodologies, until now the majority of available open access sources can be framed as SROI reports or similar methodologies. The results presented in this paper are entirely from SROI assured reports.

Hereafter the four steps.

3.1. Mapping of data sources and construction of the collection database

We have taken into account the most accredited repositories of projects with certified social impact assessments. These repositories are: Social Value, Social Finance UK, Issuelab, and New Economic Foundation. Approximately 1,000 reports containing data consistent with our needs have been identified and, among these, we have chosen to give priority to those that have passed a review or external validation process led by independent bodies (assured reports). At the same time, a data import framework was built, using the support of experts in digital environments. This involved the construction of an entity-relationship matrix to link each imported variable to the others with which there is a sense relation based on the model adopted for the impact assessment. The model considered is Theory of Change (ToC) (Weiss, 1995; Jackson, 2013; Taplin et.al, 2013).

3.2. Data collection through document analysis

Three independent analysts have analysed the reports identified as priorities based on the reliability of the data contained and have categorized the values reported in the variable fields set with the database framework. The analysed reports are 333. The authors took part in the analysis only if the analysts expressed an explicit request to settle divergent interpretations.

Following coherently with the first step, the identification variables are the typical ones included in the impact chain (Clark et.al., 2004): input, activities, outputs, outcomes, impact and deadweight.

Specifically, the variables considered are divided into two groups: type of information that can be entered in the database and project detail referred to the single report. Table 1 describes both categories (the main items).

Table 1. Main database (DB) variables

Type of information in the database	
Variable	*Description*
Juridical form	Whether the data refers to a legal entity of a person
Funder	Type of funders (e.g., bank, NGO, non-profit, firm, etc.)
Organization	Type of organizations in the DB (e.g., social enterprise, charity, etc.)
Stakeholders (a)	Type of stakeholders in the DB (e.g., public administration, citizens, etc.)
Stakeholders (b)	The role of stakeholders (e.g., service users, service provider, etc.)
SIA model	Type of SIA models used (until now there are only SROI reports, but the DB is designed to be enlarged to include other SIA models mapping)
Macro-category of outcome	Range of effects of the outcome. Three categories: people, community, society
Outcome	List of outcomes
Report Source	Link to the original source of information (e.g., the web link to the social value report)
Indicator source	Link to the original source of information (the assessment can report a secondary source that is mapped in the DB)
Financial proxy source	Link to the original source of information (the assessment can report a secondary source that is mapped in the DB)
Currency	Type of currency in the DB
Indicators/financial proxies	List of linkages between indicators and financial proxies
Project information	
Variable	*Description*
Project	List of projects in the DB
Objective	List of the objectives of the project
Partner	List of the partners of the project
Funder	List of the funders of the project
Area of intervention	List of general fields to which the project/activity belongs
Project area	List of specific areas of intervention to which project/activity belongs
Target	List of targets
Stakeholders	List of stakeholders (entered using the categories above, this is valid for each item listed)
Outcome	List of outcomes
Indicators	List of indicators
Financial proxy	List of financial proxies
Impact	Page where linkages among project components are made regarding impact data
Report	Page where all the information entered is summarized

3.3. Data analysis using business intelligence tools

The collected data have been analysed through Power BI, a software that integrates systems. Power BI is able to connect data and make them interact in order to transform data into information consistent with the built entity-relationship matrix. It is one of the most widely used systems for data management and use, produced by Microsoft, and available in a cloud version.

3.4. Systematization and representation of preliminary results

The collected data have been systematized into macro-variables to allow for an easier representation of data. The macro-variables identified are consistent with the model of evaluation and measurement of social impact chosen (ToC) and are:

- stakeholders, classified as public, private and financial actors;
- input (financial and non-financial data);
- lenders, classified as public, private and financial actors;
- governance, classified as public, private or mixed projects;
- processes, with data on specific activities relating to the projects/activities;
- output, with both quantitative and qualitative data;
- outcome, specifically distinguishing hard (quantitative), cashable (with objective financial implications), and soft (qualitative) outcomes;
- indicators, with logical connection to the relative outcome;
- financial proxies, to allow the translation of outcome units into monetary value.

As explained in Table 1, the number and the quality of information collected is wider, but the ones listed above are the key variables to observe.

