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University of Pretoria

Corporate non-financial disclosures - An analysis of corporate sustainability and social responsibility reporting practices of South African firms

Student name: Elaine Peters (Granger)

Student number: 15384731

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Abstract

The world is in a period of a great acceleration, characterised by complex changes in how individuals and businesses interact with the natural world. There is no doubt that in the midst of challenges such as climate change and financial instability, sustainability remains a fundamental aspect of business led growth in South Africa. The recent introduction of the King IV Report emphasises the need for inclusive capitalism to reach a mutually beneficial ideal between society, the environment and business. However, the ability to quantify sustainability performance through integrated reporting remains a challenge as the adoption of reporting guidelines and standards remains largely discretionary. This study aims to determine the current state of sustainability reporting and the ability to compare this performance between reporting entities.

Publicly available integrated reports of 18 companies were studied using structured content analysis. The application of 91 Global Reporting Initiative (GRI) indicators was investigated and measured against an ordinal scale based framework, over a three-year period, to determine the extent of indicator application and the comparability of performance between industry peers.

The results showed large inconsistencies in the application of GRI indicators despite their seemingly wide adoption. Comparability of performance was found to be near impossible. The findings serve to emphasise the need for South African businesses to raise their non-financial reporting capabilities and further align reporting practices, particularly for companies within the same industries.

Keywords

Integrated reporting, sustainability, non-financial reporting, sustainability oriented innovation

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Signed: **Elaine Peters**

Date: **18 January 2017**

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Chapter 1: Introduction to the research problem

1.1 Introduction

This research entitled - *Corporate non-financial disclosures - An analysis of sustainability and social responsibility reporting practices of South African firms* – examines the extent reporting companies are measuring and communicating non-financial performance, through the use of prescribed Global Reporting Initiative (GRI) indicators within integrated reports. The study also aims to determine how this reporting relates to the financial bottom line of the organisation and how sustainability oriented innovation activities are being incorporated for the long-term value creation of the business.

The study focuses on Johannesburg Stock Exchange (JSE) listed companies together with a comparison to Danish companies listed on the Copenhagen Stock Exchange (CSE). The extent of reporting is quantitatively measured using a scoring based framework and the results are used to compare reporting practices of companies within the same industry as well across industries within the sample. Reporting practices, financial performance and long term value creation in the form of sustainability oriented innovation implementation shall be studied interdependently to enrich existing knowledge and research on sustainability reporting practices.

This chapter introduces the research problem and provides a background into the development of integrated reporting with an aim to lay the foundation into understanding the current state of reporting within South African firms. This chapter further introduces the concept of sustainability oriented innovation, which may be the difference that separates the high performers from the mediocre, and essentially serves to represent a paradigm shift in sustainability efforts, and integrated thinking within an ever-changing business environment.

1.2 Definition of problem statement

The assessment of corporate performance has evolved and can no longer be viewed solely as being a reflection of profitability (Elkington, 2004; Savitz & Weber, 2014).
The need for businesses to operate in a transparent and accountable manner has shaped non-financial reporting practices and created a deeper need for the effective communication of the organisation's value proposition to all stakeholders (Skouloudis, Evangelinos, & Kourmousis, 2010). Corporate reporting has come to realise the need for metrics to measure intangible value creation, however, there still exists the problem of disparities in the presentation, elucidation and use of this data (Schweisguth, 2010).

Research has shown that 80% of a company's value lies outside of the financial statement (Arvidsson, 2011). In 1975, the Standard & Poor's (S&P) 500 companies had a market capitalisation value primarily made up of 83% financial and physical assets, this dynamic had reversed dramatically by 2009, with the Standard & Poor (S&P) 500 company's financial and physical assets only making up 19% of the market value (South African Institute of Chartered Accountants, 2015). Intangible resource contributions to the Standard & Poor (S&P) 500, were recorded at 17 per cent in 1975 and have more than quadrupled to 87 per cent in 2015 (Stathis, 2015).

Studies have shown that companies are not adequately communicating non-financial value to stakeholders, partly due to the complexity related to defining sustainability (Boiral & Henri, 2015) as well as quantifying sustainability performance and linking this to financial performance (Arvidsson, 2011). Integrated reports are intended to provide a comprehensive report of the organisations positive and negative impacts to stakeholders, to enable them to determine the ultimate value being created by the organisation (South African Institute of Chartered Accountants, 2015).

Whilst the corporate sector remains a key contributor to environmental and social degradation, directly or indirectly, through air, soil and water pollution, exploitation of communities and resource depletion; businesses still remain to a large degree self-regulated and maintain that voluntary adherence to standards and disclosure levels is adequate to control the negative impacts of business (Van Zyl, 2013). Whilst mandatory reporting has been adopted by a number of countries around the world, the content of reporting is largely based on voluntary standards and guidelines.

It has become more apparent that short, medium and long-term sustainable growth for organisations has become increasingly more dependent on non-financial information disclosure (Marcia, Maroun, & Callaghan, 2015). Globally, there is an increase in sustainability reporting with the number of reporting instruments that urge or enforce reporting increasing from 180 to 400 in 64 countries worldwide from 2013. Europe dominates the issuance of instruments followed by Latin America and the Asia-Pacific (KPMG, Global Reporting Initiative, United Nations Environment Programme, & Centre for Corporate Governance in Africa, 2016).

International scandals have created an even greater interest around businesses sustainability credentials (Esty & Winston, 2009). The more recent scandal involving Volkswagen in 2015, has further emphasised the implications of transparent, honest, environmental, social and governance reporting. The effects of the revelation that the company used cheat devices to manipulate emissions reports have been far reaching and is estimated at having cost the business approximately US$33 billion, in addition to a total of 230 lawsuits filed against Volkswagen, severe reputational damage, plummeting share prices and damage to important stakeholder relationships (Hardyment, 2015). BP was also criticized for a massive oil spill in the Gulf of Mexico.

These events have further emphasised that a skewed focus on financial performance has consequences and the dishonest portrayal as a responsible business operator is a façade that will be undoubtedly exposed. The world is watching, and businesses can no longer afford to sit back and not demonstrate accountability for the impacts of running their business as usual (Eccles & Serafaim, 2013).

According to Arvidsson (2011), the ability of investors to make important capital decisions is being hampered by inadequate non-financial reporting. Findings from prior research conducted on the quality and content of sustainability reports, indicate trends in the improvement in reporting attributes, albeit with apparent irregularities in the structure and use of indicators to measure non-financial performance (Roca & Searcy, 2012). This clearly is a challenge and is contradictory to the global reporting indicator (GRI) principle of comparability which relies on the need for reporting consistency in order to allow stakeholders to evaluate performance changes over time and support the assessment of this performance against that of other entities (Global Reporting Initiative, 2013).

This study will build on the findings of Boiral and Henri (2015), who conducted research aimed at determining comparability of global reporting indicator (GRI) G4 indicators used to measure sustainability performance of mining companies . The study aims to determine the levels of global reporting indicator (GRI) G4 reporting guideline application as well as provide insight into the ability to compare performance of companies within their respective sectors. The research will seek to address the assumptions that sustainability performance of firms, particularly within the same sectors, is largely comparable especially when companies are employing the same reporting guidelines (Boiral & Henri, 2015).

The overall research question this study aims to answer is *"To what extent are companies incorporating non-financial reporting in their integrated reports and how comparable is this reporting to industry peers".*

This question shall be answered by further assessing the following:

- To what extent are reporting companies measuring non-financial performance through the use of indicators and how comparable is this performance?
- How does non-financial reporting performance correlate with financial performance of an entity?

  To what extent are companies committing to long term value creation through the implementation of sustainability oriented innovations?

1.3 Research Objectives

The main objective of this research is to understand how the use of prescribed GRI indicators aid in the execution and performance of non-financial business aspects. The analysis of reporting indicators is aimed at determining how best performing firms may be identified through the comparability of performance. The study uses structured content analysis to obtain data from publicly accessible annual integrated reports of listed companies. A comparison against selected international entities will also aid in gaining a deeper perspective on the current state of reporting globally and further encourage the need for benchmarking and adaption of reporting practices to global learnings and best practice.

1.4 Potential users of the study

The findings of this study will be relevant to organisations currently reporting and those aiming to start reporting sustainability performance. This study will provide data on the current state of reporting in South Africa, its successes and shortfalls and further identify areas where reporting organisations can improve.

