

# Impact Metrics for Social Innovation: Barriers or Bridges to Radical Change?

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**ABSTRACT** *Addressing society's complex problems means fundamentally challenging systems and their economic, social and environmental dimensions. Current measurement tools and evaluation approaches are grounded in conventional accounting practices, and thus tend to a focus on the outcomes of products and services, mainly evaluating economic performance. This presents a particular challenge when it comes to evaluating the impacts of social innovation, which have intended effects beyond economic and financial. This paper describes conventional measurement tools and their limitations for evaluating social impact, and proposes that developmental evaluation is more suited to evaluating social innovation. The consequences of not developing new metrics for social innovation are discussed in terms of the disadvantages for decision-making.*

**KEY WORDS:** Metrics for social innovation, social impact measurement, developmental evaluation, complex systems, resilience, adaptive cycle

## Introduction

Social innovation has the potential to address complex social and environmental problems where conventional problem solving frameworks have been ineffective. Thus, the support of policymakers and investors for such innovation is needed (Mulgan 2010, Nicholls 2010, Westley *et al.* 2011, Nicholls and Murdock 2012). In the discussion that follows, social innovation is defined as 'a complex process of introducing new products, processes or programs that profoundly change the basic routines, resource and authority flows, or beliefs of the social system in which the innovation occurs. Such successful social innovations have durability and broad impact' (Westley and Antadze 2010, p. 2). The term 'investment' refers to

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impact or social finance that not only seeks financial gains, but also expects social returns. In other words, impact investors seek 'to allocate capital where it can generate the more integrated, blended value' (Bugg-Levine and Emerson 2011, p. 10). This category of investors is also described as 'blended value investors' who Harold *et al.* (2007, p. 10) defined as 'investors' with 'insight into new dimensions of financial value creation and destruction.'

A challenge faced by the social entrepreneurs, social enterprises, not-for-profits, and others interested in creating social innovations is the need for financial support. Yet those willing to provide financial support must grapple with the fact that investing in innovation involves risk, and addressing that risk demands calculation. Unlike technical innovations, the impact and outcomes of social innovations cannot, at least initially, be judged by growth in market share, profitability, or even consumer satisfaction. In particular, if the process of social innovation is understood to emerge within complex systems, which implies that the dynamics of the challenges and the innovation are nonlinear, uncertain, and unpredictable (see Goldstein *et al.* 2010, Westley and Antadze 2010), then a positivistic, cause-and-effect, means of measuring social impact is insufficient for investors. Yet, providers of social finance often cannot access reliable data to evaluate the performance of the individuals or organizations developing social innovations – a standard that mainstream financial investors expect when considering investments in a new product, process or organization. Conventional financial reports cannot capture social impact effectively (Kaplan and Grossman 2010): balance sheets and audited annual statements provide little useful data for either the provider of social finance or the not-for-profits, social entrepreneurs, or social enterprises that wish to access finance via a demonstration of their superior performance (Bugg-Levine *et al.* 2012). The difficulties inherent in attempting to capture and calculate the full impact of social innovation often hinders high-performing not-for-profits, social entrepreneurs, social enterprises from accessing capital from investors and donors (Kaplan and Grossman 2010). Bugg-Levine *et al.* (2012, p. 120) labeled this issue as a 'financial-social return gap.'

Among the factors that contribute to the lack of recognition of social impact in current reporting practices in the social sector, two mentioned by Nicholls (2009, p. 758) were the difficulty of defining what to measure and report, and 'how to measure what is to be reported.' Unlike commercial enterprises, social sector organizations often operate in a more complex institutional setting, and are characterized by a diversity of resource inputs, and 'multiple, distinctive, non-comparable outputs' (Nicholls 2009, p. 758). Furthermore, Nicholls (2009) argued that performance measures provided by welfare economics do not always fully capture social impact.

In a recent report conducted by the OECD on social innovation (OECD 2010, p. 12), the need to develop indicators for innovation was highlighted, as was the need for a more comprehensive research agenda on innovation, including new methods of analysis. The report quoted an earlier OECD publication (OECD 2007) in stating that:

1. Research on innovation in the broad sense is currently fragmented. There is need for a general framework of analysis and greater co-ordination of research efforts. The goal is to understand the entire story of innovation, from input to economic and social impacts.
2. Indicator and related econometric research must move forward from innovation inputs and activities to include the outputs and impacts of innovation.
3. New methods of analysis are necessary to understand innovation processes, which will require improved data access, data linkages and the adoption of interdisciplinary approaches to data.
4. A marked improvement in the policy relevance of innovation research is required in order to create a science policy.

