Executive MBA Dissertation

by

Busa K.L. Mkhize

Systems thinking based approach for improving the sustainability impact of the South African telecommunications industry

In partial fulfilment of the requirements of the Executive MBA degree
PLAGIARISM STATEMENT

DECLARATION

1. I know that plagiarism is wrong. Plagiarism is to use another’s work and pretend that it is your own.

2. I have used a recognised convention for citation and referencing. Each significant contribution and quotation from the works of other people has been attributed, cited and referenced.

3. I certify that this submission is all my own work.

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Name: Busa Mkhize
ABSTRACT

South Africa currently faces a number of big societal challenges – the so called wicked problems – in the form of unemployment and poverty; HIV and Aids; education and skills development that is not adequate to enable the required levels of economic development; high levels of crime; and the global challenges of climate change. These challenges cannot be solved by government, on any other section of society, alone. The business sector, and telecommunications industry in particular, has a major role to play. Implementation of effective sustainability management practices by business is critical for South Africa to be able to tame these massive challenges.

The ICT industry is expected to play a critical role in assisting to minimise the impact of climate change across all sectors. This is the case not only in South Africa, but also globally.

In the Strategic Plan 2009–2012 document, the Minister of the Department of Communications, General Siphiwe Nyanda, states that South Africa is faced with the reality of, among other things, high unemployment and poverty levels as well as the global economic melt-down. ICT – both as a sector and as an enabler in all sectors of the economy – has a significant role to play in helping us to address these challenges.

The Global e-Sustainability Initiative (GeSI) published a “Smart 2020” study (GeSI, SMART 2020: Enabling the low carbon economy in the information age, 2008), which shows how the application of ICT can achieve a 15% reduction in greenhouse gas emissions worldwide. GeSI is an international non-profit association formed to help ICT companies, and the sector as a whole, become more sustainable.

The primary concern is that the high expectations noted above, which are indeed realistic, will be met with disappointing results if the current status quo remains – which is a level of impact on sustainability issues that is below the required threshold for South Africa to progress and prosper as a society. It is this primary concern that this dissertation paper seeks to address.
The key question that focuses the research effort is “How can telecommunication companies improve the level of impact of their sustainability initiatives to yield ‘above threshold’ positive impact on the social, economic and environmental challenges facing South Africa, while creating wealth for their shareholders?”

The research results suggest the following interventions in order to improve the level of impact of telecommunications companies’ sustainability initiatives on the social, economic and environmental challenges facing South Africa to ‘above threshold’ levels, while creating wealth for their shareholders, they should (not necessarily in sequential order):

- Prioritise and instil transformational leadership at C-level, starting with the CEO. This is the role of the Board of Directors, through a concept which I call ‘normative governance’. This intervention appeals to the organisational perspective.

- Actively and meticulously integrate the organisation’s sustainability response to identified societal issues with the core business strategy agenda using known (or agreed upon) tools. Make sure to align corporate performance measurement and recognition/reward systems accordingly. This can be achieved by amending current sustainability management practices to be more integrated with the business agenda – introducing a concept of ‘integrated sustainability management’. This intervention appeals to both the technical perspective and the personal perspective.

- Innovate closer to the needs of the marginalised as collaboratively as possible. This can be achieved by employing a concept of ‘collaborative and embedded innovation’. This intervention appeals to the organisational perspective – a broadly defined socio-political system.

The extensive literature review presented a number of existing theories that helped shaped the answer proposed in this research paper. They include findings on the role of corporate governance. Recommendations include redefining the role of corporate governance (essentially the board) to incorporate sustainability as a critical performance dimension, alongside shareholder value creation (Cartwright & Craig, 2006).
On the role of ICT in addressing societal issues, the business community has both the capabilities and the strategic, business reasons to play a major role in creating economic opportunities (Kramer et al., 2007) - especially for the poor members of society.

The research framework and process adopted in this dissertation is informed by critical realism and grounded theory as underpinning ontological and epistemological philosophies; integrated with a few systems thinking paradigms. The selected systems thinking methods that are used extensively in this research are soft systems methodology (Checkland) and viable systems model (Beer).

I started the research with some bias that is worth noting. My relatively subjective hypothesis was that the level of impact on sustainability by telecommunications companies was not adequate. This predisposition could have led me to only see data that confirms the notion and ignore data that points to the contrary. This is however adequately managed using accepted techniques for ensuring trustworthiness of qualitative research.

The answer theory that comes out of this research is untested, yet has considerable implications for telecommunications companies. It therefore provides a rich opportunity for further research, especially designed to meaningfully test the explicit and implicit hypotheses contained in the research answer of this dissertation. I recommend the following areas for further research:

1. The role of the board in emerging economies: balancing the societal and financial mandate of the organisation.
2. Collaborative innovation in telecommunications industry as a CSR imperative: Could it be a source for competitive advantage?
3. The effectiveness of common strategic planning and management tools in integrating sustainability issues. Is there a need for new strategy frameworks and tools?

The overall organisation of this research paper is discussed in Chapter 1 (Introduction and Overview), which itself provides a detailed account of the situation within which my research problem exists; defines the primary concern identifies the key question that needs to be answered in order to address the concern, and proposes an answer to the question based on the theory that
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GLOSSARY OF TERMS

ACLD - Answer Causal Loop Diagram
CBOT – Concern Behaviour Over Time
CCLD – Concern Causal Loop Diagram
CDP – Carbon Disclosure Project
DoC – Department of Communications
ECN – Electronic Communications Network
GeSI - Global e-Sustainability Initiative
ICASA – Independent Communications Authority of South Africa
ICT – Information Communications Technology
NBI – National Business Initiative
SCQARE – Situation, Concern, Question, Answer, Rationale, and Evaluation
SSM – Soft Systems Methodology
VSM – Viable Systems Model
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A special thanks to the UCT GSB management team and lecturers, under Tom Ryan’s leadership. This programme would not be worth our efforts if it was not for your dedication to both academic excellence and leadership development. It shows in many ways from the first module up until the final dissertation effort.

My EMBA 10 classmates – you all rock! I ‘stole’ some measure of wisdom from each of you over the past two years. You have enriched me, and for that I am graciously indebted to you.
1. INTRODUCTION AND OVERVIEW

This research paper is anchored in systems thinking as a paradigm for management practice. The research topic is located in the subject of sustainability or corporate social responsibility and business strategy in the South African telecommunications industry. It is aimed at contributing practical findings that business leaders and management practitioners in the telecommunications industry could apply in order to improve the impact of the sustainability initiatives implemented by their organisations.

The paper is organised into five sections (excluding appendices), as summarised in the table below.

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<td>INTRODUCTION AND OVERVIEW (this chapter)</td>
<td>Provides a detailed account of the situation ($S$) within which my research problem exists; defines the primary concern ($C$); identifies the key question ($Q$) that needs to be answered in order to address the concern, and proposes an answer ($A$) to the question based on the theory that emerges from the grounded theory research. A brief rationale ($R$) for my proposed answer and its evaluation ($E$) is also provided.</td>
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<td>2</td>
<td>LITERATURE REVIEW</td>
<td>This is a summary of the extant literature reviewed as directed by the key concepts related to the research problem. It is aimed at unearthing existing explanatory theories for some of the phenomena observed in the research problem context.</td>
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<td>RESEARCH METHODOLOGY</td>
<td>This chapter develops the plan, the strategy and the framework for constructing the answer ($A$) to my research question ($Q$).</td>
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Chapter 3. These form the basis for arriving at the answer to the research question.

This chapter proffers the general conclusions, the implications and the consequences of the proposed answer to the research question. It also evaluates the trustworthiness of this research and makes recommendations for further research.

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Table 1.1: Dissertation Structure

As briefly explained in the table of sections above, chapter 1 provides an overview of the research paper using the SCQARE framework. This framework offers a rigorous approach for conceptualising and articulating ideas in a meaningful way (Ryan, 2008b). It consists of six parts, which I have applied as follows:

i. **Situation** – I express the context or situation within which the problem of ‘partially’ integrating the sustainability agenda with core business strategy exists.

ii. **Concern** – I articulate why the lack of a sustainability agenda and core business strategy integration is a concern. The question “why should stakeholders care?” is answered.

iii. **Question** – I pose a powerful question that I believe needs to be answered in order to deal effectively with the concern.

iv. **Answer** – I propose an answer to the question, which I believe addresses the concern in a pragmatic and viable manner.

v. **Rationale** – I offer the reasoning behind the answer; the logical basis for constructing the situation, concern and answer.

vi. **Evaluation** – I evaluate the trustworthiness of the research using the lenses of credibility, dependability, confirmability, transferability and ethics.

The situation (S) and concern (C) establish the relevance of the research problem, while the question (Q) and the answer (A) provide the utility of the research.
1.1. Relevance of the research topic

1.1.1. Situation

Defining sustainability and corporate social responsibility

I have come across a number of variations in the understanding of what sustainability is, with the two definitions below capturing the majority of opinions as reported by David Lipsky and Jeana Wirtenberg in their Enterprise Sustainability Action Team presentation of May 2006.

Definition 1: “How can the present generation meet its needs in ways that are not only economically viable, environmentally sound and socially equitable but that also allow future generations to do the same?” (Lipsky & Wirtenberg, 2006, p. 2)

Definition 2: “Company’s ability to achieve its business goals and increase long-term shareholder value by integrating economic, environmental and social opportunities into its business strategies” (Lipsky & Wirtenberg, 2006, p. 2)

While I subscribe to both definitions, for the purpose of this research paper my working definition (or closest to my personal view) is the one that I have labelled Definition 2: “Company’s ability to achieve its business goals and increase long-term shareholder value by integrating economic, environmental and social opportunities into its business strategies.”

According to Shahin (2007), the following CSR definition by the World Business Council for Sustainable Development (WBCSD) is most common: “… the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large”.

CSR can also be defined as the way a company manages its overall impacts on and contributions to society through the following three spheres of influence (Nelson, 2008):
i. **Core business operations and investments** – including the company’s governance mechanisms and its activities and relationships in the workplace, the marketplace, and along its value chain. The key goal should be to minimise and account for any negative impacts that may arise from these activities, and to increase and leverage positive impacts and contributions.

ii. **Strategic philanthropy and community investment** – aimed at mobilising not only money, but also the company’s people, products and premises to help support and strengthen local communities and non-profit partners, preferably in a manner that is aligned with the company’s core areas of competence and interest.

iii. **Public policy dialogue, advocacy and institution building** – efforts by companies, either on an individual or a collective basis, to account for their interactions with government, and where relevant, to participate in public policy dialogues and advocacy platforms and to help governments build public capacity, strengthen institutions and deliver public goods.

I see CSR as one of the important means for companies to achieve sustainability (as per Definition 2 above). I therefore maintain that if CSR initiatives are not well defined within the context and purpose of achieving business goals and increasing long-term shareholder value, the desired impact on sustainability by business organisations could be elusive or, at best, marginally achieved.

**Establishing Context**

There are at least five wicked problems1 (Rittel) that South Africa faces today, which include the following:

1. unemployment and poverty
2. health – HIV/AIDS and related diseases in particular
3. education and skills development – not adequate to enable the required levels of economic development
4. high levels of crime

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1 A wicked problem is one for which each attempt to create a solution changes the understanding of the problem. The term was originally coined by Horst Rittel. Source: http://cognexus.org/id42.htm
5. climate change

The information and communication technology (ICT) industry is expected by various stakeholders in South Africa to play an important role in helping society ‘tame’ these problems.

Unemployment and poverty

According to the Office of the Executive Deputy President and the Inter-Ministerial Committee for Poverty and Inequality, South Africa’s unemployment and poverty levels are at 25.2% of the population (~12 million) and 50% of the population (~24 million) respectively. In South Africa, being below the poverty line means having less than R353 per month to spend, which is $47.07 at a R/$ ratio of 7.5.

Poverty arising from joblessness in particular remains unusually high in South Africa compared to other middle-income developing countries. In 2005/6, a major government study of incomes and expenditure found that:

- half of all households (with an average household consisting of between three and four people) lived on less than R600 per person month
- the poorest 20% of households lived on less than R1000 a month
- by contrast, the richest 10% of households had over R15 000 a month

The graph below shows South Africa’s levels of unemployment for the period between the years 2000 and 2009, with the fourth quarter rate in 2009 at 24.3% (StatSA, 2009).
High levels of poverty go hand in hand with very deep inequalities. The following graph (figure 1.2) shows that, in South Africa, the very rich get an unusually large share of total income by international standards. Thus, in 2000, the richest 10% of households got 45% of income. By contrast, the poorest 60% of households received only 20% of national income. Only a few countries are as unequal as South Africa with most being in Latin America.
HIV/AIDS

The report National HIV And Syphilis Prevalence Survey (2006) by the Department of Health states that according to the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organisation (WHO), an estimated 39.5 million [34.1 million–47.1 million] people worldwide were living with HIV at the end of 2006. UNAIDS estimates that approximately 63% of people living with HIV in the world are from the sub-Saharan Africa region. Women accounted for 48% of all adults living with HIV worldwide, and for 59% in sub-Saharan Africa.

The mission statement of the South African government’s National HIV and AIDS and TB Programme is:\(^2\):

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“To (a) prevent the spread of HIV, STI and TB infections, and (b) to mitigate the impact of the dual HIV and AIDS and TB epidemics on society. In all of this the country, and the Department of Health, is guided by the HIV and AIDS/STI Strategic Plan for South Africa, 2000-2005, and the TB Medium Term Development Plan. These plans aim to improve multisectoral participation, and ensure that all spheres of society play an active role in the achievement of the goals of these strategic plans.”

Contribution towards combating the HIV and Aids pandemic in South Africa is one of the key normative issues that business leaders grapple with.

