Development of a Tool to Measure Progress towards Sustainability

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Introduction

In 1997, John Elkington first coined the phrase 'Triple Bottom Line' in his book '*Cannibals with Forks'*. He defined sustainability and its development as:

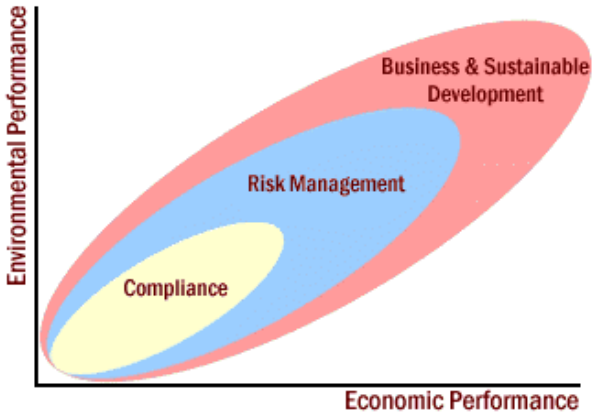
> *Sustainable development involves the simultaneous pursuit of economic prosperity, environmental quality and social equity. Companies aiming for sustainability need to perform not against a single, financial bottom line but against the triple bottom line.*

The concept of sustainable development first broke into the consciousness of many international policy-makers and multinational corporations in 1987, with the publication of *Our Common Future*, the report of the World Commission on Environment and Development. The Commission's definition, since widely adopted, was:

> *Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.*

But there are other definitions: by the mid-1990s, there were well over 100.

The driving force behind sustainable development , emerged further from the United Nations conference on Environment and Development which took place in Rio de Janeiro in 1992. At this conference, there was a growing awareness that corporations and governments needed to account not only for their financial performance but also for their environmental impacts and for social performance.



Source http://www.bsdglobal.com/sd_journey.asp

Although much discussion still focuses on the TBL, it is becoming increasingly clear that these three areas – economic, environmental and social – are so closely interrelated that an integrated approach to sustainability is needed. Many organisations are now reporting on their environmental performance as well as their financial position, but increasingly there is an expectation that organisations need to account for the performance of their interaction with staff, the local communities and other stakeholders. Therefore to become a sustainable corporation the sustainable philosophy needs to be reflected in financial, environmental and social responsibility through mission statements, policy, strategy, organisational culture and action.

For industries and governments to be able to grapple with the difficult task of becoming more sustainable through better management of waste, energy, emissions, staff issues, communities, shareholders and customers, to name but a few, there has evolved a need to develop measurement tools.

The often-cited principle of business "what's measured gets managed" highlights the need to understand in numerical terms where an operation is currently and what change occurs over time. While difficult to do, this is crucial to Sustainable Development. Demonstrating performance and progress towards sustainability goals to a diverse range of stakeholders is therefore one of the major challenges. However, there is a lack of accepted metrics and credible indicators to assess the current state of a company, an industry or the manufacturing sector of the economy. Metrics and indicators must be established before progress can be measured and goals for improvement can be set.

So what are sustainability metrics or indicators?
Sustainability indicators or metrics help track changes and by selecting key measures which may be physical, financial, chemical, biological, socio- economic, social or ethical useful information can be gathered about the whole organisation. Using indicators, it is possible to evaluate the fundamental conditions of the organisation. An indicator is really just a long way of saying "how much" or "how many" or "to what extent" or "what size." Indicators are ways to measure. Measuring isn't new.

> ***Indicator:***
> ***A way to measure, indicate, point out or point to with more or less exactness;***
> ***Something that is a sign, symptom or index of;***
> ***Something used to show visually the condition of a system.***

Measurement helps decision-makers and the public to define social goals, link them to clear objectives and targets, and assess progress toward meeting those targets. It provides an empirical and numerical basis for evaluating performance, for calculating the impact of our activities on the environment and society, and for connecting past and present activities to attain future goals. Measuring sustainable development — just as we currently measure economic production — makes it possible for social and environmental goals to become part of the mainstream political and economic debate.

Research at the Centre for Sustainability

The Centre for Sustainability has commenced researching the development of indicators which examine the sustainability of Small and Medium sized enterprises (SMEs) across a range of sectors. The concept came out of discussions held with the Environment Protection Authority of Victoria and the particular interest expressed by the Minister for the Environment, Sheryl Garbutt in the development of the 'ecological footprint' for communities, industry, government and individuals.

The Ecological Footprint

The Ecological footprint is a communication tool which is an emerging methodology finding favour with a range of public and private sector organizations concerned with measuring and managing their impact on the environment. It is in fact a measurement of how much land space is required to maintain a particular person's, industry's or nation's lifestyle.

Originally, the ecological footprint concept was developed in Canada as an urban planning tool by Dr. Mathis Wackernagel and Professor Bill Rees. More recent work by Wackernagel in collaboration with the Oxford-based consultancy Best Foot Forward, has extended and expanded the appeal of footprinting through the use of software tools to simplify and augment the footprint calculations.

