Social Life Cycle Assessment in a Managerial Perspective: An Integrative Approach for Business Strategy

G. Arcese, M.C. Lucchetti and O. Martucci

Abstract The attention regarding social, economic and environmental impacts and the increase in the attention on sustainability by the customers and the other general stakeholders has led businesses to adopt several tools for sustainable development patterns and, in particular, for social development patterns. The development of social impacts' evaluation is one of the cornerstones of products and services sustainability. Concerning that, Social Life Cycle Assessment (SLCA hereafter) focuses on studying the social impacts of life cycles, but as this is a relatively new analytical approach, no globally shared application tools have yet been developed. The purpose of this study is to analyze the tools of stakeholder management and Corporate Social Responsibility (CSR) to create a pathway of integration between the tools of social responsibility, SLCA and Stakeholder Management Approach. The research has characterized two main phases; the first is devoted to the critical analysis of the literature on the subject, and specifically on SLCA methodology. The objectives to be achieved are to carry out a comprehensive review of the existing literature on the subject for developing a conceptual model for the interpretation of the behaviour observed. In conclusion, we can say that the innovative model is properly inherent in the various interpretations of the stakeholders and the assessment of social impacts of product or services.

Keywords Social life cycle assessment · Corporate social responsibility · Stakeholder's management · Social evaluation tools

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1 Introduction

Corporations have become indispensable members of our society who need to be "incorporated" socially as well as legally. Recent institutional changes have made social and environmental sustainability an important source of the institutional legitimacy of corporations (Lee 2008).

The 10 key steps that led to the current concept of sustainability should be noted. The table below lists the authors' strategic characterization of the evolution of the concept of sustainability to the concept of corporate social responsibility (Table 1).

In the Life Cycle Management concept (LCM), the integration of different sustainability aspects shows a priority in the development of a better link between the analytical tools and the procedural approaches and strategies.

There is a significant problem regarding the communication of results, such as the different types of labels, to develop communication and stakeholders' participation at the dates of the life cycles of products. In the development of a better link between the analysis tools and the procedural approaches, and strategies between business and government communications tools, such as the different types of labels, to develop communication and stakeholder participation reported in life cycle of the product through the LCM practices and application in business strategy (Arcese 2013).

The LCM is not intended to replace the existing concepts, programs and tools, but rather to offer a new synthetic approach to improve the application of these concepts, several programs, and tools in the life cycle perspective (Fig. 1).

In recent years, the attention paid by scientists to business studies regarding governance has increased and the "corporate governance" definition has broadened considerably and started to cover some aspects traditionally seen as being part of corporate social responsibility (CSR). This is based on the assumption that such standards increase legitimacy among stakeholders (Freeman 1984).

The SA8000 (SAI 2013) was the first auditable social standard and is based on the international workplace norms of the International Labor Organization (ILO) as well as the Universal Declaration of Human Rights of the United Nations in order to improve the working conditions in everyday life.

The CSR and the Social Accountability and its standards, such as SA8000 (SAI 2013), have been theorized and standardized to support the social ethical engagement of companies, which seek to find a consensus. Economic reasons also fostered the development of this standard (Benoît et al. 2010).

Social impacts' evaluation is one of the cornerstones of product sustainability. Models of indicators designed to assess social sustainability are many and varied in nature and composition, although some studies show that these are still incomplete and most of them are not objective.

Social life cycle assessment (SLCA) is a method that be used to assess the social and sociological aspects of products, their actual and potential positive as well as negative impacts along the life cycle. It looks at the extraction and processing of

Table 1 Social sustainability concept evolution in literature (our elaboration?)

Authors	Concepts of sustainability
Freeman (1984)	Starting from his studies, the "stakeholder theory" related to the activity of the company has developed and evolved through the creation of what is called" stakeholder management"
	Sustainability is often meant to refer to equity within and between generations
Guatri (1991)	This approach draws on the extensive research field of Corporate Social Responsibility but also the method of preparation of sustainability reporting, analytical tools such as the balanced scorecard and embedded systems performance evaluation and, more generally, corporate governance instruments
Donaldson and Preston (1995), Hinna (2005), Sacconi (2005), Schwartz (2006a, b);	The classification of stakeholders is still controversial and not universally harmonized in the various analysis models. There are common point balance categories: customers, staff, suppliers. And the local community
	Clarification of the concept in the triple bottom line is often used to illustrate the need to investigate the social, environmental, and economic decisions
Hinna (2005)	The creation of a new vision of the company passes to a logical view of stakeholders in which we highlight the different stakeholders from legitimate expresses precisely the need of management to meet their needs
	How do you manage your responsible business? CSR tools
UNEP and SETAC (2009)	The Guidelines for the SLCA presents an operational framework in order to adopt the model in the evaluation of social impacts, defining the impact categories and each of their subcategories
Benoît et al. (2010)	The SLCA methodology can be described as a tool that shows a strategic and management vision of the social product sustainability. It takes the form of an analysis that lets the company observe the social impact of the product through its sustainability evaluation throughout its life cycle
Arcese and Martucci (2010)	Models of assessment of social impacts based on Life cycle thinking, and especially through the application of the methodology of (SLCA) suitably integrated with the models until now no in the literature