The OECD (2010, p. 15) concluded that: ‘the current measurement framework focuses on the role of innovation in economic performance and has limited capacity to measure innovations that help address social goals.’

Ultimately, the situation calls for the creation of new evaluation models for investors that incorporate not only financial but also environmental and social considerations and provide mechanisms that determine the scale, impact and durability of social innovations. However, the current debate in the social sector around the measurement of social innovation outcomes and impacts mainly reflects the perspective of private social finance that is attempting to be more strategic about its capital allocation (Ebrahim and Rangan 2010). While the academic literature on the topic of social finance is limited and ‘under-theorized and in need of conceptual framing’ (Ebrahim and Rangan 2010, p. 6; Nicholls 2010), research on metrics for social innovation is even scarcer (e.g. OECD 2010, The Rockefeller Foundation and The Goldman Sachs Foundation 2003). Yet, without such metrics, investment in social innovation and in creative problem solving for the world’s most complex challenges will be hindered.

This paper aims to help fill this research gap by meeting two objectives. First, it will provide an assessment of the current state of social innovation metrics internationally and will consider the need for, and importance of, developing such metrics for the field of social finance. In doing so, the paper aims to reach a second objective, which is to provide an account of the challenges associated with the development and application of methodologies used to evaluate the impact of social innovation.

The paper is organized as follows: first, the theoretical underpinnings of the concept of social innovation upon which the arguments of this paper are based are introduced. Next, the challenges of applying impact measures from traditional financial and business sectors to a social innovation context are examined. Illustrations are provided of the different needs and approaches of the actors involved in the process of social innovation, including governments, philanthropic organizations, and the not-for-profit sector. After this, a review is provided of the current array of indicators, indices, and measurement tools available for evaluating the outcomes of social finance and social innovation. As a result of comparing and contrasting the available

tools, the conclusion is drawn that current measures are still predominantly focused on postivistic, cause and effect, logic model approaches. But if social innovation is understood to be a complex ‘journey’ (Van de Ven 1999), then tools are needed that evaluate the success of that process, rather than some final product. This leads to a discussion about the potential effectiveness of developmental evaluation for measuring and communicating the effectiveness of social innovation – that is, of the transformations that occur as financial resources flow into innovative initiatives aimed at the constellation of factors that may be contributing to the world’s most complex social, financial, and environmental problems. While developmental evaluation challenges current measurement practices, several examples of previous applications lend support to a call to include developmental evaluation in approaches to measuring the impact of social innovation.

### **Complex Systems, Resilience, and the Adaptive Cycle**

As discussed earlier, conventional evaluation models and decision-making frameworks are often based on linear, cause and effect relationships. Social innovation, by contrast, is a complex process with its own dynamics and multi-dimensional impacts. A review of the conceptual underpinnings related to social innovation that link this paper to the other contributions in this Special Edition – complex systems, resilience, and the adaptive cycle – follows.

The notion of complexity emerged from the recognition that processes in different areas such as ecology and economics are characterized by attributes such as self-organization, emergence, uncertainty, nonlinearity, and scale (Berkes *et al.* 2003). Complex systems tend to remain in a state of equilibrium, that is, they organize around a certain ‘attractor.’ When conditions change and the equilibrium is disturbed, the system will cross a threshold and move to another basin of attraction (Berkes *et al.* 2003, Walker *et al.* 2004). This is referred to as a regime shift, and it implies fundamental changes in the function, structure, and feedback mechanisms of the system (Walker and Salt 2006, Walker *et al.* 2006). If the resilience of a system declines, the likelihood of a regime shift increases (Walker and Salt 2006). Resilience refers to the ability of a system to absorb disturbance and, despite a significant change, ‘maintain the integrity of the original’ (Westley *et al.* 2006, p. 65), that is, it retains its ‘function, structure, identity, and feedbacks’ (Walker *et al.* 2004, p. 2). If the present regime is desirable, it is crucial to maintain the system’s resilience and prevent it from crossing a critical threshold. Managing resilience entails recognizing the drivers that lead a system towards the alternative regime (Walker and Salt 2006).

The concept of resilience is applied not only to ecosystems, but also to social and political systems. It may be observed at both individual and organization levels (Westley *et al.* 2006). In all cases, innovation plays an important role in strengthening the resilience of a system. Without the introduction of novelty, systems will gradually lose their resilience, become more rigid, and thus more vulnerable (Moore *et al.* 2012, Westley *et al.* 2006).

