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Measuring a Blended Performance: Managerial Insights from the Field of Impact Entrepreneurship

Irene Bengo, Veronica Chiodo and Valentina Tosi

Abstract

The commitment to generating a blended value is increasingly spreading in the business sector. At the forefront of this movement, impact ventures are organizations born to produce value for the society, i.e. social impact, while engaging in commercial activities to sustain their operations. On the other end, we have observed an increased emphasis on more responsible, sustainable practices that traditional for-profit businesses have been called to establish. Accounting for and reporting on social impact has become increasingly of interest to a range of institutions and sectors, with the result that many competing methodologies, approaches, guidelines and standards have been introduced. The chapter performs a comprehensive review of existing approaches for impact measurement and management implemented by socially-oriented ventures (both not for profit organizations and for-profit businesses) focusing on both methodological, governance and operational barriers and enabling factors of the practices. Then, it drafts a framework which helps any ventures to structure a process and methodology to measure its blended performance. The research not only contributes to the scant literature on impact entrepreneurship but impact ventures might offer a compelling laboratory to disentangle the obstacles posed by the combined achievement of financial and social objectives and how organizations might address these challenges.

Keywords: social impact, performance measurement, blended value, social ventures, social reporting

1. Introduction

The commitment to generating a blended value, which produces positive effects on society alongside economic returns, is spreading in the business sector. Corporations are increasingly asked to produce not only economic but also social value. Recently, Hart and Zingales have promoted this idea, stating that, companies should maximize shareholders welfare, not value [1].

Therefore, on one end, the organization delivering social services has progressively acquired the know-how, tools, and models which usually characterize the business world, leading to the establishment of new enterprises defined as *social ventures* [2]. Social ventures (SVs) are hybrid organizations where their primary aim is to provide solutions to the most wicked problems – such as aging, climate change, refugee's crisis – leveraging on forms of entrepreneurship to sustain their operations

[3]. On the other end, we have observed an increased emphasis on more responsible, sustainable and inclusive practices that traditional for-profit businesses have been called to establish or observe. Companies have started to consider the integration of social and environmental concerns no more as initiatives needed to be compliant with mandatory regulations but as a strategic part of the core business and they are moving from a responsive to a proactive approach [4]. Corporate Social Responsibility (CSR) has shifted from being a side-unit of the company to strategic leverage for the creation of economic value [5].

Within this context, social impact assessment has emerged as an endogenous practice to improve accountability and transparency of a large range of organizations, as well as to enhance communication among various actors, both aspects being essential to foster the growth of the whole sector [6]. Moreover, several contextual elements are raising the need to include the practice of measuring social impact in the organizations' operations: the attempt of public administrations to reengineer their procurement schemes according to the outcome-based paradigm; diffusion of evidence-based practices in philanthropy as well as in public policies; the emergence of the so-called social impact finance; and national governments are bringing in guidelines for measuring social impact [7]. Therefore, these elements increase the urgency for organizations to quantify and make explicit the social value generated. Indeed, social impact measurement and reporting can be strategic to improve their performance, access resources, and build organizational legitimacy.

Standards for measuring social value are still underdeveloped to date [8]. In fact, during the years, a large number of approaches, methods, frameworks and tools have been developed as an attempt to meet the diverse information needs of stakeholders in the sector. This ongoing proliferation of models is due to the fact the term social impact describes a very heterogeneous array of effects on several users, different scales and type of activities [9].

However, such heterogeneity in approaches has not yet been fully systematized [10] and there is still an open debate on whether and how to find a common standard on social impact measurement. Those supporting the idea of a *golden standard*, used by all the organizations and harmonized among countries, state that it would allow the comparability of results and support the development of this domain. On the other end, the skeptical claim that this standard would lead to an excessive simplification losing the true soul of the social impact they try to measure. This would be detrimental for the sector because it raises the risk of the so-called *purpose washing* [11], namely when a business or financial institution claims to be impact-oriented without having any substantive social or environmental effects but just to leverage the momentum of the phenomenon for marketing purposes. Instead, they posit a transaction-based approach (a custom method and KPIs for each deal) is the most appropriate way to measure the real social changes an organization produces. However, this customized effort very often requires an organization to design a measurement infrastructure and gather specialized data from scratch. Therefore, specialized expertise is needed and this makes impact measurement and management very costly and time consuming especially for small impact ventures already operating in a resource-constraint environment.

Against this lack of a prevalent approach, organizations have many difficulties to surf this huge pool of methods, metrics, framework and processes.

Therefore, the purpose of this paper is to analyze existing practices of social impact measurement, with a specific focus on emerging ones, and discuss their characteristics. To this aim, we performed a broad review of academic and gray literature that focuses on social impact measurement and searched existing databases collecting relevant practices in the field. Based on the analysis of specific dimensions, we formulated a conceptual framework to provide a more clearly

articulated view of the state of this domain and highlight the evolving trends to support organization approaching this practice to find their way.

2. Literature review

The goal of fulfilling a social mission raises the question of how the impact that these organizations have on society should be assessed to understand if and how they are achieving their objectives and contributing to the well-being of society. Moreover, enterprises blended social and business logics have multiple stakeholders to account to, raising the quest for transparency and accountability [12, 13].

First, the definition of what social impact means is still controversial and differently translated based on the domain it is applied [14].

Scholars have also used terminology such as social value [15, 16], social performance [17, 18], social returns [19] to express similar concepts. Different definitions could be found in literature as:

“Social Impact Assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions.” [20], p. 5

“Impact only if it increases the quantity or quality of the enterprise’s social outcomes beyond what would otherwise have occurred.” [21], p. 1

“The process of transforming patterns of thought, behavior, social relationships, institutions, and social structure to generate beneficial outcomes for individuals, communities, organizations, society, and/or the environment beyond the benefits for the instigators of such transformations.” [22], p. 1252.

In this paper, we use a broad conceptualization of social impact to include considerations on the organizations’ capacity to deliver social and environmental value and of specific methods to measure it.

Concerning social impact measurement, a comprehensive review of the literature indicates two historical trends: one addressing *social accounting* and *audit*, and the other on *social impact assessment* [23]. Social accounting and audit is defined as “a systematic analysis of the effects of an organization on its communities of interest or stakeholders” [24], p. 309 and has become a commonly used label for what has been named, among others, *corporate social reporting* or *social responsibility accounting* [25]. Essentially, it includes reporting on an organization’s social activities, environmental impact, interactions with the employees, the community, customers and other stakeholders and, possibly, their consequences [26]. Social impact assessment “includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, projects) and any social change processes invoked by those interventions.” [27], p. 5. [9], p. 1174 stressed that assessing social impact consists of “providing evidence that an organization is providing a real and tangible benefit to the community or the environment”.