4. Results

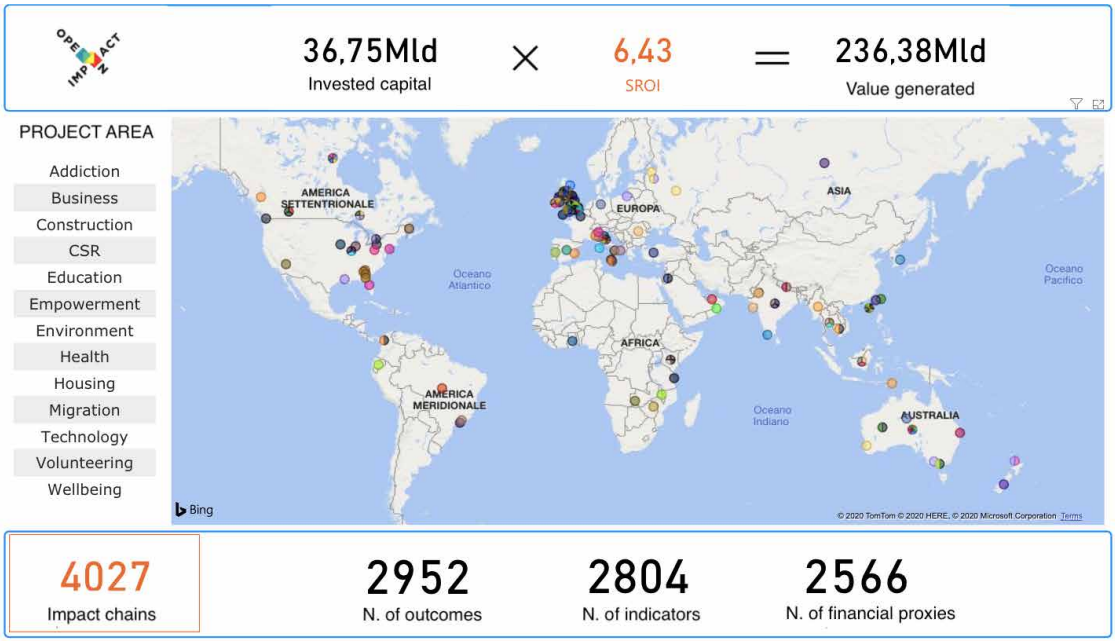
As anticipated, the first phase involved the analysis of the reports. Until December 20th 2020, 333 reports have been imported in the database. This number keeps growing day by day and relates to the most accessible and usable dataset about social impact data.

The invested capital (input) amounts to 36 billion euros, the beneficiaries of these projects are 2 million people and the organizations (businesses, social enterprises, PA, and other organizations) that have taken part in these projects are 711. The areas of the projects are: addiction, business, construction, CSR, culture, education, empowerment, environment, health, housing, migration, sport, technology, volunteering and well-being.

A particularly relevant aspect concerns the wealth of the imported outcome areas, both from the quantitative point of view (they are 2,952) and from the qualitative point of view (they are all

surveyed with reference to the sources). They are linked to 2,804 indicators that make the same outcome areas measurable and to 2,566 financial proxies that allow their translation into monetary value. 4,027 are the overall mapped impact chains. Figure 1 summarizes the results that emerged.

Figure 1. Data representation dashboard through Power BI



As Figure 1 shows, it was possible to construct an average SROI of all the analysed projects. This is equal to 6.43 (it indicates that, on average, 1 euro invested has generated 6 euros of social value). This shows that the integration of all the social impact data provides useful information to significantly increase the stakeholder awareness and knowledge level about social value generation.

However, the potential use of big data in this area is much greater: with digital interfaces it is possible to move around in the dashboard and get more and more detailed information. Indeed, each of the represented infographics is dynamic and can be interrogated; additionally, since it is logically connected with all the other infographics on the basis of the ToC framework, the representation of data according to multiple interrogation drivers is possible. A further possible analysis concerns the comparison between clusters of projects grouped according to the geographical context in which they are realized. In fact, as the number of analysed reports increases, the tendency will be towards a greater homogenization of the territorial representativeness of the projects and this offers the opportunity to produce differentiated analyses according to exogenous variables (political context, social context, economic context, technological context). Figure 2 shows a geographical representation of the projects analysed.

Figure 2. Geographical distribution of the analysed projects

The availability of an interoperable system accentuates the usability of data and allows for increasingly granular units of information. The organization of the database according to an entity-relationship matrix, in fact, allows also a disarticulated use of the data: each outcome area, which in the logical import scheme has a relationship structure with other variables, can also be interrogated individually. This aspect exponentially increases the use of these data for subsequent measurement and evaluation activities and for impact forecasting activities. Figure 3 shows an example.