The research will also provide insight into the ability to recognise high performing companies and the factors at play that have contributed to this performance. The study will also provide knowledge on the current application of GRI guidelines within various industries as well as help determine how the use of the guidelines may aid or hamper non-financial reporting practices.

The research aims to add to the current body of knowledge on the subject of integrated reporting and sustainability performance, particularly from the long-term value creation perspective, which may be utilised by business and academia alike. The study will aid regulators and policy makers in decision making and help to provide knowledge to set the direction for long term planning.

The study may also be useful to regulators and governing bodies for the establishment of soft-law as well as to contribute towards the further development of mandatory reporting policies and regulations to enhance the current quality of reporting within South Africa.

1.5 Relevance of the problem to South Africa

The South African economy is one of the largest in Africa with a diversified economy that in recent years has established world class finance, real estate, manufacturing, trade and business services. The Johannesburg Stock Exchange (JSE) is Africa's largest stock market with a total market capitalisation of US$1,007bn in 2013 (Johannesburg Stock Exchange, 2016). South Africa is one of the largest carbon dioxide emitters globally. South Africa is also burdened with the need to address sensitive issues such as poverty, poor education, unemployment, corruption and social inequalities (Van Zyl, 2013).

Despite these challenges the country is among the few emerging economies to embrace sustainability reporting through improved government policies and regulations, as well enforcing mandatory reporting of listed companies. As a result, South Africa has shown a positive growth in sustainability reporting within business with no other country in Africa doing the same (Struwig & Rensburg, 2016).

South African companies have positively embraced voluntary sustainability reporting following the advent of the King Report on Corporate Governance for South Africa reporting requirements in 2010 (Vos & Reddy, 2014) and have been identified as one of the global leaders in pushing the integrated reporting agenda, with a 99% corporate responsibility and integrated reporting rate, up from 77% in 2013 (KPMG Services, 2016).

The King Code emphasises that citizens are the subsidiary sources of capital and thus have a right to current and future information related to the sustainability of the environment in which they live (Institute of Directors Southern Africa, 2009). Society essentially provides business with the permission to run, also termed “the social license to operate” (Esty & Winston, 2009). South Africa has been noted as being one of the emerging economies to focus on social reporting, introducing laws mandating the reporting of “procurement, social and labour plans and employment equity” (KPMG et al., 2016, p. 19).

However, despite admirable progress towards sustainability reporting, companies in South Africa are yet to fully embrace the use of standards and indicators into their reporting. This results in inconsistent reporting and difficulty in determining and comparing performance between companies (Struwig & Rensburg, 2016). Without a true understanding of the gravity of the problem and which companies are doing better than others, there is no pressure on business to improve as knowledge to improve reporting remains limited resulting in slow progress.

The absence of indicators in reporting makes it difficult to determine those companies that are truly practising sustainable business activities and those who are simply portraying themselves as responsible when in fact they are merely using their reports to greenwashing and maintain false legitimacy.

This research will be primarily focused on South African, listed companies, with foreign international companies included in the study for comparison. The South African Johannesburg Stock Exchange (JSE) is ranked among the finest governed exchanges globally and is currently ranked as number one for strength of auditing and reporting standards (World Economic Forum, 2016). The Johannesburg Stock Exchange (JSE) was the first to globally mandate integrated reporting on a "report or explain" basis and promotes triple bottom line reporting of all listed entities. It was thus anticipated that companies identified for the study will provide a rich source of data that can be utilised by any business currently reporting and those outside the Johannesburg Stock Exchange (JSE) seeking to establish reporting capabilities.

1.6 Existing Research

Boiral and Henri (2015) state that the principle of comparability, as a means to identify and recognise high performing environmental, social and governance (ESG) firms, is inadequately addressed in literature. It is fair to assume that companies within the same industry, using the Global Reporting Initiative (GRI) guidelines for their reporting, are likely to produce comparable reports. Consequently, this raises the question of whether South African companies are indeed producing comparable reports.

Research and sustainability literature to date has been predominantly focused on developed economies such as those within Europe and Australia, with less attention being paid to emerging and developing economies such as Brazil, China, India, Russia and South Africa (BRICS) (Bhatia & Tuli, 2014). Where research has been done (De Villiers, Rinaldi, & Unerman, 2014; Marcia et al., 2015) it was primarily focused on the financial value relevance of corporate responsibility reporting (CRR) of South African companies to investors.

Research conducted by De Klerk and De Villiers (2012) was aimed at examining the relationship between corporate responsibility reporting (CRR) and the market value of large South African companies, concluding that corporate responsibility reporting (CRR) is positively associated with the market value of the company, indicating that investors use both non-financial and financial information to value the business (De Klerk & De Villiers, 2012). These studies were primarily aimed at determining the relationship between market rewards and corporate responsibility reporting (CRR) practice.

Haji and Afinowose (2016) examined 'the ceremonial or substantive' nature of integrated reporting following the mandatory requirement to report from the Johannesburg Stock Exchange (JSE). Their results showed an increase in the extent of reporting, however they also found that key aspects of reporting, such as materiality and coverage of the six capitals, were inadequately included in reports. They concluded that integrated reporting was in fact more ceremonial and primarily done to seek legitimacy. The quality of integrated reporting is difficult to compare as an individual company will report based on its key business issues which certainly differ considerably between one company and the next. The use of indicators serves to level the playing field and enables companies to be assessed based on internationally recognised assessment variables.

Recognising those businesses achieving high environmental, social and governance (ESG) performance requires that reporting information is presented precisely and distinctly whilst allowing comparability, thus fulfilling a key Global Reporting Initiative (GRI) reporting principle and allowing the business to benchmark it's performance against its competition (Boiral & Henri, 2015; Hahn & Kühnen, 2013; Sherman & DiGuilio, 2010). Benchmarking reports is beneficial in allowing companies to easily communicate to stakeholders the performance of the organisations operations, as well as enabling self-assessment of their reporting procedures and performance against fellow industry peers encouraging best practice efforts and the inherent need and desire to continuously improve (Skouloudis et al., 2010).

Hahn and Kühnen (2013, p. 7) describe the GRI guidelines as the *"de facto global standard"* being the most widely used and preferred guideline for reporting by companies of all kinds, however, there are immense differences in reporting structure, substance and quality which still exist. The Global Reporting Initiative (GRI) guidelines have been instrumental in enabling non-financial performance quantification as well as creating the opportunity for companies to compare results on an international scale. Despite the credibility of the Global Reporting Initiative (GRI) guidelines, limited research on the application of the standard in sustainability reporting with a link to financial performance exists (Chen, Feldmann, & Tang, 2014). This research will help to add to the existing knowledge on integrated reporting, particularly for emerging economies and countries in Africa who are still working towards better reporting.

1.7 Conclusion

This chapter introduced the research problem and outlined the objectives and motivation for the study. Chapter 2 will provide a review of academic literature related to the study to provide a background and argument based on existing knowledge related to the stated research objectives. Thereafter, Chapter 3 will present the research questions and a description of the main methodology will be discussed in Chapter 4. Research findings and a discussion of these findings will be presented in Chapter 5 and 6 respectively. Finally, conclusions, management implications and future research recommendations will be drawn and discussed in Chapter 7.

Chapter 2: Literature review

2.1 Introduction

This chapter will review the relevant literature related to the study. Key themes are presented within the chapter specifically related to sustainability, integrated reporting, reporting guidelines and sustainability oriented innovation.

It begins with a discussion on the background and development of integrated reporting, followed by a discussion of the established integrated reporting guidelines. Measuring non-financial and financial performance is then discussed followed by a discussion of theory related to the concept of value creation and sustainability oriented innovation. The chapter ends with a conclusion which summarises the main themes and literature discussed in the chapter.

2.2 Background and history of sustainability reporting

"Sustainability is the possibility that humans and other life will flourish on Earth forever. Reducing unsustainability, although critical, will not create sustainability." (Ehrenfeld & Hoffman, 2013)

Sustainable development is defined by the World Commission on Environment and Development's Brundtland report of 1987 as, *"… development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs"* (Jay & Gerard, 2015, p. 13).

Ehrenfeld and Hoffman's (2013) definition of sustainability interestingly adds an overlooked but critical aspect to the concept of sustainability defined in the Brundtland report. It stresses that our ability to reduce our burdens on the environment and society will not guarantee future generations the liberties of the natural world that current generations have at their disposal.