Another key concept that has its origin in ecology is a heuristic model that describes the continuity and change in a dynamic ecosystem. Defined by Gunderson and Holling (2002), the adaptive cycle has four phases, best envisioned as an infinity loop, with one half of the loop (two phases) being characterized by slow changes in growth and accumulation, and the other half of the loop being associated with rapid changes in the organization and renewal of the system.

The adaptive cycle has been used in previous work to describe the dynamics of social change and social innovation (e.g. Westley *et al.* 2006). It characterizes social innovation processes as beginning or being launched in the rapid phases of reorganization and renewal, where changes are unpredictable, non-routine and emergent. In the other half of the loop, characterized by relatively slow and incremental changes, resources are exploited and leveraged to support the adoption of the social innovation, and final ‘tweaks’ are made in the social innovation process as it becomes well established. Resources provided through social finance can be important to all phases, but are particularly useful in the latter stages to support diffusion and widespread adoption. Perhaps most importantly to the purpose of this paper, the adaptive cycle (and the complexity and resilience theories on which it is based) suggest that each critical transition from one phase to another requires not only the introduction of new social relationships, leadership capacities and forms of social finance, but also a shift to different forms of evaluation.

While there is growing agreement about the importance and need for metrics for social innovation and assessment methods for social impact (e.g. The Rockefeller Foundation and The Goldman Sachs Foundation 2003), a consensus is lacking on how to assess social impact or the success of social innovations. One of the barriers to consensus is widespread confusion about what social innovation entails. Often initiatives that are labeled as ‘innovation’ are aimed more at minor improvements than significant reforms. Representing short-term improvements as fundamental changes may actually lead to ‘lock-in’ within the existing institutional structures: that is, create further rigidity and even strengthen current practices that are driving complex and intractable social problems (Westley *et al.* 2011). In order to measure something effectively, a clear definition and delineation of the object or activity to be measured is required. Similarly, the understanding of what social impact entails varies from organization to organization, as do the measurement methods currently in use (The Rockefeller Foundation and The Goldman Sachs Foundation 2003, W.K. Kellogg Foundation 1998).<sup>1</sup>

As complex and challenging as the creation of metrics is, the demand for metrics to assess the impact, durability, and success of social innovation has come from a variety of sectors, including foundations and grant makers, government agencies and policymakers, non-government and charity organizations. A typical rationale is that having the ability to measure the impact of social innovation may contribute to better policymaking of planning for positive innovation outcomes (e.g. NESTA 2009, OECD 2010). Credible tools may also foster better communication and understanding

among stakeholders, as well as strengthen transparency and accountability. For example, in the UK, government policies towards the Third Sector have primarily focused on initiatives supporting the development of social enterprises in the context of diversifying the market of providers for welfare and public good. This policy agenda has led to calls for greater accountability and transparency in the context of public concern over 'privatizing' welfare provision (Arvidson *et al.* 2010).

Measuring the impact of social innovation is also of pressing concern to the social sector (Bugg-Levine and Emerson 2011). As Arvidson *et al.* (2010, p. 4) explained, 'previously, giving involved a more relaxed attitude towards charitable impact assessment but this has now changed to a view that philanthropic investment should be based on well-informed choice to ascertain that any gift will make a difference.' Consequently, there has been an increasing demand that the not-for-profit sector should better measure and demonstrate the impact of their activities. Once again, however, there is a need to distinguish between incremental change (e.g. services delivered), and social innovation (e.g. breakthrough approaches to resolving intractable social problems).

The growth of the social finance market has also increased the demand for consistent measures to account for the intended social impacts of capital allocation. In response to these demands, a number of organizations have developed methodologies for measuring the success and impact of innovation. These range from treating all innovation from an economic viewpoint to attempting to incorporate social and even environmental 'bottom lines.' The following section explores the strengths and weaknesses of the measures currently available.

### **Measuring Innovation and Social Impact**

There are a number of approaches to measuring social impact that are already in use across the public, private, and civil society sectors. Mulgan (2010, p. 41) summarized a number of the key models in an analysis that focused strongly on learning from well-established practice in government and from theory within welfare economics (see Table 1). However, each of these approaches has its shortcomings. Some of the practices are associated with the lack of accurate, usable, or agreed-upon data, such as methods involving revealed preferences, stated preferences, and cost-benefit analysis. Others are considered not rigorous enough (e.g. public value assessment), too complex to be understood by the wider audience (e.g. value-added assessment), or not yet proven (e.g. life satisfaction assessment) (Mulgan 2010, p. 41).