*Education and skills development*

Limited number of people with skills required to drive a knowledge economy presents a significant challenge for South Africa. This has direct impact on the levels of economic growth that the country can attain. This issue was borne out of systemic imbalances in South Africa’s education system during the apartheid years (approximately five decades up until 1994).

Most telecommunications companies in South Africa, if not all, have education and skills development as part of their corporate social investment portfolio.

*High levels of crime*

The crime situation in South Africa has received international attention. It has also seen thousands of people choosing to emigrate the country and citing crime as an important factor for their decision to leave. The upcoming soccer world cup 2010 further raised the focus on crime as a major issue that needs attention.

Businesses in South Africa took the initiative to form Business Against Crime South Africa (BACSA). BACSA was established in 1996 as a response to a call from the then President Mandela for the business community to become involved in the fight against crime.
Climate change

South Africa’s business sector is very aware of the risks and the challenges that climate change presents to all global citizens. To this end, we have seen a number of climate change-related initiatives in South Africa that are driven by government, business and nongovernmental organisations. These initiatives include the following:

- Participating and being a signatory to the recent Copenhagen accord. The Environmental Affairs Deputy Director General, Alf Wills, said in a recent letter to the UNFCCC: “South Africa reiterates that it will take nationally appropriate mitigation action to enable a 34% deviation below the ‘business as usual’ emissions growth trajectory by 2020, and a 42% deviation below the ‘business as usual’ trajectory by 2025”.

- Carbon Disclosure Project (CDP) – an independent not-for-profit organisation that seeks information on the business risks and opportunities presented by climate change as well as GHG emissions data from the world’s largest companies. Some South African companies participate in the CDP through the National Business Initiative (NBI).

- United Nations Global Compact – seeks to advance responsible corporate citizenship so that business can be part of the solution to the challenges of globalisation (from NBI website). NBI is the focal point to the Global Compact Network in South Africa.

- A growing trend towards the adoption of GRI Sustainability Reporting Standards by South African companies.

However, South Africa still remains one of the top 20 worst polluters of the environment as measured by the level CO2 emissions – see the 2006 CO2 emissions rankings in the figure below.
Systems Thinking Based Approach Towards Improving Sustainability Impact by the South African Telecommunications Industry

Figure 1.3: Top 20 countries CO₂ emissions 2006

Source: Union of Concerned Scientists’ Website³

Telecommunications companies are not considered to be major CO₂ emitters; however, South African companies do have measures in place to manage their CO₂ footprint and continue to reduce their energy consumption levels. It should be noted though that there appears to be very limited innovation beyond looking for energy savings within the organisation, and very little is currently being done by the ICT sector to provide ICT-enabled solutions for other industries. Note that telecommunications companies in South Africa offer services beyond the strict definition of telecommunications, as their offerings cut across the spectrum of ICT.

Expected role of the ICT industry

The ICT industry is expected to play a critical role in assisting to minimise the impact of climate change across all sectors. This is the case not only in South Africa, but also globally.

In the Strategic Plan 2009–2012 document, the Minister of the Department of Communications (DoC), General Siphiwe Nyanda, states that South Africa is faced with the reality of, among other things, high unemployment and poverty levels as well as the

global economic melt-down. ICT – both as a sector and as an enabler in all sectors of the economy – has a significant role to play in helping to address these challenges.

In the same document, it is further stated that the DoC will continue stridently to champion its vision as a global leader in leveraging ICT for the socioeconomic development of our country. This highlights another important role that one of the key stakeholders, the government of South Africa, expects the ICT sector to play besides its contribution to addressing the global climate change challenge.

The Global e-Sustainability Initiative (GeSI) published a “Smart 2020” study (GeSI, 2008), which shows how the application of ICT can achieve a 15% reduction in greenhouse gas emissions worldwide. GeSI is an international non-profit association formed to help ICT companies, and the sector as a whole, become more sustainable.

In 2007, GeSI commissioned Business for Social Responsibility (BSR) to conduct research on identifying the key areas in which the ICT sector could make the biggest contribution to sustainability. The results were published in a report in May 2008, identifying the following 10 key sustainability issues for the ICT sector (GeSI, 2009):

a. climate change
b. waste and materials use
c. access to ICT
d. freedom of expression
e. privacy and security
f. employee relationships
g. customer relationships
h. supply chain
i. product use issues (including health, safety and wellbeing)
j. economic development
Current sustainability-related debates, issues and trends in the SA telecommunications industry

The debates and issues summarised below are presented at face value, without any in-depth analysis or interpretation by the researcher.

The Regulation of Interception of Communications and Provision of Communication Related Information Act (RICA)

This Act (RICA) was enacted and became effective on 1 July 2009. RICA requires telecom operators to register customers prior to giving them access to their networks. While the act is well intentioned in terms of helping law enforcement deal with crime (a major challenge in South Africa), it has challenged telecom companies, resulting in loss of prospective customers and potential revenues.

Interconnection rates

There is a perception that telecommunications costs in South Africa are unreasonably high. Recently, the Independent Communications Authority of South Africa (ICASA) has had to deal with the issue of high interconnection fees, which is the rate that one operator charges another for cross-network calls (with the charge passed onto the consumer). During the course of 2009, when the issue of interconnection rates was debated, ECN Telecoms, a value-added service provider, emphasised that interconnection should not be about profit, and charges should be entirely cost-based (van der Merwe, 2009). Srinini Naidoo, a resident of Durban in South Africa, asked the Competition Commission to investigate whether the 515% increase in interconnection rates for cell phone calls over the last 12 years reflects an abuse of consumers by cell phone giants MTN and Vodacom (from the article on the National Consumer Forum’s website).

The current digital divide between affluent communities and the impoverished millions makes this an important socioeconomic issue that the telecommunications industry needs to continue to grapple with.
Conditions for telecommunications licences (socioeconomic related)

Licensed telecommunications operators are required to contribute a percentage (about 2%) of their gross revenues to the Universal Service and Access Fund (USAF), in compliance with the conditions of the Telecommunications Act. The Universal Services Agency manages the funds which are intended to be used for infrastructure aimed at rolling out ICT access to underserved communities such as those living in rural areas.

Corporate social investments (CSI)

Almost all telecommunications companies, similar to most large businesses in South Africa, have formed foundations as their vehicle for delivering on corporate social responsibility through investments.

The common approach that research reveals is to allocate about 1% of net profit after tax to the budget for CSI – as guided by the Codes of Good Practice (or BBBEE – social investment pillar). These foundations usually operate as a ‘business unit’ with their own management structure and a board of trustees. Besides just providing the necessary funding, the owner company provides a guiding policy and framework within which the foundations must operate. While a fair amount of thought goes into identifying worthwhile projects to be tackled by the foundations, the investments are still less strategic and more public relations and branding oriented – sending a ‘We care’ message. There is also a fair amount of pure philanthropy in this space.

The lack of or limited integration between the businesses’ long-term strategy and the agenda that the foundations pursue weakens their socioeconomic impact because the implementation of the CSR agenda is not usually done by the best brains of the organisation nor does the shaping of the CSR agenda enjoy the same strategic thinking and rigour that the main business thrives on.
Broad-based Black Economic Empowerment (BBBEE)

BBBEE implementation by the ICT sector has been dismal since the BEE Act was introduced almost ten years ago. The government is considering legislation to compel information ICT groups and broadcasters to comply accordingly (Mochiko, 2010). This sector is among the worst performers on this score compared to other industries. Recently, the Director-General of the Department of Communications (Ms Mamodupi Mohlala) was quoted in a Business Day article as saying: “Even the licensed entities are not meeting … requirements, not only from shareholding but at operations level (black representatives at board and executive level) as well. It should be obligatory that there be compliance. We believe … our strongest instrument is legislation.”

BBBEE is an important piece of legislation that is aimed at addressing the socioeconomic disparities in South Africa that were caused by apartheid. The telecommunications sector seems not to be taking this aspect of addressing sustainability concerns in South Africa seriously enough, that is, not as nice to do but as a legislative issue.

The “rich picture” diagram below captures the essence of the current situation in which my primary concern is located.
1.1.2. Concern

High expectations of ICT’s impact on sustainability

The Chief Executive Officer of Ericsson is quoted at the recent Earth Institute’s State of the Planet conference in New York as saying that “the development of ICT will be crucial to solving challenges such as poverty, climate change and economic crises”.

In its vision, Vodacom states that it “contemplates extending the revolutionary possibilities that ICT offers for socio-economic development in Africa and a better quality of life for all her people”, and other major players in the industry, such as MTN and Telkom, are equally expected to change the plight of the people and progress in South Africa for the better.

Figure 1.4: Rich picture of the current situation in SA Telecommunications environment
Over the past few years, the government has stated explicitly that it expects ICT to make a significant contribution to the socioeconomic emancipation of the people of South Africa, including making a number of recent pronouncements in the Department of Communications strategy documents, as well as in the Medium Term Strategic Framework – A Framework to Guide Government’s Programme in the Electoral Mandate Period (2009–2014).

Lack of integration and cross-sector collaboration

Businesses’ actions are embedded in the strategy that guides the day-to-day actions of the organisation (strategy as practice). Limited integration of sustainability initiatives by telecommunication companies into their core business strategies minimises the positive impact that they could have on economic, social and environmental issues.

In an article by Clive Crook in the Economist magazine in January 2005 critiquing CSR, Crook concludes that:

“Managers, acting in their professional capacity, ought not to concern themselves with the public good: they are not competent to do it, they lack the democratic credentials for it, and their jobs should leave them no time to even this about it. If they merely concentrate on discharging their responsibilities to the owners of their firms, acting ethically as they do so, they will usually serve the public good in any case.”

The last sentence in Crook’s quotation assumes that there is sufficient integration of societal requirements into the core agendas of businesses. However, this is generally not the case, as shareholder interests often trump the common good.

Nelson argues against Crook stating that Crook’s argument might be fine if governments fulfilled their functions effectively, efficiently and legitimately. Yet, they often fail to do so, especially in times of crisis or when public problems are particularly complex, multi-dimensional, long-term or systemic in nature (Nelson, 2008).
What about South Africa, which is a ‘teenager’ democratic government with heavy historical societal burdens in a form of pernicious problems to address? Can business afford to put the responsibility for socioeconomic development on the South African government alone while it goes about its business of business as usual? I do not believe so, given the extent of complexities and government capabilities. Business has a big role to play and a huge responsibility in ensuring global sustainability.

It is also my point of view that the necessary collaboration among the key stakeholders (i.e. telecoms businesses; government/regulator; labour unions; and communities) is not sufficient to enable businesses to play their role in tackling sustainability challenges in South Africa. This point of view is in part shaped by the following observations:

- The poor implementation of BBBEE by the ICT sector.
- The abrasive manner in which the high interconnection rates issue was ‘resolved’ between ICASA (the regulator); the Department of Communications and mobile telecommunications companies, while the lack of telecommunications affordability for the impoverished millions of South Africans continues and opportunities at the ‘base of the pyramid’ for telecoms remain untapped.
- Slow progress towards addressing the digital divide challenge in South Africa.

The positive actions that we have seen over the past few years include measures that such as placing explicit responsibility for the company’s sustainability agenda with one of the C-level executives; appointing sustainability managers (usually at senior manager level); instituting sustainability reporting; and the like. In most telecommunications companies, these are all new initiatives that are less than five years old.

My primary concern is that the high expectations noted above, which are indeed realistic, will be met with disappointing results if the current status quo remains – which is a level of impact on sustainability issues that is below the required threshold for South Africa to progress and prosper as a society.
My assessment of the current status quo is that the telecommunications industry, much like many other industries in South Africa, is delivering a net positive impact on socioeconomic and environmental challenges that is below the global sustainability threshold. The two graphs below, figures 1.5 and 1.6, attempt to illustrate the reasoning behind my assessment.

**Figure 1.5: Balance between Sustainability Impact and Growth in Shareholder Wealth**

If my concern is represented as variable behaviour over time, it would look like the figure below. There seems to be an upward trend that is pushed by telecommunications companies’ actions in terms of embracing sustainability and putting measures in place to drive their businesses with a focus on sustainability issues.
The collective impact of efforts by all businesses in South Africa, the net effect, should be above the threshold of sustainability. For this to be possible, the various business sectors and individual businesses should aim to act in a way that yields the above-threshold level of impact on sustainability.

My argument for claiming that the level of impact on sustainability by telecommunications companies in South Africa is less than the expected threshold is based on the following observations rather than specific quantitative data:

- Collectively as a country (South Africa) we are performing below the sustainability threshold level. We are among high climate polluters (even though this is somewhat justifiable given that we are a developing country). We have persistently high levels of unemployment and poverty, increasing socioeconomic inequalities and some social unrest (e.g. public service delivery protests), which all point to poor sustainability – below the sustainability threshold.

- There is no evidence that telecommunications companies are performing any better than other stakeholders, and it therefore follows that the telecommunications industry is also performing below the sustainability threshold.

**Figure 1.6: Concern Behaviour over Time – Level if Sustainability Impact**
If the telecommunication companies do not improve their level of sustainability impact to above the threshold, we run the risk of South Africa as a country continuing to be unsustainable in the long term. This would have dire effects in terms of both social instability and environmental catastrophes. One sector or an individual company should not avoid the responsibility of ensuring sustainability in the hope that others will do well and the resulting net effect counters its poor handling of the sustainability challenge.

The level of impact on sustainability is determined by the way the sustainability phenomenon is managed by the organisation – the concept of ‘sustainability management’. The analysis performed in this research on the data gathered as part of the grounded theory process suggests that organisational leadership is a direct key driver of sustainability management in organisations, including telecommunications companies. The concern causal loop diagram (CCLD) below presents the key concepts and interactions that influence the level and quality of sustainability management in telecommunications companies.
Figure 1.7: Concern causal loop diagram – sustainability impact

The concern variable in the above diagram is ‘Impact on sustainability issues’, while the key drivers are Shareholder expectations, Regulatory environment, and Organisational leadership; and the influencing variables are Organisational performance and Society wellbeing.

