

1. Introduction

“In a legal sense a company is a person and the question arises: how human is it in its actions, how big is its heart and what services does it offer to the community in which it has its being and from which it derives its profit?”

- Anton Rupert (as cited in [1])

“Great corporations exist only because they are created and safe-guarded by our institutions; and it is our right and our duty to see that they work in harmony with these institutions”

- Theodore Roosevelt in 1901 (as cited in [2])

1.1 Changing Expectations

The formula for business success has traditionally been *“maximise profits while providing good conditions and security for employees and supplying customers with products or services at a price they are prepared to pay”* [3]. Businesses in general held an autocratic view of themselves as a castle or island and felt that outside interest should not prescribe to it [4]. Thus, although businesses made philanthropic contributions to society since the early 19th century, social problems were considered the responsibility of government and society in general, since *“the business of business is business”* [5].

For most of the past 150 years, government and civil society viewed the quest for economic growth and social equity as a major concern [6]. A wave of environmental concern started during the late 1960s in the United States of America (USA) and was experienced worldwide [7]. Governments and society started realising the interconnections between the environment, economy and social well-being. The 1987 World Commission on Environment and Development (WCED) acknowledged these interconnections by defining a new term, i.e. sustainable development, as *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”*[8]. The commission acknowledged the limitations imposed by the state of technology and social organisation on the environment’s ability to meet society’s needs and stated that the essential needs of the world’s poor should be given overriding priority [9].

Since the term’s official conception, the concept of sustainable development shaped the political, economic and social environment in which all businesses operate [10]. The 1992 Earth Summit resulted in politicians, Non-Government Organisations (NGOs) and business leaders widely accepting that not one of the three main challenges facing humanity, i.e. environmental sustainability, economic growth and social equity, could be solved without solving the other two [Keating as cited in 6]. Most definitions of sustainable development therefore agree that the concept comprises social, environmental and economic dimensions with equal importance [11].

The rise of environmental concerns since the late 1960s together with the dramatic political and economic changes, i.e. the collapse of communism and other collective ideologies worldwide during

the 1980s and 1990s, lead to a radical re-think of businesses' role in the Western society [12]. The idea at the time was to reduce government's role by privatisation, tax-reductions, de-regulating business activities and reducing government spending and subsidies [12].

Business soon realised that the new power also entailed new responsibility [13], as society's focus shifted from government, while expecting more accountability from business for their activities' social and environmental impacts [14]. Society increasingly demanded greater corporate disclosure from business, while customers and investors supported these efforts by rewarding and punishing companies based on their perceived social performance [15]. With less and less people trusting business leaders to tell the truth [16], business were forced to move firstly from a "trust me" to a "tell me" world, and increasingly to a "show me" world [17].

Governments support society's efforts and are pressurising business to acknowledge their social responsibility by:

- Introducing the principles of sustainable development into laws, policies, standards and guidelines or formulating laws dealing with sustainable development aspects [18], for example:
 - 0 in South Africa, the King Report formalised the need for companies to realise that they no longer act independent from the societies in which they operate [19]. The King II report emphasised greater corporate accountability, transparency and stakeholder confidence;
 - 0 the South African constitution contains a guaranteed environmental right similar to at least 54 other constitutions worldwide [20];
 - 0 the European Union published a green paper on "Promoting a framework for corporate social responsibility" in 2001 [21];
 - 0 in the United Kingdom (UK), the Cadbury Report, a government initiative, established corporate governance benchmarks [19]. The Department of Trade and Industry also published an annual report on the relationship between business and society [22];
 - 0 the USA announced the Sarbanes-Oxley Act of 2002 in 2002. The act devotes an entire section to companies' corporate responsibility [23]; and
 - 0 France and the Netherlands published legislation forcing companies to report on environmental and social issues [24], while the European Union, Japan as well as the UK encourages and recommends environmental and social disclosures in annual reports [24].
- Partnering with business and NGOs [25], for example:
 - 0 in Madagascar, Prime Minister Jacques Sylla launched the *Growing Sustainable Business for Poverty Reduction Initiative* in January 2004. The initiative aims to reduce poverty in support of the millennium development goals by having international companies and local business promoting business activity [26];
 - 0 in the Nigeria Delta, governments, communities, NGOs, international aid organisations and business are working together to find sustainable ways to develop the oil rich but impoverished region [27]; and

- 0 the UK's Department of Trade and Industry joined forces with the British Standards Institution, Forum for the Future, a leading sustainability charity and think-tank, and AccountAbility in launching the Sustainability - Integrated Guidelines for Management (SIGMA) project in 1999. The SIGMA project aims to provide clear and practical advice to organisations wishing to make a meaningful contribution to sustainable development [28].

In the last decade, business thus experienced increased pressure to broaden its accountability beyond economic performance for shareholders to sustainability performance for all stakeholders [29]. Although society and government demands greater accountability from business, social problems have not disappeared in the new age of globalisation and commercial freedom. On the contrary, social problems have grown so immense that government alone can no longer be held responsible [30].

In the age of commercial freedom, business is the only institution powerful enough to foster the changes necessary for ecological and social sustainability [Hawken as cited in 31]. Although the number of multinational companies increased from 37,000 in 1990 to over 60,000 in 2002 [32], society started losing faith in businesses' ability to provide social and economic progress through economic growth [4]. The contract between business and society therefore evolved from the traditional minimalist view promoted by Friedman [5] to one holding forth on organisational imperative to work for social as well as economic improvement in an environmental responsible manner [33], i.e. align all operations with the principles of sustainable development.

1.1.1 Driving Forces for Incorporating Business Sustainability

Four different types of drivers for incorporating sustainable development principles in business practices were identified [34]. An adaptation of the identified drivers is illustrated in Figure 1-1.

