

SOCIAL ASPECTS IN LIFE CYCLE MANAGEMENT

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Abstract

The paper looks into the social aspects of life cycle management (LCM) in relation to sustainable development. Sustainable development is regarded as a comprehensive set of strategies enabling the satisfaction of social, material and spiritual needs of people through economic tools and technology while respecting environmental limits. To make this possible in the global scale of the contemporary world, it is necessary to re-define their social and political institutions and processes at the local, regional and global level. Sustainable development is unthinkable not only without the balance in the environmental respect; the balance in the social and economic areas is of equal importance. Social responsibility can be viewed as a parallel to a philosophy in which businesses are committed to sustainable development. Promoting social responsibility within the business can influence activities in the product life cycle. Social aspects, such as safe workplaces or organisations protecting the rights of workers are becoming prominent with increasing frequency as modern requirements. The aim of the paper is to describe and introduce management tools and systems, if they exist, that enable a successful life cycle management with a focus on social aspects. Key issues in relation to LCM will be: Which social elements can be included in LCM? Which aspects are to be included in the social “pillar“ of sustainable development? etc. The result should be an adequate approach integrating the social, environmental and economic aspects in LCM.

Keywords: Sustainable development, environmental, social, economic aspects, Life cycle management.

Introduction

Sustainable development is regarded as a comprehensive set of strategies enabling the satisfaction of social, material and spiritual needs of people through economic tools and technology while respecting environmental limits. To make this possible in the global scale of the contemporary world, it is necessary to re-define their social and political institutions and processes at the local, regional and global level. (Rynda, 2006)

“Our Common Future”, the principal report on sustainability, establishes the concept and offers the first definition of sustainable development: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (Gro Harlem Brundtland, 1987)

Sustainable development is therefore unthinkable not only without the balance in the environmental respect; the balance in the social and economic areas is of equal importance.

In principal, sustainability aims at fulfilling three basic **goals**:

- efficient protection of the environment and considerate use of natural resources, and
- maintaining the high and stable level of economic growth and employment,
- social development respecting the needs of all.

Research aim. The paper tries to get a closer look at and introduce management tools and systems, if they exist, that enable the definition of social aspects in the value chain. Life cycle management is becoming an opportunity to integrate these aspects in the comprehensive approach to product life cycle management.

Further key issues which need to be looked at from the point of view of the corporate social responsibility are: human rights, employees rights, involvement of communities and relations with suppliers, open information policy including issues such as publicity, transparency, consumer education and anti-corruption measures. Thanks to its emphasis on the supplier-consumer relationship the corporate social responsibility is very close to the definition of ethical trade and this can be related to the entire value chain.

Methods used in the research. Key issues in relation to corporate social responsibility that will need to be addressed are the following: How far does the corporate social responsibility reach in the value chain? Which processes ought to be included in the product system? What is the line between LCA and LCM systems? Interlocking the corporate social responsibility with LCM will lead to the commitment to permanent improvement, as stipulated in ISO 14001 and 14040 environmental management standards. Can the ISO 14041 standard methodology (Life Cycle Inventory) provide an objective means for drawing the system lines for the corporate social responsibility/ethical trade? Which social elements may be included in

LCM? Which aspects are to be included in the social “pillar” of sustainable development? A number of definitions and proposals are available and only a practical research application will show which social aspects are demonstrated in the value chain and can become a key element in life cycle management.

Investigation methods. The analysis of scientific literature.

Sustainability and the Triple Bottom Line

In theory, sustainable development should improve the quality of life of each individual without exerting natural resources exceeding their capacity. The route toward sustainable development requires that companies, governments as well as individuals change their consumption and production behaviour and policies and, at the same time, it requires a change in practices. Companies have to find an innovative way that will be advantageous while improving the environmental condition of production processes and products.

Sustainable development is characterized by three dimensions: economic, social and environmental. For a company it means operating with a view to the so-called triple-bottom-line where a company concentrates on all three pillars of sustainable development – Fig. 1.