Instead, the world needs to make a paradigm shift in the way sustainability is being understood and move towards a deeper more behavioural and cultural shift in the way we seek to preserve the environment and society as a whole (Ehrenfeld & Hoffman, 2013). It is with this interpretation that this study bases its main objectives on.

Historically, the definition of sustainable development has been concomitant with only environmental efforts, but has since matured to also incorporate social and economic elements (Mariadoss, Tansuhaj, & Mouri, 2011) and is now referred to simply as 'sustainability'. Broadly viewed, sustainability is one of the principal qualities necessary for long-term shareholder value creation (Christofi, Christofi, & Sisaye, 2012). The Bruntland report definition of sustainable development has been adopted worldwide and but is also interpreted and understood in many different ways, based on the contextual environment in which it is applied.

It was the triple bottom line concept, conceived in 1997 by John Elkington (Adams, Bessant, Denyer, Jeanrenaud, & Overy, 2016), that served to lobby the progressive evolution of sustainable development. The triple bottom line concept went on to aid the growing emphasis of the importance of corporate transparency with shareholders and became viewed as a means for businesses to balance economic goals with the environmental and social impact of their businesses (Christofi et al., 2012). The triple bottom line philosophy denotes the three aspects that companies should use to measure performance (Savitz & Weber, 2014), taking into account not only economic value but social and environmental responsibility as well (Hall, 2011).

2.2.1 The development of integrated reporting

Corporate reporting evolved from having a social reporting focus in the 1970's to an environmental reporting focus in the 1980's, with the merger of both reporting aspects during the 1990's, resulting in more than 95% of 250 of the largest global companies (referred to as the G250) reporting on their social and environmental performance (Stubbs & Higgins, 2014). Integrated reporting came about thereafter, as a more holistic way of thinking and ultimately reporting which called for more of a focus on how an organisation creates economic, social and environmental value for all stakeholders (International Integrated Reporting Council, 2013).

It has always been concerning as to whether financial reports were adequate to present true and fair information to stakeholders (Sherman & DiGuilio, 2010). These reports, which were traditionally focused on the financial aspects of the business, became increasingly inadequate, as stakeholders began to demand both financial and non-financial performance data for the formulation of informed decisions (Skouloudis et al., 2010). However, unlike financial reporting which is based on established financial standards, non-financial reporting does not prescribe to a particular official reporting standard, creating challenges for companies seeking to quantify and report on credible intangible value creation (Ching, Gerab, & Toste, 2013; Hall, 2011).

An integrated report is a comprehensive document which outlines a businesses' financial and nonfinancial, i.e. environmental, social, and governance performance (Eccles & Saltzman, 2011). Integrated reports are essential tools for investors to determine resource allocation and companies are urged to include all financial and non-financial information in these reports (Arvidsson, 2011). These reports provide legitimacy to the business as communication tools to stakeholders providing information on the businesses operations as well as the strategic outlook for the business (Dragomir, 2010).

The concept of integrated reporting has been developed through the contributions of the "International Integrated Reporting Committee (IIRC), the Global Reporting Initiative (GRI), The World Business Council for Sustainable Development (WBCSD), The World Resources Institute, the Carbon Disclosure Project and the United Nations Global Compact" (Stubbs & Higgins, 2014, p. 3). An integrated report is defined as "a concise communication about how an organisation's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term" (International Integrated Reporting Council, 2013, p. 7).

These institutions have also served to develop internationally-accepted sustainability frameworks to facilitate global sustainability reporting. These include the Global Reporting Index (GRI) sustainability reporting framework; the Organisation for Economic Co-operation and Development (OECD) guidelines for multinational enterprise, which facilitate responsible business conduct and the Greenhouse Gas Protocol Corporate Standard, the leading international accounting tool used to quantify and manage greenhouse gas (GHG) emissions (KPMG, Global Reporting Initiative, United Nations Environment Programme, & Centre for Corporate Governance in Africa, 2013). These

frameworks, amongst many others, have been used globally to incorporate sustainability reporting into their current reporting structure.

South Africa, in particular has played a major role in advocating for sustainability reporting. It is one of the few developing countries to have made major milestones in sustainability reporting activities (KPMG et al., 2013). As of 2010, the Johannesburg Stock Exchange (JSE) enforced a mandatory requirement for firms to submit integrated reports. These requirements are enforced through the King Report on Governance for South Africa under the report or explain principle, which is established on the condition that companies either report their sustainability performance or provide an explanation if they choose not to do so (Institute of Directors Southern Africa, 2009).

The King Code of Governance Principles and the King Report on Governance, i.e. King III were officially introduced in 2009, with King III officially coming into effect in March 2010 (Institute of Directors Southern Africa, 2009). The latest King IV version was released in November 2016 (Institute of Directors Southern Africa (IoDSA), 2016). The Institute of Directors in Southern Africa (IoDSA) have advocated for integrated reporting and the King III follows an 'apply or explain' principle. The King code has played a key role in driving corporate governance and socioeconomic reforms, that serve to build South Africa's reputation and investment appeal internationally whilst also working towards correcting socioeconomic inequalities as a result of the Apartheid era (Haji & Anifowose, 2016). King III fully endorses the use of the Global Reporting Index (GRI) guidelines for integrated reporting (Van Zyl, 2013).

In a time where resources are stretched to accommodate multiple needs of the organisation, prioritisation of sustainability related activities and projects, must be done with much consideration, to ensure that these investments ultimately contribute to the organisations overall performance (Lee & Maxfield, 2015).

2.3 Integrated reporting guidelines

The voluntary nature of sustainability reporting has resulted in variable forms of content and structure (Marimon, Llach, & del Mar Alonso-Almeida, 2014), as the content of what is reported is based on diverse matters which include the firms stakeholder characteristics and priorities, as well as particular industry related legal requirements. Furthermore, a large degree of discretion rests with the business as it will decide what and how much information to report (Roca & Searcy, 2012).

It has been debated that the term “sustainability” is facing a danger of losing it’s true meaning and that the definition of sustainability is widely open to interpretation. The word appears to have become hackneyed and follows a cliché stance taken by companies seeking to merely comply with reporting regulations whilst also attempting to ‘appear’ committed to sustainability principles without applying tangible monetary commitments (Van Zyl, 2013).

‘Greenwashing’ or reporting focused solely on positive performance outcomes, is characterized by those who either completely ignore negative aspects or greatly embellish the positive outcomes, serving to highlight superficial sustainability commitments (Stubbs & Higgins, 2014). This greenwashing inclination has made it difficult to determine a company’s true performance and value creation capabilities and results (Boiral & Henri, 2015).

Key guidelines have been developed to assist companies with the reporting endeavours and to ensure that adequate focus is paid to pertinent issues. There are numerous guidelines that have been developed globally by various agencies and institutions. Two guidelines have become an influential part of sustainability reporting in South Africa. These include the International Integrated Reporting Framework (IIRF), the Global Reporting Initiative (GRI) and other voluntary standards such as ISO 14001 – Environmental management reporting standard and ISO 26000 – social responsibility standards (Hanks & Gardiner, 2012).

2.3.1 The International Integrated Reporting Framework

The International Integrated Reporting Council (IIRC) developed the International Integrated Reporting Framework (to be referred to as 'the framework') to provide guidelines to those organisations intending to produce an integrated report (International Integrated Reporting Council, 2013). As of 2010, the Johannesburg Stock Exchange (JSE) enforced a mandatory requisite for companies to submit integrated reports and this has seen South Africa becoming an international champion in integrated reporting (KPMG, 2015). Whilst some companies, particularly large corporations, have made significant improvements in the content and structure of their annual reports, many companies are still struggling to implement the framework effectively (South African Institute of Chartered Accountants, 2015).

Integrated reporting has been validated by all prominent accounting bodies, such as BDO and KPMG, as an innovative concept that will facilitate investment in the long run (Lee & Yeo, 2015). Lee and Yeo (2015) have shown that valuations for South African companies are positively correlated with integrated reporting. The authors further assert that companies who produce integrated reports perform better than those who do not, shown by higher stock returns and profitability. Successful implementation of the integrated report results in reduced uncertainty for investors and also a reduced cost of capital in the long run (Hudson, Jeaneau, & Zlotnicka, 2012).