raw materials, manufacturing, distribution, use, reuse, maintenance, recycling and final disposal. SLCA makes use of generic and site-specific data, can be quantitative, semi-quantitative or qualitative, and complements the environmental life cycle assessment (ELCA) and Life Cycle Costing (LCC).

Discussions on how to handle social and socioeconomic criteria of products throughout a product's life cycle began in the 1980s (UNEP 2009). At that time, in Germany, a specific Group on Ecological Economics project was started within the

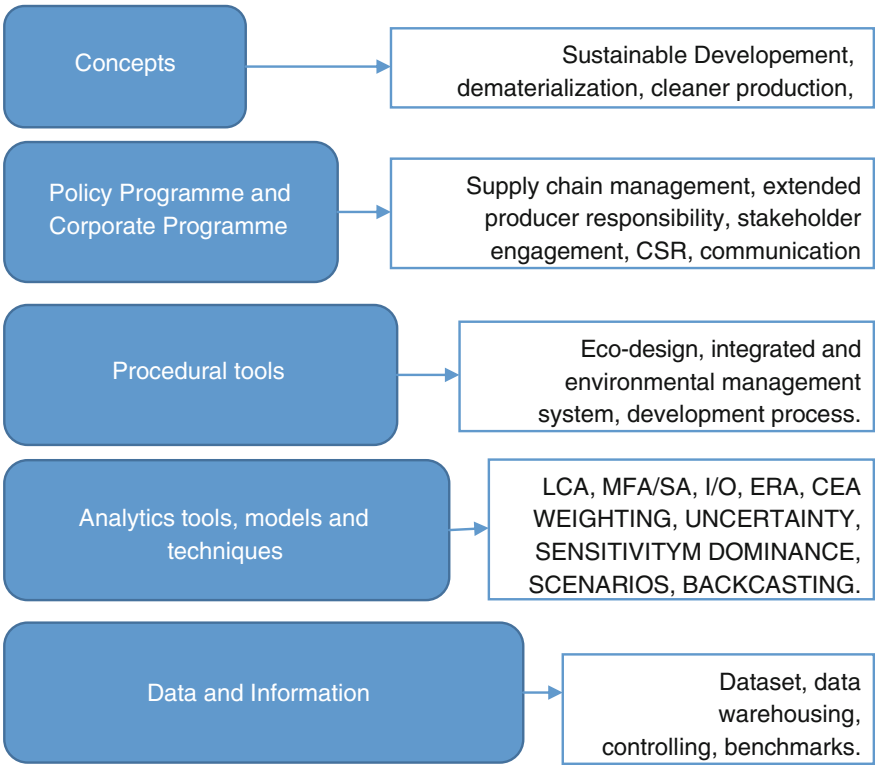

Fig. 1 Life cycle management framework. UNEP/SETAC, life cycle approaches. The road from analysis to practice, 2005

ÖkoInstitut, and the Society of Environmental Toxicology and Chemistry (SETAC) Workshop, reported on a conceptual framework for the impact classifications that already included social aspects for holistic assessment (Fava and Hall 2004).

With this awareness, SLCA focuses on studying the social impacts of life cycles, but as this is a relatively new analytical approach, no globally shared application tools have yet been developed.

SLCA can be described as a tool that allows a strategic vision and management of the social sustainability of a product and takes the form of an analysis that allows the company to examine the social impact of the product through its sustainability evaluation, throughout the life cycle (Russo and Perrini 2010).

The classification of stakeholders is still controversial and is not universally harmonized in the various analysis models, are; however, a common point balance categories:some common categories include customers, staff, suppliers and the local community (Hinna 2005; Schwartz 2006a, b; Sacconi 2005; Donaldson and Preston 1995).