The driving forces threaten businesses' licenses to exist, operate and sell. Researches realised as early as 1979 that business as a social institution depended on society's acceptance of its role and activities if it is to survive and grow, i.e. society must grant business a license to exist and operate [35]. Customers form part of society and grant business a license to sell. The license to sell thus also depends on customers' acceptance of business's role and activities. Since the mid 1990s, various authors highlighted the inherent risk to customers who became indulged in a sense of security and simply allowed the corporate community to continue business as usual [36]. A study by Britain's Business in the Community indicated that the percentage of customers believing that companies should show a high degree of social responsibility increased from 28% in 1998 to 44% in 2002 [37]. Social responsibility is thus becoming a prerequisite for a license to sell. The customers' expectations of business and standards for business are strongly based on societal norms. Higher degrees of social responsibility with the necessary supporting evidence or proof thereof will become prerequisites for licenses to exist, operate and sell.

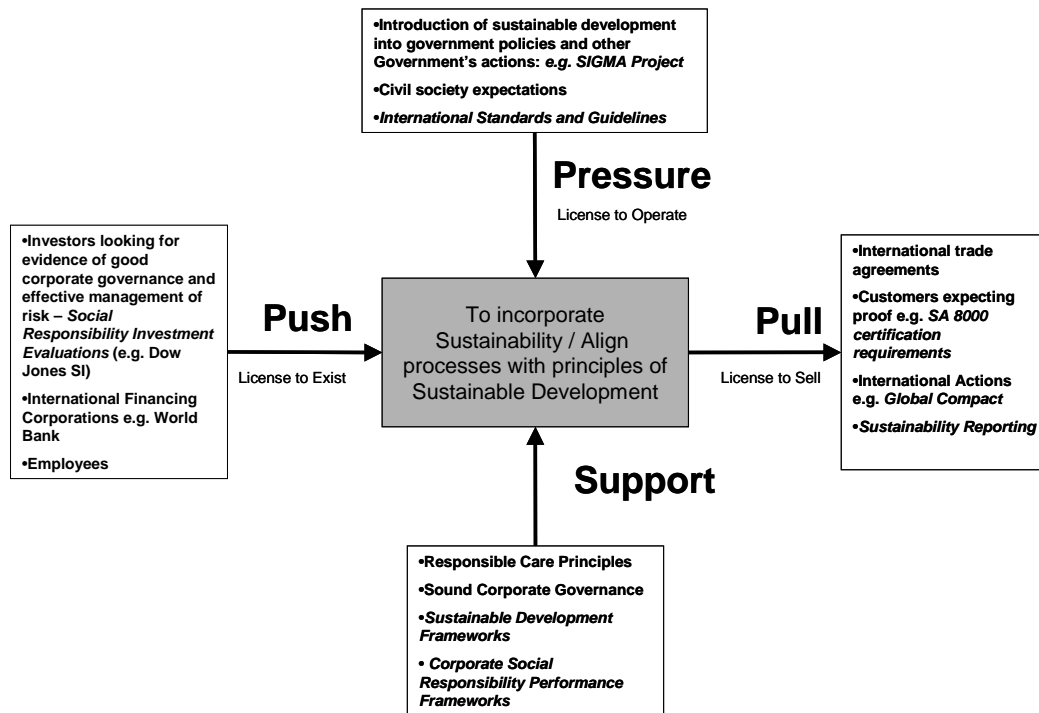


Figure 1-1: Drivers for the Incorporation of Business Sustainability [adapted from 34]

Occasionally, some driving forces manifest at two levels. For example, although SA 8000 is an International Standard, i.e. pressure driver, some customers require that their suppliers have SA 8000 certification, i.e. pull driver. The following driving forces were investigated (see Appendix A for details):

- International standards and guidelines (pressure driver and/or pull driver) - international standards and guidelines are definitely relevant to the concept of sustainable development and have a strong influence on business sustainability [28]. The SIGMA project as well as the Business for Social Responsibility (BSR) organisation issued publications on the influence of these standards and guidelines [28, 38]. Twelve international standards or guideline initiatives were chosen, based on either their international recognition or their specific importance to South Africa, given its government support or its originally intention for this country. The choices of the SIGMA project and the BSR have guided the choice of standards or guidelines;
- Frameworks to assess or measure sustainable development (support driver) - selecting frameworks was based on the following criteria:
 - 0 the indicator framework incorporates a set of measurable, quantitative or qualitative, indicators;
 - 0 all three dimensions of sustainability, i.e. environmental, social and economic indicators, are included in the framework;

- 0 the indicator framework has a broad focus, i.e. sustainable development at a national, community or company level. Product-only focused frameworks were not considered; and
- 0 the indicator framework is not strongly based on another framework or guidelines, e.g. frameworks have been proposed at a country level that are slight modifications of the United Nations' (UN's) framework [39,40];
- Corporate Social Responsibility (CSR) indicators, measures, standards and models (support driver and/or pressure driver and/or pull driver)
Frameworks, standards and models found during an extensive internet literature search were investigated;
- Socially Responsible Investment (SRI) prerequisites (push driver) - three indexes currently measures SRI companies only. These indexes are:
 - 0 Dow Jones Sustainability Index;
 - 0 FTSE4Good Index; and
 - 0 JSE SRI Index [41].Both the three indexes' as well as the oldest social investment fund's prerequisites were investigated;
- Expectations of international financing corporations, such as the international financing corporation (push driver).

Table 1-1 provides a summary of these driving forces.

The analysis of driving forces indicates that pressure is mounting for business not only to incorporate sustainable development in their internal operations but also to report on this incorporation. Since business's role in the sustainability challenge cannot be ignored, business should start addressing the sustainability issue. Business can, however, not do it on its own. The 2002 World Summit revealed that all three pillars of the tripartite world (i.e. business, government and society, see Appendix B for detail explanation) will have to work together in partnerships to solve the challenges and to achieve true sustainable development [42].