The framework is designed as a guide on how to communicate the ways in which value is created for stakeholders, within the confines of the external environment and its relevant capitals (International Integrated Reporting Council, 2013). The International Integrated Reporting Council (IIRC) describes the capitals as the relationships and resources that a company uses and which are in turn affected as a result of the business. Integrated reporting is based on the fundamental concept of the six capitals – natural, manufactured, social and relationship, financial, intellectual and human (International Integrated Reporting Council, 2013). Any business represents a potential source of value which may be manifested in both tangible and intangible forms, and it is important for a business to understand the extent of its potential and to manage its internal and external impression on its stakeholders.

The International Integrated Reporting Council (2013) also emphasises the need for integrated thinking, described as the deliberate effort to relate business operations to

relevant capitals to identify material matters, develop strategy and implement monitoring and measurement indicators that will allow stakeholders to easily identify the companies immediate, to long-term value creation potential. The ability to create value and report effectively through will hinge on how successfully embedded integrated thinking is within the organisation (South African Institute of Chartered Accountants, 2015).

However, despite its advocacy for integrated thinking, the framework does not detail how this new way of thinking may be accomplished (South African Institute of Chartered Accountants, 2015). Additionally, the framework, which is principles based, indicates that companies are not obliged to assume the capitals in their entirety within the organisation, it is encouraged that organisations identify which capitals are relevant or perhaps which elements of a particular capital relate best to the businesses operations and apply those capitals accordingly (International Integrated Reporting Council, 2013). This discretion is evident amongst South African companies as each company's report exhibits varied structure and content, with revisions to these being seen every year the reports are published (Lee & Yeo, 2015). However, it may be argued that by not placing obligatory requirements for companies to report on all six capitals, there is a danger of the reporting not being comprehensive enough, as there is no real motivation to do so (Flower, 2015).

Further to this, the framework also does not indicate which key performance indicators must be measured, nor does it specify which matters companies should be deemed material to their operations (Lee & Yeo, 2015). Without the ability to communicate performance in a standardized manner, that is easily interpreted and can be used to compare against other companies, investor and other stakeholder decision making becomes subjective. Disclosure of pertinent issues is ultimately a decision made by the firm based on the costs, benefits and principles of the entity (Van Zyl, 2013).

At their discretion, firms may choose to withhold certain information due to the risk of exposing too much detail on the company's strategy and business model, information which competitors may use to their advantage, further complicating the comparability dynamics (Lee & Yeo, 2015).

Flower (2015) stated that organisations who only apply the International Integrated Reporting Council framework would be found wanting in terms of presenting "complete, correct and comparable information" on the firm's sustainability performance and effects on non-financial interested parties (p. 12). Where the framework lacks in sustainability focus, the global reporting initiative (GRI) guidelines considerably compensate for and help to create a balanced view of the organisations overall performance.

2.3.2 The Global Reporting Initiative (GRI) guidelines

The global reporting initiative represented a key development in the progression of sustainability reporting. The global reporting initiative was responsible for the development of a reliable and effective framework, reflecting the triple bottom line concepts, to guide sustainability reporting efforts for public or private organisations irrespective of their scope, structure and location of business (Global Reporting Initiative, 2013).

The global reporting initiative has developed 91 core indicators which measure:

i. Economic – Nine indicators measuring aspects such as job creation and financial outputs. These aspects are identified as being those related to financial capital creation (Azcárate, Carrasco, & Fernández, 2011; Global Reporting Initiative, 2013)

ii. Environmental – 34 indicators measuring aspects such as waste and greenhouse gas emissions; these relate to the firm's natural capital (Azcárate et al., 2011; Global Reporting Initiative, 2013)

iii. Social – 48 indicators measuring aspects such as human rights and worker retention (Global Reporting Initiative, 2013). The social aspects are identified as those activities designed to contribute to human wellbeing (Azcárate et al., 2011) and concern social and relational capital.

The first publication of the guidelines was released in June 2000 in the form of a preliminary document for application by a limited number of companies which was then followed by a second publication in 2002 (Moneva, Archel, & Correa, 2006). The guidelines have since evolved to the current fourth generation (G4) guidelines in an effort to ensure the guidelines are comprehensive and applicable to a number of different

business types in line with the global reporting initiative sustainability reporting guidelines purpose (Global Reporting Initiative, 2016).

The guidelines have prescribed two options, the ‘core’ and ‘comprehensive’, for companies to apply their reporting ‘in accordance’ with the global reporting initiative (GRI) guidelines. They are based on the identification and impact of material environmental, economic and social aspects on company performance. An organisation must identify the material aspects relevant to the organisations business structure and operations based on the businesses most significant impacts and/or stakeholder interests.

The core option is focused on the key elements of the corporate report and the comprehensive option goes further to incorporate additional standard disclosures on the businesses “strategy and analysis, governance, ethics and integrity” (Global Reporting Initiative, 2016, p. 11). An organisation may then choose the option that best meets its needs in terms of satisfying its own as well as stakeholder reporting needs. The guidelines have given an allowance of two reporting cycles to enable a transition from global reporting initiative (GRI) G3 and G3.1 guidelines (Global Reporting Initiative, 2016).

Global reporting initiative (GRI) indicators are comprehensive in covering important performance measures for companies to use and thus have become one of the main tools used by organisations internationally (Azcárate et al., 2011). Ching et al. (2013) further reiterated the view that only companies with the ability to alter the business model and invest in sustainability from a commercial point of view will manage to realise the long-term benefits. This aligns with the opinions of Eccles and Serafaim (2013), who put forward the idea of innovation as being a key requirement for sustainable growth of the firm. Lee and Maxfield (2015) found that integrated reports compiled according to the GRI guidelines had a more positive impact on corporate social performance as well as financial performance compared to companies that followed more general reporting guidelines. This reinforces the need for companies to adopt the global reporting initiative (GRI) reporting methodology.

2.4 Measuring sustainability performance

2.4.1 The application of Global Reporting Initiative (GRI) guidelines to measure non-financial performance

Sustainability reporting is still a fairly new concept and companies are still attempting to understand how best to apply integrated reporting guidelines within their businesses. What and how to report is an issue companies are faced with to varying degrees, resulting in different indicators or performance criteria being implemented (Roca & Searcy, 2012).

The adoption of global reporting initiative (GRI) may be based on several factors such as the desire for legitimacy, improve image and reputation, investor attraction, and validation as a company in touch with international best practice. At the time, Asia and China were in the top two when rated for global reporting initiative (GRI) adoption, largely seeking favour in light of their bad reputations for human rights abuses and unsustainable practices (Marimon, del Mar Alonso-Almeida, del Pilar Rodríguez, & Alejandro, 2012). Global reporting initiative (GRI) adoption is inevitably influenced by locations, regulatory controls and as well as the national culture, as these will define how the issue of sustainability in relation to other contextual issues is perceived and appreciated.

Research of 94 companies for indicator disclosure showed diversity in the types of indicators disclosed and recognised the need to improve comparability particularly within the same industry sectors (Roca & Searcy, 2012). Indicators should be able to highlight the inter-relationships between the organisations monetary performance, its impacts and how the external natural and social capital costs are dealt with as well as how the firm is positively or negatively contributing to society at a global level (Azcárate et al., 2011).

The concept of using integrated indicators will allow an organisation to avoid information asymmetry between financial and non-financial reporting (Azcárate et al., 2011). It has been found that an imbalance between corporate financial and non-financial information is likely to impede investor resource allocation on the stock market (Arvidsson, 2011). Emerson (2003) reiterated this view and advocates for the blended value proposition, one which idealises the nature of investment in being a concept that encompasses both financial and social interests.

Integration of information is key in presenting a sustainable outlook and communicating current and future value creation across the entire scope of the business. Companies need to communicate non-financial information with the use of key performance indicators so as to adequately illustrate gains or losses in their efforts to address sustainability issues (Arvidsson, 2011).

With little progress being made in the framing of an official non-financial reporting standard in the same way that financial reports follow the International Financial Reporting Standards (IFRS) and the Generally Accepted Accounting Principles (GAAP), the global reporting initiative (GRI) reporting guidelines have been viewed as the dominant sustainability performance measure globally, offering the most wide-ranging reporting framework (Hřebíček, Soukopová, Štencl, & Trenz, 2014).

Being measured against a standard, widely accepted framework, enables performance comparisons possible between companies. Using an internationally recognised standard like the Global Reporting Initiative (GRI) guidelines affords a level of credibility to the reporting company's information (Ching et al., 2013). The ability for investors to analyse financial and intangible performance data rests on the ability to convert this data and present it as consistent and articulate indicators that are effortlessly interpreted (Hřebíček et al., 2014).

