SUSTAINABLE PROJECT LIFE CYCLE MANAGEMENT: DEVELOPMENT OF SOCIAL CRITERIA FOR DECISION-MAKING

by

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Submitted in partial fulfilment of the requirements for
the degree of

PHILOSOPHIAE DOCTOR

in the

DEPARTMENT OF ENGINEERING & TECHNOLOGY MANAGEMENT

FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

UNIVERSITY OF PRETORIA

PRETORIA

MAY 2005

Research Summary

Sustainable project life cycle management: Development of social criteria for decision-making

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Degree: Philosophiae Doctor (Engineering Management)

Various driving forces originating from society, government, employees and business partners are forcing companies to both incorporate sustainable development in their business practices as well as to align all internal operations and practices with the principles thereof. Project management as a core business competency is not excluded from these requirements. An initial analysis of sustainable project life cycle management methodologies' current status highlighted that social and environmental aspects of sustainable development are not addressed effectively. An acceptable model aimed at addressing the various sustainable development aspects from a project management perspective is thus needed. This study's main research objective was consequently to develop the different elements of such a model for social business sustainability. The research focused on the three main research questions discussed below.

Which lifecycles should be considered when evaluating the project's possible impacts?

Projects implement or deliver certain products, which in turn, can produce other commodities sold by the company. In the process industry, a project's product is normally an asset that produces products. The three lifecycles, i.e. project, asset and product, were studied to determine which lifecycles to consider when evaluating projects' possible impacts. It was concluded that it is specifically the project's deliverables and its associated products that have economic, social and environmental consequences. These life cycles must therefore be considered as part of the project life cycle when evaluating social impacts.

What social business sustainability impacts or aspects should be considered in the project life cycle?

A sustainable development framework that can be applied to projects directly to ensure their alignment with sustainable development does not exist at present. A social sustainability assessment framework as part of a sustainability assessment framework for operational initiatives was consequently developed and introduced. The social framework was verified and validated by means of case studies, a survey and a Delphi Technique case study to test the framework's completeness and relevance.

How should project management methodologies be adopted to ensure incorporation of social business sustainability?

The research indicated that the various social aspects are addressed in different ways in the individual asset life cycle phase. The social criteria in the framework should therefore also be addressed in different ways in the project management methodologies, namely by means of:

- Social Impact Assessments (SIAs) and Social Risk Assessment (SRAs): checklists, questionnaires and evaluation methods;
- project evaluation methods, i.e. Project Definition Rating Index, gate reviews and gate decision-making; and
- Corporate Governance frameworks that have not been developed to date.

A Social Impact Indicator (SII) calculation procedure, based on a previously introduced Life Cycle Impact Assessment (LCIA) calculation procedure for environmental Resource Impact Indicators (RIIs), was developed as a method to evaluate social impacts in the project life cycle phases. The evaluation method relies on the availability of regional or national social information as well as project or technology-specific social information available during the project life cycle's various phases. Case studies in the process industry and statistical information for South Africa have been used to establish information availability for the SII calculation procedure.

It was concluded that a quantitative social impact assessment method can currently not be applied for project management purposes, given the lack of social project and social footprint information. Instead, social impact and social risk assessment checklist and questionnaires have been developed. Similar to the environmental dimension, it is envisaged that the use of such checklists and guidelines would in time improve the availability of quantitative data and would therefore make the SII procedure more practical in the future.

Future Research:

The following three possibilities for future research have been identified:

- research into corporate governance frameworks for project management;

- further testing of the indicator evaluation methods and finalisation of mid-point categories. This research can only be undertaken once social information and data are more readily available internally and externally; and
- development of a visual appearance for the framework, which indicates relationships between the three dimensions, spatial scales of impacts and relative importance of criteria to business.

Keywords:

Social sustainability, project life cycle management, project management methodologies, sustainable development framework, social assessment, life cycle impact assessment, Resource Impact Indicator (RII); Social Impact Indicator (SII); corporate responsibility, business sustainability.

DECLARATION

I declare that the thesis, which I hereby submit for the degree Philosophiae Doctor (Engineering Management) at the University of Pretoria, is my own work and has not been previously submitted by me for a degree at another University.