The field has grown to use a diverse terminology to indicate slightly differing approaches within the same field, including *impact assessment*, *impact measurement*, *outcome measurement*, *performance evaluation*, *performance measurement*, *social accounting*, *social and environmental reporting*, *social impact measurement*, *social performance*, and, *triple bottom line reporting*. These terms typically cover a range

of approaches that have their roots in program evaluation and performance measurement in the public and non-profit sectors [28].

More recently, in a seminal article on the Stanford Social Innovation Review, [29], p. 6 stressed the fact that “an impact evaluation should help determine why something works, not merely whether it works.”

We use the terms social impact measurement in the manner employed by [30], to encompass the broad range of practices adopted by an organization to measure its progress towards its social goals.

Measuring social impact is crucial for many reasons. Lall [31] distinguishes between two fundamental factors: external, or *measuring to prove*, and internal, or *measuring to improve*.

On one end, the measurement process is thought to be capable to improve an organization's performance, because it allows a deep understanding of how to best allocate resources and efforts to maximize social outcomes. On the other end, the practice of social impact assessment may be seen as the process of providing validated evidence that the organization is generating a real and tangible benefit to the community or the environment [9]. [31, 32] also observe that the purpose and perceptions of impact measurement in impact investing processes actually change from legitimacy to learning in the course of time. Whereas [33] underlined that investor-investee relationships negotiated through the impact measurement process are generating a new set of impact measurement practices, which are relational and non-transactional in nature with an evolving and ongoing learning process for both. Trends in corporate sustainability have further enhanced the emphasis on impact measurement needs.

Therefore, social impact measurement and reporting are considered to be strategic to improve performance of the organization, access resources, and build organizational legitimacy [34].

However, the lack of a well-established framework for social and environmental accountability may prevent organizations, and particularly social ventures, to operate at their best capacity in the economy. In fact, the absence of reliable metrics may limit the investors' willingness to provide funding to the enterprise, due to the fact that they may not be able to make informed decisions on how to channel their funding in the most effective way to generate social value [6]. Moreover, the lack of a consolidated measurement system may be detrimental for the organization's management which may not have adequate information to support effective decision making and maximize social outcomes [32].

In recent years, there has been considerable progress in developing measurement and evaluation methods with numerous approaches being developed at the practitioners' level and a prominent role being played by foundations and impact investors [30]. Indeed, attention to impact has been often driven by funders who want to know whether their financial resources are making a difference on society, and the growing field of responsible, sustainable and impact investing has highly contributed to developments in this area. Other practitioners such as social analysts and managers of social ventures have also repeatedly tried to develop an appropriate framework for measuring and comparing social value creation [35].

Despite, the practice of social impact measurement has evolved quite rapidly in the last decades, scientific research has lagged behind. Therefore, a proper theorization of how to measure and compare the results of social value creation processes is still missing in the academic community [36]. The most sophisticated approaches in impact evaluation are experimental and quasi-experimental research designs, such as randomized control trials (RCTs) or the difference-in-differences technique have been rarely employed (e.g., [37, 38]). On the other hand, some of the most consolidated approaches have been developed by practitioners. For example, the

Balanced Scorecard [39] was initially developed for corporates and it has been adapted for the non-profit and the social enterprise sectors [40]; the Social Return on Investment (SROI) has been widely used by a large range of actors [41]. The impact investors' community, especially in the United States, has widely adopted the 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. In the business world, a lot of companies have started to assess their social impact through the B Impact Assessment developed by B Lab, to obtain the B Corp certification. Simultaneously, 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). These few examples clearly highlight how the various perspectives of organizations in the sector resulted in an increasing number of models being developed but a comprehensive and systematic view of them has not been yet developed.

3. Methodology

3.1 Data collection

The chapter performs a review of the existing social impact measurement models through data collected on secondary sources.

The practice of social impact measurement, as already underlined, is still emerging and very dynamic therefore we built our database from scratch merging different sources.

To select the models to be included in the analysis, we performed a search through Scopus and Google Scholar to search for the academic papers in the last five years that performed a review of approaches or described one single, well defined, method specific to measure social impact. We also carried out desk research of gray literature to find practitioner reports illustrating specific approaches, guidelines, tools and metrics to assess social and environmental impact. The search used the keywords listed in **Table 1**.

The process yielded to 647 academic papers published between 2016 and 2020, and 123 practitioner reports. To further ensure the relevance of our sample, we reviewed the abstracts and excluded documents that did not discuss the measurement of social or environmental impact. From the documents, we identified 116 social impact measurement models. We excluded from the selection of those models that were either found to no longer be used or those that were not consistent with the objectives of our research. The most robust attempts to classify existing social impact measurement models used are [6, 9, 42] from which we identified 63 models (10 of them were no longer in use and were therefore excluded by the analysis). The other relevant a cluster of sources were papers and report belonging to the domain of social impact investing. For example, the [43] 12 modes as the most spread among social impact investors. Lastly, the analysis includes different efforts implemented by the corporate sector to measure ESG performance, sustainability and social responsibility.

Table 7 (in the Appendix) outlines all the identified models and which type of organizations generated the social impact measured by the specific model.

3.2 Data analysis

After selecting the sample, we identified a number of variables through which we classified the models relying on previous studies. The dimensions used in the

Keywords	
Social impact measurement	Social return evaluation
Social impact assessment	Social return metrics
Social impact evaluation	Impact investing measurement
Social impact metrics	Impact investing assessment
Social performance measurement	Impact investing evaluation
Social performance assessment	Impact investing metrics
Social performance evaluation	ESG assessment
Social performance metrics	ESG standard assessment
Nonfinancial performance measurement	ESG assessment framework
Nonfinancial performance assessment	ESG rating
Nonfinancial performance evaluation	ESG measurement
Nonfinancial performance metrics	ESG evaluation
Social return measurement	ESG certification
Social return assessment	ESG label

Table 1.
Keywords.

	Description
Type [44]	
Method	Provide a specific procedure to perform the measurement, often through a step-by-step approach. These are able to guide the organization conducting the evaluation all the way to a final result.
Framework	Provide a way for organizations to think about, design, plan, implement and embed performance measurement into a project, program or organization as a whole. They do not prescribe a particular method or indicators to use to assess social impact or performance
Dashboard	Dashboards provide a predefined “set of indicators and metrics to cover different performance dimensions, that are considered representative of the results of the organization” [6], p. 13
Set of metrics	Databases or catalogs of indicators to be chosen and used autonomously by the evaluator, but they do not include any specific consideration on how to implement the measurement process.
Driver [45]	
External	Approaches developed or used to serve the needs of internal stakeholders and primarily decision-makers within the organization.
Internal	The latter identifies those approaches, which are used to support a transparent reporting process towards external stakeholders.
External; internal	
Purpose of the measurement [46, 47]	
Accountability	Approaches intended to achieve transparency towards stakeholder through dedicated reporting and disclosure.