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Table 1-1: Summary of Examples of Driving Forces to Align Business Practices with Sustainable Development Principles

International Standards and Guidelines (Pressure and/or Pull Driver)					
Standard or Guideline	Dimension Addressed			Stakeholder Covered or Addressed by Standard or Guideline	Can a Company Endorse the Guideline or have the Standard Certified?
	Economic	Environmental	Social		
UN Global Compact [43, 44]		X	X	Employees and communities	Yes
Global Sullivan Principles [45]		X	X	Employees, community and business community	Yes
OECD Guidelines for Multinational Companies [46]	X	X	X	Employees, customers, business community, suppliers and society	No
Caux Round Table Principles for Business [47]	X	X	X	All	No
SA 8000 [48]			X	Employees, suppliers' employees, communities and suppliers' communities	Yes
AA 1000 Framework [49]			X	All	Not officially, but people who use this standard are requested to inform AA 1000
Investors in People [50]			X	Employees	Yes
Ethical Trading Initiative [51]			X	Employees, suppliers' employees, communities and suppliers' communities	Yes

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Table 1-1: Summary of Examples of Driving Forces to Align Business Practices with Sustainable Development Principles (continues)

Standard or Guideline	Dimension Addressed			Stakeholder Covered or Addressed by Standard or Guideline	Can a Company Endorse the Guideline or have the Standard Certified?
	Economic	Environmental	Social		
Natural Step [52]	X	X	X	All	
EMAS [53]		X		Employees	Yes
ISO 14000 [54]		X		Employees	Yes
ISO 9000 [55]			X	Customers, employees and suppliers	Yes
Excellence Models, e.g. Malcolm Baldrige Quality Program [56], European Model for Business Excellence [57] and South African Excellence Model [58]	X		X	Employees, customers, suppliers and society	Yes
Sustainable Development Frameworks (Support Driver)					
Name of Framework	Focus		Dimensions Addressed	Strengths	Weaknesses
	National/ Regional	Company			
UN's Commission on Sustainable Development's Indicators of Sustainable Development [59]	X		Social, environmental, economic and institutional	<ul style="list-style-type: none"> • Uptake by numerous countries, thus well-known • Comprehensiveness - 15 themes, 38 sub-themes and 58 indicators 	<ul style="list-style-type: none"> • Indicators cannot be adapted with ease to measure the company's sustainability

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Table 1-1: Summary of Examples of Driving Forces to Align Business Practices with Sustainable Development Principles (continues)

Name of Framework	Focus		Dimensions Addressed	Strengths	Weaknesses
	National/ Regional	Company			
Global Reporting Initiative (GRI) [60]		X	Social, Economic and Environmental	<ul style="list-style-type: none"> • Uptake of GRI guidelines by companies • Trust in GRI reporting guidelines by society 	<ul style="list-style-type: none"> • Complexity of some of the indicators • Numerous qualitative indicators, which makes comparisons more difficult • Transaction costs
IChem ^E Sustainability Metrics for the Process Industries [61] (based on Azapagic & Perdan's Framework [11])		X	Social, Economic and Environmental	<ul style="list-style-type: none"> • Framework is less complex and impact oriented 	<ul style="list-style-type: none"> • Framework favours environmental dimension • Uptake of framework not known
Wuppertal Institute's Indicators of Sustainable Development [62]	X	X	Social, Environmental, Economic and Institutional.	<ul style="list-style-type: none"> • Approach's focus on the interlinkages between dimensions 	<ul style="list-style-type: none"> • At the time of the analysis, the approach has not been implemented in a business environment yet [63]. The practicality and complexity of use can therefore not be judged
European Union's Conceptual Framework of Social Indicators [64]	X		Social	<ul style="list-style-type: none"> • Support by various nations • Thorough analysis of social issues 	<ul style="list-style-type: none"> • Other dimensions of sustainable development and interlinkages ignored

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Table 1-1: Summary of Examples of Driving Forces to Align Business Practices with Sustainable Development Principles (continues)

Corporate Social Responsibility: Indicator Frameworks, Standards and Models (Support Driver and/or Pressure Driver and/or Pull Driver)					
Description	Dimension Addressed			Stakeholder Covered or addressed by Standard or Guideline	Strengths and/or Weaknesses
	Economic	Environmental	Social		
Ethos Corporate Social Responsibility Indicators [65]		X	X	Employees, customers, suppliers, government, communities, society and the environment	<ul style="list-style-type: none"> • Address responsibility in supply chain (S) • Limited application, not wide uptake yet (W)
Social Venture Network: Standards of CSR [66]	X	X	X	Investors, employees, business partners, customers, community and the environment	<ul style="list-style-type: none"> • Standard places strong emphasise on stakeholder dialogue (S) • Standard is only a guiding document, thus no external verification of company adherence (W). • Uptake not known (W).
Danish's Ministry of Social Affairs' Social Index [67]			X	Employees, community, customers and suppliers	<ul style="list-style-type: none"> • Well tested tool with various applications (S) • No knowledge of uptake outside Denmark (W)
Corporate Social Performance Model (Wood [68], Wood & Wartick [69] and Hopkins [70])		X	X	Employees, community, customers and suppliers	<ul style="list-style-type: none"> • Model went through extensive refinements by various researchers (S) • No knowledge of uptake of model (W)

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Table 1-1: Summary of Examples of Driving Forces to Align Business Practices with Sustainable Development Principles (continues)

Socially Responsible Investment (SRI) Prerequisites (Push Driver)					
Name of SRI Index	Dimension Addressed			Strengths and Weaknesses	Are certain Companies Excluded Based on their Type of Activities?
	Economic	Environmental	Social		
Dow Jones Sustainability Index (DJSI) [71, 72, 73, 74, 75].	X	X	X	<ul style="list-style-type: none"> • The DJSI has grown into regional and specialised indexes (S) • Industry specific criteria is taken into consideration and questionnaires changes regularly (S) • The assessment criteria do not use quantitative data on the generation of emissions or consumption of resources and lacks a life cycle perspective. In addition, mostly qualitative information provided by the companies are used for rating purposes (W) 	Yes, alcohol, gambling and tobacco industries.
FTSE4Good Index [76]		X	X	<ul style="list-style-type: none"> • A specific dimension is dedicated to human rights. Three different sets of human rights criteria are used, based on the country in which the company operates (S). 	Yes, tobacco producers, companies manufacturing either parts or whole nuclear weapon systems, companies manufacturing whole weapon systems, owners or operators of nuclear power stations and companies involved in extracting or processing uranium.