Finally, SLCA can be a methodology that complements existing CSR tools and the assessment of social sustainability because it is comprehensive and evaluates the entire life cycle of a product or service (Arcese et al. 2013).

In the literature there is still evidence of a few SLCA analyses conducted on products or services, and the ones that have never used the results as a tool for CSR or business strategy. There are also publications that compare the various tools and methodologies, highlighting the commonalities and where they overlap or complement each other.

In this chapter, after analyzing SLCA, we will analyze corporate social responsibility, stakeholder engagement and the stakeholder analysis, highlighting how the new document GRI, social variables vested with a key role in sustainability assessments. Finally, we will give an overview of the risk assessment vested with a key role in sustainability assessments. Finally, we will give an overview of the risk assessment tools and the danger of greenwashing.

The discussion and conclusions section will highlight similarities and differences in the belief that they are integrated

2 Materials and Methods

In this study, we have used national and international publications, online material, and material distributed at various conferences on social issues.

The same objectives are at the bases of these different instruments, but their application and implementation is, in many cases, very different. The aim of this study is to highlight the similarities and key differences to ensure that the application of all instruments is done jointly.

The study presents a review of the literature on three critical concepts related to social sustainability:

- Social Life Cycle Assessment framework, methodology and tools (Sect. 3);
- CSR tools for social business evaluation (Sect. 4); and
- Stakeholder management theories and practices (Sect. 5).

The ultimate objective for conducting an SLCA is to promote the improvement of social conditions and of the overall socioeconomic performance of a product throughout its life cycle on behalf of the stakeholders, for the promotion of an integrative approach (Arcese 2013).

The models and tools have been analyzed through a comprehensive review of the existing literature on the subject, based on two steps for the contextualization model analysis for assessing the possibility of tool integration:

1. Develop and evaluate the results of empirical research: whether there are, and if so, what are the most common practices?
2. Develop a conceptual model relevant for the interpretation of the observed behavior.

3 Social Life Cycle Assessment Framework, Methodology and Tools

The SLCA is a methodology of the assessment of social impacts—actual or potential—on a product at various stages of its life cycle.

The phases, the analysis, and the framework of the model were established through the drafting of the guidelines of the UNEP-SETAC in 2009, and the implementation of the analysis procedure. It may reflect the same phases of a product LCA.

One can then identify the four main phases related with the requirements of ISO 14044:

- Definition of the objectives and goals;
- Drawing up an inventory of data;,
- Analysis of the impacts; and
- Interpretation of results.

Different environmental life cycle assessment, play a central role throughout the analysis the stakeholders, which are already considered from the analysis of impacts. Stakeholders can be divided into five major groups, which are:

- Workers
- The local community
- Society
- Consumers, and
- All the other actors in the life cycle of the product.

For each category of stakeholders there is an association with its objectives and impacts that go to identify, model and modify the boundaries of the system, contributing to the definition thereof (as defined in the LCA with slight differences, as it is also the functional unit). In the second step of the preparation, the inventory of data is considered to be the most appropriate indicators (Jørgensen et al. 2008; Dreyer et al. 2006; Ehrenfeld 1997)(Fig. 2).

The international scientific community has defined this differently, with the aim of reaching a comprehensive set able to respond to all the needs of the analysis—in particular, Jørgensen et al. (2008), which represents a matrix structure indicators for the various impact categories and is broken down into subcategories as established by international guidelines (UNEP 2009).

The main subcategories of indicators relating to workers was expressed by indicators relating to collective bargaining and freedom of association, child labor, data on salaries and remuneration, working hours, gender discrimination, health-related indicators, and social security benefits. The values of the set of indicators should be both qualitative and quantitative in relation to the impact associated with it. It is important in this scenario to understand the characterization in terms of

Stakeholder categories	*Subcategories*
Employees	1. Freedom of association and collective bargaining 2. Child Labor 3. Working hours 4. Forced labor 5. Equal opportunities / Discrimination 6. Health and Safety 7. Fair salary 8. Social Benefit/ Social security
Local community	1. Access to material resources 2. Access to immaterial resources 3. Delocalization and Migration 4. Cultural Heritage 5. Safe and Healthy living Conditions 6. Respect of Indigenous rights 7. Communities engagement 8. Local Employment 9. Secure Living Conditions
Society	1. Public commitments to sustainability issues 2. Contribution to economic developmen 3. Prevention & mitigation of amend conflict 4. Technology development 5. Corruption
Consumer	1. Health and Safety 2. Feedback mechanism 3. Consumer privacy 4. Transparency 5. End of life responsibility
Value chain actors not including consumers	1.Fair competition 2. Promoting social responsibility 3. Supplier relationships 4. Respect of intellectual property rights

Fig. 2 Stakeholders classification for SLCA. *Source* GuideLine UNEP-SETAC 2009

geographic presence and intensity of the impact of a single factor on the territory, a feature that is different from the LCA, to account for the influence of the local scenery on social realities.