	Description
Assess strengths and weaknesses	Focus on assessing the organization's structural and operational capacity to deliver social impact, without evaluating specific end results.
Measure approach effectiveness	Models which have been explicitly developed to measure the effectiveness of a specific programmatic or sectoral approach (e.g. in the case of microfinance at its beginning).
Performance measurement	Approaches that have as primary objective to assess how well the organization, program or project is achieving its social or environmental results.
Performance improvement	Approaches which, in addition to the purpose of assessing results, are used to make the organization, program or project more effective.
Portfolio management	Support the investment process of capital providers (i.e. funders, investors, etc.) when evaluating investment opportunities and allocating funding.
Scope [48]	
Sectoral	Measurement approaches can be developed with a specific sectoral scope or they can be used for evaluating results in multiple sectors.
Multi-sectoral	
Target stakeholder of the measurement process [45]	
Managers	This category identifies the main type of stakeholder which will use the results of the evaluation.
Funders/investors	
Sector stakeholders	The category "Sector Stakeholders" refers to those cases where there is no specific focus on a single category of stakeholders.
Public administrations	
Others	

Table 2.
Dimensions and categories.

analysis are listed in **Table 2**. The categories identified for each dimension have been used to conduct a coding analysis of documents, websites and academic articles describing the approaches. Therefore, the approach was then assigned to one or more category of each dimension. Lastly, a frequency analysis was conducted for each variable included, aiming to have a better understanding of the characteristics of the approaches under study.

4. A decision-making framework for social impact measurement

4.1 Results of the frequency analysis

The analysis conducted identified 126 approaches to impact measurement developed over time by academia and practitioners in the sector. Among these, 10 were found to be no longer in use and were therefore excluded from the sample. A frequency analysis was conducted for each variable discussed in the methodology, aiming to have a better understanding of the characteristics of the approaches under study. Findings are shown in **Table 3**.

Most of the identified approaches were Methods, followed by frameworks (20,7%) and dashboards (20,7%) still representing a large part of the sample. Finally, 6 sets of metrics (5,2%) were identified. Concerning the driver of the

Variable	Value	Frequency (%)
<i>Type</i>		
Method	62	53.4
Framework	24	20.7
Dashboard	24	20.7
Set of metrics	6	5.2
<i>Driver</i>		
Internal	31	26.7
External	65	56.1
Internal; external	20	17.2
<i>Purpose</i>		
Accountability	22	19
Assess strengths and weaknesses	7	6
Measure approach effectiveness	5	4.3
Performance measurement	42	36.2
Performance improvement	12	10.3
Portfolio management	53	45.7
<i>Scope</i>		
Sectoral	18	15.5
Multi-sectoral	98	84.5
Thematic	28	24.1
ESG	21	17.5
Employees	1	0.8
Environment	3	2.5
Sustainability	3	2.5
<i>Target audience</i>		
Managers	28	24.1
Funders and investors	66	56.9
Sector stakeholders	24	20.7
Public administrations	2	1.7
Others	1	0.8

Table 3.
Frequency analysis.

measurement, most models analyzed have a primarily external focus (56%), while 26,7% have an internal focus. Some models are suited to serve both internal and external interests (17,2%). With respect to the ultimate purpose of the measurement approach, most models were designed to support portfolio management (45,7%), performance measurement efforts (36,2%) or accountability (19%). Some were particularly suited to support performance improvement (10,3%), assess organizational strengths and weaknesses (6%) or measure the effectiveness of a specific programmatic or sectoral approach (4,3%). Clearly, some models were able to respond to multiple purposes and were therefore present in more than one

category. Most of the models analyzed have a multi-sectoral scope (84,5%), while only 15,5% of the models in the sample have a specific sectoral focus. As far as the target audience is concerned, we found that most models were structured to inform funders and investors (56,9%) or managers (24,1%). A large part of the sample was targeted at general sector stakeholders (20,7%), while one model was aimed at informing other categories of stakeholders such as the organization's staff or customers.

After reviewing the distribution of the sample within the categories identified on the basis of our conceptualization, we suggest that an organization should consider what to measure (the *unit of analysis of the measurement process*) or for whom to measure (the target audience). Therefore, an organization approaches the measurement practice might consider which its main unit of analysis of the measurement and building on this to identify the other features fitting to the process. Therefore, we set these two variables as the main driver of the analysis and we investigated how they interact with the other categories interact (**Tables 4 and 5**).

Referring to activities *Social Ventures* as the main unit of analysis, the organization can mostly rely on specific procedure able to guide the organization conducting the evaluation all the way to a final result. The method might help in the managing performance of the organization, functioning as a decision-making tool. Indeed, the main purpose of the identified approaches is performance measurement, followed by portfolio management in case the organizations, is an investor. It is interesting that very few approaches are seen as an accountability tool or enable them to reach a deep level of analysis to really improve the performance of the organization. Almost all the approaches are multi-sectoral and they mainly target investors and managers of the organization. Interestingly, the same holds once we consider *For-profit Companies*; the only crucial difference is that the prevalent target audience is the managers of the organizations and no more investors.

The third category we analyzed is Investors. In this case, we see a greater number of dashboards in the Type of approach, supporting the idea that they favor synthetic measures. The main driver of measurement is to serve internal stakeholders and in particular, we see from the prevalent purpose that is Portfolio management that it is used by investment managers to assess the performance of their portfolio to make the allocation of capital more efficient.

Lastly, the analysis reveals a low presence of approaches considering the social impact of policy.

Once we read the frequency analysis using the Type of approach as the main lens (**Table 5**), we can notice that Method and Dashboards are mostly used to produce information targeting external stakeholders; while, Frameworks, helping organizations to think about, design, plan, implement and embed performance measurement into a project, program or organization as a whole and Set of metrics are meant for internal stakeholders. Considering the scope, for performance measurement, Frameworks are the most appropriate; both Methods and Dashboards are mostly used for portfolio management. Set of metrics and Dashboards should be considered reporting and disclosure.

Lastly, we can consider the audience the social impact measurement approaches are supposed to target (**Table 6**). Social impact measurement targeting the managers and other internal stakeholders is mainly used as a decision making instrument to improve the performance; once, the target is the financiers, the analysis confirms that about half of the approaches are used for portfolio managers followed by performance measurement. Few of the approaches are then really used to provide information to other relevant external stakeholders in the forms of social reporting or other types of disclosure.