Many of these methods stem from conventional accounting practices, and are not designed to capture social impact (Nicholls 2009). Maree and Martens (2012) explained that current 'economic' measures for non-market production are based on an optimization approach, that is, they aim to estimate the value of production and justify the resources used. In light of the optimization calculations, Maree and Martens (2012) discussed the



Table 1. Ten ways to measure social value

Method	Description	Example	Problems
Cost-benefit analysis/ Cost-effectiveness analysis	The most widely used family of tools; counts up costs and benefits (usually using some of the methods described below), and then applies discount rates. Often used for large public programs.	A recent study in the UK found that using a mix of drug treatment, surveillance, and behavioral interventions instead of prison saved taxpayers up to \$130,000 per offender (and up \$300,000 if savings to victims were included). <sup>a</sup>	Disagreements about the actual numbers and weightings in the calculation, as well as the conclusions of the analysis.
Stated preferences	Asks people what they would pay for a service or outcome	A typical example would ask people what they might pay to preserve an endangered species or build a park.	Stated preferences often do not correlate with actual behaviors.
Revealed preferences	Examines the choices that people have actually made to infer the relative worth of different options.	A researcher analyzes house-buying patterns and real estate prices to infer how much people value public parks.	Few fields have enough usable data.
Social impact assessment/social return on investment assessment	Estimates the direct costs of an action, the probability of it working, and the likely change in future outcomes, sometimes with discount rates.	There are literally hundreds of tools of this kind, including Acumen Fund's Best Available Charitable Option Ratio methodology. Jed Emerson's blended value methods; and various Center for High Impact Philanthropy methods.	Disagreements about numbers, weightings, and conclusions; values; how to handle time and discount rates; and intended audience of the calculation.
Public value assessment <sup>b</sup>	Judges how much the public values a service.	The British Broadcasting Corporation assessed its public value.	Not rigorous enough.
Value-added assessment	In education, assesses how much a school adds to the quality of its pupils.	Recent uses often show that apparently successful schools are actually good at attracting clever pupils.	Sometimes too complex for parents or the media to understand.
Quality-adjusted life years/disability- adjusted life years assessment	In health care policy and research, accounts for patients' objective health and patients' subjective experiences.	Widely used set of measures. Provides a common way to judge the relative effectiveness of clinical treatments and public health measures.	Can be controversial when a particular treatment is not cost-effective.

(continued)

Table 1. (Continued)

Method	Description	Example	Problems
Life satisfaction assessment	Judges social projects and programs by how much extra income people would need to achieve an equivalent gain in life satisfaction.	An imaginative study in Wales showed that modest investments in home safety, which cost about 3 percent as much as home repairs, generated four times more life satisfaction. <sup>c</sup>	New approach that remains unproven; highly sensitive to input assumptions.
Government accounting measures	In government, accounts for government spending and its effects.	France's <i>bilansocietal</i> is a set of 100 indicators showing how enterprises affect society. Italy has a similar <i>bilanciosociale</i> .	Much variability across regions; disagreements about which indicators to include.
Other field-specific assessments	Every field has its own cluster of metrics.	A recent Young Foundation study identified nearly 30 measures of value in the built environment, including artificial neural networks, hedonic price models, fuzzy logic, autoregressive integrated moving averages methods, and triple bottom line property appraisals. <sup>d</sup>	Diversity of these measures means that they are little used for public decision making.

Notes: <sup>a</sup>Matrix Knowledge Group (2007).

<sup>b</sup>See also Moore (1995).

<sup>c</sup>Dolan and Metcalfe (2008). The OECD's Beyond GDP program has also collected a huge range of work on the measurement of well-being and societal progress.

<sup>d</sup>Young Foundation and CABI (2006).

Source: Mulgan (2010, p. 41), *Stanford Social Innovation Review*.



application of cost-effectiveness analysis (CEA) and cost-benefit analysis (CBA). CEA uses indicators for the measurement of non-market goods, whereas CBA is based on monetary valorization. Both of these approaches have their limitations. In the case of CEA, the indicators can measure only one aspect of performance and each impact requires a ‘tailor-made’ indicator; indicators usually come from a variety of disciplines, and certain intangible impacts (e.g. collective impacts) cannot be captured by indicators. When it comes to the monetary valuation of non-market goods, as in case of the CBA, Maree and Martens (2012) distinguished a number of methodological and conceptual limitations, primarily linked to the application of the willingness to pay (WTP) technique to evaluate non-market production. The authors concluded that although traditional methods used to calculate economic value creation can be useful in certain cases, they often fail to reflect the full range of the social impacts.