Analysis techniques and specific impact assessment were studied in the early stages, and other applications were already present on the international scene. The first is the methodology of Weidema, where the impacts are quantified in terms of years of life lost and in relation to life expectancy average. The data source usually derived from direct interviews (Weidema 2006).

What is very important at this stage is the comparability of the results for each indicator and performance at various stages of the life cycle of the product. The most popular tools in the literature that perform this function are, in particular, the Life Cycle Sustainability Dashboard (Traverso and Finkbeiner 2009), and tools for the analysis of SLCA designed by the Natural Step (Arcese and Martucci 2010).

The former (the most complete) combines quantitative elements by assigning a score to each performance on a qualitative color scale (Traverso and Finkbeiner 2009). The tool is used for assessing sustainability of a product according to the SLCA model.

In many examples and case studies analyzed, this tool translates into numbers and color groups the value of sustainability variables in a matrix structure. The sustainability assessments traditionally carried out often begin with the recognition of a criticality. This tool uses an alternative approach that defines the boundaries of the system in relation to the goal of sustainability and pre-set allows us to consider not only the most visible and best-known factors, but the less visible impact factors as well (Arcese and Martucci 2010).

The purpose of the tool is to enable designers and managers to focus on sustainable development by seeking to exclude all aspects of product potential unsustainability during the course of the life cycle, by determining how the products can be developed to meet human needs in a sustainable society, and by reducing the risk of violation of the principles of sustainability in the macro lens of the instrument.

The SLCA analysis begins with an overview of the whole system, considering all aspects of the life cycle that are in conflict with the basic principles of sustainability. It takes into account four parameters that begin with the assumption that nature is not subject to systematic increases and they correspond to concentrations of substances extracted from the earth's crust, concentrations of substances produced by society, degradation by physical means, and the lack of conditioning people in meeting their needs. Typically, data are collected through interviews and questionnaires.

The results are displayed in a matrix of five dials and four colors that were assigned, based on the responses. The colors provide a visual clue that highlights the critical points that occur in the early stages of the life cycle (the "hotspots").

4 CSR Tools for Social Business Evaluation

During the last thirty years, the diffusion of standards of corporate social responsibility has had grown rapidly, with more than 300 different standards produced, all in order to encourage the dissemination of quality practices on the entrepreneurial management of social sustainability.

The Social Report is the first reporting tool to allow social effective efforts to communicate made by an organization in the field of sustainability (Massa et al. 2014).

The Social Report also enables the ability to import in a controlled manner the information on the social and environmental performances related to the activities carried out (Contrafatto 2009).

Due to its ability to meet the demands of dialogue and exchange between the company and its stakeholders, the BS is widespread, particularly among large organizations that operate in the areas recognized by the public as particularly impacting on the environment and society.

In many cases, the social report coincides with the sustainability report, and this is subjected to much criticism for the resources that companies use for its preparation by both the public reporting that considers only a mere means of communication (Massa et al. 2014).

However, the need for legitimacy in the category classifications and the necessity of stakeholders' dialogue demand verification on the principle of transparency. This is the aim of standardization, and it has led to the creation of a large number of standards in order to ensure the information credibility through the control exercised by an independent and external organization (Marimon et al. 2012; Asif et al. 2013).

With the sustainability reports, as they can handle a large amount of information (Mahoney et al. 2013; Roca and Searcy 2012; Ramachandran 2000), and the business strategy more specifically adopted by large organizations, about 71 % of the 100 largest companies have drawn up a sustainable in 2013 (Massa et al. 2014).

The spread of the sustainability report is derived from an increase in the external pressure exerted by the companies' stakeholders.

The major points of discussion are the relationship between business and the environment; the welfare of workers; the procedures for managing relationships with suppliers; and relationships with consumers and communities located approximately production sites.

In particular, the institutional stakeholders, through their legally recognized authority, exert coercive pressure on regulatory organizations to change their acts (Delmas and Toffel 2004). Stakeholders, however, urge organizations to put in place the measures best suited to their respective needs.

In this category fall the citizens, consumers and competitors (Delmas and Toffel 2004).