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Table 1-1: Summary of Examples of Driving Forces to Align Business Practices with Sustainable Development Principles (continues)

Name of SRI Index	Dimension Addressed			Strengths and Weaknesses	Are Certain Companies Excluded Based on Their Type of Activities?
	Economic	Environmental	Social		
Johannesburg Stock Exchange (JSE) SRI Index [77, 78, 79].	X	X	X	<ul style="list-style-type: none"> Address South Africa's specific social problems (S) 	No
Domini 400 Social Index SM [80, 81]		X	X	<ul style="list-style-type: none"> The Domini 400 Social Index was the first of its kind (S) The number of companies are limited to 400 and companies can be removed (S) After ten years, this fund has proven that instead of limiting investment performance, screening firms based on environmental and social, it may lead to higher returns on investment (S) 	Yes, all companies deriving two or more percent of its profit from the sales from military weapons systems, companies deriving any revenue from manufacturing alcoholic or tobacco products, companies deriving any revenue from providing gambling products, companies servicing or owning interests in nuclear power plants or deriving electricity from nuclear power plants in which it has an interest.

Table 1-1: Summary of Examples of Driving Forces to Align Business Practices with Sustainable Development Principles (continues)

Expectations of International Financing Corporations (Push Drivers)					
Name of Guideline	Dimension Addressed			Advantages for Customers	Advantages for Financing Corporations
	Economic	Environmental	Social		
Equator Principles [82]		X	X	<ul style="list-style-type: none"> • Commonality of approach amongst banks saves sponsors the burden of producing different environmental assessments for different banks and from trying to meet different standards amongst banks • Implementing transactions more quickly by getting it right the first time • Having more certainty in project implementation • Having a more secure, long-term investment • Gaining a reputation advantage 	<ul style="list-style-type: none"> • Using common terminology in assessing environmental and social issues • Using a common framework for implementation and documentation • Increasing productivity through reduced transaction time, i.e. getting it right the first time • Having more certainty in closing project financings • Having a safer project loan • Gaining a reputation advantage

1.2 The reaction of business to the sustainability challenge

The concept of sustainable development is inherently vague [83]. Although, understood intuitively, it remains difficult to express in concrete, operational terms [84]. In 1992 there were already more than 70 definitions for sustainable development [85]. The International Institute for Sustainable Development (IISD) realised that the concept of sustainable development should be defined in terms familiar to the business community. This resulted in sustainable development for business, i.e. business sustainability, being defined as “*adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today, while protecting, sustaining and enhancing the human and natural resources that will be needed in the future*” [86]. There are nevertheless also more than one definition for business or corporate sustainability. A few of these definitions are listed in Table 1-2. Appendix C provides a detailed description of business sustainability as well as an overview of the business path towards corporate responsibility.

Table 1-2: Definitions for Business or Corporate Sustainability

Corporate sustainability can be defined as meeting the needs of a firm’s direct and indirect stakeholders without compromising the ability to meet the needs of future stakeholders as well [6].
Corporate sustainability is any state of a business in which it meets the needs of its stakeholders without compromising its ability to meet their needs in the future. A company has to ensure that its operations are sustainable in regard to economic, social and environmental performance [87].
Business sustainability is a business approach to create long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social development [88]

As indicated earlier, pressure is mounting on business to align all activities and operational processes with the principles of sustainable development [89], i.e. incorporating business sustainability in operational practices. The following three distinct levels within an organisation can be subjected to change:

- the strategic level;
- the process or methodological level; and
- the operational level [90].

For business sustainability to manifest in all business practices, values and policies need to change and adapt in all three levels within the organisation. Businesses have already made a large amount of progress. Figure 1-2 indicates some of the actions and initiatives businesses have undertaken.

In 2002, PricewaterhouseCooper’s Sustainability Division conducted a survey of 140 companies based in the USA to determine what, if any, business sustainability initiatives these companies have been implementing [91]. Figure 1-3 shows some of the survey’s statistics.

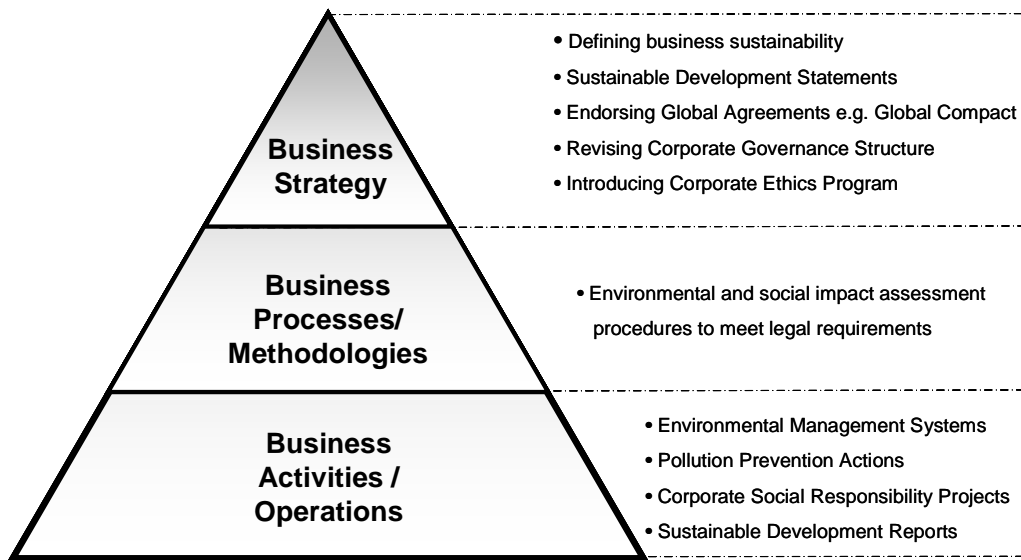


Figure 1-2: Initiatives to Introduce Business Sustainability Concepts in the Organisation