1.2. Utility of this research

1.2.1. Question

The architecture of a powerful question consists of scope, construction and assumptions (Ryan, 2008b).

Naturally, the research question has to flow from the primary concern that I sought to address. The primary concern here is the current inadequate level of sustainability impact that telecommunications companies possess.

The question that needs to be answered and that will “lead to proposal for action that will deal with the concern” (Ryan, 2008b) is: How can telecommunication companies improve the level of impact of their sustainability initiatives to yield ‘above threshold’ positive impact on the social, economic and environmental challenges facing South Africa, while creating wealth for their shareholders?

In evaluating the question against the architecture prescripts for a powerful research question, I will discuss the scope, construction and assumptions for the above question in the following sections.
Scope

I have limited the scope of my question to the sphere of influence that organisations have (so that they can do something about the answer to the question), and to the domain that I have access to in terms of gathering the information required to arrive at the answer. This is important as it ensures that the research does not leave stakeholders asking ‘so what?’, but it is indeed usable and practicable.

Construction

A powerful question tends to direct you towards an explorative journey of inquiry that results in information that is both relevant and practical from a management practice perspective. Questions that elicit yes/no or non-actionable answers are less powerful because they fail to deal adequately with the concern.

My research question is framed with a “How”, which is considered a construct for a powerful question (Ryan, 2008b). Of course, it is necessary for me to understand “why” telecommunications companies have the current inadequate level of impact on sustainability before I can determine how the current situation could be changed for better.

Assumptions

The key assumptions that are implicitly made in formulating my research questions are presented in the table below, together with comments on reasonableness (validity test).

<table>
<thead>
<tr>
<th>Key assumptions</th>
<th>Validity test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecommunications companies in SA are interested in improving their impact on sustainability.</td>
<td>• Actions taken by most, if not all, telecommunications companies in SA indicate that they are committed to sustainability:</td>
</tr>
<tr>
<td></td>
<td>o setting up of foundations and allocating necessary resources</td>
</tr>
<tr>
<td>Key assumptions</td>
<td>Validity test</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>All stakeholders agree that the current level of impact is inadequate and more could be done better.</td>
<td>Acknowledgement, explicitly or by implication, by companies that I interviewed that a lot of work is being done to get sustainability management ‘right’.</td>
</tr>
<tr>
<td>It is more a lack of knowledge than a lack of willingness that prevents telecommunications companies in SA from taking the necessary steps to improve their level of sustainability impact.</td>
<td>Government (Department of Communications) believes that “ICTs can and should be used for socio-economic development”.</td>
</tr>
<tr>
<td>Wealth creation and sustainability are not paradoxical concepts. They can coexist.</td>
<td>Literature review suggests that this assumption is correct, specifically the following papers:</td>
</tr>
<tr>
<td></td>
<td>• Strategy &amp; Society: The link between competitive advantage and corporate social responsibility (Porter, 2006)</td>
</tr>
<tr>
<td></td>
<td>• The Contribution the ICT Industry Can Make to Sustainable Development (Business for Social Responsibility, 2008)</td>
</tr>
</tbody>
</table>

Table 1.2: Assumptions for the key research question

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4 Refer to Ray Andersen’s talk on TED on the business logic of sustainability (http://www.ted.com/talks/ray_anderson_on_the_business_logic_of_sustainability.html)
I am satisfied with the relevance of my research question and its ability to lead to an answer that is useful to business management.

1.2.2. **Answer**

The research analysis reveals that organisational leadership is the core driving variable for sustainability management and overall organisational performance. It was cited several times as being critical and currently inadequate by individuals that I interviewed who are intimately involved with the sustainability agendas of their organisations. It is therefore not surprising that the answer to the primary research question has an organisational leadership dimension.

The sustainability management variable represents what actually gets done to advance the organisation’s sustainability agenda. The primary research question seeks to understand how this should be approached if sustainability impact were to be improved. Again, the research answer provides insight into how management practice – the action – needs to be changed.

Lastly, the output of any intervention would manifest in visible organisation performance – positive or negative – that would demonstrate if indeed organisations and, ultimately, society are showing the expected improvement. This is also encapsulated in the research answer.

I propose an answer that integrates three important worldviews in the form of perspectives, namely technical, organisational and personal perspectives.

In order to improve the level of impact of telecommunications companies’ sustainability initiatives on the social, economic and environmental challenges facing South Africa to ‘above threshold’ levels, while creating wealth for their shareholders, they should (not necessarily in sequential order):


• Prioritise and instil transformational leadership at C-level, starting with the CEO. This is the role of the Board of Directors, through a concept which I call ‘normative governance’. This intervention appeals to the organisational perspective.

• Actively and meticulously integrate the organisation’s sustainability response to identified societal issues with the core business strategy agenda using known (or agreed upon) tools. Make sure to align corporate performance measurement and recognition/reward systems accordingly. This can be achieved by amending current sustainability management practices to be more integrated with the business agenda – introducing a concept of ‘integrated sustainability management’. This intervention appeals to both the technical perspective and the personal perspective.

• Innovate closer to the needs of the marginalised as collaboratively as possible. This can be achieved by employing a concept of ‘collaborative and embedded innovation’. This intervention appeals to the organisational perspective – a broadly defined socio-political system.

The three interventions listed above alter the concern causal loop diagram into an answer causal loop diagram as represented below.
Figure 1.8: Answer causal loop diagram – high sustainability impact

The details of this three-pronged answer are presented in the Results section of this paper (Chapter 4).

1.3. Establishing validity

1.3.1. Rationale

“Civilization advances by extending the number of important operations which we can perform without thinking about them” (Alfred North Whitehead, 1911).

This assertion somewhat confirms the prudence of aligning and integrating sustainability initiatives with the core strategy of the business. By so doing, maximum impact on
socioeconomic and environmental challenges will be realised in the course of executing the very business strategy that drives the existence of the business organisations. Active integration of sustainability principles, thinking and initiatives with the core objectives and strategies of the business is an important step and forms the beginning of a journey towards sustainable living for the betterment of our societies.

“Management is doing things right; leadership is doing the right things” (Peter Drucker).

Effective large-scale change has been proven to be only possible if driven from top to bottom. Sustainability thinking and action in business is probably one of the major changes in management practice that business organisations have to undertake in the 21st century. This reality calls for transformational leadership as the main driver for change towards a high impact sustainability agenda or CSR.

“Effective leadership is not about making speeches or being liked; leadership is defined by results not attributes” (Peter Drucker).

Measurements and rewards are still key influencers of short-term behaviour. Integrating key sustainability metrics into corporate performance measurement systems and related recognition/reward systems is likely to be effective in aligning short-term actions of management and employees with the longer-term sustainability imperative. Expected results need to be defined, measured and redefined.

According to Waddock and Graves (1997), good managers may not be fully committed to improved corporate social performance (CSP), but they may recognise that certain benefits may be gained by appearing to support social performance goals. Such managers might pursue social performance goals just enough to avoid significant bad publicity, but may do so at a minimum investment (Waddock & Graves, 1997). Their findings indicate minimally that attention to CSP arenas does not represent a competitive disadvantage and may in fact be a competitive advantage.
The study by Waddock and Graves (1997) suggests that there is no detrimental impact or penalty attached to allocating some resources to corporate social performance. In fact, it would seem that such investments might be beneficial, especially if they improve key stakeholder relations.

I expand on the above rationale for my proposed answer in the Results section of this paper (Chapter 4).

1.4. Research credibility and transferability

I started the research with some bias that is worth noting. My relatively subjective hypothesis was that the level of impact on sustainability by telecommunications companies was not adequate. This predisposition could have led me to only see data that confirms the notion and ignore data that points to the contrary. I have attempted to adequately represent multiple realities that exist in the telecommunications industry with respect to its impact on sustainability.

I relied largely on data sources and methods triangulation to ensure credibility. I used multiple sources of data such as formal annual and sustainability reports (which can be reasonably trusted given the stock exchange listings requirements and the Companies Act that the companies researched have to comply with); one-on-one interviews with key stakeholders in each company to verify publicly available data and obtain further relevant detail; and respected journal publications. I must point out that subjective sources such as individual comments on newspapers were also incorporated, but also triangulated against other collected data and my own interpretations thereof.

Sustainability is a global challenge, and it is relevant to all sectors of society and all business industries. While my research was conducted primarily with telecommunications companies’ data, I believe that the concepts that emerged are abstract enough for transferability – with caution. Some industries are far ahead in terms of the maturity of their approach to sustainability. For instance, the mining and construction sectors in South Africa demonstrate
more maturity than the telecommunications sector. This may be due to the level of regulation in these industries and the intensity of involvement of labour unions.

The telecommunications industry and ICT in general has a special characteristic that may not be easily transferrable to other sectors. It has applicability and impact across a number of other business sectors, if not all. For instance, the notion of innovation and cross-sector collaboration may not be as relevant to mining industry as it is in telecommunications.
2. LITERATURE REVIEW

The literature review presented in this chapter is located specifically on the primary concern of this research paper and the key question to be answered. My primary concern is that the level of impact on sustainability issues by telecommunications companies in South Africa that could be below the required threshold for South Africa to progress and prosper as a society.

The key question that needs to be answered is:

How can telecommunication companies improve the level of impact of their sustainability initiatives to yield ‘above threshold’ positive impact on social, economic and environmental challenges facing South Africa, while creating wealth for their shareholders?

The purpose of the chapter is to present theories from extant literature available on the research topic, which have somewhat shaped the understanding of the current phenomenon (concern) and the formulation of the answer theory. This chapter servers two purposes, namely further explore my concern and provide a basis (in terms of existing theories) for starting to formulate an answer to the research question.

2.1. Management practice, sustainability, corporate social responsibility, and the role of ICT

The paper by Cartwright and Craig (2006) highlights a few theories including the manifestation of espoused theory versus theory of action (a theory that was initially introduced by Chris Argyris) – they point out that “the personal understanding of these frameworks by the directors and managers is not carried through to into the behaviour of businesses”.

A proposition by Cartwright and Craig (2006) is that enhanced management practice and/or technological innovation is unlikely to take businesses that hold the current ethical stances of corporate governance and associated strategic and operational management above the threshold of sustainability (Cartwright & Craig, 2006). They propose a model
that demonstrates seven alternative pathways to achieving alignment of governance and management with planetary sustainability. One pathway retains current mainstream ethical stances that must be constrained by government interventions. The other six pathways show alternative influences that cause corporations to shift their ethical stances autonomously and hence to change governance and management strategies and action.

The paper by Cartwright and Craig (2008) takes as the accepted given that the current aggregate economic activity on planet Earth is unsustainable, with reasonable justifications for this claim. They also argue that corporate governance is the major management activity to be blamed for unsustainable business behaviour. The question of knowledge versus action is also highlighted as a contributing issue towards continued unsustainable business practices by management. The example of the Bruntland (1987) definition as well as the Natural Step Framework (Robert et al., 2002) are cited as known rigorous views of planetary sustainability, yet the personal understandings of these frameworks by the directors and managers is not carried through to into the behaviour of businesses. Cartwright and Craig argue that it is the “performance expectations and processes of mainstream corporate governance and strategic business management that act as a major obstacle to adoption of the principles of global sustainability by corporate directors and business managers”.

According to this paper, all corporate governance models, as premised on the OECD prescription, emphasise the pre-eminence of shareholders or investors. Other corporate stakeholder groups, such as customers, suppliers, partners and staff, typically are considered only in the context of their influence on business revenue and costs, and hence on their net contribution to shareholder wealth. They summarise the OECD prescription on corporate governance as:

1. Protect shareholders’ rights.
2. Ensure the equitable treatment of all shareholders, including minority and foreign shareholders. All shareholders should have the opportunity to obtain redress for violation of their rights.
3. Recognise the rights of stakeholders as established by law and encourage active co-operation between corporations and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises.

4. Ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership and governance of the company.

5. Ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board’s accountability to the company and the shareholders.

There are four alternative corporate ethical stances that are put forward in the paper, as outlined in the figure below. The proactive perspectives of ethical stance (4) are found in businesses that are in the vanguard of acceptance of corporate responsibility for impacts on society and the environment, whereas stances (1) and (2) emphasise shareholder interests (Cartwright & Craig, 2006).

They define sustainability management as the “adoption by businesses of practices that are consistent with global sustainability”. This requires that measures of success that records changes in social and natural capital in addition to the traditional financial and shareholder capital dimensions.
One can conclude from this study that the role of corporate governance (essentially the board) needs to be re-defined to incorporate sustainability as a critical performance dimension, alongside shareholder value creation.

The concept of corporate social responsibility is moving beyond the boundaries of legal compliance and ‘nice-to-do’ philanthropy (Nelson, 2004).

Three key trends that are worth noting:

- Moving beyond philanthropy to more integrated approaches in the mainstream business, including corporate governance; corporate strategy; risk management; and stakeholder engagement. Businesses have to
  - aim to minimise negative externalities and to enhance positive economic, social, and environmental impacts on and contributions to society.
  - build relationships with employees, customers, shareholders, suppliers and business partners, regulators, local communities, relevant civil society and the general public, on the basis of mutual respect and trust.
  - leverage and align corporate social responsibility activities with core business competencies in order to achieve the most effective impact for beneficiaries.
  - ensure that company’s engagement is legitimate, non-corrupt and more transparent.