2.4.2 The link to financial performance

Financial performance against corporate investments in environmental and social efforts has always been a contentious issue. The ability to attract investors, based on the content and attractiveness of the integrated report will depend on the combined performance of a firm's triple bottom line. A number of studies have found a positive correlation between an organisations environmental, social and governance (ESG) efforts and consequent financial performance (Eccles, Ioannou, & Serafeim, 2014; Levi, Newton, & Johnson, 2016; Weber, Koellner, Habegger, Steffensen, & Ohnemus, 2008).

A cause and effect relationship has not been categorically established and this raises the query whether environmental, social and governance (ESG) efforts beget profitability or, is it a case of exceedingly profitable companies having more of a tendency to invest towards sustainability causes to a larger extent (Chen, Feldmann, & Tang, 2015; Peloza,

2009). An understanding of the relation between the two variables, also suggests that companies who have favourable financial performance are more capable as a result, to invest in more sustainability efforts and produce better sustainability results.

Peloza (2009) reviewed 159 studies, done over a period of 36 years, and found that 63% of the studies showed a positive correlation between financial and corporate social performance (CSP) variables. However, the author also found that 15% of the studies showed a negative correlation with CSP and 22% had an inconclusive, mixed relationship (Peloza, 2009). It has been suggested that positive financial performance is achieved after a period of time following when a company begins the integrated reporting journey (Churet & Eccles, 2014), and this may cause some firms to realise the financial benefits of environmental and social investments and activities much later than early adopters. Furthermore, the relationship between sustainability and financial performance is certainly partial to a number of other external factors, which include the state of the economy, market forces, industry and legal obligations (Peloza, 2009).

High sustainability performers are perceived as being less of a risk to investors. They are able to develop good reputations and public images. These companies are more attractive to investors as it is easy to comprehend the businesses' value proposition from the content of their integrated reports (Levi et al., 2016). Dragomir (2010) further emphasized that companies that have adopted Global Reporting Initiative (GRI) guidelines and have been able to quantify environmental aspects from a financial perspective are deemed as best performing, compared to companies that have opted not to report as extensively.

Research has also shown that companies whose reports focus on non-financial aspects' data actually realise higher profits and less variable stock prices (Lee & Maxfield, 2015). The authors also discuss the development of a stock of "moral capital" or goodwill which is essentially the trust developed with time and associated with the business. In the event that the company is involved in undesirable actions or indignities, the public tends to perceive these cases as anomalies or mistakes and does not judge the business too harshly allowing the business to recover from the situation with little damage to its reputation and brand.

2.5 Comparability of integrated reports

Sustainability is understood in different ways by different enterprises. It can be said that the business world is still in fact working towards understanding what sustainability really is and what it means in relation to the business. Companies have been seen to digress from the original Brundtland definition of sustainability towards a self-constructed version that suits the company's own structures, allowing companies to be selective in what reporting is done (Van Zyl, 2013). Comparability of sustainability performance amongst companies, within and across industries is fundamental to the benchmarking of performance (Sherman & DiGuilio, 2010). In this way, investors would be better equipped in identifying high performing companies from both tangible and intangible performance perspectives (Boiral & Henri, 2015; Van Zyl, 2013).

Comparability however is impossible for companies who choose to apply indicators selectively and are found to only focus on positive performance outcomes, a phenomenon identified as 'greenwashing' (Boiral & Henri, 2015). The most effective way to reassure stakeholders that integrated reporting is indeed legitimate and has not been "window-dressed" is through third party assurance (Lee & Maxfield, 2015; Van Zyl, 2013). Previous research done indicates assured reports as being less inflated and containing more definitive language with measurable outputs (Bagnoli, Hoffman, & Watts, 2016).

Reporting guidelines serve to create comparability capabilities by enabling companies to report as per specified requirements and are also flexible enough to include elements outside of the scope of the guidelines if necessary. It is argued that these guidelines tend to encourage a checklist approach, encouraging companies to focus on gradual internal improvements in specific performance indicators and becoming oblivious to the contextual operating environment where sustainable development as a whole is a key focus and more outward and long term oriented (Van Zyl, 2013). However, indicators do provide a mode of keeping tenuous claims of sustainability achievements at bay and serve as a means of validation (Van Zyl, 2013).

Integrated reporting largely being made up of voluntary reporting poses challenges as there is no standardised reporting mechanism. This results in companies using discretion to decide which time of the year to report, which indicators to use, which metrics to use to measure these indicators and which reporting format and structure to follow (Hąbek & Wolniak, 2016). The authors further state that mandatory reporting is more likely to result in superior reporting as the obligation to report encourages a greater investment in ensuring a quality report is produced. However, the role of regulating bodies in supporting or enforcing the use of standards and guidelines will further encourage quality reporting.

It is argued that the Brundtland definition is too simplified and that it implies that the focus of sustainability is to prevent harm to future generations (Van Zyl, 2013). The focus and responsibility instead should be on preserving the universe's natural capital so as to enable future generations to benefit from it in the same way current generations do. Further to this, reporting must aspire to go beyond merely measuring internal business performance within the confines of the scope and boundaries, but to relate performance to the context of the macro-environment (Azcárate et al., 2011). The authors further argue that the use of indicators for sustainability reporting, though essential, may not be entirely adequate to the entire reporting process on their own, without taking into account business impacts beyond the entity's boundaries of operation.

Two approaches, the literalist and incrementalist, have been shaped through efforts to manage sustainability performance. The incrementalist view follows the common understanding that performance is achieved through repeated minimal improvements whereas the literalist view follows the belief that performance should be gauged in consideration of natural and societal boundaries (Baue & McElroy, 2013). Unfortunately, the literalist view has not been widely adopted, as existing guidelines have not incorporated much of this aspect into respective indicators. It is a key aspect that should be considered in reporting going forwards and may require the intervention of regulators and policy makers as a mutually beneficial approach to sustainable development.

The Global Reporting Initiative (GRI) has made efforts towards incorporating contextual based performance in the fourth generation of guidelines and this is a starting point for companies to further develop their reporting structures to adopt a combined method which quantifies sustainability performance and the broader environment (Azcárate et al., 2011).

2.6 Creating value

The neoclassical view of value creation is based on the basic process of producing and delivering products and/or services to a customer who is willing to pay the requested asking price. In this way value is created for both shareholders (returns from invested capital) and for the consumer (acquiring product/service below maximum price threshold) (Lieberman & Balasubramanian, 2007). It is apparent now that this is a narrow view and does not take into account value creation for other stakeholders. The main focus in this instance are the shareholders as providers of capital. Earlier research conducted has attested to the fact that those organisations who consider and oblige all key stakeholders' interests are more likely to continuously create value (Harrison & Wicks, 2013).

Organisations are becoming increasingly dependent on non-financial information. Value-creation as a concept has shifted with companies embracing a broader value-creation business model focusing not only on the bottom line (Arvidsson, 2011).

2.6.1 Blended value

Value creation is fundamental to the integrated reporting process (Flower, 2015) and companies are increasingly faced with the task of creating and effectively communicating value for all of their stakeholders. With the advent of integrated reporting and the information overload associated with these reports for stakeholders, identifying whether value creation has been realised from one financial period to the next is impossible to pin-point. Adjudicators of the 2015 Ernst and Young (EY) integrated reporting awards indicated that more emphasis needs to be placed on issues that are the most pertinent to the businesses' capacity to add value. They went further to state that these businesses' must be explicit on how value is internally defined and subsequently created (Ernst & Young, 2015).

Friedman (1970) who developed the "shareholder theory" was of the belief that business had one purpose, and that was to maximise profits, whilst the "stakeholder theory" coined by Freeman in 1984, had an opposing view that was based on the business functioning for the benefit of all of its stakeholders (Harrison & Wicks, 2013; Parmar, Freeman, Harrison, Wicks, Purnell & de Colle, 2010).

It is apparent that both of these theories indeed apply for ultimate value creation and that the concept of "shared value" is even more relevant today. It is the responsibility of business to create value for the organisation whilst taking into consideration the softer issues associated with the business, as well as customer input into the value creation process (Ernst & Young, 2015).