The commitment of companies—in fact, in the preparation of sustainability reports—have led to the development of a strategic tool able to demonstrate to its stakeholders for the adoption of a proactive stance to limit and prevent adverse environmental and social impacts (Geibler et al. 2010).

The changed approach lies in the awareness by companies that these issues are closely related to the economic sustainability of the enterprise itself (Wilson 2013). In fact, companies that enjoy a good reputation have access to a number of advantages that are not equally reserved for those companies whose act was perceived as not in line with the values considered socially important. The "ethically responsible" companies have more funding opportunities (Orlitzky et al. 2011), are better able to attract and retain skilled workers (Greening and Turban 2000) and are also favored by consumers (Marin et al. 2009).

For the sustainability report preparation, companies have several standards, but at the time of this writing the most widely used is that of the Global Reporting Initiative (GRI), an international, not-for-profit organization with a network-based structure. To enable all companies and organizations to report their economic, environmental, social and governance performances, GRI produces free sustainability reporting guidelines, which are currently in their fourth generation ("G4").

The GRI Sustainability Reporting Guidelines (the Guidelines) offer reporting principles, standard disclosures and an implementation manual for the preparation of sustainability reports by organizations, regardless of size, sector or location. The Guidelines also offer an international reference for all those interested in the disclosure of governance approach and of the environmental, social and economic performance and impacts of organizations.

The GRI has developed a system of voluntary standards for the preparation of reports on sustainability that uses methods of measurement and control systems to classify the BS based on the quality of the information provided by businesses, separating them into three bands (A, B, and C) and indicating with "+" reports that have been audited by external auditors (Prado-Lorenzo et al. 2009; Brown et al. 2009).

The GRI guidelines, now in their fourth year, are the result of cooperation between the worlds of research and enterprise, and processing the output result of consultations with the multi-stakeholder approach (Massa et al. 2014); it should be noted that the multi-stakeholder approach is often used in analyses of SLCA (Arcese et al. 2013).

The GRI encourages the use of stakeholder involvement; in fact, by analyzing complaints, it can provide important insights for improving the company's relationships with stakeholders as well as enhance the image of the company (Burritt et al. 2002).

The GRI Reporting Guidelines include economic, environmental and social indicators. Regarding the social indicators, it is useful to consider that they coincide only in part with the classification of categories and subcategories of stakeholders in the SLCA analysis (Fig. 3).

Category	**Social**			
Sub-Categories	Labor Practies and Decent Work	Human Rights	Society	Product Responsibility
Aspects	Employment Labor-management relations Occupational Health and Safety Training and Education Diversity and Equal Opportunity Equal Remuneration for Woman and Men Supplier assessmentfor labor practices Labor practices Greivance Mechanisms	Investiment Non-discrimantion Freedom of Association and collective bargaining Child Labor Forces or compulsory Labor Securety Practices Indigenous Rights Assessment Supplier Human Rights Assessment	Local Comminities Anti-corruption Public policy Anti-competitive Behavior Compliance Supplier Assessement for Impacts on Society Grievance Mechanisms for impacts on Society	Customer Healt and Safety Product and Service Labeling Marketing Communications Customer Privacy Compliance

Fig. 3 Stakeholders classification for SLCA. *Source* GRI social indicator categories

5 Stakeholder Management Tools: The Stakeholder Engagement and the Stakeholder Analysis

The stakeholder's choice question in the SLCA approach, despite the UNEP-SETAC Guidelines of 2009, remains much debated (Mathe 2014).

The international literature often presents new contributions that challenge or complement the categories of stakeholders to be taken into account in the analysis of social sustainability.

There is not yet a common regulatory approach to the involvement of stakeholders in the development of LCA. Some advances have been made through the streets of integration of various tools, but these additions have often not been generalized. However, they strongly emphasize the interrelationship between research on the increasing integration of stakeholders and the selection of stakeholders. According to the criteria of stakeholder theory for the identification of stakeholders, it should be implemented with a participatory approach (Mathe 2014; Freeman 1984; Mitchell et al. 1997; Geibler et al. 2006).

After the recent publication of the exposure, a draft of the standard AA1000 Stakeholder Engagement is one of the results of these efforts; the UNEP, along with the Accountability and Stakeholder Research Associates, has published two volumes of interest that give an overview of the involvement of various stakeholders (companies, industrial associations, unions and NGOs).

This publication is intended to provide guidance on how to raise awareness, knowledge, capacity and legitimacy of the companies when undertaking stakeholder engagement. The purpose of the proposed model of stakeholder engagement is to help identify the synergy space between these two advantages by aligning the strategy at the corporate level with sustainable development.