- Moving beyond public relations to greater accountability and stakeholder engagement
  - The rising power and reach of the private sector, both real and perceived, has undermined public trust in large business and increased surveillance by regulators, investors, media, and other stakeholders.
  - Trust is increasingly recognised as one of the most important assets a company can have, and one of the vital pillars that supports the system of capitalism.

- Moving beyond legal compliance to greater clarity of principles and values
Emerging CSR issues of strategic importance to business are:

i. Climate change – evidence of its potentially substantial risks and opportunities is growing

ii. Managing social and environmental risks along the supply chain

iii. Product distribution and use. Telecoms are focusing largely on managing environmental impact through e-waste management programs. More needs to be done on social / lifestyle impact (e.g. access to potentially dangerous information on the internet).

iv. Increasing access and affordability of essential products and services. The issue of universal access and bridging the digital divide is getting attention in SA telecoms.

v. Tackling bribery and corruption.

The paper concludes by noting that new models of accountability and partnership are aimed at supporting two core elements of CSR:

- Improving corporate accountability and performance on social environmental issues;
- Leveraging private skills and resources in an efficient, effective manner – either commercially or philanthropically – to build social capacity, achieve systemic change, and tackle social and environmental challenges that are beyond the scope of any one company, but in the broader, long term interests of both business and society.

On the role of ICT in addressing societal issues, the business community has both the capabilities and the strategic, business reasons to play a major role in creating economic opportunities (Kramer et al., 2007) - especially for the poor members of society. Economic opportunity is not, in itself, a solution; instead it is a context in which individuals can create their own solutions.

According to Kramer et al., there are four key strategies that companies can use to expand economic opportunity:
i. Creating inclusive business models
ii. Developing human capital
iii. Building institutional capacity
iv. Helping to optimise the “Rules of the Game”

This research paper focuses primarily on “Creating inclusive business models” as a strategy for creating economic opportunity, while recognising the other three strategies as important and complementary.

The importance of ICT in economies everywhere lies in its ability to
- Reduce transaction costs and thereby improve productivity;
- Offer immediate connectivity – voice, visual, data – improving efficiency, transparency, and accuracy;
- Substitute for other more expensive means of communicating, such as travel;
- Increase choice in the marketplace and provide access to otherwise unavailable goods and services;
- Widen the geographic scope of potential markets; and
- Channel knowledge and information of all kinds.

The business case for base of the pyramid (BoP) engagement is more compelling from an opportunity point of view, while recognising the risk of ignoring masses in despair and thus chance potential social instability.

Low income customers have very sophisticated requirements in terms of relevance. The value proposition for a product or service offered must be rock solid to justify allocation of scarce resources for a purchase. This creates bedrock for innovation.

The best way ICT companies can expand economic opportunity is to get their technologies out there – and simultaneously drive the development and diversification of relevant content, applications, and services. Companies are also creating additional economic opportunity impact by bringing smaller, local firms into their business ecosystems (Kramer et al., 2007).
ICT companies can create inclusive business models by selling to local markets via horizontal deepening modalities and/or vertical deepening modalities. Horizontal deepening is essentially about adding new customers. Vertical deepening modalities seek to grow markets by connecting technology directly to opportunities and services that increase productivity, income, and quality of life, thus strengthening its value proposition to the customer.

Vertical deepening modalities in the ICT sector can be closely intertwined with inclusive business models in many other sectors – financial services, agriculture, retail – anywhere companies seek to target low income customers or involve small producers and SMEs in their value chain.

Cross-cutting considerations:

- **Learning about the low-income market.** It is important to emphasise the importance of an intimate feel for the target markets gained through first-hand, on-the-ground experience.
- **Business model innovation.** The role of business model innovation in creating the capacity to consume among low-income individuals and households, entrepreneurs, and SMEs is worth additional emphasis, especially in the ICT sector.
- **Collaboration** – can help strengthen the value proposition as well as in the implementation of an innovative business model.

According to Newell and Frynas (2007), CSR was conceptualised by leading firms and business schools and implemented as a public relations tool used to deflect criticism, engage critics and potentially capitalise on emerging business opportunities associated with doing, and being seen to be doing, good.

This is changing rapidly, and telecommunications companies that are still using CSR primarily as public relations tool need to reconsider and embrace the strategic importance and societal relevant of CSR.
2.2. Business strategy, sustainability integration, and CSR impact

Corporate philanthropy is under pressure from different ends – investors demanding short-term profits, while recipients of corporate funding expecting even more. Executives are finding it hard to justify charitable expenditures in terms of bottom-line benefits (Porter & Kramer, 2002).

There is a shortage of truly strategic corporate philanthropy. It is increasingly being used as form of public relations or advertising, promoting a company’s image or brand through cause-related marketing (Porter & Kramer, 2002).

Porter and Kramer note that while companies call their social investments strategic, usually the corporate giving programs have nothing to do with company’s strategy. They are primarily aimed at generating goodwill and positive publicity and boosting employee morale.

Cause related marketing falls far short of truly strategic philanthropy. Its emphasis remains on publicity rather than social impact. The desired or expected benefit is enhanced goodwill, not improvement in a company’s ability to compete.

True strategic CSR addresses important social and economic goals while simultaneously targeting areas of competitive context where the company and society both benefit because the firm brings unique assets and expertise.

Porter and Kramer argue that the perceived dichotomy between economic and social objectives is false. Their argument is based on the fact that companies do not operate in isolation from society around them, instead their ability to compete depends heavily on the circumstances of the locations where they operate.

Strategic philanthropy is when CSR produce simultaneous social and economic gains – the convergence of corporate philanthropy and shareholder interests.
A company’s competitive context consists of four interrelated elements of the local business environment that shape potential productivity: factor conditions; demand conditions; context for strategy and rivalry; and related and supporting industries. Porter’s framework of “The Four Elements of Competitive Context” is presented in the figure below.

![Figure 2.2: Porter’s framework of “The Four Elements of Competitive Context”](source)

Philanthropy can often be the most cost-effective way for a company to improve its competitive context, enabling companies to leverage the efforts and infrastructure of nonprofits and other institutions. Possible examples of addressing the four elements through strategic philanthropy:

- **Factor Conditions** – improving education and training (skills development), resulting in employable locals and, by extension, improved quality of life
Demand Conditions – the Cisco Networking Academy improved demand conditions by helping customers obtain well-trained network administrators. In doing so, it increased the size of the market and the sophistication of users – and hence users’ interest in more advanced solutions.

Related and Supporting Industries – foster development of clusters and strengthen supporting industries. For instance, providing support and developing content generators and aggregators would be strategic for telecommunications companies who provide transmission network for such content.

Context for Strategy and Rivalry – innovative collaboration with government security departments to find ways of leveraging telecommunications technologies in fighting crime.

As long as companies remain focused on the public relations benefit of their contributions, they will sacrifice opportunities to create social value.

Stuart Hart, in his paper “Back to the Future: Integrating Sustainability into Credit Union Strategy”, argues for truly integrating sustainability into business’s strategy by shattering the presumed trade-off between social and financial performance. They point out that this can only be achieved by devising new strategies that simultaneously benefit members, their communities, and the businesses; bottom lines.

He points out that, currently, companies are not only addressing mounting social and environmental concerns, but also building the foundation for future innovation and growth.

2.3. Corporate social performance & organisational leadership

The age old management challenge of allocating scarce resources strategically is still relevant today, and even more challenging than before. Recent scholarship in strategic management suggests that many of these pressures are coming directly not from traditional concerns of strategic management but instead from concerns about social issues in management. Changing customer expectations, regulatory shifts, problem of excess capacity (and presumably the associated employees), and environmental
concerns are now becoming important influences on strategy - quoting Prahalad and Hamel - (Waddock & Graves, 1997).

These emerging influences on strategic decision making are the result of the impact of different stakeholder expectations (Freeman, 1984).

Waddock and Graves (1997), note that previous findings on the relationship between profitability and corporate social performance have been mixed. Some find tenuous positive, others find clear positive relationships, while others document negative linkages. An example of negative linkages could be a telecommunications company deciding to invest in green energy for its base stations while competitors continue to use traditional sources of energy (which are climate change unfriendly) – assuming that alternative sources of energy (AES) are still more expensive than traditional sources.

Others find that there is simply no relationship, positive or negative, between social and financial performance. Proponents of this line of reasoning argue that there are so many intervening variables between social and financial performance that there is no reason to expect a relationship to exist.

The third perspective, based on stakeholder analysis, proposes that a tension exists between the firm's explicit costs (e.g., payments to bondholders) and its implicit costs to other stakeholders (e.g., product quality costs, environmental costs). This theory predicts that a firm that attempts to lower its implicit costs by socially irresponsible actions will, as a result, incur higher explicit costs, resulting in competitive disadvantage. According to this argument, then, there is a positive relationship between CSP and financial performance.

Those arguing for a negative relationship between social and financial performance believe that firms that perform responsibly incur a competitive disadvantage because they are incurring costs that might otherwise be avoided or that should be borne by others (e.g., individuals or government).
**Slack Resources Theory versus Good Management Theory**

According to the paper on corporate social performance (Waddock & Graves, 1997), slack resource theorists argue that better financial performance potentially results in the availability of slack (financial and other) resources that provide the opportunity for companies to invest in social performance domains, such as community relations, employee relations, or environment. If slack resources are available, then better social performance would result from the allocation of these resources into the social domains, and thus better financial performance would be a predictor of better CSP. Some of the empirical evidence provides support for the slack resources theory.

Good management theorists argue, alternatively, that there is a high correlation between good management practice, and CSP, simply because attention to CSP domains improves relationships with key stakeholder groups, resulting in better overall performance.

CSP does depend on financial performance and that the sign of the relationship is positive. That is, in support of the slack resources theory, firms with slack resources potentially available from strong financial performance may have greater freedom to invest in positive CSP.

If CSP is redefined to encompass critical stakeholder relations, as the measure used in the present study does, then expenditures on CSP activities are far from discretionary and may actually be strategic because they encompass daily corporate life. Financial performance also depends on good social performance, suggesting that there is something about performing well in social arenas that may be simply linked to good managerial practice.

Better financial performance may lead to improved CSP. Also, better CSP may lead to improved financial performance, ceteris paribus – suggesting that causation may run in both directions.
Arash Shanin, in his paper that is titled “Corporate governance as a critical element for driving excellence in corporate social responsibility”, suggests that integration of broader stakeholder needs (societal needs) into the core business strategy, and measurement of impact on those needs by the organisation is required is CSR is to be effective.

Findings by (Shahin, 2007) into the role of corporate governance in driving excellence in corporate social responsibility suggest that corporate governance encompasses different external and internal factors that influence management of organisations. These include investors, the public, customers, employees, and associated corporations. They also note that the leadership style plays an important role in socially responsible organisations, with transformational leadership style being most effective.

There is often tension between socially responsible behaviour by companies and profitability, perceived or real. However, the results of studies of the relationship between CSR and profitability have so far been inconclusive - (Shahin, 2007) citing McWilliams and Siegel (2001). This requires that a balance be struck between the two poles, which can be achieved through continuous stakeholder dialogue and assessment of their expectations and by translating these expectations into the strategic plan of the organisation.

Nelson (1998) and Zairi (2000) argue that companies that create social value by integrating CSR into management systems tend to have the following four key characteristics:

1. Transformational leadership
2. Cross-boundary learning (commitment to learning and innovation)
3. Stakeholder linkages
4. Performance measurement

A CSR framework proposed by Castka et al (2004) is underpinned by three major assumptions:
- The CSR framework should be integrated into business systems, objectives, targets and performance measures
- The governance system is an integral part of business hence CSR system
- Central to the CSR framework is the transformation of stakeholders’ needs and expectation into business strategy, where the organisation has to balance the need for CSR from their key stakeholders with entrepreneurship.

**Source:** Castka et al. (2004)

**Figure 2.3: Corporate Social Responsibility Framework by Castka et al.**

The concept of corporate social responsibility has grown over the years to encompass a more complex, multi dimensional and global set of issues, with strategic implications for both business leaders and policy makers. The key influencing factors that have led to the transformation of corporate social responsibility include:
• Political transformation, market liberalisation, privatisation, and technical innovation, which increased global reach and influence of the private sector.

• Calls for increased corporate responsibility by more sophisticated and vociferous society organisations and activists.

• The increased financial muscle and activism of institutional investors, calling for better corporate governance and greater accountability, transparency and integrity.

• The greater awareness by governments and companies of the downside effects of globalisation, particularly the risks and costs of high levels of income inequality and environmental degradation.

• Demographic trends and technological advances.

Among other aims, the paper illustrates some multi-stakeholder models that are emerging to mobilise the private sector to engage in community and international development efforts, aimed at tackling intractable social, economic and environmental challenges that neither government nor business can solve acting alone.

The business leaders face the following challenges that are related to sustainability today:

• Restoring trust and credibility – calling for greater accountability, transparency and integrity.

• Managing new, and often unfamiliar, risks.

• Responding to rising stakeholder expectations and complex societal needs.

• Remaining profitable and competitive.
3. RESEARCH METHODOLOGY

3.1. Introduction and overview

The primary concern that this research paper wants to address is the level of impact on sustainability issues by telecommunications companies in South Africa, which likely to be below the required threshold for South Africa to progress and prosper as a society.

The key question that needs to be answered is:

*How can telecommunication companies improve the level of impact of their sustainability initiatives to yield ‘above threshold’ positive impact on social, economic and environmental challenges facing South Africa, while creating wealth for their shareholders?*

The Research Framework, this chapter, provides the plan that I developed and followed in order to arrive at the answer to my key research question. It explains the ontological and epistemological philosophies that guided the research process, as well as the systems thinking methodologies that were employed.

3.2. The nature and purpose of management research

Management research is concerned about understanding the what; why; and how of the dynamic interactions that managers have to manage as they go about with their business of producing specific outputs (e.g. goods and services) for their customers.