Unit of analysis of the measurement process								
	Social ventures		For-profit companies		Investors		Public institutions	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Type								
Method	27	23.3	25	21.6	20	17.2	2	1.7
Framework	14	12.1	10	8.6	4	3.4	—	—
Dashboard	8	6.9	12	10.3	8	6.9	—	—
Set of metrics	2	1.7	5	4.3	1	0.9	—	—
Driver								
External	28	24.1	29	25	19	16.4	2	1.7
Internal	17	14.7	10	8.6	6	5.2	—	—
External; internal	5	4.3	13	11.2	8	6.9	—	—
Purpose								
Accountability	9	7.8	11	9.5	4	3.4	—	—
Assess strengths and weaknesses	3	2.6	2	1.7	2	1.7	—	—
Measure approach effectiveness	2	1.7	—	—	1	0.9	—	—
Performance measurement	24	20.7	17	14.7	11	9.5	1	0.9
Performance improvement	9	7.8	5	4.3	1	0.9	—	—
Portfolio management	16	13.8	27	23.3	22	19	1	0.9
Scope								
Sectoral	6	5.2	3	2.6	12	10.3	1	0.9
Multi-sectoral	44	37.9	49	42.2	21	18.1	1	0.9
Target audience								
Managers	17	14.7	10	8.6	4	3.4	—	—
Funders/investors	22	19	34	29.3	25	21.6	1	0.9
Sector stakeholders	10	8.6	12	10.3	4	3.4	1	0.9
Public administrations	2	1.7	—	—	—	—	—	—
Others	1	0.9	—	—	—	—	—	—

Table 4. Frequency Analysis by the unit of analysis.

	Type							
	Method		Framework		Dashboard		Set of metrics	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Driver								
External	35	30.2	11	9.5	13	11.2	6	5.2
Internal	13	11.2	11	9.5	7	6	—	—
External; internal	14	12.1	2	1.7	4	3.4	—	—
Purpose								
Accountability	4	3.4	5	4.3	9	7.6	4	3.4

	Type							
	Method		Framework		Dashboard		Set of metrics	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Assess strengths and weaknesses	1	0.9	3	2.6	3	2.6	—	—
Measure approach effectiveness	4	3.4	1	0.9	—	—	—	—
Performance measurement	27	23.3	8	6.9	5	4.3	2	1.7
Performance improvement	4	3.4	4	3.4	4	3.4	—	—
Portfolio management	37	31.9	5	4.3	10	8.6	1	0.9
Scope								
Sectoral	11	9.5	5	4.3	2	1.7	—	—
Multi-sectoral	51	44	19	16.4	22	19	6	5.2
Target audience								
Managers	12	10.3	10	8.6	6	5.2	—	—
Financiers	41	35.3	9	7.6	13	11.2	3	2.6
Sector stakeholders	10	8.6	4	3.4	7	6	3	2.6
Public administrations	2	1.7	—	—	—	—	—	—
Others	—	—	1	0.9	—	—	—	—

Table 5.
 Frequency Analysis by type.

	Target audience									
	Managers		Financiers		Sector stakeholders		Public administrations		Others	
	Value	(%)	Value	(%)	Value	(%)	Value	(%)	Value	(%)
Driver										
External	1	0.9	48	41.4	14	12.1	2	1.7	1	0.9
Internal	22	19	7	6	3	2.6	—	—	—	—
External; internal	5	4.3	11	9.5	7	6	—	—	—	—
Purpose										
Accountability	2	1.7	9	7.6	10	8.6	—	—	1	0.9
Assess strengths and weaknesses	5	4.3	2	1.7	2	1.7	—	—	—	—
Measure approach effectiveness	3	2.6	1	0.9	1	0.9	—	—	—	—
Performance measurement	8	6.9	23	20	10	8.6	2	1.7	—	—
Performance improvement	9	7.6	1	0.9	2	1.7	—	—	—	—
Portfolio management	3	2.6	50	43.1	3	2.6	—	—	—	—
Scope										
Sectoral	3	2.6	11	9.5	4	3.4	—	—	—	—
Multi-sectoral	25	21.6	55	47.4	20	17.2	2	1.7	1	0.9

Table 6.
 Frequency Analysis by the target audience.

Leveraging on the frequency analysis, we developed a framework to support impact-oriented organizations to select to the most appropriate model based on their needs and objective.

We suggest that the first two steps of the analysis to be considered are the Unit of analysis and the Target Audience. The second step is to select models that are appropriate respect to the purpose of the measurement and the driver of the measurement. Third, the scope and type of approach help refine the process.

4.2 How to implement a social impact measurement

The analysis of the 116 approached identified also enabled to outline a reference process that an organization approaching the design of its social impact measurement might follow. The process presented in this section emerged from the review of the implementation procedures and tools entailed by the existing methodologies. Indeed, for each of the step, we also provided a reference to one or more methods that the organization can look at.

The process foresees the steps outlined in **Figure 1** and described in the following sections.

4.2.1 Measurement objectives and internal boundaries

The scope of this first phase is setting the objectives of impact analysis (why and for whom), the level (e.g. portfolio of social investments/individual social enterprise), the available resources, the motivation for measuring social impact, the leader of the process (internal resource or a consultant).

More suitable models for the needs of this phase are *EY Total Value*, *EPIC methodology* and *WBCSD Measuring Impact Framework*.

4.2.2 Impact statement and impact Mission

In this phase, the organization defines what the impact perspective and the impact ambition are. First of all, it is fundamental to analyze social needs and their relevance linked to the context. This analysis implies the study of the effects and changes that could be generated in the long term by the activities of the

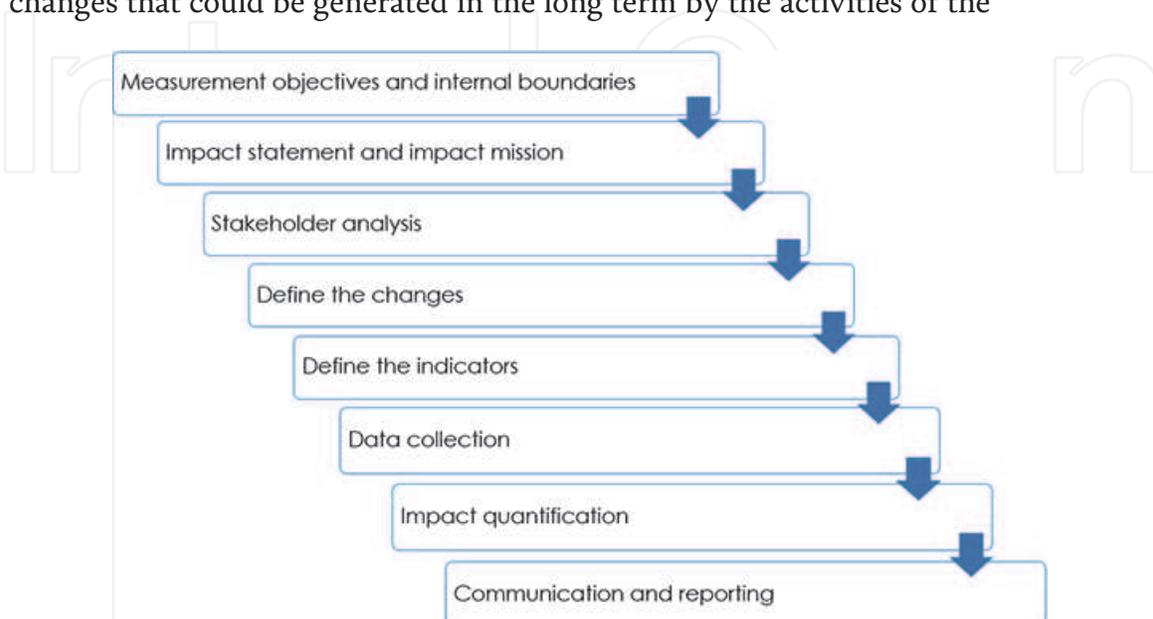


Figure 1.
Social impact measurement process.

organization. In this part of the process, stakeholders will understand the needs, the type of impact and the approach of measurement (social, environmental or integrated).