In order to understand the strategies better, involved stakeholders are classified into three generations:

1. Involvement solicited from external influences to reduce the problems with targeted benefits.
2. Involvement aimed at systematic risk management and the understanding of the key stakeholders of the organizations. and
3. Involvement of integrated policy for sustainable competitiveness.

This third generation of stakeholders, the most advanced and complete, implies that the more advanced strategies consider the involvement of a variety of individuals and entities on social, environmental and economic issues as an important aspect in the management of their activities. This generation represents a shift from the need to involve external stakeholders in order to eliminate conflicts of interest, in proactive and constant dialogue, until the management and prevention of the risk of conflict are reached. Up to the integration strategies development contribute to learning and innovation of company and improve the sustainability of strategic decisions both within and outside the enterprise.

The step towards the concept of social performance is short!

These stakeholder engagement processes, involving a variety of resources (e.g., knowledge, finance, and human and operational resources), can help all the parties involved to understand, solve problems and achieve new and complex goals. The first step in the stakeholder engagement process is identifying the characteristics of the stakeholder's categories.

The Stakeholder's Engagement Manual tracks the stakeholder's profile, answering three questions:

1. Is the stakeholder authentic?
2. Is it fair and well informed?
3. What difference does his involvement make for corporate decision-making?

The second step is the mapping of stakeholders; these are individuals or groups who affect or are affected by the organization and its activities.

There is a generic list of stakeholders that fits all companies, or even a single firm (change over time); the list of those who affect and are affected by the organization depends on the type of industry, from the company, according to geography, and according to the issue in question. New business strategies and changes in the environment in which it operates lead to a new set of stakeholders.

There are a number of variables that one can consider when identifying stakeholders:

1. Accountability: people to whom there are, or might be in the future, legally liability, whether financially and/or operationally, who are enshrined in regulations, contracts, corporate policies, or codes of conduct.
2. Influence: people who are, or may be in the future, able to affect the ability of the organization to achieve its goals, i.e., whether their actions are likely to be able to improve or hinder performance. These include both those who have and those who have informal influence on formal decision-making power.
3. Proximity/nearness: those with whom the organization has the most interaction, including internal stakeholders; those with longstanding relationships; those upon whom daily operations depend; and those who live near the headquarters.
4. Dependency: those who most depend on your organization—for example, employees and their families; the customers who depend on the products for their safety, subsistence, health or welfare; or suppliers for whom you are a primary customer.
5. For representation: those who, for legal or culture/tradition reasons are entrusted with the task of representing other individuals, such as local community leaders, union representatives, advisers, representatives of associations, etc.

Grouping stakeholders into categories (using the general categories shown below, or adopting other methods) and sub-groups share similar perspectives.

6 The Global Reporting Initiative

Inclusiveness can be achieved through adherence to the following three principles:

1. Relevance: requires knowledge of what concerns and it is important for the organization and its stakeholders.
2. Completeness: requires the understanding and management of material impacts and the points of view, needs, perceptions and expectations of stakeholders associated with them.
3. Compliance: requires an answer consistent with the issues relevant to stakeholders and to the organization.

These principles are not unique to the AA1000 Series and will need to be integrated into the specific language and existing frameworks.

The Guidelines for Sustainability Reporting of the Global Reporting Initiative also uses the principle of "inclusiveness" as the primary key to a process of sustainability reporting, using a systematic involvement of stakeholders in the development and improvement of the report.

The GRI defines the principle of "completeness," applied in the context of reporting, and refers to the scope (in terms of time, thematic and organizational entities) of what is included in a report. This ties in again with the above-mentioned principles applied within the context of stakeholder engagement—namely, the challenge of engaging with stakeholders based on an agenda that is clearly outlined in terms of period, thematic and organizational entities considered.

7 The Risk Management Tools

Risk assessment involves several steps that require the contribution of various disciplines. On the international scene, perhaps even in the wake of the economic crisis, we are witnessing increasing interest in the security and quality of service in various economic and industrial environments by hiring more and more of a role in this social relevance.

The prospects for increased productivity and recovery efficiency, which have been the central goal of companies over the last 20 years, have given way to the search for a balance between product quality and customer satisfaction, with greater emphasis on global sustainability. In this changed environment, which also are referred to as the tools of risk management.

Performance measurement is always the chance of concrete quantification of the quality of performance in any industry. Risk management is applied, especially for the function of communication and information that can provide quantitative data on the work outside of an organization (Asif et al. 2013).