The limited space on earth available must service all our needs (food, materials, recreation, living space, and energy) and be capable of assimilating all of our wastes (arguably the most pressing being the sequestration of greenhouse gases). The average global citizen has a footprint of 2.2 hectares –the average American has a per capita footprint of 9.6 hectares, Australia 9.4 and Canada 7.2.[1]

Although the Ecological Footprint is an excellent tool for communicating the impact on the environment, it does not examine the broader issues of economic and social impacts of doing business. It is for this reason that the Centre has decided to focus on developing Sustainability Indicators for SMEs rather than the Ecological Footprint alone.

Issues for SMEs

There are special issues that relate to working with SMEs and some of the challenges involved include:

- A focus on short term business strategies, as opposed to long-term planning
- A lack of resources, such as time, staff, funds, space etc
- The very diverse nature of these enterprises
- Lack of interest outside their immediate business focus
- Lack of development opportunities
- Isolation of many small enterprises
- Possible non-compliance to environmental/financial standards

[1] www.bestfootforward.com

The challenge for the Centre for Sustainability is to develop meaningful measurements that are not too complex but still provide reliable and accurate information to the users. The first stage of the research was to carry out a scoping study on the current position of the status on indicator development. The initial findings indicate that there has been extensive work done on indicator development for a number of years particularly in Germany, the USA and the UK. Various research institutes in collaboration with government and industry have undertaken the development of sustainability indicators for large corporations, local government, communities and households.

However, very little work appears to have been undertaken in developing indicators for the more diverse group of SMEs. This is understandable particularly in light of the difficulties relating to working with SMEs as outlined earlier. So the challenge is to develop accurate and meaningful sustainability indicators which are sufficiently generic yet adaptable enough to address the particular needs of each of the selected sectors in the range of SMEs. The sectors which the research will initially focus on are:

- Manufacturing (in itself very diverse)
- IT industry
- Consulting and professional services
- Hospitality and tourism

The Criteria for Indicators

It is usually not a lack of measures that hinders the evaluation of an organisation's performance, but the overwhelming abundance of potentially useful measures or indicators. What is a good or bad measure tends to vary with one's worldview, including such factors as level of education, cultural background, economic status, political affiliation, gender, and so on. Selection criteria are guidelines that one applies to establish a preference for the "best" indicators that fit the needs and circumstances of a given SME, and at the same time enhance planning capacities for sustainable development. At a time of increasing globalisation they should help to create a minimum level of comparability, coherence and consistency between measures, and, perhaps more importantly, between the ways these measures are applied in real-life situations.

As a result, the following criteria have been selected based on the knowledge of the indicator literature and on research examining the suitability of indicators in use. The criteria are likely to evolve further throughout the research project but presently include:

- *Simplicity*

  The information should be presented in an easily understandable and engaging way to the target audience. Complex issues and calculations should eventually yield clearly presentable findings that the organisation and the stakeholders will be able to comprehend with relative ease.

- *Development must be participatory*

  One of the keys for successful implementation and acceptance of a new tool for an organisation, is the incorporation of strong participation in the development of the tools. It is therefore imperative that the various sectors involved be able to participate in the development of the tools to ensure relevance and acceptability.

- *Validity*

  The indicator should be a true reflection of the facts. This will be ensured through a scientific approach to measurement techniques and must include the ability to be reliably reproduced and verified. The measurement methodology should have sufficient rigor to satisfy the expert as well as the lay person.

- *Linking to Policy*

  The indicator should be associated with one or several of the objectives or Key Performance Indicators of the organisation. Sustainability indicators are intended for the audiences to improve the outcome of decision-making on levels ranging from the workers to the members of the Board and beyond that to the community and other stakeholders. To motivate action the indicators need to be linked to the policy and decision making of an organisation.

- *Sequential Data*

  The indicators in isolation provide no evidence of continual improvement. It is therefore essential that the data collected provide the opportunity to identify trends over time. If based on only one or two data points it is not possible to visualise the direction the organisation will move towards in the future.

- *Sensitivity*

  The indicator should be able to detect reasonably small changes in the measurement. However, the level of sensitivity and its relevance will need to be determined for each individual indicator.

- *Reliability*

  Whenever measurements are made, it will be necessary to demonstrate that the same result is reproducible. Two different researchers will need to arrive at the same conclusion for the indicator to be reliable.

- *Aggregation of Data*

  Rather than develop indicators that are very narrowly focused, it is more useful to have a list of indicators that aggregate information on broader issues. Otherwise the list of potential indicators could be endless. For example, overall quality control of a product is a useful indicator for faulty manufacture of component parts.