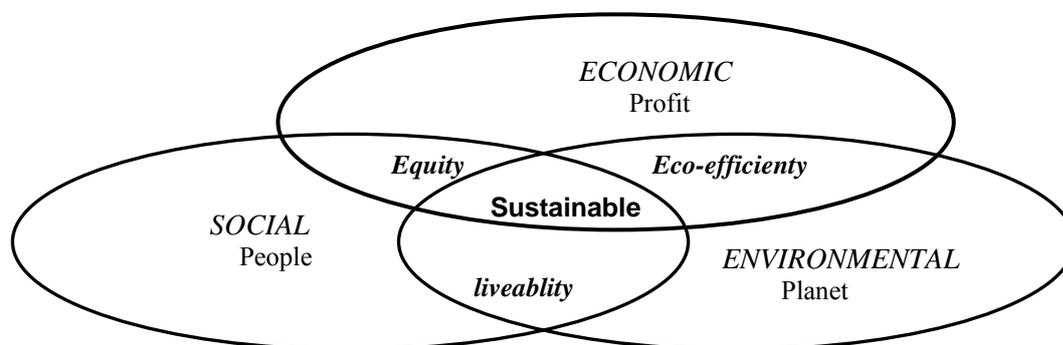


Figure 1. Dimensions of Sustainability (Elkington, 1997)

At present companies take more responsibility for the environment and it has transpired that environmental initiatives bring economic benefits as well. Introducing cleaner technology, optimising technology reducing use of resources and environmental management systems such as ISO 14001 lead to a sound improvement of the environmental condition of a company. The integration of quality and environmental management systems created new opportunities for companies, such as lower resource consumption, improved relationships with external investors including local communities, offices, etc.

Companies perceive the life cycle as an indispensable tool for products throughout their lifetime both in relation to environmental impacts as well as in the economic sense (for example reducing material waste leads to reducing costs) and from the market point of view by improving competitiveness.

The summit in Rio de Janeiro in 1992 (WBCSD) introduced the term “eco-efficiency” which underlines the connection between environmental improvement and economic benefits. This means that so far the modern understanding of companies in terms of responsibility has been focusing on environmental initiatives or improvement of economic benefits. Much attention has not been paid to the social aspects of sustainable development in companies but examples such as connection between environmental improvement and safety and protection at work indicate a more positive approach that leads to an integrated management system including also social aspects.

Social Aspects of Sustainable Development

The concept of corporate social responsibility (CSR) is a trend emphasising social aspects of sustainable development. The definition of corporate social responsibility by the World Business Council for Sustainable Development from 1997 is the following: “CSR is the ongoing commitment of companies to ethical behaviour and promotion of economic growth while ensuring an improvement of the quality of life of employees and their families as well as the local community and the entire society.” [7. <http://www.blf.cz>]

Another definition: CSR is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. (European Union, Green Paper 2001)

Business for Social Responsibility, a non-governmental organisation, defines the CSR concept as follows: “CSR is a way of business conduct complying with or exceeding the ethical, legal, commercial and social expectations.”[<http://www.blf.cz>]

The definitions above have the following points in common: social, environmental and economic aspects of the company strategic conduct, voluntary approach, communication with the business community and activities exceeding the legal framework requirements. The main points mentioned in the quotations grasp the core and modern understanding of the CSR concept. In the broader sense it is possible to say that sustainability is a versatile term for everything connected with the corporate responsibility. It is an economic, social and environmental issue. The CSR concept can be summarised into these three areas.

CSR in the economic sphere: business conduct code (or ethical code), transparency, respecting the principles of corporate governance, rejecting corruption, relationships with stakeholders, etc.

CSR in the economic sphere: corporate philanthropy, dialogue with stakeholders, health and safety of employees, human capital development, respecting working standards, ban to child labour, work-life balance, equal opportunities (for women and men and marginalised groups in general), security of work, human rights.

CSR in the environmental sphere: ecological production, products and services (ISO 14000 and EMAS standards), ecological corporate policy (recycling, use of ecological products), reducing environmental footprint, protection of natural resources.

As well as the triple-bottom-line there is the distinguishing between the internal and external dimension of corporate social responsibility, i. e. how this policy is manifested inside and outside the company. The possibilities of corporate social responsibility application are wide and they vary according to the commercial orientation of companies as well as geographically and culturally (Trnková, 2004).

Social Aspects in Life Cycle Management

Product life cycle thinking is essential in the path to sustainability by expanding the focus from the production site to the whole product life cycle. Life cycle management (LCM) is an application of life cycle philosophy in modern business practice with the aim to manage the entire life cycle of products and services of an organisation toward sustainable development.

LCM is not only a simple tool or methodology; it is a flexible integrated framework of concepts, techniques and process management embracing environmental, economic and social aspects of products, processes and organisations.

Social responsibility can be viewed as a parallel to a philosophy in which businesses are committed to sustainable development. Promoting social responsibility within the business can influence activities in the product life cycle.