The formalization of control measures for risk management is done through the selection or construction of indicators, a "*tableau de bord*" that represents the

synthesis tool that collects all the indispensable data for determining the quality of the performances and the quantification and risk management on performance. The tableau de bord is a tool used as part of the control systems of evolved management, which starts from the recognition of the financial results until there is a more detailed analysis of the causes of physical-technical and operational variances related to the results of each business process. This concerns not only the indicators of economic and financial but allows the analysis of the efficiency of business management and operational processes, the level of customer satisfaction, and comparison of financial data with indices of the quality delivered and perceived by the customer.

The use of this instrument meets two objectives: monitoring the performance of key variables (key performance indicators) and monitoring key processes accordingly, and concise and comprehensive reading of the deviations of the results of the company for the definition of corrective actions.

In this context, performance control means to direct, quantify and monitor its progress against the objectives and reduce the risk to a minimum with an acceptable margin of error.

Even in the management of environmental systems, ISO 14001 provides for the establishment of "emergency response" preventive action that has no direct effect other than environmentally and economically. The risk management is indispensable in any field, such as in the case of traceability in food, or the risk related to ethics and safety. However, the environmental performance of a company, as well as social ones, are difficult to measure. Currently, due to the lack of methodologies and indicators, universal results of these analyses are easily found. The ISO 14031 specifies that the assessment of environmental performance (EPE) is an internal process and a management tool that provides the reliability and truthfulness of the information that is used to check whether an organization meets the criteria, and, as a result, the objectives established by the organization itself. The EPE can then be defined as a set of indicators that provides measurable results and can be used even in the absence of implementation of an environmental management system (Axelsson et al. 2013). These types of indicators can be divided into two subcategories: performance indicators and status indicators. The construction of the instrument is selected from a plurality of indicators—world, international, national and local authorities—to build a set that identifies a tableau de bord. These data can be reclassified and used as indicators of performance analysis SLCA.

The set of risks that the company faces at a given time is defined by its risk profile (generally understood). The nature of this profile, and its composition are influenced by corporate purposes, as well as by the characteristics of the internal and external environment in which it operates. The description of the risk profile is an operation that cannot be generalized and should be based on evaluations conducted in the specific business context, integrating all the information possible. In addition, the risk profile is very dynamic, so that the management has the responsibility to adopt systematic detection systems constantly monitor the evolution. In the analysis of SLCA, identification of the risk profile of a company can

support the identification of the items of inventory on the basis of analyzing the integration impacts/risks, and the social sustainability of the enterprise.

The risk profiling can also be useful for better defining subcategories of impact with a twofold advantage: an identification of the items of the two analyses in common with the possibility of harmonization of data, and at the same time to have quantitative elements from the analysis of risk management that are not always available in SLCA.

In this direction, a valuable contribution may come from the overview of the environmental factors that lead to the emergence of demand for greater safety and appropriateness of the stages of production, especially for the "workers" and "consumers" categories. In the search for factors that interact with the cycle of life, is increasingly seeking indicators marked on the criteria of scientific evidence, effectiveness and appropriateness. These pressures lead to the development of actions and instruments that fall within the evidence-based scope, including continuing education, review, and activation of the circles of quality assessment and audit, implying a vision of explicit accountability of professionals and performance evaluation of assistance as a basis for engaging actions to improve effectiveness and safety.

The simplified models of risk management can be adapted to compare the relative potential for harm and its causes. The harm in this case is understood in terms of both the environment and human health. A proper consideration, however, must be specified—namely, that these types of indicators do not specify an absolute risk or actual harm, but rather only the potential for them. For example, risk assessments are very often focused exclusively on a single aspect in a specific location. In the case of a traditional risk assessment, it is possible to create very detailed models of the expected impacts on the population exposed to the risk and to predict the probability of the population being affected. The number of factors impacting over the course of the evaluation, the variety of places, and the diversity of impact categories can also be identified, although the models currently available are only estimates but still use pooled data for calculation and values defaults.

8 Social Attention and Greenwashing Risks

Sustainability seems to have become a recurring theme in the intention of buying. In Italy, as in the rest of the world, many studies have been conducted that demonstrate this; an example is the total number of consumers ready to differentiate their wallets and pay a premium price for a product labeled "green" amounts to 84 % in Italy, compared to 77 % in the United States.