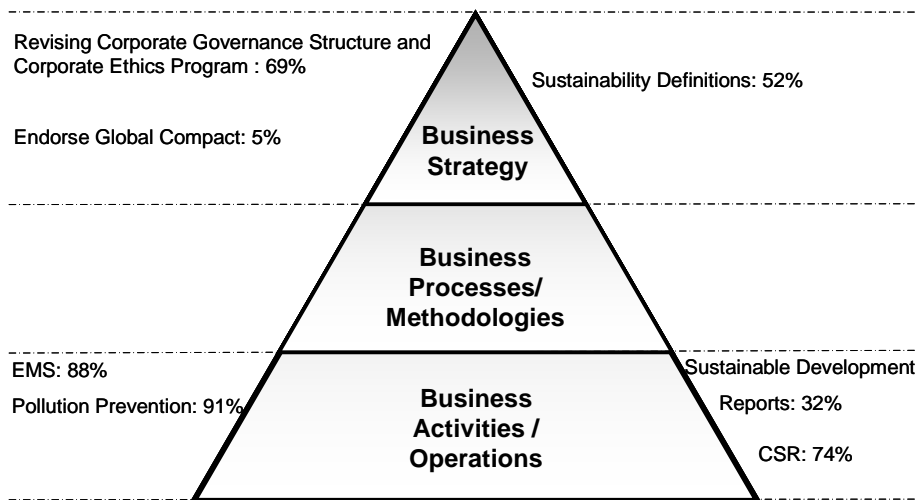


Figure 1-3: Incorporation of Sustainability within Different Levels in an Organisation

Figure 1-3 clearly indicates that the emphasis on incorporating business sustainability falls on the operational level and focuses on the environmental dimension. To some degree, the concept is starting to feature on a strategic level. The survey also revealed that 72% of the participating 101 Fortune 1000 companies failed to include the risks and/or opportunities of sustainability in their evaluation processes used for projects, investments and transactions, which are key elements of the methodological level. The survey's conclusion was that organisations took far less initiatives on the methodological level compared to the other two.

Research by IWOe-HSG supports this conclusion and reveals that traditional business management methodologies are solely geared towards financial performance and therefore exclude environmental and social sustainability aspects [92].

Practical tools, which systematically include sustainability within the evaluation processes, are needed to align business methodologies with the principles of sustainable development [93, 94, 95]. Project management methodologies, which are a core business methodology for most companies, are not excluded from this requirement. The focus of this research is specifically on aligning project management methodologies with these principles.

1.3 Current Status of Sustainable Project Life Cycle Management (SPLCM)

1.3.1 Project Management

A project can be defined as “*a temporary endeavour undertaken to create a unique product or service*” [96] or as a finite piece of work directed to achieve a stated business benefit within certain defined cost and time constraints [97]. In recent years, projects became strategic management tools, resulting in project management becoming a core competency and a necessity for survival [97, 98]. The nature of project management, however, changed significantly since 1960s. Companies in the new millennium are managing projects on a far more informal basis with less paper work by relying on techniques such as checklists for end of phase reviews [98]. An appropriate methodology and a clear understanding of the life cycle phases are critical to these informal project management approaches [98]. A benchmarking study conducted by Buttrick [97] confirmed that companies successful in project management all use a company-specific, simple and well-defined project management framework that defines a staged approach for all projects under all circumstances. A best practice study by the Product Development and Management Association (PDMA) supports this finding with its finding that 68% of leading United States of America product developers use some type of Stage-Gate®¹ process [99, 100]. A project management framework based on a Stage-Gate® process usually specifies major activities and deliverables for each project phase as well as guideline questions for the phase end reviews or gates (see Figure 1-4 for an example of such a framework which is used in the South African process industry).

¹ “*Stage-Gate® is a widely employed product development process that divides the effort into distinct time-sequenced stages separated by management decision gates. Multifunctional teams must successfully complete a prescribed set of related cross-functional tasks in each stage prior to obtaining management approval to proceed to the next stage of product development*” [100]

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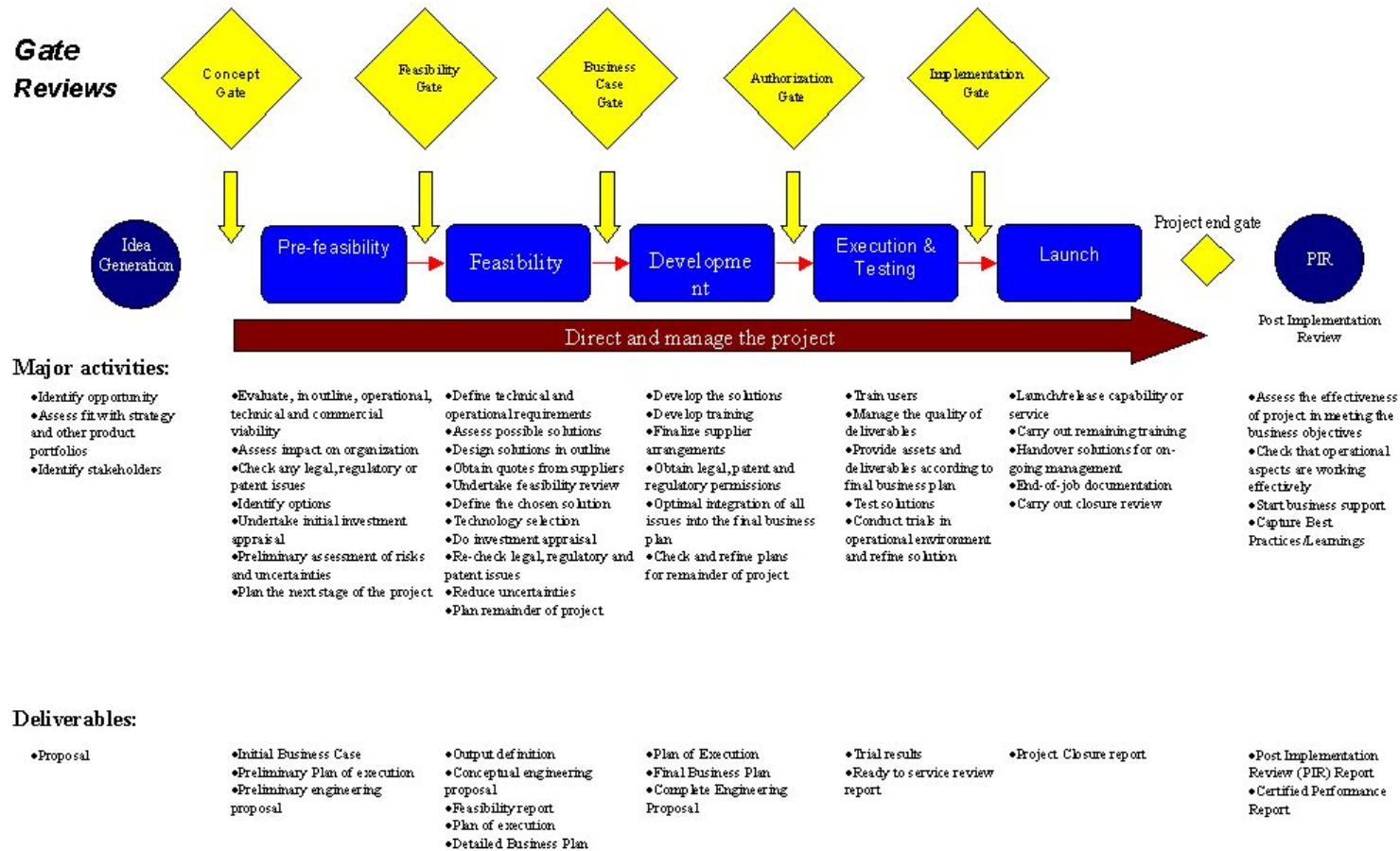