Despite these caveats, the most widespread model of social impact measurement in use currently does draw upon conventional economic modeling: the Social Return on Investment (SROI) approach (Emerson *et al.* 1999, NEF 2012, Nicholls 2009, Arvidson *et al.* 2010). SROI focuses on an economics cost benefit calculation based around establishing the materiality to stakeholders of key outcomes and then developing financial proxies for each. SROI implies ‘reviewing the inputs, outputs, outcomes and impacts made and experienced by stakeholders of an organization in relation to the activities of an organization, and putting a monetary value on the social, economic and environmental benefits and costs created by an organization’ (Arvidson *et al.* 2010, p. 6). Then, the created value is related to the investments made, to produce a ratio. For instance, a SROI with the ratio of 3:1 means that for every unit of expenditure the organization creates a social value of three units (in local currency). At its most sophisticated, the SROI model integrates social risk ratios (via a variable ‘social’ net-present-value discount rate) and ‘blended value’ analysis into cost-benefit decision-making (Bugg-Levine and Emerson 2011, Maree and Mertens 2012). From a social innovation perspective, however, the SROI proves challenging, as not all of the social impact resulting from the activities of a social organization may be innovative in nature. Therefore, SROI may be useful as a ‘productivity’ measure, but will typically fail to evaluate the full impact of social innovation.

Similarly, Ebrahim and Rangan (2010) noted that the application of models of performance used in the for-profit sector – such as measures of profit and shareholder wealth – may prove problematic for the social sector. As the authors explained, such measurement tools ‘fall short of meeting the needs of mission-based performance, given that financial performance is often a means rather than an end to social sector activity’ (Ebrahim and Rangan 2010, p. 4). In addition, the existing measurement tools fail to address the issue of causality, given that in the social sector impacts can be caused by multiple factors and actors (Ebrahim and Rangan 2010, p. 8).

Bugg-Levine and Emerson (2011) enumerated a number of recent initiatives to advance more integrated reporting practices that could describe

not only an organization's financial performance, but also its social impact. Aside from SROI, such initiatives include: One Report: The Sustainability Reporting Network, the valuation framework developed by the European Alliance for Corporate Social Responsibility, and the proposal for more holistic reporting practices by the International Integrated Reporting Committee; measurement standards to describe social outputs, such as the Impact Reporting and Investment Standards (IRIS) project and the Global Impact Investing Rating System (GIIRS) (Bugg-Levine and Emerson 2011).

Meanwhile, the difficulty of assessing impact in a complex process is becoming more widely acknowledged. For example, the International Development Research Centre (IDRC) based in Canada reported that their research experiences revealed that social impact may be the result of actions by more than one organization, and that the process is too long and complex to discern cause-effect relationships between the realized projects or programs and their achieved impact (Earl *et al.* 2001). Consequently, the IDRC proposed a new tool to evaluate its activities – outcome mapping. The impact sought by outcome mapping is of one specific type: behavioral change. 'Outcomes are defined as changes in the behavior, relationships, activities, or actions of the people, groups, and organizations with whom a program works directly' (Earl *et al.* 2001, p. 1). Yet, behavioral change is just one outcome that could be affected by a social innovation that is supported by social finance.

In the UK, the National Endowment for Science, Technology and the Arts (NESTA) developed an approach focused specifically on the impact of social innovation: the Innovation Index. In its pilot version, NESTA (2009, p. 4) explained that: 'at the heart of the Index is a wider and more complete measure of how much the UK invests in innovation, and what the benefits of this are to national productivity.'

The pilot Innovation Index consists of three components.

1. A measure of the amount of investment in innovation in the UK economy, and the resultant effect that the investment has on economic growth and productivity.
2. A tool to understand innovation at the firm level that captures 'hidden innovation' (that is, innovation that results from changes to services and delivery that may stem from customer insight, rather than more traditional versions of innovation that results from scientific research and development) and reflects the different ways that innovation occurs in different sectors.
3. A set of metrics that assess how favorable conditions are for innovation (in this case in the UK political, financial, environmental, and social context).

However, a close examination of NESTA's Innovation Index reveals that the organization's measurements are primarily designed to show the impact of their investments in terms of economic growth and productivity. The main

focus is not measuring social innovation as such, although some of the approaches labeled by NESTA as ‘hidden innovation’ may contribute to solving some social problems.