To achieve this objective, the actors could agree on several founding principles to guide their work as proposed by the *UNPRI Operating Principles for Responsible Investment*, one of the approaches that could be used to develop the impact statement and impact mission. Other principles, for example, are developed by the *EY Total Value* and the *EPIC methodology*.

4.2.3 Stakeholder analysis

Stakeholder analysis implies the identification of the main actors that can affect or be affected in some way by project activities [49]. This analysis should start with the mapping of internal and external stakeholders. Once the most relevant stakeholders have been identified and classified according to their nature, it would be crucial to investigate, one by one, their specific interests or needs, the main capabilities they can devote to the project and all the possible actions the organization can implement in order to involve them, foster their participation into the project and satisfy their needs [50].

Finally, it is interested to assign priority to stakeholders in order to classify them according to their level of power to influence the project and the level of interest in the service/product offered by the project. A reference to undertaking this step is the *Power and Interest Grid* [51].

Social impact measurement models that better interpret this phase are the *Social Return On Investments (SROI)* and the *Social Impact Assessment (SIA)*.

4.2.4 Define the changes

The further step of the social impact measurement process is the definition of the Social Value Chain [52]. This tool allows to graphically represent the process of change that a project can generate in relation to a specific social problem. The main objective of this step is to identify the logical framework and the cause and effect links between the different elements that compose it.

By developing the Social Value Chain it is possible to understand the social value's creation process. Moreover, it is an easily understandable representation of the logic through which the short-term results on beneficiaries lead to the generation of long-term impacts on the community of reference.

Theory of Change and *Impact Management Project* are two models that well describe this phase.

4.2.5 Define the indicators

Once defined the outcomes and impacts that the organization's activity is generating, it is possible to define the indicators (KPIs) to use in order to assess the generated social change. The and international institution such as *IRIS +*, *GRI* and *SASB Standards*, provide a huge repository of indicators that can be consulted, nevertheless, sometimes the impact dimensions do not coincide with those present on the existing repositories and therefore it is necessary to conceive ad-hoc indicators.

4.2.6 Data collection

After the definition of the indicators, there is the data collection phase.

Once identified which stakeholder to involve, there is the definition of the modality of the collection (interviews, focus group, questionnaire, observation) which is chosen according to the nature of the data to gather, the number of stakeholders to involve, and the available resources, and the mean of the collection (digital platforms, email, paper questionnaire, phone call) that should be consistent with the modality of collection selected. The last aspect to define is the timing of the collection, namely when the data collection phase should take place. According to the overall measurement process, data could be collected periodically, or at the beginning and at the end of a project or a pilot, etc.

Acumen Lean Data approach uses the power of low-cost technology to collect high-quality data at a fraction of the time and cost of other methods.

4.2.7 Impact quantification

After collecting data, and verify their reliability, it is necessary to analyze them, calculate the quantitative indicators and describe the qualitative ones, according to the defined times and methods.

If it was not already available, the first assessment will provide the baseline or, in other words, the identification of the starting point. Then, it's important to periodically repeat the measurement, evaluating the results by comparing them with the defined targets and historical values.

Therefore, in this stage an attempt is made to go beyond the measurement of the simple output - the immediate result produced in terms of product/service - and to understand how the changes on the beneficiary directly produced by the organization/project activity (outcome) contribute to generating wider effects and over a longer time horizon (impact) and finally to understand, and possibly purify, the "collateral" effects (deadweight, attribution, drop off, displacement, etc.) that are difficult to trace back to the organization's activity. To overcome (or partially overcome) these impact measurement challenges (deeply explained into the fourth chapter), there are some analytical approaches like the counterfactual analysis that can be used in order to more precisely assess social impact.

Models that best suit the needs of this phase are, for examples the *Impact Weighted Accounts* and the *Social Return On Investments (SROI)*.

4.2.8 Communication and reporting

The final stage of the social impact measurement process is reporting to stakeholders, communicating and using the results, and embedding the measurement process in the organization.

This phase is strongly addressed within the *SDGs Compass approach*.

5. Discussion and conclusions

This chapter contributes to theory and practice in different ways. It fills the gap in the academic literature of systematizing the existing heterogeneous pool of approaches to conduct social impact measurement. Indeed, we first identify 116 approaches (see the **Table 7** in the Annex) which the most used so far; second, we suggest several dimensions that can be employed to analyze and classify these approaches. Third, we combine these dimensions to create a framework able to support organization eager to design their own social impact measurement infrastructure in selecting the proper instruments, metrics and approach.

Moreover, the findings support the idea that so far it has not been possible to establish a *golden standard* in the practice of social impact measurement. Indeed, we found several approaches with different characteristics to meet the heterogeneous needs of many stakeholders. Indeed, there seem to be tradeoffs between the scope of application of standards and the validity of comparison. Thus, it may be difficult for researchers and practitioners to develop direct social impact measurement standards that are universally applicable. Therefore, the chapter provides a contribution to practice by outlining a reference process that an organization can follow to design its own methodology.

In addition, our analysis confirmed to a certain extent that recent developments in impact measurement have been largely driven by impact investors. This clearly emerged by the results showing that most models in our sample, and particularly the most recently developed one, are designed to have funders and investors as their primary audience.

The analysis also reveals some open issues that should need to be addressed to advance the practice of social impact measurement and might represent avenues of further research.

The first challenge that hinders the practice of social impact measurement is the availability of **suitable data**. It should be crucial to increase the quality of data, where quality refers not only to availability but also to homogeneity, interoperability and standardization. Scholars pinpointed the lack of database that directly observes the provision of social impact across multiple sectors and locations [53]. Second, there has been a global effort in recent years towards **harmonizing** indicators, instruments, and methods for assessing and analyzing results, assisted by international networks for data sharing and learning. Among them, we highlight the development of the Impact Management Project (IMP), spearheaded by Bridges Ventures, which has put together a structured network including the most influential organization in the field, such as the GIIN, B Lab, the Global Steering Group for Impact Investing, Social Value International, the International Finance Corporation, the World Benchmarking Alliance, UNDP, the Sustainability Accounting Standards Board, etc. The IMP is aiming to put forward a comprehensive framework, comparable to those used for financial analyses of traditional investing decisions, to be widely used to articulate considerations concerning impact.