Figure 1-4: Staged Project Life Cycle Management Framework (adapted from [97, 98, 101])

1.3.2 Sustainable Project Life Cycle Management

For projects to support sustainable development, sustainable development concepts must be integrated in planning and managing the project over the whole life cycle. Projects both affect and are affected by its environment (physical as well as social environment) and these facts need to be recognized from the definition phase onwards [102]. Sustainable development aspects should thus feature in each phase’s major activities and deliverables. Triple bottom line decision-making, i.e. environmental, economic and social, should be used during project appraisal.

Given the growing importance of sustainable development, companies are also increasingly accountable for an implemented project’s impact on the society, environment and economy, long after the project has been completed, i.e. beyond the normally considered project life cycle [96]. The project life cycle should thus also address possible impact of the life cycles of its “products”.

It is evident that although economic aspects of sustainable development are addressed efficiently (see activities and deliverables in Figure 1-4), the social and environmental aspects are not mentioned directly. In the South African context, the deliverables’ content was studied more closely to identify any addressed environmental and social activities or aspects. Figure 1-5 summarises the main activities and appraisal issues concerned with environmental and social aspects over a project’s life cycle² [103].

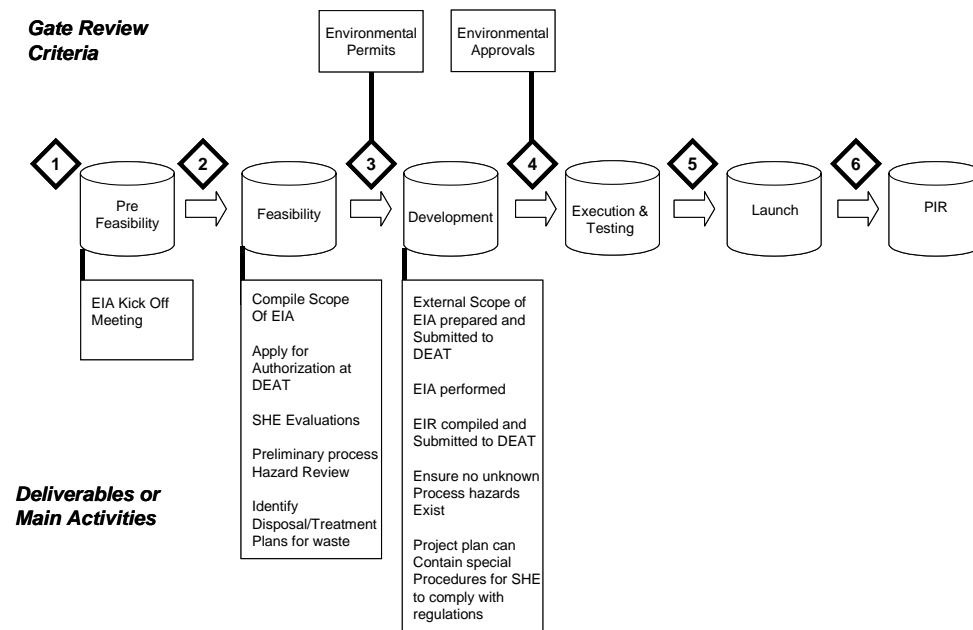


Figure 1-5: Extent of Current Environmental and Social Considerations in a Project’s Life Cycle

² The project life cycle depicted in this figure was chosen for its resemblance to project life cycles in the South African process industry.

Although social aspects are currently not specifically mentioned in either the activities or deliverables of each phase, the social aspects can form part of a formal Environmental Impact Assessment (EIA). Furthermore, following the national Department of Environmental Affairs and Tourism's (DEAT's) formal guidelines on conducting EIAs results in environmental aspects being addressed to a limited extent [104] during some of the project life cycle phases. This is in line with the worldwide trend that environmental sustainability aspects are more integrated into management practices than social aspects [105].

The figure also indicates that social factors are currently not included in the normal project appraisal process, with environmental factors only being addressed with one question at two of the six appraisal gates. The project appraisal process therefore fails to address all aspects of sustainability effectively..

The above can be described as a worldwide phenomenon, since surveys indicate that the project appraisal process focuses mainly on financial and technical viability, while social and environmental aspects are considered to fall outside the normal appraisal process [106]. Furthermore, the strong emphasis on efficiency in the traditional project appraisal process may lead to outcomes that are unacceptable from an intergenerational equity point of view [107]. Intergenerational Equity is one of the two core principles of sustainable development, the other one being intra-generational equity [108].