The white paper on innovation metrics prepared for the National Innovation Initiative by Milbergs and Vonortas (2006) admitted that innovation is a complex and multidimensional activity that cannot be measured directly or solely with one indicator. According to their definition, ‘innovation is a *process* through which the nation creates and transforms new knowledge and technologies into useful products, services and processes for national and global markets – leading to both value creation for stakeholders and higher standards for living’ (Milbergs and Vonortas 2006, p. 2, emphasis in original). Although this approach to innovation targets economic impact, the report proposes an interesting classification of the innovation indicators, tuned to four ‘generations’ in the innovation process. The first generation reflects the linear conception of innovation and is based on inputs such as R&D investment, technological intensity, capital expenditures, and university graduates. The second generation accounts for the intermediate outputs, and science and technology activities such as scientific publications, patent counts, and new products and processes. The third generation is based on innovation indicators and indexes derived from surveys and publicly available data. The focus is the nation’s capacity to innovate.

As the authors explained, all three indicators can fit into the economic production function:  $Y=f(X)$ , where  $X$  is a set of inputs and  $Y$  is the innovation output. Function  $f$  deals with the transformation of one into the other, but currently represents a ‘black box’ in terms of meaningful indicators. Finally, a fourth generation of indicators includes knowledge indicators, networks, and conditions for innovation. This generation is considered to be still in the development stage.

Although Milbergs and Vonortas (2006) did not aim to measure social change per se, and mainly focused on the economic impacts of financial investments, the authors recognized the complex nature of innovation and the difficulty of measuring it with one indicator. They maintained that a new set of indicators was required that could reflect this complexity and go beyond the conventional input–output measurements. They also recognized that indicators should change at different stages of the innovation process – that is, no single indicator is well suited to every stage of generating, adopting, and implementing a social innovation – and that evaluating the process is as important as evaluating the content. In this way, Milbergs and Vonortas (2006) opened the door to the possibility that the evaluation of the impacts of innovation is itself an experiment.

Table 2 offers a categorization of the approaches to evaluating social impact and innovation reviewed here, with the aim of capturing current practices and gaps. On the vertical axis, measurement approaches are grouped according to their focus either on a single outcome or multiple outcomes. Horizontally, they are clustered based on the nature of their design, that is, some measurement tools are intentionally designed to capture the effects of particular outcomes – referred to here as ‘deliberate design’ –

**Table 2.** Dimensions of impact/value measurement

	Deliberate design		Emergent design	
	Concrete: Product, service, program or behavior	Abstract: Process or idea	Concrete: Product, service or program	Abstract: Process or idea
Single outcome focus (economic)	Innovation index Cost-benefit analysis/ Cost-effectiveness analysis Stated preferences Revealed preferences Public value assessment Life satisfaction assessment			
Multiple outcome focus	Outcome mapping Social impact assessment/ Social return on investment Value-added assessment Quality-adjusted life years/ disability-adjusted life years assessment Government accounting measures	National innovation initiative		Developmental evaluation

whereas others may be open to reconfiguration by the emergent qualities of the transformation they are measuring – referred to here as ‘emergent design.’ Both deliberate and emergent designs can be focused on something concrete, such as a product, service, program or behavior, or on something more abstract, such as process or idea. Table 2 shows that most approaches still apply to concrete phenomena (services, products or behaviors) and are relatively focused on simple outcomes. This is not surprising as the notions of evaluation are, in general, based on the tradition of positivist science, naturally leading to an approach that is causal, linear, and involves empirical testing of hypothesized relationships. Evaluators are primarily focused on methods, measures and findings and, as Patton (2011, p. 143) explained, they prefer to ‘keep the findings uncontaminated by social engagement.’ Nicholls (2009, p. 766) noted that traditional metrics are grounded on ‘a positivist conception of management control’ and therefore, rather than aiming to capture social impact, they reflect existing power relations and regulatory regimes. The positivist evaluation approach fits within the conventional understanding of innovation rather than an understanding of social innovation that occurs within complex systems. As Nicholls and Murdock (2012, p. 2) explained, ‘in all five waves of modern macro-innovation, economic factors are deemed to be the central drivers of large-scale changes, while social factors are considered as subsidiary or external.’

As a result, what can be counted tends to be what is evaluated. This helps explain the relative paucity of approaches that are geared to measuring social innovation and its social impact. Technical innovations are concrete and, as

such, easier to identify as the dependent variable in an equation. Social impact is much more abstract, and not easily captured by metrics assessing economic impact. Social innovation demands a link among complex and abstract phenomena, social processes, and multiple outcomes.