Business is faced with three interrelated problems;

i. How do businesses create and trade value whilst operating in highly unpredictable environments that are experiencing rapid change;
ii. Understanding and balancing the concepts of capitalism and ethics;
iii. Shaping managerial mindsets to understand how to continually create value and consciously apply ethics to business (Parmar et al., 2010).

Stakeholder theory implies that by merging the interests of business and its stakeholders, this will enable businesses to tackle these three problems effectively (Parmar et al., 2010). Value creation can only be realised by meeting the needs of customers, suppliers, providers of capital and the larger society, but companies need to understand which aspects each stakeholder values as each stakeholder's interests differ from one another.

According to Flower (2015) the International Integrated Reporting Council (IIRC) guidelines seem to be ultimately aligned to the providers of financial capital. The author goes further to state that the guidelines, whilst clearly stating the perception of value to an organisation as being expressed through *"increases, decreases or transformations of the capitals caused by the organisations activities"* (International Integrated Reporting Council, 2013, p. 11), it leaves room for wide and varied interpretations of value, and that how a firm creates value to others is widely based on what is considered 'material' to the organisation. With only one reference to sustainability in the framework present and with a clear investor emphasis, Flower (2015) argued that the International Integrated Reporting Council (IIRC) has moved away from a sustainability focus and has consigned this task to organisations such as the Global Reporting Initiative (GRI).

With the increased pressure to achieve commendable ESG performance, corporations and governments need to strategise in ways that incorporate innovative sustainability thinking (Eccles & Serafaim, 2013).

2.6.2 Sustainability oriented innovation

With the use of sustainability indicators for businesses to monitor their impact on their surrounding environment, firms need to move past awareness and reporting of impacts, into active innovation strategies that pursue improved sustainability performance (Morioka, Evans, & Carvalho, 2016). The attainment of sustainability targets will begin to depend on the ability of an organisation to foster innovative ideas and utilise technology to tackle sustainability problems and to improve products, services and operations (Jay & Gerard, 2015).

Innovation is described as "developing and implementing new solutions for products, processes, marketing and/or organisation" (Morioka et al., 2016, p. 660). The danger with integrated reporting is that companies invest so much time and money into producing award winning reports, with each new report displaying better graphs, tables and images, in even fewer pages than the previous year, in order to satisfy stakeholder expectations without actively embedding integrated thinking within the core of the business model (Engelbrecht & Ballot, 2015). A sustainable business model will ensure innovation and environmental, social and governance (ESG) performance marry with a unified purpose for responsible, valuable, sustained growth of the firm (Eccles & Serafaim, 2013; Morioka et al., 2016).

With this in mind, companies need to recognise the importance of sustainability oriented innovation, which is defined as *"realized ideas that improve environmental and/or social performance compared with the current situation"* (Kennedy, Whiteman, & van den Ende, 2016, p. 1). Sustainability oriented innovation is further described as being achieved through efficient consumption of natural capital inputs, development of superior products and services and developing improved business models (Kennedy et al., 2016). Innovations may be considered as sustainability oriented innovation's if they have the ability to improve the short and/or long term state of environmental and social performance from its current position (Jay & Gerard, 2015).

Eccles and Serafaim (2013) stated that the identification of material issues is the first requirement to achieve success in growing financial and environmental, social and governance (ESG) performance. The authors further state that with the identification of material issues, businesses then need to identify those core issues that will have the highest effect on the company's capability to deliver value to its shareholders. In this way, the business is then able to focus sustainability oriented innovation resources towards material issues that have a bearing on the economic success of the business, creating a positive relationship between financial success and environmental, social and governance (ESG) performance (Eccles & Serafaim, 2013). Research findings from a study conducted by Chen et al. (2014) found a positive correlation between product innovations and strategic, as well as tactical sustainability management, indicating the need for inclusion of sustainability plans within the strategic decision making aspects of the business.

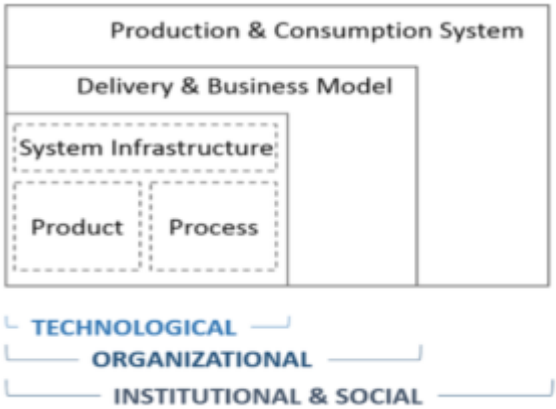

Figure 1 Different types of sustainability oriented innovation (Jay & Gerard, 2015)

Jay and Gerard (2015) elaborated further in outlining the four different types of sustainability oriented innovation's as shown in Figure 1, being technological, organizational, institutional and social. Technological innovations may involve improvements in products, processes and infrastructure, mostly focusing on reducing consumptions or improving efficiencies. Organisational innovation may involve changes to the organisations functions such as product development and employee/community relations, such as product service innovations. Institutional and social innovations, referring to institutional innovation as innovation within government firms and social innovations referring to changes to key stakeholders preferences (Jay & Gerard, 2015).

Sustainability oriented innovation's may be implemented in various ways, as they are established on the firm's strategy and business model (Eccles & Serafaim, 2013). Sustainability oriented innovation may take the form of multiple incremental changes in small stages to achieve specific objectives, for instance annual reductions in greenhouse gas emissions; or they may be implemented in the form of major efforts to achieve an objective more directly, such as a policy to only purchase electric vehicles for the business (Blowfield & Visser, 2008). Eccles and Serafaim (2013) argued that only "major innovations" have the ability to drive both environmental, social and governance (ESG) and financial performance higher simultaneously with a reduced focus on the trade-offs of one for the other.

2.7 Conclusion

The literature review indicates the importance of integrated reporting in its ability to enable the company to communicate value creation to its stakeholders, reporting on environmental, social and financial performance in an integrated manner.

Sustainable development has evolved greatly and has become a fundamental concept that influences regulations, policies and decisions within multiple levels of society. The definition of what sustainability is and what it embodies are interpreted in many ways by different individuals. It is apparent that the way that sustainability is defined is a critical part of how it is applied in many contexts. In many instances, it has been manipulated to suit the needs of the individual/organisations applying it and has lost its meaning. However, many still do recognise the fundamentals of sustainability and have worked to establish measures to ensure that it is being applied in ways that benefit the greater good.

Numerous governments have committed to sustainable development and are influencing businesses through policy and regulation. Organisations such as the International Integrated Reporting Council and the Global Reporting Initiative, have worked to promote accountability through sustainability reporting. The international integrated reporting framework highlights the need for embedded integrated thinking within the business to facilitate the interconnectedness of information and decision making. The framework also highlights the role of integrated reporting in the process of strategy formation and how this ties into ultimate value creation for stakeholders. The Global Reporting Initiative

(GRI) provides guidelines for reporting and seeks to help organisations prepare meaningful reports so that information may be used to manage the organisations impact in its environment.

Society is ever more empowered to hold business answerable to their actions and understand the influence and rights they possess to protect the natural capital of their environment. Societal pressures and access to information combined with a rapidly changing world, largely influenced by the media, have promulgated business into investing more into operating transparently and responsibly.

Organisations have recognised the dual importance of financial and non-financial performance, and largely understand that the pursuit of one over the other is a flawed way of doing business. Through this realisation, the importance of integrated reporting is emphasised as a means to disseminate information to stakeholders and as a means to display commitment to responsible corporate behaviour.

In light of the importance placed on sustainable development and the influence of integrated reporting, this research aims to further assess corporate non-financial reporting in South African listed entities. The research seeks to determine the extent that companies are applying the Global Reporting Initiative (GRI) indicators for reporting and to seek an understanding into the influence of these indicators in the reporting of non-financial business aspects and the comparability of performance amongst industry peers. However, the literature acknowledges that the profit motive of the business must not be overlooked or underestimated in aiming to improve sustainability performance leading the research to also determine a relationship between sustainability and financial performance.

The development of sustainable strategies is essential to business to allow long term value creation. These strategies allow for a strategic emphasis on material issues through innovation and are imperative to the future performance of the organisation. The mutual attainment of both financial and non-financial performance has been cited to be attainable through the incorporation of sustainability oriented innovation. Sustainability oriented innovation may resemble technological, organisational, institutional and social activities which seek to improve the short and/or long term state of environmental and social performance (Jay & Gerard, 2015). Furthermore, incorporating innovation into

these sustainability efforts will further serve to ensure that little to no trade-offs have to be made to create value for all stakeholders.