A survey was used to test the initial conclusions. Ten companies in the South African process industry were identified based on the Financial Mail's Top Companies 2002 report [109]. The existence of a standardised project management framework as well as the degree to which such a framework addresses social sustainable development aspects were analysed in 2003. The survey focussed solely on social business sustainability, as that is the focus of the research. The survey's response rate was 80%, as certain companies viewed the information as too sensitive to share. The results are summarised in Table 1-3.

Table 1-3: Results of Survey in the South African Process Industry

	Answers (in percentage)
Existence of standardised project management framework:	
• Yes	75%
The level of social aspects within the framework:	
• Briefly mentioned	
• Included as part of EIA	50%
• Detail activities, deliverables and component of decision-making	
• View information as too sensitive to answer	37.5%
• Not applicable	12.5%

The survey as well as literature and other research outputs therefore indicate that current project management frameworks require revision to align it with the principles of sustainable development and to ensure that a project is managed according to practices that will contribute to sustainable development goals [110, 111]. Although attempts have been made to incorporate the environmental dimension of sustainable development in project management methodologies [103, 112], no evidence of research focusing on incorporating the social dimension of sustainable development in project management methodologies could be found.

1.4 Research Problem and Approach

1.4.1 Research Problem

It is thus evident that the pressure is mounting on businesses to incorporate business sustainability in their internal operations by aligning it with the principles of sustainable development. Project management methodologies are integrally linked to these pressures, as core business activities cannot be aligned with sustainability principles if the means of implementation, i.e. through projects, do not incorporate all three aspects of business sustainability.

The initial investigation indicated that incorporating the social dimension in project management methodologies has been largely overlooked. However, the focus of the international community is moving from environmental sustainability to social sustainability [113]. The investigation into driving forces (see section 1.1.1 and Appendix A) concluded that there currently is no international standard or guideline, sustainable development framework, CSR framework or SRI questionnaire that can directly be applied to projects to ensure alignment with sustainable development. An acceptable model aimed at addressing the various aspects from a project management perspective therefore has to be developed. Prerequisites for developing this model includes defining the various life cycles involved in projects and characterising the proposed model's various elements or aspects. Three distinct elements of such a model can be distinguished, namely:

- a comprehensive sustainability framework to assess projects during the early life cycle phases in terms of sustainability consequences of the project's future implemented products. The framework will consist of various criteria and indicators;
- evaluation methods and/or tools to assess individual projects' sustainability performance against the framework developed.; and
- decision-making techniques to ensure an efficient and transparent triple bottom line decision and reporting process.

The research problem is thus that such a model does currently not exist.

1.4.2 Research Questions and Objectives

Since work has already been done on incorporating environmental sustainability in project management methodologies (see section 1.3.2), the study's main research objective is to develop the different elements specified for the incorporation model for social business sustainability (see the conceptual model for the research in Figure 1-6).

The main research questions and sub-research questions therefore are:

- Which life cycle should be considered when evaluating the project's possible impacts?
- What social business sustainability impacts or aspects should be considered in the project life cycle?
 - 0 What are the social aspects relevant to project management within the process industry?
 - 0 Which of these possible social impacts of a project should project managers and/or project sponsors consider during project decision-making?
 - 0 What level of impacts/consequences must be considered, i.e. where should the boundaries be?
- How should project management methodologies be adopted to ensure incorporation of social business sustainability?
 - 0 How, if possible, can the identified social aspects and consequences be measured?
 - 0 Which deliverables or activities should be included in determining or predicting the project's social performance?
 - 0 How should the project management methodology be changed to ensure a life cycle management approach?
 - 0 What gate questions can be added to guide decision-makers in addressing the project's social sustainability performance?
 - 0 What other decision-making methods can be developed or used to ensure a triple bottom-line, i.e. economic, social and environmental bottom line, decision?

The results of these research questions would make it possible to define and test the proposed model's first two elements from a social perspective. Although the last element, i.e. decision-making, will be analysed and explored, it cannot be tested in isolation from the other dimensions of sustainable development. Figure 1-6 shows the conceptual model for the research. The research is focused on the process industry in developing countries.

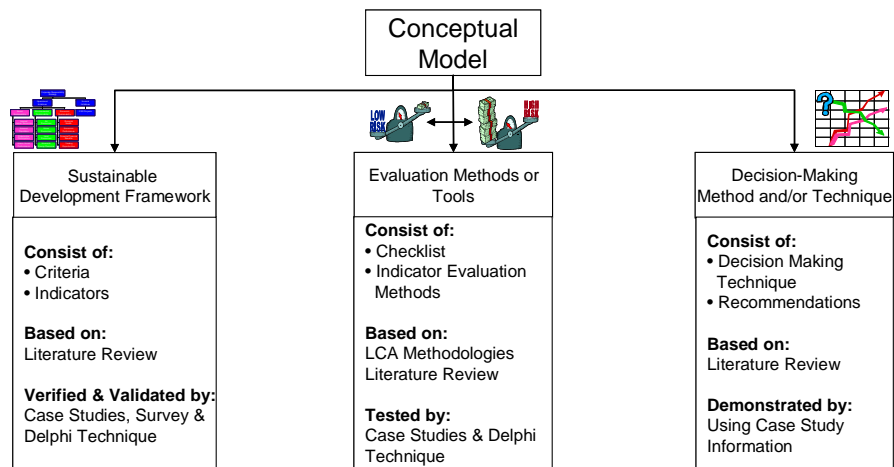


Figure 1-6: Conceptual Model

1.4.3 Research Approach

The study is aimed at developing the social dimension of a model that will ensure incorporation of all dimensions of sustainable development in project management methodologies. The research consists of a theory or model-building methodology. The three main research questions is the anchor point of the approach. Each will be addressed in a separate phase. A retrospective approach is proposed, as each research question will build on the previous. If applicable, the phase outcomes will be verified and validated before starting with the next phase. Figure 1-7 shows the three main research questions with each investigation phase's main elements.