Second, a recent trend is the emergence of a new generation of **open-source platforms** that generate opportunities for complex projects that enable real-time data entry and analysis, as well as the data processing, analysis, and visualization facility. Leveraging on latest technologies, artificial intelligence algorithms and big data analytics, combined with large and small data [54], is seen from many [55–57] as one of the possible paths to improve the usability of SIM both in finance and in the social sector. Although the recognized potential, there are still many aspects hampering the ability to leverage the power of data and technology to tackle societal challenges [58] and particularly their application to social impact measurement as well as to program and policy evaluation. According to the literature, these issues concern different aspects i.e. data ownership and accountability ethical issues like risk of doubling down on bias, reproduce inequalities or gender or race discrimination [59]; methodological issues like the importance of realizing safety mechanisms that can complement the algorithmic decision-making process or the trade-off between big data analysis and the work on the field [54]. Many specific elements that should be complemented with a broader and multi-actors effort finalized to the construction of a proper data analysis infrastructure, an essential element to share data and resources as many [60] have been affirming in recent years.

To conclude, the analysis presented in this chapter adds to the debate on whether there is a need of a standard method in social impact measurement by

underlining that the most promising path is not standardization, but harmonization to enable a minimum level of comparability and platforms to enhance the open sharing of data on social aspects.

Conflict of interest

The authors declare no conflict of interest.

A. Appendix

#	Approach	Unit of analysis of the measurement process			
		Social ventures	For-profit companies	Investors	Public institutions
1	AA1000AP		x		
2	Acumen Lean Data	x			
3	Acumen scorecard	x			
4	Aeris CDFI Ratings System			x	
5	Anticipated Impact Measurement and Monitoring (AIMM)			x	
6	Atkisson compass assessment for investors		x		
7	Barclays Sustainability Impact Framework		x		
8	Best available charitable option	x			
9	Bridges Ventures Impact Radar		x		
10	Business Reporting on the SDGs: An Analysis of the Goals and Targets		x		
11	CERISE-IDIA			x	
12	Charity analysis framework	x			
13	Cost per impact	x			
14	Cradle to Cradle certification		x		
15	Dalberg Approach	x			
16	DTA Fit for purpose	x			
17	Echoing green midyear and year-end report	x			
18	Eco-mapping		x		
19	EFQM		x		
20	EMAS		x		
21	ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) SCORES		x		
22	EPIC		x		
23	ESG Disclosure score		x		
24	ESG Relevance Score		x		
25	ESG Risk Rating		x	x	
26	European Impact Investing Luxembourg	x			
27	Expected return	x			

#	Approach	Unit of analysis of the measurement process			
		Social ventures	For-profit companies	Investors	Public institutions
28	Family of measures		x		
29	Finance Initiative Impact Radar	x		x	
30	Financial Instruments for Social Impact	x			
31	Financial Products for Specified Use of Proceeds project-related finance (Equator principles scope)		x		
32	Financial Products for Unspecified Use of Funds		x		
33	FMO ESG Toolkits		x		
34	FTSE ESG Ratings		x	x	
35	Global Alliance for Banking on Values			x	
36	Global Impact Investing Rating System		x		
37	GOGLA Impact Metrics	x	x		
38	GRESB Infrastructure Fund Assessment			x	
39	GRESB Real Estate Assessment		x	x	
40	GRI sustainability reporting framework		x		
41	HIP Rating		x	x	
42	HIPSO Harmonized Indicators for Private Sector Operations	x	x		
43	Il Metodo VALORIS	x			
44	Impact Analysis for Corporate Finance & Investments (Tool prototype)		x		
45	Impact Due Diligence Tools	x			
46	Impact Identification & Assessment for Bank Portfolios			x	
47	Impact Management Project (IMP) Five Dimensions	x	x	x	
48	Impact Measurement - A practical guide to data collection		x		
49	Impact multiple of money (IMM)	x			
50	Impact Risk Classification (IRC)	x		x	
51	Impact-Weighted Accounts		x		
52	Inrate ESG Country Ratings				x
53	Inrate ESG Impact Rating Methodology		x	x	
54	Inrate ESG Real Estate Assessment		x	x	
55	Inventory of Business Indicators (SDG Compass)		x		
56	Investing for Impact: operating principles for impact management Guide to Investing for impact: Operating Principles for Impact Management			x	
57	Investors in people		x		
58	IRIS + (and IRIS)		x	x	

#	Approach	Unit of analysis of the measurement process			
		Social ventures	For-profit companies	Investors	Public institutions
59	ISS ESG Corporate Rating		x		
60	ISS SDG Impact rating		x		
61	LM3	x			x
62	Logic model builder	x			
63	LuxFLAG ESG Label			x	
64	Measuring impact framework		x		
65	Methodology for impact analysis and assessment	x			
66	MetODD-SDG	x			
67	MicroRate			x	
68	Movement above the US\$1 a day threshold			x	
69	MSCI ESG Ratings Methodology		x	x	
70	Omidyar Network Lean data	x	x	x	
71	Outcome star	x			
72	Practical quality assurance system for small organizations (PQASSO) / Trusted Charity	x			
73	Progress out of poverty index			x	
74	Prove it!	x			
75	Public value scorecard	x			
76	Quality first	x			
77	RobecoSam 3 steps SDG Framework		x		
78	S&P Global Ratings ESG Evaluation Sam Corporate Responsibility Assessment		x		
79	SASB Standard SASB Materiality Map and Standard Navigator		x	x	
80	SDG Impact Indicators: A Guide for Investors and Companies		x		
81	SDG Impact Practice Standard	x			
82	SOCIAL			x	
83	Social accounting and audit	x			
84	Social Business Scorecard	x			
85	Social enterprise balanced scorecard	x			
86	Social enterprise mark	x			
87	Social Impact Assessment (SIA)	x			
88	Social Impact Measurement for Local Economies (SIMPLE)	x			
89	Social rating			x	
90	Social return assessment		x		
91	Social return on investment	x			
92	Social Value Maturity Index	x			
93	Social value metrics	x			

#	Approach	Unit of analysis of the measurement process			
		Social ventures	For-profit companies	Investors	Public institutions
94	Sopact - tool	x	x		
95	SPI4			x	
96	SPI4 - Alinus			x	
97	Standard Ethics Rating (SER)		x		
98	Star social firm	x			
99	Success measures data system	x			
100	The B impact rating system		x		
101	The big picture	x			
102	The Committee on Sustainability Assessment (COSA) Methodology		x		
103	The FINCA client assessment tool			x	
104	The Impact Due Diligence Guide	x			
105	The SRI LABEL		x	x	
106	Third sector performance dashboard	x			
107	TIMM	x			
108	Towards Common Metrics and Consistent Reporting of Sustainable Value Creation		x		
109	Trucost		x		
110	UK social housing Sector Standard Approach for ESG Reporting	x			
111	Vital Capital's Impact Diamond			x	
112	Volunteering impact assessment toolkit	x			
113	Wallace assessment tool			x	
114	WBA's benchmarks		x		
115	What did we learn from listening to 4800+ customers in Omidyar Network's Education portfolio?	x		x	
116	Y Analytics	x			

Table 7.
 List of approaches classified by unit of analysis.