Companies, namely international corporations, producers of consumer goods and retailers try to manage “their” products from the whole value chain point of view.

Social aspects, such as safe workplaces, child and forced labour, organisations promoting the rights of workers, becoming prominent with increasing frequency as modern requirements.

Even though these aspects have been managed in some companies for a long time, it is increasingly difficult to manage them in the value chain. This is why it is expected from the supply chain management, supplies and corporate strategy to manage social aspects from the product life cycle point of view.

There are only a few management tools and systems, if any, that facilitate a successful implementation. Life cycle management is becoming an opportunity to integrate these aspects in the comprehensive product life cycle management (e. g. Global Reporting Initiative providing a standard in sustainability reporting guidelines and SA8000, a global social accountability standard based on the International Labour Organisation (ILO) conventions).

Systems for evaluation in the financial sector are also surfacing trying to identify the best performing companies in their category (such as for example the Innovest and Dow Jones Sustainability Index – sustainable development rating by the Dow Jones index).

Other key issues in relation to corporate social responsibility are: human rights, employees rights, involvement of communities and relations with suppliers, open information policy including issues such as

publicity, transparency, consumer education and anti-corruption measures. Thanks to its emphasis on the supplier-consumer relationship the corporate social responsibility is very close to the definition of ethical trade and this can be related to the entire value chain.

Concept and Methods Used

Key issues in relation to corporate social responsibility that will need to be addressed are the following:

How far does the corporate social responsibility reach in the value chain?

When answering this question it is useful to look at the Life Cycle Assessment area (LCA) -

Which processes ought to be included in the product system?

In principle, it is impossible to find a precisely drawn line between environmental and social responsibility but in LCA and LCM it is possible to apply issues of corporate social responsibility, i. e. the methodology under the ISO 14041 standard (Life Cycle Inventory) can offer an objective means for drawing a system line also for the corporate social responsibility/ethical trade.

Which social elements can be included in LCM?

Which aspects are to be included in the social “pillar” of sustainable development? A number of definitions and proposals are available and only a practical research application will show which social aspects are demonstrated in the value chain and can become a key element in life cycle management.

How far does the corporate social responsibility reach in the value chain?

Which social elements can be included in LCM?

Which aspects are to be included in the social “pillar” of sustainable development?

A number of definitions and proposals are available. Some aspects are closer to the basic company operations, others are rather related to social preferences. The possible scope of aspects to be included requires structuring as well as a selection for specific applications and market demands.

The following Table 1 proposes a potential structuring of social aspects with examples of social impacts.

Table 1. Proposes a potential structuring of social aspects with examples of social impacts

Group	Type of social aspect
Health and safety at work	Danger and risks at work
	Preventing accidents
Rights of workers	Salaries adequate to performed work, rights of trade unions
	Minorities, juveniles
	Forced and child labour
	Education
Supplier chain performance	Human rights
Influence of communities	Employment
	Development of communities
Benefits for the society	Employment
	Taxes
Benefits for consumers	Safe products

Aspects are selected depending on the type of company and the relevant position in the supplier chain.

Conclusions

Interlocking the corporate social responsibility with LCM will lead to the commitment to permanent improvement, as stipulated in ISO 14001 and 14040 environmental management standards. It also assumes that any attempt to quantify corporate social responsibility should concentrate on marginal improvement rather than on average performance. If we try to quantify the social impacts in the value chain, we arrive at the principal question: It is extremely difficult to find any consistent differences between various technologies or production processes involved in the production of a particular product simply because the social impacts and influences are so specific for each operation that the differences between individual operations are much greater than the differences between technologies or production processes. When assessing the life cycle (LCA) a similar problem was described in the emission of toxic substances. It was

not concluded, however, that toxic substances should not be included in LCA but that it was necessary to certify the operation in the light of this issue. Similarly, we can conclude that the quantification of social impacts can generally require the certification of suppliers for specific operations.

Life cycle management is an adequate approach for the integration of social, environmental and economic aspects under a single umbrella. If one considers the offers from the product life cycle point of view, an opportunity to assess the entire value chain systematically, including the product use and final liquidation, then:

- it enables the achievement of mutually advantageous solutions for all trade functions and all parts of the supplier chain,
- it demonstrates and documents the commitment and conduct, and
- is it the often missing opportunity to achieve a balanced support in corporate decision-making?

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DOI: 10.5755/j01.em.1.14.9316