Verifying and validating the phase outcomes will be applied after the second (WHAT?) and during the third (HOW?) phase. Case study research together with expert panels and other nominal group interviewing techniques will be applied. The research design thus relies on three methods of inquiry, namely interviewing, observation and document analysis, with interviewing being used most often. The various aspects of different types of group interviews that can be used are summarised in Table 1-4 [114].

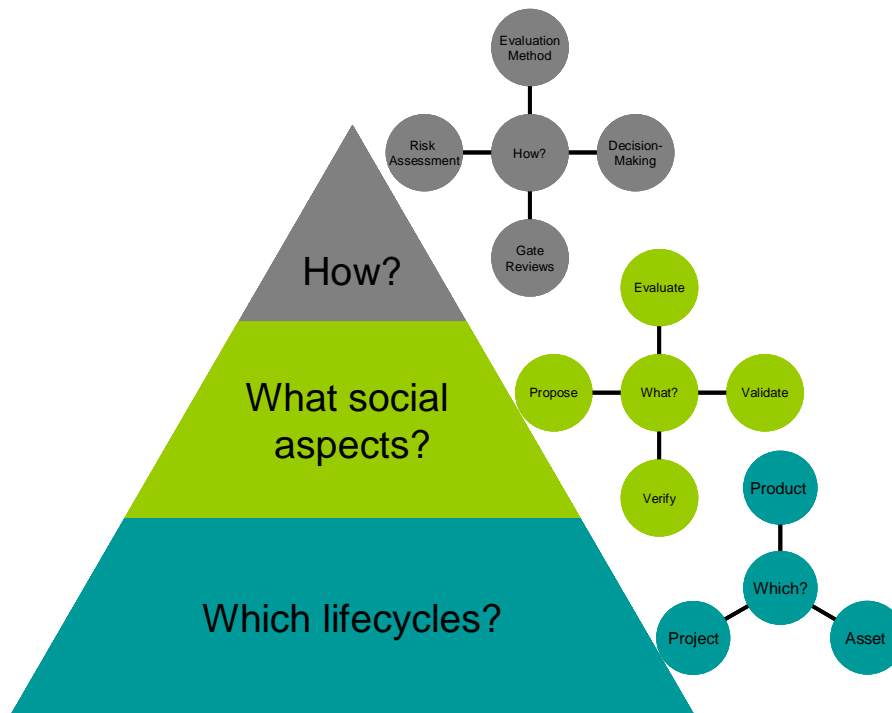


Figure 1-7: Research Approach

Table 1-4: Types of Group Interviews [114]

Type	Setting	Role of Interviewer	Question Format	Purpose
Focus group	Formal-preset	Directive	Structured	Exploratory pretest
Brainstorming	Formal or informal	Non-directive	Very structured	Exploratory
Nominal/Delphi	Formal	Directive	Structured	Pretest exploratory
Field, natural	Informal Spontaneous	Moderately non-directive	Very structured	Exploratory phenomenological
Field, formal	Preset, but in field	Somewhat directive	Semi-structured	Phenomenological

A qualitative study based strongly on an interviewing inquiry strategy is thus proposed.

1.5 Structure of the Thesis

The thesis is divided into seven chapters. Five of these chapters discuss the research using the phased approach (see section 1.4.3). Figure 1-8 shows which chapter address the relevant research element.

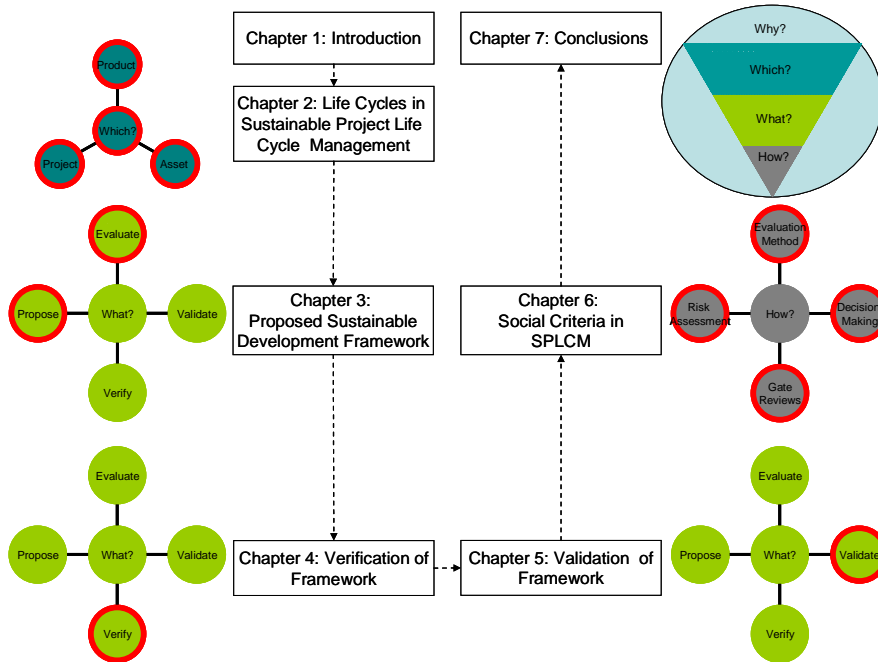


Figure 1-8: Structure of the Thesis

1.6 Conclusion

Various driving forces compel globally competitive businesses to address incorporating all sustainable development issues into business practices. These driving forces originate from both the society as well as government. The progress made in aligning all business activities with the principles of sustainable development are increasing important and in many cases even essential. Project management methodologies are not excluded and it is evident that current methodologies fail to incorporate all sustainable development aspects. The research in this thesis will develop the social dimension of a model to be used in incorporating sustainability in generic project management methodologies. Various approaches to ensure adherences to triple bottom line decision-making, i.e. including environmental and social aspects as well as economic performance in the decision-making processes, will be investigated. A phased approach centred around the three main research questions will be used. These are:

- Which life cycle should be considered when evaluating the project's possible impacts?
- What social business sustainability impacts or aspects should be considered in the project life cycle?
- How should project management methodologies be adopted to ensure incorporation of social business sustainability?