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References

- [1] Hart, O, Zingales, L. Companies Should Maximize Shareholder Welfare Not Market Value. 2017; ECGI - Finance Working Paper No. 521/2017.
- [2] Harris, M. Nonprofits and business toward a subfield of nonprofit studies. *Nonprofit and Voluntary Sector Quarterly*. 2012;41:892–902. DOI: 10.1177/0899764012443735
- [3] Margiono, A, Zolin, R., Chang, A. A typology of social venture business model configurations. *International Journal of Entrepreneurial Behavior & Research*. 2018;24(3):626–650. DOI: 10.1108/IJEBR-09-2016-0316
- [4] Wood, DJ, Logsdon, JM. Social issues in management as a distinct field: Corporate social responsibility and performance. *Business & Society*. 2019; 58(7):1334–1357. DOI: 10.1177/0007650316680041
- [5] Arena, M, Azzone, A, Mapelli, F. What drives the evolution of Corporate Social Responsibility strategies? An institutional logics perspective. *Journal of Cleaner Production*. 2018;171(10): 345–355. DOI: 10.1016/j.jclepro.2017.09.245
- [6] Bengo, I, Arena, M, Azzone, G, Calderini, M. Indicators and metrics for social business: a review of current approaches. *Journal of Social Entrepreneurship*. 2016;7(1):1–24. DOI: 10.1080/19420676.2015.1049286
- [7] Bengo, I. Debate: Impact measurement and social public procurement. *Public Money & Management*. 2018;38(5):391–392. DOI: 10.1080/09540962.2018.1471817
- [8] Salazar, J, Husted, BW, Biehl, M. Thoughts on the evaluation of corporate social performance through projects. *Journal of Business Ethics*. 2012;105(2): 175–186. DOI: 10.1007/s10551-011-0957-z
- [9] Grieco, C, Michelini, L, Iasevoli, G. Measuring value creation in social enterprises: A cluster analysis of social impact assessment models. *Nonprofit and voluntary sector quarterly*. 2015;44(6):1173–1193. DOI: 10.1177/0899764014555986
- [10] Braig, P, Edinger-Schons, LM. From Purpose to Impact - An Investigation of the Application of Impact Measurement and Valuation Methods for Quantifying Environmental and Social Impacts of Businesses. *Sustainable Production and Consumption*. 2020;23:189–197. DOI: 10.1039/c9pp90009h
- [11] Findlay, S, Moran, M. Purpose-washing of impact investing funds: motivations, occurrence and prevention. *Social Responsibility Journal*. 2019;15(7):853–873. DOI: 10.1108/SRJ-11-2017-0260
- [12] Bagnoli, L, Megali, C. Measuring performance in social enterprises. *Nonprofit and Voluntary Sector Quarterly*. 2011;40(1):149–165. DOI: 10.1177/0899764009351111
- [13] Arena, M., Azzone, G., Bengo, I. Performance measurement for Social Enterprises. *International Journal of Voluntary and Nonprofit Organizations*. 2015;26(2):649–672. DOI: 10.1007/s11266-013-9436-8
- [14] Rawhouser, H, Cummings, M, Newbert, SL. Social impact measurement: Current approaches and future directions for social entrepreneurship research. *Entrepreneurship Theory and Practice*. 2019;43(1):82–115. DOI: 10.1177/1042258717727718
- [15] Moss, TW, Short, JC, Payne, GT, Lumpkin, GT. Dual identities in social ventures: An exploratory study. *Entrepreneurship theory and practice*.

2011;35(4):805–830. DOI: 10.1111/j.1540-6520.2010.00372.x

[16] Santos, FM. A positive theory of social entrepreneurship. *Journal of business ethics*. 2012;111(3):335–351. DOI: 10.1007/s10551-012-1413-4

[17] Husted, BW, de Jesus Salazar, J. Taking Friedman seriously: Maximizing profits and social performance. *Journal of Management studies*. 2006;43(1):75–91. DOI: 10.1111/j.1467-6486.2006.00583.x

[18] Mair, J, Marti, I. Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of world business*. 2006;41(1): 36–44. DOI: 10.1016/j.jwb.2005.09.002

[19] Emerson, J. The blended value proposition: Integrating social and financial returns. *California management review*. 2003;45(4):35–51. DOI: 10.2307/41166187

[20] Vanclay, F. International principles for social impact assessment. *Impact assessment and project appraisal*. 2003; 21(1):5–12. DOI: <https://doi.org/10.3152/147154603781766491>

[21] Brest P, Born K. Unpacking the Impact in Impact Investing. *Stanford Social Innovation Review*. 2013;11(4): 22–31.

[22] Stephan U, Patterson M, Kelly C, Mair J. Organizations driving positive social change: A review and an integrative framework of change processes. *Journal of Management*. 2016;42(5):1250–81. DOI: 10.1177/0149206316633268

[23] Dufour, B. State of the art in impact measurement: methods for work integration social enterprises measuring their social value in a public context. In: 5th EMES International Research Conference on Social Enterprise “Building a scientific field to foster the

social enterprise eco-system; 30 June – 3 July 2015; Helsinki.

[24] Richmond, BJ, Mook, L, Quarter, J,. *Social Accounting for Nonprofits. Nonprofit Management & Leadership*; 2003; 13(4): 308–324.

[25] Gray, R. Current developments and trends in social and environmental auditing, reporting and attestation: a review and comment. *International journal of auditing*. 2000;4(3):247–268. DOI: 10.1111/1099-1123.00316

[26] Lisi IE. Determinants and performance effects of social performance measurement systems. *Journal of Business Ethics*. 2018;152(1): 225–51. DOI: 10.1007/s10551-016-3287-3

[27] Vanclay F. International principles for social impact assessment. *Impact assessment and project appraisal*. 2003; 21(1): 5–12. DOI: <https://doi.org/10.3152/147154603781766491>

[28] Hatry, HP. Sorting the relationships among performance measurement, program evaluation, and performance management. *New Directions for Evaluation*. 2013;137:19–32. DOI: <https://doi.org/10.1002/ev.20043>

[29] Gugerty. M K, Dean Karlan, D. Ten Reasons Not to Measure Impact—and What to Do Instead Impact evaluations are an important tool for learning about effective solutions to social problems, but they are a good investment only in the right circumstances. *Stanford Social Innovation Review*. 2018.