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Carin Labuschagne

ACKNOWLEDGEMENTS

The author hereby acknowledges the extensive contributions of the following individuals, organisations and institutions and wishes to express sincere gratitude for their assistance:

- Dr. Alan Brent and Jurie Steyn, who acted as study leaders and mentors for the study.
- Prof. Andre Buys and Prof. Herman Steyn for guidance and inputs as members of the research committee.
- Dr. Chris van den Berg, Gerrie de Jong, Fred Goede and Dr. Gerrit Kornelius for their contributions and inputs as members of the steering committee which monitored the progress of the research.
- The following people for assisting with the individual case studies and/or for participating in the Delphi technique and/or focus groups: Dr. Chris van den Berg, Jurie Steyn, Fritz Weilbach, Rudie van Zyl, Renee Roolvink, Louis van Wyk, Annerine Wenhold, Christine Basson , Dr Rüdiger Pohl, Gerrie de Jong, Beno van Waveren, Hazel du Toit, Charles Steyn, Eulalia Temba, Paul Warner, Nancy Tower, Carl Scholtz, Antoinette Coetzer, Adithi Rooplall, Retha Killian, Christi Brand, Christo Fourie, Mike Tisdall, Steven Warren, Armand Fourie, Johan van Zyl, Bertie Botha, Dr. Jaap Smit, Tanya Basel, Kate Farina, Susan Sellschop, Sidney Sanders, Coert Welman, Hylton Robinson, Sean Scholtz, Andrew Duthie, Marja Prinsloo, Marinda Thornhill, Nthabiseng Ralethohlane and Noreen Pretorius.
- Statistics South Africa and specifically Nigel Bragg, Piet Alberts, Bernard Rambuda, Kevin Parry, Sagaren Pillay and Veli Mahlangu for providing statistical information.
- eThekwini Municipality Metropolitan Council and particularly Dr. Roberts and Louisa Marnewick for providing access to social footprint information.
- Emalahleni Local Council and specifically Hardus van der Merwe for providing social footprint information.
- Academic Information Services of the University of Pretoria and particularly Hettie Groenewald, Hannetjie Boshoff and Rachel Mahlangu for assisting with the requirement of research articles and material.
- Louise Dreyer and Ron van Erck for meaningful discussions and debates on social sustainability.
- Werner Schoeman, Chanel de Jager and Johnnie Johnson for assistance with the webpage development.
- Johanna Matlakala for assistance with data capturing of completed surveys.
- Ilse Posselt for the language editing.

The author also wishes to express sincere appreciation to family members and friends for their continuous support.

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Abbreviations

APOLCOM: Air Pollution Liaison Committee of the Mpumalanga Province

BSR: Business for Social Responsibility

CAPCO: Chief Air Pollution Control Officer

CHDI: Corporate Human Development Index

CRT: Caux Round Table

CSD: Commission on Sustainable Development

CSI: Corporate Social Investment

CSR: Corporate Social Responsibility

DJSGI: Dow Jones Sustainability Group Index

EFQM: European Foundation for Quality Management

EIA: Environmental Impact Assessment

ETI: Ethical Trading Initiative

GRI: Global Reporting Initiative

HDI: Human Development Index

IDC: Industrial Development Corporation of South Africa

IFC: International Finance Corporation

IISD: International Institute for Sustainable Development

ILO: International Labour Organisation

LCA: Life Cycle Assessment

LCIA: Life Cycle Impact Assessment

NAPCOF: North-West Air Pollution Control Forum

NGO's: Non-Governmental Organisations

OECD: Organisation for Economic Co-Operation and Development

RII: Resource Impact Indicator

SAEM: South African Excellence Model

SAI: Social Accountability International

SA 8000: Social Accountability 8000 Standard

SIA: Social Impact Assessment

SII: Social Impact Indicator

SPLCM: Sustainable project life cycle management

SRI: Socially Responsible Investment

UN: United Nations

UNEP: United Nations Environmental Programme

WBCSD: World Business Council for Sustainable Development

WCED: World Commission on Environment and Development