*What is happening?*

Management always has a ‘concern’ that needs to be addressed in order to realise a desirable output within a specific environment (i.e. situation and context). This concern is often referred to in management literature as ‘concern behaviour over time’ (CBOT). The CBOT is what defines succinctly the practical management problem that could form a basis for management research.
The research framework developed and presented in this chapter should help me crystallise my concern behaviour over time – the practical management problem that needs attention.

**Why is it happening?**

It is necessary to understand the casual mechanisms and relevant interactions that manifest in the observable phenomenon that management finds undesirable. Knowing why the concern (CBOT) is happening contributes significantly towards identify the right question to be asked and answered in order to arrive at a plausible answer.

In systems thinking, which forms a key thread of this research paper, the causal mechanisms and relationships that explain why a concern is happening are expressed by interaction conceptual variables. This is depicted using a concern causal loop diagram (CCLD). The research framework is clear on what needs to be done to arrive at a CCLD that explains why the primary concern of this research paper happens.

**How can necessary change be made?**

Management practice is action oriented. Understanding what and why is a good start, but ultimately we seek to know how we can intervene to realise a desired outcome. The intervention is represented by an answer causal loop diagram (ACLD), which the research framework leads to as the final output.
3.3. Philosophical foundations of management research

3.3.1. Ontology

Ontology is philosophical discipline that helps us answer the question - What exists? Graham Durant-Law cites Heron & Reason (1997) as referring to ontology as “the philosophy of the world view of reality (Durant-Law, 2005). The world view is often called weltanschauung in systems thinking. Note that systems thinking approach is the foundation for analysis and synthesis in this research paper.

The academic requirement for this dissertation paper prescribed critical realism (CR) as the ontology to be adopted. This is the weltanschauung from which my observations and arguments for a proposed answer to the research question will be anchored.

Critical realism is a philosophy of social science that “celebrates the existence of reality independent of human consciousness, ascribes causal powers to human reasons and social structures, rejects relativism in social and scientific discourses and re-orientates the social sciences towards its emancipator goals’ (Wia-chung Yeung, 1997). It breaks down the view of the world into three distinct parts, namely Real; Actual; and Empirical worlds. The workings of the Real world through causal mechanisms are only observable in the Actual world (where events have been observed by others) and the Empirical world (where events have been observed by self). A mechanism is just something that makes something else happens (Bhaskar, 2005).

The diagram below depicts the representation of critical realism – the three worlds, as interpreted by Mingers. My own interpretation of critical realism, especially in the context of this dissertation paper, is presented later in this chapter.
3.3.2. **Epistemology**

Epistemology is a philosophical discipline that helps us answer the question – How do I know? It is the philosophy of knowledge and justification, according to R. Audi (Durant-Law, 2005).

The academic requirement for this dissertation paper prescribed grounded theory (GT) as a research method to be used to gather knowledge about the world. The relationship or overlap between ontology and epistemology can be summarised as follows – ontology is the theory of the nature of the world and epistemology is the theory about knowledge of the world (Durant-Law, 2005).

Grounded Theory as a qualitative research method - it is an approach wherein the theory emerges from the process of systematically collecting data; analysing it; and hypothesising about an observed phenomenon.

The method described by Glaser and Strauss (1967) is built upon two key concepts: “constant comparison,” in which data are collected and analyzed simultaneously, and
“theoretical sampling,” in which decisions about which data should be collected next are determined by the theory that is being constructed.

Grounded theory should be used in a way that is logically consistent with key assumptions about social reality and how that reality is “known”. It is less appropriate, for example, to use grounded theory when you seek to make knowledge claims about an objective reality, and more appropriate to do so when you want to make knowledge claims about how individuals interpret reality.

3.3.3. Systems thinking and practice

Tom Ryan notes that in a social context, actions and consequences depend on the interactions between the stakeholders and other objects in the situation. For any successful action intervention it is important that the ideas are appropriate for the situation and that the stakeholders in that situation perceive this to be so (Ryan, 2008b). Systems thinking or approach helps make this possible.

Systems thinking as a concept:

- Is concerned about behaviours, as variables over time. The properties and behaviours of a system are emergent. They are products of interactions between the parts of the system.
- Has a multiple perspectives world view. In recognition that single perspectives are restricted, systems approach sweeps in multiple perspectives into inquiry in order to develop a better understanding of the whole. The multiple perspectives could be categorised as socio-cultural; socio-political; and technical-theoretical perspectives. Attempting to view the world through the eyes of another stakeholder signifies the birth of a systems thinker.
- Acknowledges that every system is made up of subsystems and is part of a larger system. This is known as recursion. Systems thinking views the world on three levels:
The system that produces the behaviour of interest, referred to as **R1**. In the case of this research, R1 is a South African telecommunications company.

- The larger system (suprasystem) that R1 is part of. This is referred to as **R0**, which in this research is the country South Africa. This is an ecological system, which is part of planet Earth.
- The subsystems that make up the system R1. This is referred to as **R2**. In the case of this research, R2 of interest is the business strategy formulation function.

- **Believes in communication** – the transfer of information between the parts that make up the three levels of recursion.
- **Regulation** – the process by which a system maintains its identity and integrity. This involves decision taking and action in light of the current performance of the system and its purpose.
- **Boundary judgements** – drawing boundaries around the system of interest. The determination of what is included and what is excluded is crucial for defining what improvement is and what management interventions can be considered. Boundary judgments often have ethical implications because they are primarily normative.
- **Process thinking** – appreciates that the current state of a system is an emergent product of a historic process. Life is lived forward and understood backward (Ryan, 2008b).
- **Relationships** – the essential behaviours of a system are the product of the interactions between the parts rather than the sum of the individual behaviours.

A system may be open or closed. A closed system does not require the external environment to produce its behaviour of interest, whereas an open one does. The part of the environment over which an open system has influence is called a transactional environment. The contextual environment is part of the environment has no influence.

The key point of departure from a systems thinking point of view is that business organisations, including telecommunications companies, are social systems. That is, both
parts and the whole are purposeful. For example, the entire organisation has a specific purpose (usually articulated in terms of vision and mission) and so do the people that make up the organisation. They exist in an ecological system, called planet Earth.

Ryan states that the function of management is not to manage just the immediate system that it is responsible for, but to manage the interactions between and across subsystems and suprasystem (Ryan, 2008b). They need to engage in both analysis and synthesis thinking, which is part of systems thinking.

Management is about making and managing decisions under complex social situations for a clearly understood expected outcome. Systems thinking provide a guiding foundation for this function.

*The Systems Landscape*

It is important to first note that I am using systems thinking from a management practice point of view. That is, the primary focus is to apply systems ideas to managerial problem situations and use them to tackle real-world problems. I will introduce, below, systems methodologies using Jackson and Keys (1984) System of Systems Methodologies (SOSM) and then elaborate of the systems approaches that I will use during the research process for this paper.

SOSM is best introduced by using an ‘ideal type’ grid of problem contexts that one needs to consider when deciding on the most appropriate systems methodology to employ (Jackson, 2003). This grid is presented below.
The vertical axis represents the complexity of a system of concern, where on one extreme a system is conceptualised as relatively simple versus the other that is extremely complex. Simple systems have few subsystems involved in a small number of structured interactions. On the other hand, complex systems have a large number of subsystems that are involved in many loosely structured interactions.

The horizontal axis represents potential relationships between those concerned with the problem context – the stakeholders. Participants in unitary relationships have similar values, beliefs, and interests – sharing a common purpose. Pluralists share the same interests, but have different values and beliefs – resulting in debates; disagreements and even conflicts. Coercive relationships have few interests in common, with decisions ken on the basis of power and coercion to ensure adherence to demands.

SOSM does not suggest that real-world problems fit neatly into the boxes defined in the grid, but provides logical extremes that can be used to construct abstract models of reality.

There are number of systems approaches, which can be characterised as one of the following four types (Jackson, 2003):

**Figure 3.2: Representation of System of Systems Methodologies**

Source: Systems Thinking (Jackson, 2003)
• Improving Goal Seeking and Viability – examples are Hard Systems; System Dynamics; Organisational Cybernetics or Viable System Model (VSM); Complexity Theory

• Exploring Purposes – examples are Strategic Assumption Surfacing and Testing (SAST); Interactive Planning; and Soft Systems Methodology (SSM)

• Ensuring Fairness – examples are Critical Systems Heuristics (CSH); and Team Syntegrity

• Promoting Diversity – example is Postmodern Systems Thinking

I do not describe all the systems approaches that I listed above; instead I introduce the diagram below that superimposes on the SOSM grid the systems approaches that I have selected to use in this research. The explanation of the selected systems approach and the justification for their selection is given.

![Diagram of systems methodologies used in this dissertation]

*Figure 3.3: Systems methodologies used in this dissertation*

Source: Adapted from Systems Thinking (Jackson, 2003)
Viable Systems Model (VSM)

VSM was developed by Stafford Beer as a representation of an organisational structure of any viable system (Espejo, 1989). The main constituents of a viable systems model are external environment and five distinct system functions, which are briefly described below.

An organisation or system is considered viable if it is consists of the following properly functioning systems:

- System 1 or S1 – creates some value in a form of a product or service. This is the core reason for existence of that organisation/entity. An entity could have more than one S1 systems
- System 2 or S2 – performs the coordination function across S1 systems to ensure that there is a smooth and optimum sharing and usage of resources
- System or S3 – performs the control function across S1 systems to ensure that execution by S1 is according to plans and policies
- System 4 or S4 – performs the external intelligence gathering and interpretation function for the organisation. Strategy is formulated primarily by the S4 management function.
- System 5 or S5 – determines and shapes policy for the organisation. Primarily concerned with broader social relevance issues.

An illustrative VSM representation for a telecommunications company is presented below.

I selected VSM to be used as a diagnostic tool to locate the systemic function that may need to change in order to address the challenge of sustainability effectively.
Soft systems methodology was developed by Peter Checkland as an approach deal with ‘wicked problems’ (a term coined by Horst Rittel to define complex social problems). SSM is effective in addressing complexity by appreciating multiple perspectives and view points from different stakeholders associated with the issue (Ryan, 2009). It is precisely because of this strength that I selected SSM as an approach (integrated with Grounded Theory), given the multiplicity of views and complexity of the topic of sustainability.

The key process steps involved in the soft systems methodology are shown in the figure below.
3.4. The research framework

As the preceding sub-sections of this chapter have indicated, my research framework is informed by critical realism (ontology); grounded theory (epistemology); and selected systems thinking paradigms. The selected systems thinking methods are soft systems methodology and viable systems model. The research framework presented in the subsequent sub-sections is a creative integration of the above (CR+GT+SOSM) to produce a practical roadmap for discovery and direction setting (in a form of a recommended answer to the research question).

3.4.1. Stage 1 – context setting

The first stage of research process, that I refer to as the Context Setting stage, is generally about scanning the environment from various perspectives to ensure that I have full appreciation of the situation before delving into the main grounded theory process.
As mentioned earlier that this research is carried from a critical realist ontological frame of reference. Therefore, the Stage 1 activities are located in the Empirical World – where I shape my appreciation of the situation based on events that I observe. There is however a significant overlap into the Actual World as I take into consideration the events observed by others – largely through literature review and informal discussions with other people. The figure below provides a representation of Context Setting stage of my research framework.

Figure 3.6: Research Framework Stage 1 - Context Setting

Context Setting covers the following activities under broad themes of Preliminary Literature Review; Detailed Research Design; and Research Localisation:

i. Industry Analysis using Porter’s 5-forces framework

ii. Stakeholder Analysis using tools such as CATWOE

iii. Identification of key issues that impact or influence my concern behaviour, using VSM as a diagnosis tool

iv. Expressing the situation as a Rich Picture – by performing steps 1 and 2 of the Soft Systems Methodology (refer to section 3.3.3 above for details)

v. Producing Root Definitions of the system of concern – by performing stage 3 of SSM (refer to section 3.3.3 above for details)
3.4.2. **Stage 2 – data generation and analysis**

The data generation and analysis stage forms the core of grounded theory process, and as such it is where most of the work is done. With understanding of the problem context, as an outcome of stage 1 – context setting, I will then delve into collecting relevant data from various sources for analysis and synthesis.

The figure below provides a representation Data Generation & Analysis stage of my research framework.

![Research Framework Stage 2 - Data Generation and Analysis](image)

**Figure 3.7: Research Framework Stage 2 - Data Generation and Analysis**

The main interacting and continuous activities during this phase are stakeholder interviews; extant literature review (academic journals; business writings; newspapers; etc.); and identification of social interactions that are likely to produce the phenomenon under study (in this case - the level of impact on sustainability by telecommunications companies in South Africa being less than the expected threshold.

**Data Generation**

Data will be generated by analysing literature and interviews scripts/notes and then producing first level codes (or concepts). This is known as level 1 coding in grounded theory. The process in intensive and involves comparison of identified concepts/codes with new ones that emerge from the collected data (literature; observations; interviews;
I will use qualitative data analysis tool called Atlas ti to assist me capture data and perform the necessary analysis.

3.4.3. **Stage 3 – emergent theory formulation**

The final stage of my research framework, the Emergent Theory Formulation stage, is aimed at producing the answer to the research question using systems thinking approaches. It involves the main activity of developing a hypothesis or theory and verifying it against available data (generated in stage 2) and extant literature. This interlocking process continues until no anomalies to the theory are found in the data.

The figure below provides a representation Emergent Theory Formulation stage of my research framework.

![Figure 3.8: Research Framework Stage 3 - Emergent Theory Formulation](image)

Key analysis and synthesis to be performed at this stage includes data abstraction; identification of core variables; and determination of causal relationship among the variables.