In their review of the social innovation literature, Nicholls and Murdock (2012) distinguished two broad categories of social innovation research: the first studies innovation in social relations and focuses on process changes, whereas the second explores innovations that address social market failures, and thus target outcome changes. If it is accepted that social innovation is a process, with different phases or stages, then providers of social finance cannot be well served by metrics that simplify the impact of their investment to a single product, process or behavior, or that attempt to correlate it with single variable outcomes.

Unlike other forms of metrics, measuring social innovation may pose a problem to the innovation process itself. Morris (2011, pp. 189–190) described this phenomenon as the ‘innovation uncertainty principle’ and explains that ‘the pursuit of innovation necessarily involves a venture into the unknown, and if we try to pin these unknowns down too early in our process we may make it more difficult to recognize and realize good opportunities or solutions. If attempts are made to calculate the impact of every idea very early on in the process of its development, the result could be a meaningless and misleading number that may have disproportionate influence on the emergent process at precisely the wrong time.’ Therefore, finding alternative mechanisms for measuring the innovative impacts supported by social finance is needed.

### **Developmental Evaluation**

An alternative approach to measuring social innovation may arise from the very definition of social innovation itself. Social innovation is viewed as a complex process, rather than a specific outcome in the form of a product, service or behavior. The process versus product divide in relation to social innovation has far-reaching implications. As a process, social innovation consists of different phases and can be imagined as a kind of ‘journey’ (Van de Ven 1999). The application of the adaptive cycle (Gunderson and Holling 2002) to study social innovation also speaks to the continuous nature of this process. Social innovation as a process does not start or end at some point, but rather goes through a cycle, with periods of continuity and rapid change, characterized by uncertainty, nonlinearity, and elements of self-organization (Westley *et al.* 2006). In addition, social innovation is determined by its impact on the broad system. Therefore, the focus must shift from measuring innovation as a product or service (that is mostly apparent in the approaches described above), to evaluating social innovation as a process that has an impact.

Pioneered by Patton (2011), the concept of ‘developmental evaluation’ is based on insights from complex dynamic systems, uncertainty, nonlinearity and emergence, and therefore unlike other evaluation approaches, can

feasibly be applied to evaluating social innovation as a process. As Patton explained in his recent work (Patton 2011, p. 1, emphasis in original), ‘developmental evaluation supports innovation *development* to guide adaptation to emergent and dynamic realities in complex environments.’ In contrast with the linear logic of problem solving that assumes the existence of well-defined goals, a stable environment, and optimal solutions, developmental evaluation suggests constant movement back and forth between problem and solution. This is because the destination and pathways for social innovations are emergent and cannot be defined in advance (Gamble 2008).

Developmental evaluation contrasts with more traditional formative and summative evaluation approaches. For both formative and summative evaluation, the idea is ‘to test a model.’ Formative evaluation helps to improve the model, while summative evaluation assists in determining the success and effectiveness of the model (project, program) upon its completion, and to decide whether it should be continued, extended, or disseminated (Patton 2011). Summative evaluation implies ‘a targeted intervention in a fairly stable environment.’ As this is not usually present in cases of social innovation, an ‘emergent intervention’ that requires ongoing development is needed (Patton 2011, p. 41).

However, choosing developmental evaluation does not rule out coexistence with summative and formative evaluation, in that all evaluation approaches have their own niches and appropriate circumstances. The coexistence of summative, formative, and developmental evaluations may be demonstrated by referring to the adaptive cycle (Gunderson and Holling 2002). Formative evaluation can be seen to support the exploitation stage ‘by fine tuning a model’ and preparing it for summative evaluation (Patton 2011, p. 207), and summative evaluation supports the more stable and grounded conservation phase by judging the overall effectiveness of an innovation; developmental evaluation is suited to the reorganization phase, where social innovators need to make sense of the emergent opportunities, understand the ongoing dynamics, and try out new ideas and approaches. The release phase is associated with learning and generation of knowledge that can be used to pursue new ideas and experiments in the exploitation phase (Gamble 2008, Patton 2011). Developmental evaluation responds to these needs by ‘tracking emergent and changing realities, illuminating perspectives about realities, and feeding back meaningful findings in real time so that reality testing facilitates and supports the dynamics of innovation’ (Patton 2011, p. 7). These are summarized into five purposes and uses of developmental evaluation (Patton 2011, pp. 21–22):

1. *Ongoing development* in adapting a project, program, strategy, policy, or other innovative initiative to new conditions in complex dynamic systems.
2. *Adapting effective general principles to a new context* as ideas and innovations are taken from elsewhere and developed within a new setting, the work of developmental evaluation in the dynamic middle between top-down and bottom-up forces of change.