The term "green consuming" appears to be widely used, making environmental management a key part in the process of relational management with the consumer. A well-known marketing research consultant, Arthur D. Little, shows how in samples analyzed in the investigation, 30 % of those asked said they would be prepared to pay more for a product that respects the environment.

The same report highlights, as in the statistical analysis, that the market is analyzed in four dimensions—company expectations, brand recognition, behavior/inclination in buying, and consciousness, –in understanding buyers' behavior, level of attraction and "driver" for value potential.

Since 2008 the results have shown that the buyer's behavior has greatly developed in the "green" market, independent of normative obligations. The company plays the key role independent of the industrial sector, which sends information on environmental sustainability initiatives of the company along diverse channels, and, above all, in great organized distribution (GDO), the brand is associated with environmental sustainability.

Moreover, the profile of the green consumer is well highlighted in research carried out by Target Research for Henkel Italia. Around 30 % of consumers can be considered to be sustainable consumers, sensitive to environmental problems, and possessing wide knowledge that is constantly updated. Some 27.8 % of them are not particularly environmentally aware but have often adopted behavior that is oriented towards sustainability. Finally, 13.2 % are skeptical and 27.8 % are indifferent.

There are many authors in the literature who reach different conclusions on the theoretical perspectives, and there are two who come to differing conclusions about the connection between the costs and benefits of using the tools of social responsibility: the theory and signaling, and the theory of greenwashing. The latter finds its basis in the fact that the reporting tools are optional tools, and also in cases where the jurisdiction of individual states provides for the obligation of realization on the part of organizations; it is a standard drawn up by the private research institutions, without any connection to international financial reporting procedures.

In order to protect stakeholders from receiving false information and organizations from receiving a virtuous from the risk of image damage to be confused with competitors who spread unrealistic information, several organizations and institutions with the role of qualified auditors have emerged in order to bridge the gap credibility that characterizes the sustainable reporting.

9 Discussion and Conclusions

After its initial stage of development, the S-LCA is now a well-defined framework, but its practical application is lacking. The bibliography does not yet list many case studies; those that are listed, in many cases, are not comparable.

The strategic role that seems to be in the overall context is a tool to support decisions at the level of decisionmaking and high-level strategic planning. However, it is important to note that S-LCA can be very useful as a strategic business tool.

Especially for the CSR stakeholder management, the classification of stakeholders is still controversial and not universally harmonized in the various analysis models, are the common point balance categories: customers, staff, suppliers and the local community.

The research is positioned as a first step towards the integration of multidisciplinary analysis models for the construction of an integrated model. The appraisal value of stakeholder management is adaptable to the global context, since the issue still lacks solid interpretative and empirical models.

The possible solution for this gap can be shown by models of the assessment of social impacts based on life cycle thinking, especially through the application of the SCLA methodology that is suitably integrated with the models that were until now not found in the literature.

As part of the risk management of any organization that produces goods or delivers services, the set of indicators is an instrument of primary importance, the basis of the information system with which they built and supported the information flows that create a common thread between the processes and the company's strategic decision-making system. The optimization of the system of indicators and their rationalization enables a complete view of the overall picture of the company's system. In an economic and social scenario, with increasingly limited resources and a market subject to a great variability of conditions, the standardization of these tools and the establishment of uniform methods of calculation and quantification of the impact seem to be more and more a priority.

The integration of tools in the analysis of risk management may be important to consolidate its position and the strategic role among the tools for the assessment of sustainability. In general, it can be concluded with regard to the fact that the SLCA is still a tool that requires defining a set of suitable and recognized indicators, unlike models of risk management in well-established business practices. Starting from this theoretical approach, it may be possible to study the information available for integrating the two instruments.

The Global Reporting Initiative has set the standard for social reporting that is more globally widespread. The GRI guidelines were developed in order to help organizations assess the material aspects to consider before beginning on the path of accountability, providing a list of what to check for after the trial, and helping manage the information.

There are conflicting opinions about the instrument in the literature, with the main criticisms involving the risk of greenwashing. This risk arises when the instrument is used by organizations that are not interested in improving the sustainability of their performance, but only to show their image of sustainable businesses.

The managerial approach used for such preparation involves separation into categories of stakeholders, and defines a set of sector-specific indicators for each of them, and does not consider cross-cutting aspects of materials identified by the organizations. The latest changes focus on the material aspects relevant to identifying and adopting more stringent objectives of the measurement systems that are evidence of the results obtained from specific interventions, as well as avoiding confusing the reader with information regarding dispersive with the general policy business.

The only way to classify the quality of the contents of the report remains the banding system, and then signaling that they check out.

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