The study will aim to explore the application of the integrated reporting and Global Reporting Initiative (GRI) principles in companies' efforts to create value for all stakeholders. Chapter 3 will propose the research questions developed in light of the research problem and literature review. The research questions will be based on the research objectives presented in Chapter 1.

Chapter 3: Research Questions

3.1 Introduction

This chapter draws on the literature review in Chapter 2, and formulates the research questions, presented in Section 3.2, that this study sought to answer.

The ability for the audience of integrated reports to interpret and recognise mediocre as well as high performing firms has been inadequately addressed in literature (Boiral & Henri, 2015) and predominantly focused on the reporting of developed economies (Bhatia & Tuli, 2014). Inadequate non-financial reporting by companies hinders the ability for investors to make adequately informed capital decisions (Arvidsson, 2011) made particularly more difficult due to irregularities found in the use of indicators used to compute non-financial performance (Roca & Searcy, 2012).

The purpose of the study was to analyse the extent reporting companies are measuring and communicating intangible value creation, through the use of non-financial environmental, social and governance (ESG) indicators within annual integrated reports and how this value relates to the financial bottom line of the organisation.

The research aimed to determine the level of comparability of sustainability performance of South African firms within defined business sectors, in order to address the assumptions that sustainability performance of firms, particularly within the same sectors, is largely comparable, particularly within companies employing the same reporting guidelines (Boiral & Henri, 2015).

This research sought to build on the findings of Boiral and Henri (2015) who identified discrepancies in the ability to quantify and assess comparability of sustainability performance indicators in 12 global companies within the mining sector, even despite all the companies in the sample having applied the reporting guidelines of the Global Reporting Initiative (GRI).

Taking all of the above into consideration, the following research questions were developed to achieve the main research objective as stated in section 1.3.

3.2 Research questions

Following the presentation of the research problem and exploration of existing theory, the following research questions have been developed:

Research Question 1:
What is the extent of Global Reporting Initiative (GRI) indicator application, to measure sustainability performance, within multiple sectors of the Johannesburg Stock Exchange (JSE)?

Research Question 2:
To what extent is sustainability performance measurable and comparable within sectors and over a period of time?

Research Question 3:
To what degree is sustainability performance related to improved financial performance of the organisation?

Research Question 4:
What are the current sustainability oriented innovation's in place and to what extent do these innovations represent material environmental, social and governance issues identified by the organisation?

Chapter 4 will describe the research methodology applied to this study to collect and analyse data appropriate to answer the above research questions.

Chapter 4: Research Methodology

4.1 Introduction

This chapter details the research process and elaborates on the data collection and data analysis methods adopted for the research. Justifications for the research approach will be made throughout the chapter and the research limitations, validity and reliability of the study are outlined thereafter. The selected methodology and analysis approaches used were deemed the most suitable to answer the research questions defined in Chapter 3.

Background literature on research methodology, particularly qualitative methodology, is also discussed throughout this chapter.

4.2 Research design and approach

4.2.1 Research design

The research design is an outline of enquiry developed to answer the research questions that have been posed (Ranjit, 2011). The research design outlines the structure by which data will be collected and analysed (Bryman & Bell, 2011).

4.2.1.1 Design: Longitudinal, exploratory

The longitudinal approach was used for this study. This approach is used to record and determine change. It is described as being applicable to *"the content analysis of documents relating to different time periods"* (Bryman & Bell, 2011, p. 68). This method is highly suited to analyse organisations, as in this study, as a means to better understand the change processes experienced at this level (Bryman & Bell, 2011). In this way, data is collected in at least two periods, on the same variables on the same organisations selected for the study. This type of study adds the ability to determine causal relationships within the data and also increases validity to the study (Bryman & Bell, 2011).

The research sought to study more than one case in the form of listed companies on the Johannesburg Stock Exchange (JSE). The selection of 15 companies was made from three industries of the Johannesburg Stock Exchange (JSE) and three companies were also selected from the Copenhagen Stock Exchange (CSE) in Denmark, with each company representing each of the industries being analysed in the study. The industries were selected using the purposive sampling method. A total of 52 out of potentially 54 reports were collected from all three sectors within the Johannesburg Stock Exchange (JSE) and Copenhagen Stock Exchange (CSE). Two 2014 reports could not be retrieved for analysis. The incorporation of three industries within the study introduced an element of comparative analysis. This enabled the researcher to consider any theoretical considerations in the case of any similar or contrasting findings (Bryman & Bell, 2011).

The researcher was able to collect three integrated reports from each company representing three consecutive years. The ability to collect the data all at the same time was made possible by the nature of these reports being publicly available documents that can be sourced from the company websites.

Quantifying the data was made possible through the application of the content analysis method. The coding frame facilitated a methodical, indicator-by-indicator, content analysis of integrated reports collected from the selected sample group of companies.

Patterns of associations were then established based on the results of the analysis using the said coding frame. This was possible due to the uniformity associated with the analysis as the same coding frame was used for each report. A scoring system was developed by the researcher to enable the quantification of the data and to facilitate the development of relationships between the data in terms of similarities, differences or unique characteristics between the study cases.

The research followed an exploratory data collection and analysis approach. This approach was useful to determine the relationship between research variables and associated behaviours (Bordens & Abbott, 2014). The study analysed integrated reports of listed South African companies to ascertain the level of application of Global Reporting Initiative (GRI) reporting guidelines in the measurement and communication of value creation. It also sought to establish the level sustainability performance could be compared between firms in the same industry. The research also explored the relationship between reporting practices and financial performance.

4.2.2 Research philosophy

The research philosophy is described as the development of knowledge (Saunders, Lewis, & Thornhill, 2012). It relates to what the researcher brings to the study, in terms of his/her beliefs, impression and understanding of the world (Creswell, 2014). The philosophy adopted by the researcher, largely shapes the research design chosen to achieve the purpose of the research (Saunders et al., 2012).

The research philosophy is made up of two elements, the epistemological and ontological orientations. Epistemology issues are concerned with what may be regarded as *"legitimate or adequate knowledge*", to answer the research questions posed. Ontology is concerned with is "*the study of being … and what constitutes reality"* (Gray, 2013, p. 19). It is important for the researcher to identify their philosophical stance as it aids the process of constructing the most appropriate research design and understanding which designs cannot work to achieve the research aims (Gray, 2013).

For this study, integrated reporting is viewed as an evolving existence within organisations that is in a constant state of change and transformation subject to internal and external forces within the organisation. This thinking is aligned to the interpretive epistemological stance, as the researcher sought to gain a deeper understanding of the integrated reporting endeavors within business (Bryman & Bell, 2011; Saunders et al., 2012). The interpretation of the contents and data contained in the sample population's integrated reports was done and the research followed a pragmatic worldview, where the research methods and techniques were chosen based on their ability to best meet the desires and purposes of the researcher (Creswell, 2014).

4.2.3 Research approach

The research was theory driven and a deductive approach was selected as the most suitable approach. The deductive approach is described as being one which aims to test theoretical concepts which have already been developed to determine causal relationships between theories and variables (Saunders et al., 2012). The study also possessed a non-standardised characteristic to data collection, allowing questions and analysis to be changed as thoughts and processes evolved throughout data collection (Saunders et al., 2012).

4.2.4 Research strategy

The strategy is the plan of how the research questions shall be answered (Saunders et al., 2012). The research followed a qualitative strategy, as the data collection process was structured more on words (Bryman & Bell, 2011) and the descriptions of activities within the organisation that relate to sustainability performance.

Qualitative research is defined as *"an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data"* (Creswell, 2014, p. 71).

A qualitative strategy was best suited to the nonfigurative and less structured nature of the study. The research did introduce a quantitative element within its strategy in the form of scoring individual integrated reports to enable comparability, however the research remained predominantly qualitative in nature.

4.2.5 Time frame

As stated earlier, a longitudinal approach was selected for the study. This study analysed the sustainability reporting of 18 companies over a period of three years, this being from 2013 to 2015. Changes or developments in reporting content over the course of the three years was observed as a result, enabling more in depth analysis and the ability to compare changes to reporting between entities and between sectors.

The study was conducted over the course of a four-month period from September to December 2016.