As shown in Figure 3, the data can be queried by describing the needed information, by using the name of the project, or directly by using the outcome areas. These, therefore, will automatically connect to the indicators and financial proxies connected to enable not only cross use but also vertical use of the information available. This function marks the passage from the concept of data to the concept of information that can be derived from it. Thanks to the disarticulated and transversal nature of the information analysed, knowledge can be created on a specific domain that can be extended to coherent domains.

The next steps of this research project concern the extension of the analysis to cover the entire population of data available at the global level and the fertilization of related fields, such as, for example, the measurement of the degree of marginal achievement of the SDGs. By linking the outcome areas to one or more coherent SDGs, in fact, it is possible to verify how each project, program and policy is achieving results in line with the 2030 Sustainable Development Agenda. This will favour a flow of bottom-up data to substantiate the transition to a more sustainable society. Figure 4 shows a preliminary result. Each project, through the outcome areas, will impact one or more SDGs (for

example, 416 outcome areas are linked to Goal 3). Through the data on the social value generated for each outcome area, it will be possible to verify how much social value is generated by each project, or by a cluster of projects, by a program or by a policy with respect to each SDG.

Figure 3. Usability of measurement data and assessment of social impact

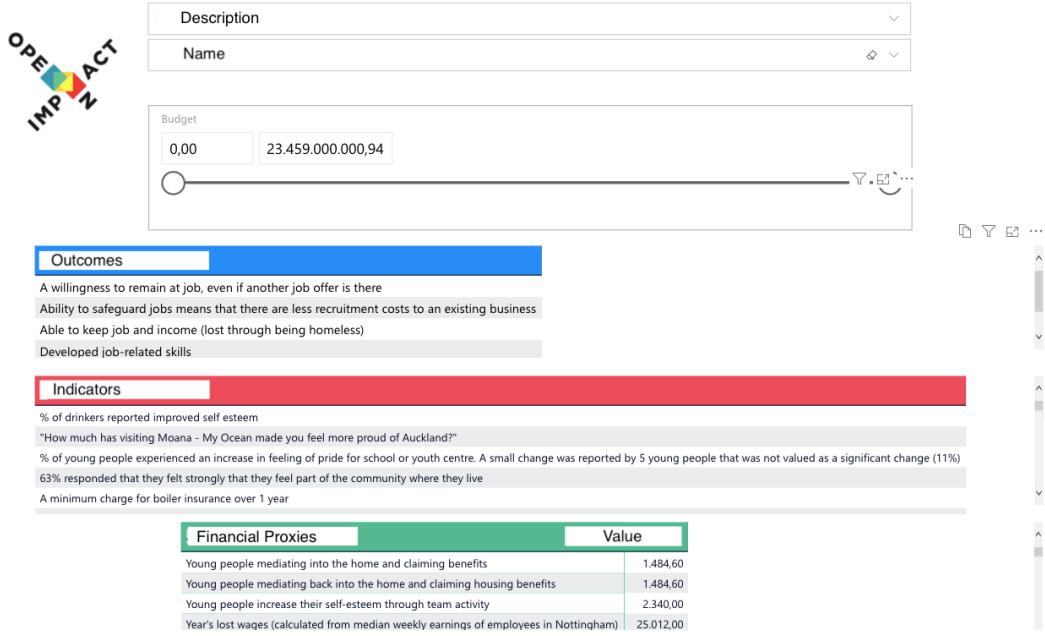
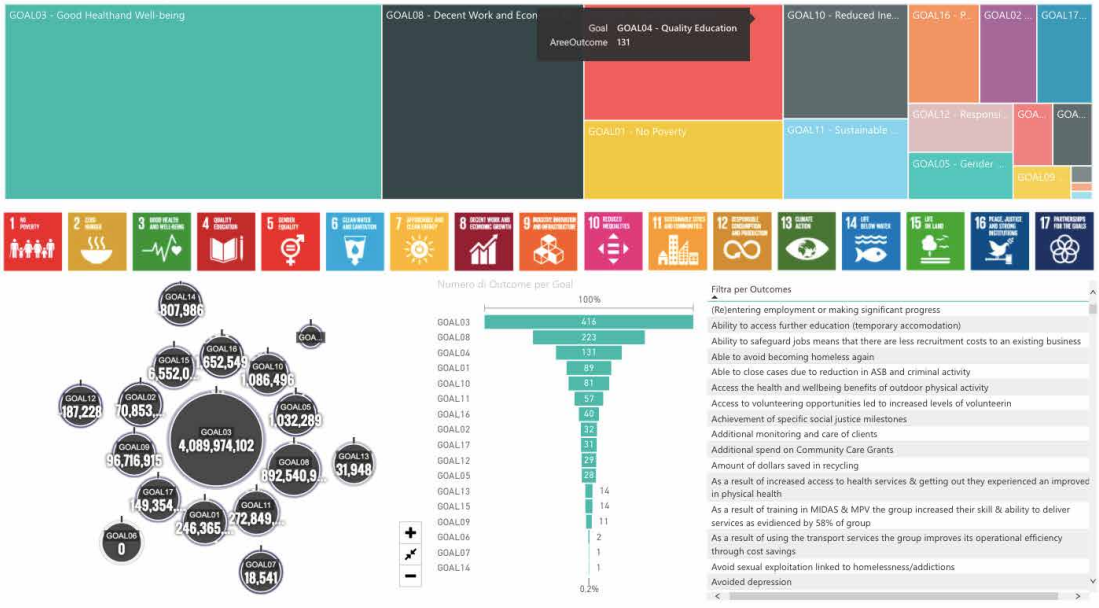