- *Costs of Data Collection*

  Good quality data should be possible to collect at a reasonable cost. It may be feasible to initiate a monitoring process that will make data available in the long term.[2]

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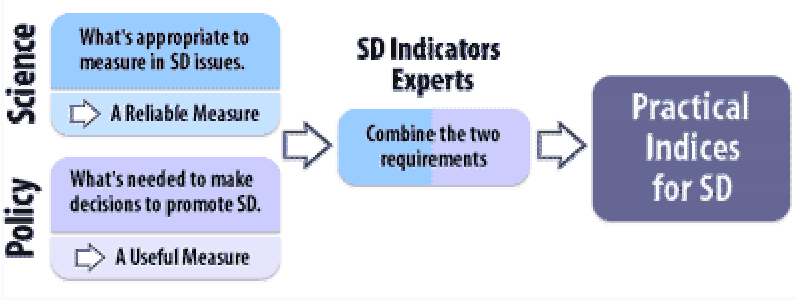
[2] Hardi, Peter and Laszlo Pinter. *Measuring sustainable development performance : Canadian initiatives : first survey.* Winnipeg: International Institute for Sustainable Development, 1994.



The use of indicators has evolved and continues to do so. Early indicators included, for example, parameters such as megawatt hours of electricity used by the company. While such information might be useful to the company it is not necessarily meaningful to stakeholders. That is, stakeholders are most likely to be interested in whether the energy used in the current year was significantly more than the previous year. Recently companies have been found to report on the same parameters in different ways (eg. energy used per unit of production or greenhouse gas emissions per unit of production).

Indicators are ubiquitous; they are communication tools and they simplify information. They mediate between scientific communities and decision-makers. One might say that science provides the supply side, while policy-making provides the demand side of indicator work. Scientific data are too complex and remote for public and private decision-makers. Indicators translate scientific information into policy influencing tools. At the same time, indicators help to translate public expectations into measurable components, like targets or benchmarks. Any successful approach to assessing progress toward SD will draw on the best available information including traditional knowledge locally derived as well as the results of more strictly defined scientific studies.[3]

Therefore, sustainability indicators must:

- Represent all important concerns (interaction between systems and environment)
- Be comprehensive yet compact
- Be developed through participation
- Be clearly defined, unambiguous, reproducible, practical, and understandable
- Allow deduction of sustainability and viability of current projects, and comparison with alternate developments
- Be part of a framework, process, and criteria are needed for indicator development
- Cost effective

Some examples of indicators include

- Number of complaints about air quality per year
- Emissions of carbon dioxide and other greenhouse gases
- Air pollutants from stationary sources
- Noise complaints to local authorities
- Number of sick days per year for staff
- Perceived quality of life at the workplace
- Business participation in school and civic events

[3] *Towards indicators of sustainable development for firms -A productive efficiency perspective* Isabelle Callens and Daniel Tyteca, Ecological Economics, Vol. 28 (1) (1999) pp. 41-53

- Sales figures for the year
- Percentage of faulty products returned

It is important to remember that indicators in themselves should not become more important than the process nor be used as a basis for reducing the importance of a parameter which does not readily lend itself to measurement.

Visual model of highly aggregated sustainable development indices

Source: Jochen Jesinghaus, European Commission Joint Research Centre

The Methodology

Negotiations have taken place over the past six months which have included discussions with the EPA Victoria, Pacific Access, Victorian Employers' Chamber of Commerce and Industry (VECCI), Plastic and Chemical Industry Association (PACIA), the Australian Industry Group (AIG) and Swinburne University of Technology. The ensuing steps will require further consultation with these groups and discussions with pilot groups of SMEs which are presently being determined. It is envisaged that the project will involve the development of sets of indicators in the form of a software tool that will be used with a number of SMEs for trial purposes. The indicators will be developed in direct consultation with the SMEs and the various industry bodies through a Steering Committee, which will have representatives from the key organizations, involved in the project. Once the first sets of indicators have been developed for each sector, they will be used in the workplace and undergo an evaluation process.

On completion of the trials, the feedback obtained will be incorporated into newly developed indicators and ensure a workable and effective tool. The Sustainability Indicators developed would be most effectively used to enhance the continuous improvement of the level of sustainability within the organisation.

In summary the process will include:

1. Setting evaluation method.
2. Identifying potential indicators.
3. Evaluating potential indicators.

4. Refining the indicator list and wording.
5. Peer review and evaluation.
6. Revising indicators based on peer review

The Expected Outcomes

According to the World Business Council for Sustainable Development (WBCSD) the pursuit of sustainable development is not only good for the planet but makes firms ' more competitive, more resilient to shock, nimbler in the fast-changing world, more unified in purpose, more likely to attract and hold customers and the best employees, more at ease with regulators, banks, insurers and financial markets'. The WBCSD consists of over 150 international companies and its executive committee includes Hugh Morgan from Western Mining.

It is expected that when more and more SMEs measure and more closely examine the trends in their practices through the use of sustainability indicators, they will discover that the case for 'values not standing in the way of value creation is being increasingly backed up by hard financial fact.'[4] Each indicator by itself cannot demonstrate sustainability but rather shows progress in individual areas to be compared with performances in previous years. Only by considering the indicators as a suite and analysing the trends over time is a clear picture able to emerge.

Ultimately, the real purpose in measuring the economic, environmental and social impacts of a business is to identify through comparison and targets set, where improvements may be made to ensure the log-term viablility of the organisation.

[4] The Financial Review, 27th February 2002 *Sustainability Index shows it pays off.*