(Moghaddam, 2006) notes that the exercise of choosing core categories is of a critical importance. He continues to cite Strauss and Corbin (1998) as having given the following criteria for choosing a central category:

- It must be central; that is, all other major categories can be related to it.
It must appear frequently in the data. This means that within all or almost all cases, there are indicators pointing to that concept.

The name or phrase used to describe the central category should be sufficiently abstract that it can be used to do research in other substantive areas, leading to the development of a more general theory.

The concept is able to explain variation as well as the main point made by the data; that is, when conditions vary, the explanations still hold, although the way in which a phenomenon is expressed might look somewhat different. One also should be able to explain contradictory or alternative cases in terms of that central idea (p.147).

The figure below shows an integrated research framework representation, which brings the three stages together. Note the overlaps between the empirical/actual/real worlds. This emphasises the grey areas and complexity that exists as the researcher muddles through the data, distinguishing between facts; interpretations; and beliefs – essentially moving up and down the ladder of abstraction.

Figure 3.9: Integrated Research Framework - Grounded Theory and Critical Realism
3.5. Planned research process

Using the research framework developed in the previous section as a basis, and integrating it with soft systems methodology steps, I ended up with a representation of the process that I would follow for this research. It is represented as figure 3.10 below.

![Figure 3.10: Research Process used in the Dissertation](Image)}}
3.6. Conclusion

There are a few common myths regarding what grounded theory is (Suddaby, 2006), against which I briefly evaluate my research framework below.

*Grounded Theory Is Not an Excuse to Ignore the Literature.* The research framework and process dictates extensive literature review across all stages of the research process (i.e. context setting; data generation & analysis; and theory development).

*Grounded Theory Is Not Presentation of Raw Data.* Raw data is used as a basis for analysis and synthesis. Ultimately what gets presented is a hypothesis or theory that is grounded on specific raw data.

*Grounded Theory Is Not Theory Testing, Content Analysis, or Word Counts.* The research process developed for this dissertation does not expect some preconceived theory as input. Research data is generated as part of the research process itself, and the theory emerges from the data through analysis and synthesis.

I do not expect the research process to be as clean as depicted in figure 3.10, but I the planned process will provide the necessary structure and focus to the detailed and messy work of gathering, analysing and synthesising the data.
4. RESEARCH RESULTS

The primary purpose of this chapter is to provide an answer to my research question, providing logic and evidence for arriving at the answer. It follows the research process in terms of how the presentation of results approached.

The research question to be answered in this chapter is:

“How can telecommunication companies improve the level of impact of their sustainability initiatives to yield ‘above threshold’ positive impact on the social, economic and environmental challenges facing South Africa, while creating wealth for their shareholders?”

4.1. Introduction and overview

Alison Ramsden, PricewaterhouseCoopers (PwC) director in risk advisory services, is quoted in the Business Day of 28 September 2009 as saying:

“Companies should start linking the consequences of their social and environmental behaviour to financial consequences. Sustainability should be well integrated into all aspects of corporate strategy, including risk management and opportunity.”

This chapter is organised as follows, in line with the research process outlined in the previous chapter (section 3.5):

- The results of Stage 1 - Context Setting - are captured under subsection 4.1.1 (Sustainability in South Africa - a telecommunications sector perspective)
- The results of Stage 2 – Data Generation & Analysis – are captured under subsection 4.2 (Data generation, analysis, & synthesis)
- The results of Stage 3 – Emergent Theory Development – are captured under subsection 4.3 (The emergent theory)
4.1.1. **Sustainability in South Africa - a telecommunications sector perspective**

“Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them.” – Laurence J. Peter

The results of stage 1 of the research process are fully captures in chapter 1 - Introduction and Overview of this dissertation paper. I have avoided repeating myself and focussed the chapter on stages 2 and 3, which are merely summarised in chapter 1.

4.2. **Data generation, analysis, & synthesis**

4.2.1. **Data Collection**

The relevant data pertaining to the primary concern was gathered from the following sources:

- Academic journals;
- Business publications (e.g. Harvard Business Review; Sloan Management Review; et al)
- Stakeholder interviews (refer to interview schedule in the Appendix);
- Company or organisation specific documents (e.g. Annual Reports; Sustainability Reports)
- South African government documents;
- Telecommunications Regulator (i.e. ICASA); and
- News publications.

*Research Publications (Academic & business oriented)*

The issue of sustainability has been topical globally and across multiple industries over the past few years. It was therefore easy to find credible research publications of the topic. I was pleasantly surprised to find publications that are specific to the information
communication and telecommunications industry, given the limited discussion of the sustainability topic in this industry in South Africa (in comparison to other industries such as mining).

The publications used were obtained from the following sources:

- Global e-Sustainability Initiative
- International Telecommunication Union
- Business for Social Responsibility
- Sloan Management Review (Sustainability Research Series by MIT and BCG)
- Corporate Social Responsibility Initiative by John F. Kennedy School of Government (Harvard University)
- Forum for Corporate Sustainability Management, International Institute for Management Development (IMD)

**Organisation Specific**

An important source of company specific information regarding their approach and initiatives pertaining to sustainability management included annual reports; publicly accessible presentations; and other documents from the following organisations:

- Information Society And Development (ISAD)
- Department of Communications, South Africa
- Sentech
- MTN
- Vodacom
- Telkom
- Nokia Siemens Networks
Stakeholder Interviews

Interviews with the key stakeholders, particularly business and government related entities, were conducted to find out more specific information about their approach to sustainability management and their point of view on the state of the industry with regards to dealing with sustainability issues.

Interviews included executive directors and senior managers of some telecommunications companies (four) operating in South Africa and government entities. A detailed interview schedule is not included because of the anonymity undertaking that I agreed to with my interviewees.

The data was gathered primarily by recording the interview discussion (and later transcribing it for analysis) and taking brief notes, which served as memos.

News Publications

Online business publications such the Business Day; The Economist; and others have covered this topical issue over the past few years. These publications were also used as a primary data source.

4.2.2. Data analysis and conceptualisation

Pandit notes that there are three basic elements of grounded theory, namely concepts; categories; and propositions (Pandit, 1996).

The data analysis and conceptualisation activities in the grounded theory process, which is the research paradigm that I adopted for this dissertation, included identifying substantive codes (level I coding); codes categorisation (level II coding); identification of basic social processes; theoretical sampling and saturation. The results that I obtained by carrying out these activities are presented in subsections below.
4.2.2.1. Substantive coding

Substantive codes are conceptual descriptions of the data that codify the substance of the data and often use the words participants themselves have used. To generate the substantive codes for this project, I read through the documents (research papers; transcribed interviews; etc.) line by line and assigned a code to concepts that I identified as relevant, directly or indirectly, to sustainability or corporate social responsibility.

Each document was entered into a qualitative data analysis (QDA) tool and manually coded accordingly. There were essentially three coding techniques that I used as permitted QDA tool, namely Open Coding; Coding in Vivo; and Coding by List. These techniques are defined as follows:

- **Open Coding** – I created a new code, making up a code definition using my understanding of the meaning of the data. I simply selected the data that represented a specific concept and coded it (giving the selected data a unique concept identifier).

- **Coding in Vivo** – I created a code from the selected text. The code is taken verbatim from the data. This is used if a concept is explicitly pronounced in the text. For example, a paragraph in a document could have a word ‘sustainability management’ that I believe is a concept on its own. The concept text is simply selected and identified as a substantive code.

- **Coding by List** – I selected existing codes from the code list, which would have been created earlier using open coding or coding in vivo. This is used when a concept comes up more than once in the data under analysis.

This exercise generated a pool of conceptual codes – a total of 149 codes. The substantive codes that I generated at this stage of the research process are presented in the Appendix.
4.2.2.2. Codes categorisation

The process of grouping concepts at a higher, more abstract, level is termed categorising. Categories are higher in level and more abstract than the concepts they represent. They are generated through the same analytic process of making comparisons to highlight similarities and differences that is used to produce lower level concepts (Pandit, 1996).

The final categories that emerged from my analysis process are Organisational Leadership; Organisational Performance; Shareholder Expectations; Sustainability Management; Society Wellbeing; and Regulatory Environment.

I will explain in detail how the Organisation Leadership category emerged, as an example. The other categories followed the same pattern, and therefore I believe there is no need to repeat the same process for them as well. However, the concepts that make up all the categories are presented in the Appendix as a network or tree of concepts.

Organisational Leadership is a category name that I gave to a group of related codes (concepts) and super-codes (high abstraction of more than one related concepts). This means that there was data item that I labelled or coded as Organisational Leadership. Data items are directly linked to the codes and super-codes that I grouped under the label Organisational Leadership.

There are four codes/super-codes that I interpreted to collectively mean Organisation Leadership, namely Accountability; Leadership; Collective Intelligence; and Mobilisation for Action. I discuss each of them below to provide justification for classifying them under Organisational Leadership.

**Accountability**

Accountability was coded verbatim (In vivo) as well as using semantic interpretation of what the sustainability report of a telecommunications company was saying. That...
is, the word Accountability was used somewhere in the sustainability report (for In Vivo coding). There was also a statement saying “Appointing a group sustainability manager who reports to the risk and compliance committee...”, which I interpreted as some form of Accountability (Open Coding). Similar instances other company’s sustainability reports were encountered and coded as per above.

**Collective Intelligence**

Collective Intelligence is a super-code that I created to pull together three concepts that emerged from the data, namely Cross-sector influence; Government support; and Industry collaboration. The working definition of ‘collective intelligence’ that I used for this research is – “common wisdom and purpose that emerges from rigorous and collaborative engagement among a group of people or entities with different individual interests”.

**Cross-sector Influence** speaks to the role that ICT (including Telecommunications sector) could have in assisting and/or working with other industries to tackle sustainability issues. The example of data elements that I coded as Cross-sector influence is from two different GeSI documents: “We are also exploring how ICT companies can effectively influence social and environmental issues associated with mining” and “GeSI is committed to continue to work across the industry as a force for change”.

**Government Support** identifies the state as an important stakeholder that the Telecommunications sector (and other sectors) need to engage with skilfully. Examples of data elements that I coded as a Government Support concept are: “The ICT sector can’t act in isolation if it is to seize its opportunity to tackle climate change. It will need the help of governments and other industries” and “Governments need to do more to create a fiscal and regulatory environment that will encourage faster and more widespread adoption of ICT.”

**Industry Collaboration** is a concept of looking for solutions and working across sector, collaboratively, to drive solutions of common interest such as sustainability.
An example of a data element that I coded as Industry Collaboration concept is:
“[Telco] also engages in transmission infrastructure sharing, notably in South Africa where we have partnered with other telecommunications operators to roll out around 5 000 km of fibre-optic cable.”

The three concepts discussed and illustrated above (Cross-sector Influence; Government Support; and Industry Collaboration) together constitute what I refer to as Collective Intelligence, which I believe is a necessary organisational leadership element if sustainability is to be tackled successfully.

Leadership

Leadership emerged a number of times in my research, both from literature (academic; business; and company specific) and during one-on-one interviews with stakeholders.

Some data elements from literature that I coded as Leadership are:

“ICT sector must demonstrate leadership on climate change and governments must provide the optimum regulatory context.” Note that the same data was also coded for the Regulatory Environment category.

“A radical approach is required that incorporates different ways of thinking, living, working, playing, doing business and developing solutions” This is significant change, and major change requires strong Leadership – hence the coding.

One of the stakeholders that I interview stated explicitly that the responsibility for ensuring that the sustainability agenda is implemented effectively in company must be assumed by the CEO. This again underscores the importance of leadership.

Mobilisation for Action

Mobilisation for Action is a super-code that I coined to pull together three concepts that are described below. Success in mobilising the organisation to act cohesively and
with determination to maximise positive impact in sustainability is a key Organisational Leadership trait.

Urgency for action – Data sources for this code include the following: “Chief Economist Lord Stern, author of the Stern Review, makes it clear that to ignore rising carbon emissions that will result in dangerous climate change now will damage economic growth in the future”; “The review predicts that failure to act today and in the future could cause possibly irreversible economic and social disruption on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century”; and “Action is no longer an option; it has become an urgent necessity”.

Sustainability awareness – Examples of data elements that I coded as Sustainability Awareness are “Educating and training staff in sustainability matters and raising their awareness of sustainable development” and “Roll out education and information programme on sustainability”.

Commitment – Examples of sources for this code are: “Committing to achieving annual targets for sustainability improvement”; “our commitment to sustainable development in the communities in which we operate”; and “demonstrating our commitment to sustainable development as a business imperative”.

The overall network of codes and super-codes that make up the Organisational Leadership category is shown in the diagram below, as drawn using Altas ti - the quantitative data analysis tool that I sued for this research project.
Figure 4.1: Category Tree for Organisational Leadership
4.2.2.3. Cause and effect relationships

The grounded theory process proceeds from categorisation to integrating emerging categories to build a theoretical framework (Pandit, 1996). I started this process of integration by developing an interrelationship diagraph (ID) and postulating on the social relations or processes between the abstract concepts (categories). The interrelationship diagraph allows one to systemically identify, analyse, and classify the cause and effect relationships that exist among all critical issues so that they drivers or outcomes can become the heart of an effective solution (Brassard & Ritter, 1994). This is an important step towards developing a hypothesis or theory regarding the causes of the primary concern – expressed as a concern causal loop diagram (CCLD). The diagram below presents the interrelationship diagraph that I came up with, and the explanatory writing follows below.

Figure 4.2: Interrelationship Diagraph produced using Core Categories
The ‘IN’ and ‘OUT’ count shown in each category box indicates the number of incoming and outgoing arrows, respectively, to and from that particular category. Key drivers would have the most number of outgoing arrows and the key outcomes with greatest number of incoming arrows.