[30] Ebrahim, A, Rangan, VK. What impact? A framework for measuring the scale and scope of social performance. *California management review*. 2014; 56 (3): 118–141.

[31] Lall, S. Measuring to improve versus measuring to prove: Understanding the adoption of social performance measurement practices in nascent social

- enterprises. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*. 2017;28(6):2633–2657. DOI: 10.1007/s11266-017-9898-1
- [32] Ormiston J. Blending practice worlds: Impact assessment as a transdisciplinary practice. *Business Ethics: A European Review*. 2019;28(4): 423–40. DOI: 10.1111/beer.12230
- [33] Chen S, Harrison R. Beyond profit vs. purpose: Transactional-relational practices in impact investing. *Journal of Business Venturing Insights*. 2020; 14: e00182. DOI: 10.1016/j.jbvi.2020. e00182
- [34] Nicholls, A. “We do good things, don’t we?”: ‘Blended Value Accounting’ in social entrepreneurship. *Accounting, organizations and society*. 2009; 34(6–7): 755–769. DOI: 10.1016/j.aos.2009.04.008
- [35] Rawhouser H, Cummings M, Newbert SL. Social impact measurement: Current approaches and future directions for social entrepreneurship research. *Entrepreneurship Theory and Practice*. 2019; 43(1):82–115. DOI: 10.1177/1042258717727718
- [36] Kroeger, A, Weber, C. Developing a conceptual framework for comparing social value creation. *Academy of Management Review*. 2014; 39(4): 513–540. DOI: 10.5465/amr.2012.0344
- [37] Duflo, E, Kremer, M. Use of randomization in the evaluation of development effectiveness. *Evaluating development effectiveness*. 2005; 7: 205–231.
- [38] Meyer, BD. Natural and quasi-experiments in economics. *Journal of business & economic statistics*. 1995; 13 (2): 151–161.
- [39] Kaplan, RS, Norton, DP. Using the balanced scorecard as a strategic management system. *Harvard business review*. 2007; 74(1): 75–85.
- [40] Somers, AB. Shaping the balanced scorecard for use in UK social enterprises. *Social Enterprise Journal*. 2005;1(1): 43–56. DOI: 10.1108/17508610580000706
- [41] Arvidson, M, Lyon, F, McKay, S, Moro, D. Valuing the social? The nature and controversies of measuring social return on investment (SROI). *Voluntary sector review*. 2013; 4(1): 3–18. DOI: 10.1332/204080513X661554
- [42] Olsen, S, Galimidi, B. *Catalog of Approaches to Impact Measurement - Assessing social impact in private ventures*. The Rockefeller Foundation. 2008.
- [43] Global Impact Investor network report (GIIN). *The State Of Impact Measurement And Management Practice*. The Rockefeller Foundation 2020.
- [44] Zappalà, G, Lyons, M. Recent approaches to measuring social impact in the Third sector: An overview. *Centre for Social Impact Sydney*. 2009.
- [45] Migliavacca, AM. Social impact measurement practices; A meta-analysis. *International Journal Series in Multidisciplinary Research*. 2016; 2(3): 1–17.
- [46] Clark, C, Rosenzweig, W, Long, D, Olsen, S. *Double Bottom Line Project Report: Assessing Social Impact in Double Line Ventures, Methods Catalog*. Columbia Business School: Rise-Project. 2004.
- [47] Rinaldo, H. *Getting Started in Social Impact Measurement: A guide to choosing how to measure social impact*. Norwich: The Guild. 2010.
- [48] Grieco, C, Michelini, L, Iasevoli, G. *Measuring value creation in social*

enterprises: A cluster analysis of social impact assessment models. *Nonprofit and voluntary sector quarterly*. 2015; 44 (6): 1173–1193. DOI: <https://doi.org/10.1177/0899764014555986>

[49] Goodpaster, KE. Business ethics and stakeholder analysis. *Business ethics quarterly*. 1991; 1:53–73. DOI: [10.2307/3857592](https://doi.org/10.2307/3857592)

[50] Bryson, JM. What to do when stakeholders matter: stakeholder identification and analysis techniques. *Public management review*. 2004; 6(1): 21–53. DOI: <https://doi.org/10.1080/14719030410001675722>

[51] Eden C, Ackermann F. Making strategy: The journey of strategic management. London, UK: Sage; 2013. DOI: [10.4135/9781446217153](https://doi.org/10.4135/9781446217153)

[52] Funnell, SC, Rogers, PJ. Purposeful program theory: Effective use of theories of change and logic models. John Wiley & Sons; 2011: 31.

[53] Soleimani, A, Schneper, W D, Newburry, W. The impact of stakeholder power on corporate reputation: A cross-country corporate governance perspective. *Organization Science*. 2014; 25(4): 991–1008. DOI: [10.1287/orsc.2013.0889](https://doi.org/10.1287/orsc.2013.0889)

[54] York, P, Bamberger, M. Measuring results and impact in the age of big data: The nexus of evaluation, analytics, and digital technology. The Rockefeller Foundation. 2020.

[55] Letouzé, E, Sangokoya, D. How To Use Big Data? Data Pop Alliance. 2017.

[56] OECD. Social Impact Investment 2019: The Impact Imperative for Sustainable Development. Paris: OECD Publishing; 2019.

[57] Coulton, C J, George, R, Putnam-Hornstein, E, De Haan, B. Harnessing Big Data for Social Good : A Grand

Challenge for Social Work. American Academy of Social Work and Social Welfare. 2015.

[58] Niño, M, Zicari, R V, Ivanov, T, Hee, K, Mushtaq, N, Rosselli, M., ... Underwood, H. Data Projects for “ Social Good ”: Challenges and Opportunities. 2017; 11(5), 896–906. DOI: doi.org/10.5281/zenodo.1130095

[59] Lepri, B, Nuriam O, Letouze, E F, Pentland, A P, Vinck, P. Fair, Transparent, and Accountable Algorithmic Decision-Making Processes. *Philosophy & Technology*. 2018; 31(4): 611–627. DOI: [10.1007/s13347-017-0279-x](https://doi.org/10.1007/s13347-017-0279-x)

[60] Varshney, K R, Mojsilovi'c, A, Mojsilovi'. Open Platforms for Artificial Intelligence for Social Good: Common Patterns as a Pathway to True Impact. In: International Conference on Machine Learning AI for Social Good Workshop; 2019; Long Beach.