Figure 4. Preliminary result of the connection between the social impact data and the SDGs



5. Conclusion

The main conclusion reached, referring to the aim of this paper, is that the comprehensive collection, management and representation of social impact data has a very significant potential both for informing evidence-based decision-making processes and for enabling cross fertilization with related research fields, such as sustainability and the 2030 Agenda related studies (SDGs).

It is important also to consider the potential in terms of predictive analysis with respect to the impact that can be generated. The measurement and evaluation processes of future projects/programs/policies could benefit from robust baselines that allow comparisons and create a valuable benchmark that verify the consistency of the social impact results. Big data enables the strategic adoption of impact information, well beyond the measurement and evaluation phases. The usefulness of consolidated data can allow the design of future strategies and processes for policies, programs and projects aimed at generating impact. The objective is to be able to represent the expected impact ex ante and to proceed, ex post, to check the deviations from the measured impact.

If these data are managed with open-source logic and with a process of continuous validation of information (wiki approach), the community of researchers and practitioners who work on social impact will be able to continuously enrich the data collected and favour the qualitative and quantitative growth of information inferable from the data.

A further research agenda should also consider the potential use of this data to improve the scalability of different types of initiatives. This is possible where the results of the project demonstrate an adequate integration between social sustainability and the economic sustainability that can be generated from the results of the project. Social sustainability is achieved when the social value deriving from the application of proxies to the outcome areas is at least equal to the value of the invested budget. Economic sustainability occurs when the value of cashable outcomes, or those outcomes that have an immediate financial translatability, is at least equal to the value of the budget invested. The data collected allow us to identify sustainable projects, discern the determinants of sustainability and point out the most consistent scalability strategies.

This paper contains the early results that still lack the following:

- The incorporation of the whole SIA report population (until December 2020, 333 reports have been mapped in a population of an estimated 1,000 open access reports, but this number might vary in time).
- An inferential analysis of variables. This is the next research step. The authors have stated to invest in domains such as urban regeneration and education to understand and decide what type of statistical analysis might be more interesting.
- The machine learning results are not exposed and analysed in detail.
- The link with other standards (like ESG, GRI) is mentioned only in connection with SDGs.

The future development of this project is symmetrical to the limitations enlisted here. Another issue that is important to consider is the typology of SIA models that compose the database. Indeed, until now only SROI reports have been included. This is due to the typology of open accessed

information available. The only other kind of report available aside from the SROI ones is cost-benefit analysis (the numerosity is far less consistent). The authors are conducting a comprehensive literature review on SROI to better understand how to use the database built until now. The entity relation matrix of the database has been built with the idea of including also other SIA methodology and this is one of the future research agenda.

This research project led to the creation of a spin-off of the University of Rome "Tor Vergata" (www.openimpact.it). Open Impact is interacting with different types of organizations that are adopting this logic to introduce the social impact life cycle as a strategic driver of change towards sustainability. The usage of Open Impact database has been tested with different stakeholders: (i) policy makers that can design policy using the data benchmark and forecasting results of the expected impacts (a test has been held with an Italian local government and with a central administration of urban regeneration policies); (ii) social enterprises and impact-oriented organizations that can design, monitor and evaluate the impact of their projects without the effort of starting every time from the identification of the variables of their ToC, rather by adjusting their project to international benchmarks (there are 388 organizations enrolled as of December 2020); (iii) impact finance actors, such as funds, banks and foundations that can refer to a set of data to assess their investments. Future research agenda will focus also on exploring these use cases of the methodology.

One of the future research aims is to link each outcome area to other international standards such as EGSs and GRI standards to improve the reliability for this cluster of actors interested in impact assessment. Open Impact is an ongoing research project therefore the main limitations lie in its incompleteness.

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