3. *Developing a rapid response* in the face of a sudden major change or a crisis, such as a natural disaster or financial meltdown, exploring real-time solutions and generating innovative and helpful interventions for those in need.
4. *Performative development of a potentially scalable innovation* to the point where it is ready for traditional formative and summative evaluation.
5. *Major systems change and cross-scale developmental evaluation* providing feedback about how major systems change is unfolding, evidence of emergent tipping points, and/or how an innovation is or may need to be changed and adapted as it is taken to scale, that is, as its principles are shared and disseminated in an effort to have broader impact.

Although it helps to focus on process, developmental evaluation may use a wide range of methods, designs, and data. Specifically, with regard to metrics, developmental evaluation emphasizes the importance of context sensitivity and specificity. Given the diversity of innovation contexts, no standardized or generic metrics are either possible or desirable for developmental evaluation. Rather, the development of metrics must be built in to the social innovation process as a central aspect of developmental evaluation, and those metrics may change as emergent processes and outcomes give rise to emergent metrics.

Recent work has brought together evaluators from around the world to discuss evaluation successes and failures. A central factor in success was context sensitivity and adaptation (Gervais 2012, Patton 2012c). Likewise, a special issue of *New directions for evaluation* (Julnes 2012, Patton 2012a) examines the centrality of ‘valuing’ – the act of determining and defining value – as both an evaluation perspective and skill, and again concludes that context sensitivity is at the core of effective and relevant valuing. Context sensitivity includes paying attention to an evaluation’s primary intended users, priority uses, the political environment within which the evaluation occurs, the stage of the innovation’s development (for example, stage of the adaptive cycle), and other factors demonstrated through research to affect evaluation use (Patton 2012b). Across the literature, scholars reaffirm that context matters, particularly for innovation. Therefore, evaluation and metrics should aim to capture the impact of innovations in their context.

## Conclusion

Social innovation entails changes within complex systems, meaning that the innovations often create profound changes in social relations, institutions, constructs and behaviors. Such initiatives require social finance to support their start-up, growth and scaling stages. However, as demonstrated above, while the purpose of social innovation typically goes beyond financial value creation, current social impact metrics used to support the allocation of social

finance are largely based on established economic models. Consequently, social finance decision-making processes may be limited in terms of incorporating a full range of social risks and social returns. The focus of such decision-making may be on the interventions that can show short-term, tangible outcomes that can be captured financially. Yet the process of social innovation does not always result in clearly defined outcomes, predictable goals, and measurable results in predictable time frames.

Staying within the established social impact measurement paradigm may pose a risk to society's ability to generate effective social innovation. Even impact investors, who aside from financial gains look to make social and environmental change, may find it difficult to identify non-financial impacts relevant to their wider risk and return assessments. This is due to the fact that environmental and social issues are complex and often unpredictable (Geobey *et al.* 2011). Yet, without an accounting designed for these dynamic processes, transformative social innovations may fall outside the attention of social finance. In addition, the dominance of hybrid organizations and hybrid structured finance deals within the social finance landscape means that the conventional conceptual boundaries that delineated not-for-profits from for-profits, social returns from financial returns, and investments from philanthropy may no longer apply. For example, many not-for-profit organizations now strive to achieve financial stability and growth, and social finance often works to strengthen the administrative and operational capacity of their organizations as well as to purchase services. As a result, the distinction between for-profit and not-for-profit organizations has become blurred, marking a 'shift in the way people think about the relationships between capital, philanthropy, management, and strategy' (The Rockefeller Foundation and The Goldman Sachs Foundation 2003, p. 2).

Based on the review of the current models of social impact measurement and evaluation presented in this analysis, the need for developing a new framework for decision-making within social finance becomes evident. This new framework would address the shortcomings and limitation of the conventional decision-making models that are grounded in the logics of mainstream finance and cost-benefit analyses. This paper proposes that a developmental evaluation approach may address the deficiencies associated with such metrics. Developing tools better to measure the multi-dimensional impacts of social innovation initiatives would improve the transparency of the reporting of social investees' performance, enhance their accountability to their main stakeholders, and also provide better data as guidance for capital allocation decisions within the social finance market. If the latter is to grow to its full potential, the availability of such reliable, consistent and relevant data and information will be key.

## Note

1. Social impact is defined here as measurable outcomes that can be causally linked to a specific set of deliberative actions, interventions or programs focused on addressing a social issue or problem. Such an impact represents the dependent variable linked to the independent variable of a social action and often mediated by other contextual variables.

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