The resultant interrelationship diagraph suggests that the key drivers are Regulatory Environment and Shareholder Expectations and key outcomes as Society Wellbeing and Organisational Performance. The core variables that directly impact on the key outcomes, which organisations have control over are Organisational Leadership and Sustainability Management.

After finalising the main categories and determining the cause-and-effect relationships among them, I was ready to transition to the next stage of the research process – theory development. The results of the theory development stage are captured in the next section (4.3).

4.3. The emergent theory

4.3.1. Explanatory theory of current situation

The current concern situation where the level of impact on sustainability issues by telecommunications companies in South Africa is below the required threshold is a complex phenomenon that is caused by a number on interacting variables. The research process surfaced six key variables that have influence on the concern variable.

The process of developing a theory using systems thinking approach involves drawing a concern causal loop diagram (CCLD), which depicts in causal relationships among the key variables. The relationship diagram that explains the current situation is presented below, and the theory write-up follows immediately.
Wealth creation loop is currently working very well as telecommunication companies have been generating shareholder value (perhaps above average) over the past decade. It is probably the strongest or most responsive loop. It may be doing so well that sustainability management is seen as a ‘distraction’. A senior executive of one of the telecommunications company mentioned during our interview that the Exco team looks at him with glazed eyes if the sustainability question is raised when there are ‘pressing’ business issues that they need to attend to.
Corporate citizenship (paying of taxes; meeting license condition such as contribution towards Universal Accessibility Fund; etc) gets ‘mixed up’ with sustainability. UAASA; Sentech; and other relevant state entities are currently not making great progress towards universal access goals and reducing the digital divide. There seems to be capacity issues, and yet there is no collaboration with the private sector to unlock the challenges.
Sustainability Management is still weak, notwithstanding the efforts to raise the profile of this function in almost all major telecommunications companies. It is generally seen as an important function, but not core of the business. It may be seen as a matter for public relations or stakeholder management; branding; moral responsibility (“doing good”), but not as one of the reasons for the business to exist. Yet this is the function that is expected to have the most and immediate impact in sustainability.
The Concern Causal Loop Diagram representing all interacting variables that limit the impact of telecommunications companies on sustainability is presented below, consisting of the causal loops discussed above and others.

Figure 4.6: Concern Causal Loop Diagram (CCLD)
4.3.2. Management action framework (the answer)

I have structured the answer to the research questions into two broad categories that management could use to think through their approach for improving the level of impact that their sustainability management agenda has. The management action framework is illustrated by figure 4.7 below.

![Figure 4.7: Sustainability Impact Pyramid](image)

**Rules of the Game**

The sustainability related initiatives that I classify as part of the ‘rules of the game’ are those that all telecommunications companies (including other sectors) in South Africa have to perform well in order to remain viable in the South African environment. Some
are regulatory or legislative requirements (e.g. BBBEE; ICASA regulations), while others are just the tenets of sound business management (e.g. enterprise risk management).

There is no excuse for mature telecommunications companies not to excel in this part of the solution. It must be noted though that most telecommunications companies in South Africa are still in the process of getting the ‘rules of the game’ implemented properly and effective in maximising impact on sustainability issues. The pace is slow, and the results of the research suggest that organisational leadership – driven by corporate governance that is attuned to societal needs – is the answer to driving this process with the urgency it deserves.

*High Impact CSR*

High impact CSR assumes that the house is in order as far as the ‘rules of the game’ are concerned. Telecommunications companies that look to drive high impact CSR would be visioning beyond compliance, but looking for both revolutionary impact on societal challenges and future value potentials for the company.

The answer in this area of engagement is again organisational leadership that is bold, visionary, and transformational.

Required intervening variables as incorporated into the causal loop diagram to produce and answer causal loop diagram (see figure 4.8) are:

i. Normative Governance as a measure to sharpen Organisational Leadership focus on Sustainability Management

ii. Expedite the transformation of the current form of Sustainability Management towards Integrated Sustainability Management

iii. Collaborative and Embedded Innovation to drive strategic and high impact CSR
Systems Thinking Based Approach Towards Improving Sustainability Impact by the South African Telecommunications Industry

Figure 4.8: Answer Causal Loop Diagram (ACLD)
5. CONCLUSIONS AND RECOMMENDATIONS

Management practice as a discipline is a function of sense making; decision making; and action taking (Ryan, 2008b). The research process that I undertook for this dissertation addresses the ‘sense making’ aspect with respect to the level of sustainability impact in the telecommunications sector. In concluding and making recommendations in this chapter, I will turn my attention to decision making and action taking as a possible roadmap for telecommunications companies in South Africa.

This chapter addresses the ‘so what’ question under Research Implications and Consequences subsection, and also evaluated the trustworthiness of the research findings.

5.1. Research implications and consequences

If we assume that it is indeed correct that it is the lack of direct connection between broad societal issues and organisational performance that leads to a primarily compliance centric approach to sustainability management, and the proposed Answer is also correct, what are the implications and consequences for the Concern (or Purpose)?

The most practical way to answer this question is by discussing the next two functions of management practice, namely decision making and action taking, on the basis that my explanatory theory for the concern phenomenon and my proposed answer theory are correct.

5.1.1. Decision making

My proposed answer suggests three interventions, namely normative governance; collaborative & embedded innovation; and integrated sustainability management. Of these three, I consider integrated sustainability management to be part of ‘rules of the game’ today. The other two interventions are intended to move the organisation to the realm of high impact CSR and potentially strategic advantage, and as such do require some sort of futuristic inquiry. I recommend scenario planning as a futuristic inquiry tool.
to aid with decision making on how to make the necessary interventions. Possible scenarios that could be explored are discussed below.

_Scenario Planning_

I identified the level of sustainability in South Africa (related to the core concern) and the regulatory environment in telecommunications sector as key uncertainty variables that have a potential for high impact on telecommunications companies (in terms change of business model; level of organisational performance; etc.). I used the two uncertainty variables to identify four possible scenarios that are dependent on eventual outcomes of these two variables. The uncertainty matrix is presented in figure 5.1.

<table>
<thead>
<tr>
<th>Regulatory Environment</th>
<th>Conducive to superior organisational performance</th>
<th>Limiting to organisational performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustainability in South Africa</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improves</td>
<td>Scenario 1</td>
<td>Scenario 2</td>
</tr>
<tr>
<td>Deteriorates</td>
<td>Scenario 3</td>
<td>Scenario 4</td>
</tr>
</tbody>
</table>

_Figure 5.1: Possible Future Scenario Matrix for Telecommunications Sector_

The scenarios are described below using the following guiding questions: What plausible events might lead to this scenario, given the explanatory theory of the research concern? What is the likely general (not company specific) impact on the telecommunications companies in South Africa?

Specific actions that companies might take under each scenario are not given, instead a general practical approach is provided under section 5.1.2 (Action Taking).
Scenario 1

The general condition for scenario 1 is that the level of sustainability in South Africa improves (above required threshold) and the regulatory environment is conducive to superior company performance (as compared to current situation).

This scenario would be possible if telecommunications companies were to achieve the following:

- successfully integrate their sustainability management efforts with their core business agenda;
- define and implement their sustainability initiatives not from a compliance perspective, but with impact maximisation (given available resources) as a goal;
- improve their responsiveness to societal issues;
- innovate collaboratively with external stakeholders – particularly the disenfranchised; and
- engage government and regulators proactively to partner on addressing sustainability challenges.

Scenario 1 would present a number of opportunities for growth and wealth creation for investors, while improving the quality of life for the majority of South Africans.

Scenario 2

Scenario 2 takes shape when the level of sustainability in South Africa improves (above required threshold), while the regulatory environment deteriorates and becomes limiting to company performance (as compared to current situation).

This scenario would be possible if telecommunications companies were to defer the responsibility of tackling sustainability challenges facing South Africa to government while they merely comply with prevailing regulations, and the government rises up to the challenge. However, government’s approach is largely driven by developing and
implementing sustainability friendly laws and regulations that turn out to be restrictive to business innovation and entrepreneurship.

The results of this scenario would be an improved quality of life for the majority of South Africans, while growth and wealth creation levels that the telecommunications industry has experienced over the past ten years shrink.

**Scenario 3**

Scenario 3 materialises when the level of sustainability in South Africa deteriorates while the regulatory environment becomes conducive to superior company performance (as compared to current situation).

In this scenario, government places full trust in the ability of business to address societal challenges such as job creation; poverty alleviation; etc and creates conditions for business to thrive through favourable regulatory conditions. However, the telecommunications sector fails to tackle sustainability as part of its core business agenda and merely complies with prevailing laws and regulations.

The investors and shareholders become richer, while the quality of life for the majority deteriorates further. Social instability worsens.

**Scenario 4**

The condition of this scenario 2 is such that the level of sustainability in South Africa deteriorates further, and the regulatory environment also deteriorates and becomes limiting to company performance (as compared to current situation).

Closer to scenario 2 circumstances, this would be possible if telecommunications companies were to defer the responsibility of tackling sustainability challenges facing South Africa to government while they merely comply with prevailing regulations, and the government takes on the challenge unsuccessfully. Government’s approach would be
largely driven by developing and implementing sustainability friendly laws and regulations that turn out to be restrictive to business innovation and entrepreneurship.

The results of this scenario would be bleak with poor quality of life for the majority of South Africans, while growth and wealth creation levels that the telecommunications industry has experienced over the past ten years also shrinks.

I would recommend that telecommunications companies in South Africa consider fully developing the above scenarios, choose one that is believed to be most probable and use it as a basis for planning actions to take.

5.1.2. Action taking

Taking action based on the outcomes of this research would require change within the telecommunications companies. I expect the extent of change required to be substantial for most companies given the current position of the entities that I engaged with. Therefore change management would be critical.

Let us assume that telecommunications companies in South Africa adopt scenario 2 (i.e. government is ultimately responsible for sustainability, but companies have to be good corporate citizens while maximising shareholder value) as a basis for their planning and action taking. If scenario 2 is adopted, then implementing integrated sustainability management would be prioritised over normative governance changes and collaborative & embedded innovation initiatives.

What are the change management considerations if we assume an implementation of an integrated sustainability management change initiative?

There are two archetypes or theories of change that would have to be considered and decided upon first. The two corporate change archetypes are referred to as Theory E and
Theory O. Theory E is change based on economic value, whereas Theory O is based on organisational capability (Beer & Nohria, 2000).

Implications for adopting Theory E versus Theory O

Let us explore implications for the companies that adopt one versus the other on goals; leadership; focus; and critical success factors.

Theory E

According to Beer and Nohria, Theory E approach emphasises shareholder value as the only legitimate measure of corporate success. Therefore, the primary goal for this approach is to maximise shareholder value. The leadership team would be required to manage change from the top to bottom. Key focus for the change initiative would be on organisational structures and systems. A compelling business case for change (in financial terms) is a critical success factor.

Theory O

Theory O approach is geared toward shaping employee behaviours, attitudes, and commitment. The primary goal needs to be articulated around ‘developing organisational capabilities’. The leadership team would have to encourage participation from the bottom up (rather than the top down approach). Key focus is on building a particular culture – perhaps one that embraces sustainability and societal wellbeing. A critical success factor lies in articulating a plausible organisational and personal growth path.

I do not believe that adopting one of the two approaches exclusively would be effective for a change initiative required for sustainability in the telecommunications sector. The research process I undertook surfaced a strong need for a compelling business case to be put on the table in order to mobilise commitment and action from operations managers. However, the definition of sustainability goes beyond the financial numbers of the company. It encompasses social, environmental, and broader economic challenges. A
practical approach would be to combine the two theories. However, this is not easy. The inherent tensions between the two theories would have to be resolved (Beer & Nohria, 2000).

Some suggestions for combining the two theories are, taken and adopted from Beer and Nohria’s research:

- **Explicitly embrace the tension** between the goals of the two theories. For instance, the CEO could state in his or her vision that “creating value for shareholders is an important goal for this sustainability initiative, but building organisational capability through integrated sustainability management that would position the company competitively in the expected reality of the future environment is the telling measure of success”.

- **Set direction from the top and engage people below**. The end game must be stated unequivocally by the leadership team, and allow flexibility for employees to shape, implement, and celebrate small wins towards the stated vision.

- **Focus simultaneously on hard and soft sides of the organisation**. This could be made easier by ensuring that team leading the change initiative comprise of both natural traits towards both E and O types – and allow space for engagement and disagreement.

The implementation itself must start with the leadership team “establishing a great enough sense of urgency” to get the required levels of motivation among employees for change to even get underway (Kotter, 2007). This requires leadership.

Kotter quoted a CEO of a large European company in his article on Harvard Business Review articulating the purpose of first step in a transformation journey as “to make the status quo seem more dangerous than launching into the unknown”.

*Small Wins*

I take it to be common understanding that sustainability issues facing South Africa across social, economic, and environmental domains are huge, possibly overwhelming, and cannot be tacked by one sector of society alone. From a business perspective, efforts to
address some of these challenges would be in conflict with the defined core reason for existence of business, which is to create wealth for its shareholders.

According to the Karl Weick, a psychologist, people cannot solve problems that are overwhelming. He says that heightened arousal interferes with problem diagnosis and action (Weick, 1984). Wieck suggest that we redefine the scale of the wicked problem into manageable opportunities that can produce visible results relatively quickly. This is known as a small wins strategy. A small win is a concrete, complete, implemented outcome of moderate importance (Weick, 1984). A series of small wins, which are less daunting individually, culminate into a powerful of change. For this reason, the strategic intent or vision of the future scenario must be clear to the leadership team that defines and implements those small wins. Each small win must signal the organisation’s strategic intent.

As mentioned in the preceding section, the challenge of maximising impact on sustainability issues by telecommunications companies would require significant change in the way they currently think about their role on the broader sustainability question in South Africa and how they operate their businesses. A small wins strategy could tame the seemingly insurmountable challenge into manageable tasks that could be celebrated and build momentum going forward.

5.2. Research evaluation

The basic issue in relation to trustworthiness is simple: How can an inquirer persuade his or her audiences (including self) that the findings of an inquiry are worth paying attention to, worth taking account of (Siegle)?

Trustworthiness is one of several terms used to account for the "credibility" of qualitative research (Ryan, 2008a).
Techniques for improving the trustworthiness of the qualitative research output include the following:

i. Searching for negative evidence;

ii. Linking data to conclusions and theory (e.g. using quotes from interviews and formal documents such as annual reports); and

iii. Creating audit trails or referential adequacy (e.g. using QDA tool to capture research data; codes; memos). Recording of interviews augments referential adequacy.

I have used extensively the last two of these techniques, with the first one (searching for negative evidence) only performed to a limited extent.

5.2.1. Credibility

I started the research with some bias that is worth noting. My relatively subjective hypothesis was that the level of impact on sustainability by telecommunications companies was not adequate. This predisposition could have led me to only see data that confirms the notion and ignore data that points to the contrary. I have attempted to adequately represent multiple realities that exist in the telecommunications industry with respect to its impact on sustainability.

Credibility depends less on sample size than on the richness of the information gathered and on the analytical abilities of the researcher. It can be enhanced through triangulation of data. Patton identifies four types of triangulation:

1. methods triangulation;
2. data triangulation;
3. triangulation through multiple analysts; and
4. theory triangulation.

I relied largely on data sources and methods triangulation to ensure credibility. I used multiple sources of data such as formal annual and sustainability reports (which can be reasonably trusted given the stock exchange listings requirements and the Companies Act
that the companies researched have to comply with); one-on-one interviews with key stakeholders in each company to verify publicly available data and obtain further relevant detail; and respected journal publications. I must point out that subjective sources such as individual comments on newspapers were also incorporated, but also triangulated against other collected data and my own interpretations thereof.

Other techniques for addressing credibility include making segments of the raw data available for others to analyse. For example,
- use of memos to reflect on the data, its meaning, and implications for the analysis
- working interactively with a large volume of codes, using data capturing tools

The above was done extensively using the qualitative data analysis tool (Atlas ti). All the gathered data; generated codes and memos; networks of categories; and so on are available as an electronic Atlas ti database. I have included an extract of the substantive codes from Atlas ti in the Appendix.

5.2.2. Dependability

A measure which might enhance the dependability of qualitative research is the use of an "inquiry audit," in which reviewers examine both the process and the product of the research for consistency.

I provided a detailed logical build up of one of the main categories that emerged from the analysis of the data – Organisational Leadership – in the results chapter. I showed the substantive codes that I abstracted to high sub-categories, with rationale, to ultimately arrive at organisational leadership as a core variable.

This can be further audited and re-analysed by going back to the Atlas ti database.
5.2.3. Confirmability

Confirmability reflects the degree to which the researcher can demonstrate the neutrality of the research interpretations, through a "confirmability audit." - providing an audit trail consisting of:

1. raw data;
2. analysis notes;
3. reconstruction and synthesis products;
4. process notes;
5. personal notes; and
6. preliminary developmental information- ie show how you arrive at your claims in detail.

Good research can be considered “objective” in the sense that it has been opened up to criticism, and the reasons and evidence offered withstand serious scrutiny.

5.2.4. Transferability

In the naturalistic paradigm of research the transferability of a working hypothesis to other situations depends on the degree of similarity between the original situation and the situation to which it is transferred. The researcher cannot specify the transferability of findings; he or she can only provide sufficient information that can then be used by the reader to determine whether the findings are applicable to the new situation ie they must qualify their claims about transferability (Siegle).

Sustainability is a global challenge, and it is relevant to all sectors of society and all business industries. While my research was conducted primarily with telecommunications companies’ data, I believe that the concepts that emerged are abstract enough for transferability – with caution. Some industries are far ahead in terms of the maturity of their approach to sustainability. For instance, the mining and construction sectors in South Africa demonstrate more maturity than the
telecommunications sector. This may be due to the level of regulation in these industries and the intensity of involvement of labour unions.

The telecommunications industry and ICT in general has a special characteristic that may not be easily transferrable to other sectors. It has applicability and impact across a number of other business sectors, if not all. For instance, the notion of innovation and cross-sector collaboration may not be as relevant to mining industry as it is in telecommunications.

5.3. General conclusion

Effective sustainability management requires strong and transformational leadership, because it requires a pronounced mind shift and challenges traditional capitalist philosophies of pure wealth creation.

Emerging markets should lead the transformational thinking and sustainable management practice given the socio-economic realities of these markets. Collaborative leadership will determine who the leading organisations, and nations, are going to be in the next few decades.

The pervasiveness of ICT across all sectors of the economy positions this industry, and particularly telecommunications sector given the reach and growing mobile telephony and data application services, as leading player in effecting lasting and meaningful impact on sustainability issues in South Africa.
5.4. Recommended further research

The answer theory that comes out of this research is untested, yet has considerable implications for telecommunications companies. It therefore provides a rich opportunity for further research, especially designed to meaningfully test the explicit and implicit hypotheses contained in the research answer of this dissertation. The recommended areas for further research are listed on below.

1. The role of the board in emerging economies: balancing the societal and financial mandate of the organisation.
2. Collaborative innovation in telecommunications industry as a CSR imperative: Could it be a source for competitive advantage?
3. The effectiveness of common strategic planning and management tools in integrating sustainability issues. Is there a need for new strategy frameworks and tools?
6. REFERENCES


7. APPENDICES

7.1.1. Industry stakeholder analysis

The table below captures the analysis of the stakeholder in the SA telecommunications industry, from my perspective. The table is organised as follows:

- Column 1 provides a list of stakeholders that I identified – taking into consideration the stakeholders identified by the telecommunication companies in their annual reports; interviews; and other documentation.
- Column 2 indicates my assessment of each stakeholder’s attitude towards sustainability. Codes used are ++(strongly in favour); +(weakly in favour); o (indifferent or undecided); - (weakly opposed); and - - (strongly opposed).
- Column 3 indicates my confidence level about my estimate in Column 2. Codes used are √ (fully confident); ? (reasonably confident – with some missing information or doubts); ?? (informed guess); and ??? (wild guess).
- Column 4 indicates my estimate of the influence of the stakeholder on sustainability agenda that the organisation pursues. Codes used are H (high); M (medium); and L (low).
- Column 5 indicates my confidence level about my estimate in Column 5. Codes used are the same as for Column 3.
- Column 6 provides my thoughts on what telecommunications companies could do to improve stakeholder alignment for maximum sustainability impact.
It is important to determine which of the stakeholders would be deterrents to successfully dealing with the concern behaviour versus possible supporters.

In my assessment, the shareholders and company’s senior management team are likely to be inhibitors to increasing the sustainability impact that telecommunications companies work towards, while government and regulators would be powerful promoters/enablers of such efforts.
7.1.2. Substantive codes

Excerpt of a few substantive codes from the analysis tool:

Code: Access to ICT {6-1}

P 7: GeSI_Activity_Report_2009 - ICT Sustainability through Innovation.pdf - 7:3
[Access to ICT] (5:1796-5:1808) (Super)
Codes: [Access to ICT]
Access to ICT

P12: MTN Sustainability review & policy.doc - 12:32 [in increasing access to qualit..]
(36:36) (Super)
Codes: [Access to ICT]

in increasing access to quality communication services, enhancing universal access for remote customers

P12: MTN Sustainability review & policy.doc - 12:57 [Offering accessible and afford..]
(90:90) (Super)
Codes: [Access to ICT]

· Offering accessible and affordable product

Codes: [Access to ICT] [ICT demand] [ICT growth]

Industry research points to further robust expansion in mobile telephony for the world as a whole in the next five years, particularly in emerging markets, including those of Africa, Asia and the Middle East. Reputable research organisation Information Telecoms & Media forecasts that global mobile phone penetration will expand to almost 75% of the world's population by 2013 from just over 50% at the end of 2007, increasing the number of mobile subscriptions worldwide to 5,32 billion from 3,42 billion at the end of 2007. It is notable that these forecasts were made at a time when the world was beginning to experience a severe economic slowdown.

Codes: [Access to ICT] [quality of life] [socio-economic development]

Ultimately then, through the evidence on hand, we can claim to have assisted in improving the lives of marginalised groups in the countries in which we operate. Further, through our numerous charitable MTN foundations across our footprint MTN will continue to make a difference.
<table>
<thead>
<tr>
<th>Date: 2010/02/15</th>
<th>P12: MTN Sustainability review &amp; policy.doc</th>
<th>Page: 5/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>089</td>
<td>• Taking responsibility for managing the product lifecycle through initiatives such as electronic voucher distribution (EVD), which reduces the environmental impact of discarded paper-based airtime vouchers.</td>
<td>regulatory compliance</td>
</tr>
<tr>
<td>090</td>
<td>• Contributing to various initiatives for social and economic development through local MTN foundations.</td>
<td>Access to ICT, waste management, socio-economic development</td>
</tr>
<tr>
<td>091</td>
<td><strong>Commitments and progress</strong></td>
<td></td>
</tr>
<tr>
<td>094</td>
<td>Sustainable development at MTN depends on achieving a responsible balance between our economic, environmental and social impacts. It is imperative that we promote ethical business practices and robust corporate governance throughout our African and Middle Eastern footprint. We are equally committed to providing a healthy and safe working environment for some 26,000 employees including contractors, celebrating cultural diversity and enhancing opportunities for talented and loyal professionals to develop and excel. As far as possible, operations strive to minimise their environmental impact while maximising their contributions to regional social and economic development.</td>
<td>economic imperative, social, environmental imperative, ethical responsibility, sound corporate governance, management discretion and judgment, people vs planet dilemma, socio-economic development, sustainability management</td>
</tr>
<tr>
<td>095</td>
<td>• Informed by our sustainability best-practice research (conducted by KPMG) and results from the stakeholder engagement process (conducted by Ernst &amp; Young), MTN initiated a process of refining formal reporting and management structures for sustainability during 2008. This group-level sustainability management structure, endorsed by the risk and compliance committee, prescribes:</td>
<td>accountability, commitment, management practice</td>
</tr>
<tr>
<td>096</td>
<td>• Establishing a sustainability project team with representation from risk, safety health and environment (SHE) and corporate affairs.</td>
<td>sustainability management</td>
</tr>
<tr>
<td>097</td>
<td>• Appointing a group sustainability manager who reports to the risk and compliance committee. The manager will oversee the operational aspects of sustainability management throughout the group.</td>
<td>sustainability management</td>
</tr>
<tr>
<td>098</td>
<td>• Replicating the structure of a sustainability committee in each operation; driven by country chief executive and supported by the risk department, with a combination of non-negotiable responsibility (embedded in monthly financial reporting) and local flexibility.</td>
<td>sustainability management</td>
</tr>
<tr>
<td>100</td>
<td>• Investing in sustainability management training for executives and staff.</td>
<td>sustainability management</td>
</tr>
</tbody>
</table>

**Economic Sustainability**  The telecommunications sector contributes significantly to gross domestic product (GDP) in many emerging market countries, with MTN making a specific material impact in Africa and the Middle East. For a review of the social and economic impact of mobile phones, please refer to the case study on the website. In evaluating our economic sustainability performance, it is important to consider the various impacts our activities have on the broader community, including opportunities for education, employment and our role as an engine for broader economic growth within the regions in which we operate. Our subscriber base continued to grow substantially during
7.1.3. Codes categorisation

**Category: Regulatory Environment**

- Regulatory environment
  - Respect for human rights
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
  - Healthcare
  - Child protection
  - Employee wellness
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
  - Healthcare
  - Child protection
  - Employee wellness
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
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  - Child protection
  - Employee wellness
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  - Labour standards
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  - Freedom of expression
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  - Child protection
  - Employee wellness
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
  - Healthcare
  - Child protection
  - Employee wellness
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
  - Healthcare
  - Child protection
  - Employee wellness
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
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  - Government-business partnerships
  - Labour standards
  - Freedom of expression
  - Healthcare
  - Child protection
  - Employee wellness
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
  - Healthcare
  - Child protection
  - Employee wellness
  - Regulated waste disposal
  - Government-business partnerships
  - Labour standards
  - Freedom of expression
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  - Freedom of expression
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  - Child protection
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  - Labour standards
Category: Sustainability Management

- Sustainability management (1-6)
- ICT - sustainability enabler (3-1)
- Sustainability management (2-1)
- Sustainability innovation (3-1)
- Sustainability management framework (5-1)
- Sustainability management systems (3-1)
- Sustainability policy (3-1)
Category: Organisational Performance
Category: Shareholder Expectations

Risk management (6-6)
Superior financial results (0-2)
Brand management (0-9)
Category: Society Well-being

- Labour relations (2-2)
- Level of awareness (2-2)
- Poverty alleviation (2-2)
- Product/service quality (1-2)
- Social vulnerability (1-2)
- Freedom of expression (1-2)
- Health and safety (7-2)
- Working conditions (1-2)
- Cultural diversity and equity (5-2)
- Arts and culture (1-2)
- Society lifestyle (7-2)
- Quality of life (2-2)
- Cultural diversity and equity (5-2)
- Level of awareness (2-2)
- Poverty alleviation (2-2)
- Product/service quality (1-2)
- Social vulnerability (1-2)
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- Social vulnerability (1-2)
- Freedom of expression (1-2)
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- Cultural diversity and equity (5-2)
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- Quality of life (2-2)