4.3 Research methodology

The research method describes the procedures used to gather data (Saunders et al., 2012). Secondary data in the form of corporate annual integrated reports was used to obtain the data required to answer the research questions.

4.3.1 Population

The population is defined as the entire collection of cases from which the research sample is selected, and does not necessarily pertain to people (Saunders et al., 2012).

The population used for the study comprised of all companies that were currently listed on the Johannesburg Stock Exchange (JSE) between 1 January 2013 – 31 December 2015. There are nine industry sectors with accompanying sub-sectors of companies listed on the exchange. The population also included all companies that were currently listed on the Copenhagen Stock Exchange (CSE).

The researcher requested the complete list of all companies within the defined study period from the Market Data Support department of the Johannesburg Stock Exchange (JSE) via email to enable an up-to-date compilation of the study population. The requested information was received promptly and was verified to ensure all necessary records were present. A sampling frame was created in excel to facilitate probability sampling. The frame comprised of a full list of the currently listed companies within each year including the currently listed companies on the Copenhagen Stock Exchange (CSE). The resultant sampling frame, which comprised of 1029 companies over the selected study period is summarized as follows:

i. A total of 260 companies were listed on the Johannesburg Stock Exchange (JSE), with 235 currently listed for the period 1 January – 31 December 2013;
ii. A total of 289 companies were listed on the Johannesburg Stock Exchange (JSE), with 261 currently listed for the period 1 January – 31 December 2014;
iii. A total of 324 companies were listed on the Johannesburg Stock Exchange (JSE), with 296 currently listed for the period 1 January – 31 December 2015.
iv. A total of 156 currently listed companies on the Copenhagen Stock Exchange (CSE), as of September 2016.

4.3.2 Unit of analysis

The unit of analysis was the corporate integrated report.

4.3.3 Sampling method and size

The units of analyses were readily available from the sample population and were identified as integrated reports available from the company website. The research population was large, and thus it was reasoned as impractical to be able to conduct research that covers the entire population, within the time frame allocated for the study. Therefore, the researcher sought to obtain data from a sample of the population. Sampling is necessary where time, budget and accessibility constraints exist for the researcher to survey the entire population. Sampling serves to save time and enables the researcher to determine the results of the study within reasonable time. Sampling possibly produces more accurate results than surveys of the entire population as data collected may be more detailed and as more time is possible for analysis, testing and verification, results would be more accurate (Saunders et al., 2012).

Purposive/judgmental sampling was used to select the three sectors from which the unit of analyses were drawn. This method was useful as the sample groups (sectors) of the population were a small number totaling nine sectors. These sectors were the telecoms, technology, oil & gas, industrials, health, financial, consumer goods, consumer services and basic materials (Johannesburg Stock Exchange, 2016). Therefore, it was important to the value of the study to select sectors that would be acutely informative and best provide answers to the research questions (Saunders et al., 2012). The sectors chosen for the study were not considered to be representative of the entire population of companies listed on the Johannesburg Stock Exchange (JSE) (Saunders et al., 2012), however the random selection of companies within each of the three sectors would provide comprehensive data that would enrich the study.

Purposive sampling process begun by first identifying the sectors comprised of more than 20 companies. Five sectors were identified at this stage. The researcher then used random sampling using the Excel RAND function to randomly select the three sectors that would be included in the final research sample. At this stage, the basic materials, industrials and consumer services sectors were selected as the sample groups from which specific companies would be randomly selected.

This process narrowed down the sampling frame to a total of 171 companies listed on the JSE and 60 companies listed on the CSE from which the final sample group would be randomly selected.

Following the identification of the three sectors to focus on, five companies were randomly selected from each of the three groups to total 15 companies. These companies were randomly selected from each sector for analysis. The random selection was done with the use of the Excel Rand function.

This method of selection is the most ideal as a complete list of companies listed within that sector was available and was considered as being accurate (Saunders et al., 2012). Simple random sampling was the most suitable method as it did not discriminate against one unit of analysis over another (Welman & Kruger, 2003). The sampling frame (the complete list of companies listed on the stock exchange within the identified time-frames) was used to aid selection and reports were obtained from the Johannesburg Stock Exchange (JSE) for the period of January 2013 to December 2015.

Further to this, the same sectors that were selected from the Johannesburg Stock Exchange (JSE) were used to identify three companies from Denmark. Denmark was randomly selected, using the 'Excel Rand' function from a sample frame that consisted of a list of the top ten global country sustainability rankings developed by RobecoSAM as of October 2016.

RobecoSAM is an investment specialist in sustainability investing and is widely recognised for the publishing of the world's most widely recognised database of financially material sustainability information, in which over 3800 listed entities are analysed against RobecoSAM criteria and published as the Dow Jones Sustainability Index (DJSI) (RobecoSAM, 2016a). The country rankings are done based on 17 environmental, social and governance (ESG) indicators scored within a range of one to ten, enabling the comparison of countries based on relevant indicators particularly for investors. The use of this index as a sampling frame for the selection of a suitable comparison country was based on the highly reputable nature of the index and its international recognition as a reliable ratings specialist that has experience since 2009 (Churet & Eccles, 2014). The researcher also aimed to compare South Africa's reporting to a country considered to be high performing so as to appropriately benchmark and

identify similarities and differences in the reporting content and use of Global Reporting Initiative (GRI) indicators. South Africa is currently ranked number 45 in the index. Please see an excerpt of the RobecoSAM rankings table in Figure 2.

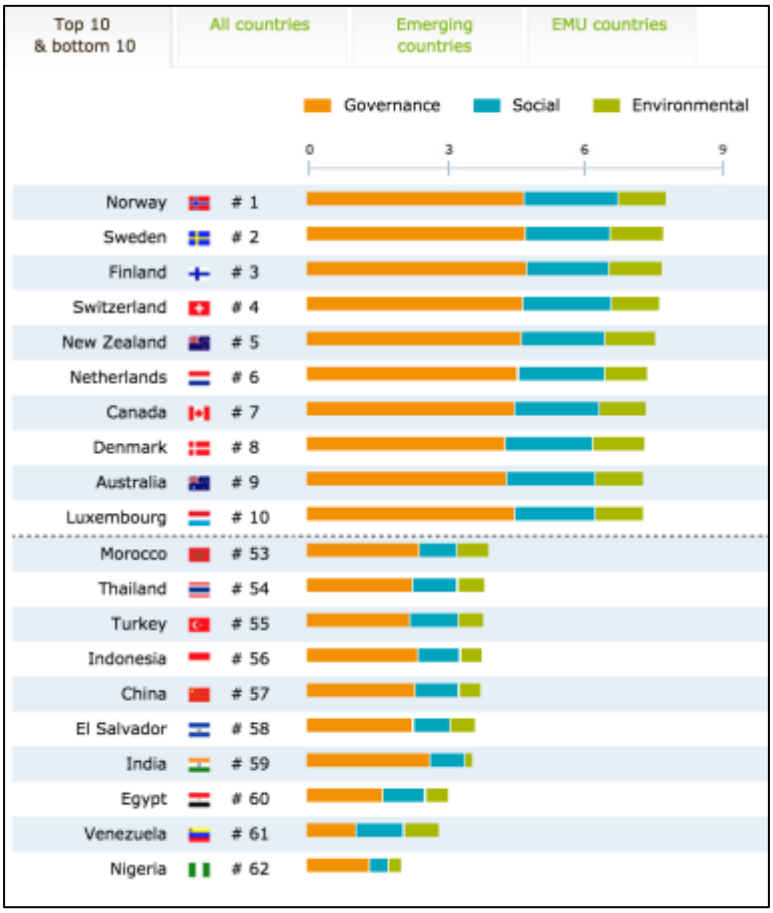

Figure 2 RobecoSAM country sustainability ranking as of October 2016 (RobecoSAM, 2016b)

The following criteria was used to identify three corporate integrated reports to include in the study:

a. The companies had to be currently listed on the Copenhagen Stock Exchange (CSE);

b. The company had to belong to either the basic materials, industrials and consumer services sectors;

c. The company had to produce publicly available integrated reports in English to facilitate the analysis;

d. Integrated reports had to be available for the prescribed reporting period between January 1 2014 – December 2015.

4.3.4 Data collection

Secondary data in the form of integrated reports were obtained from company websites. Secondary data has been previously generated for reasons and purposes other than those of the researcher but has the potential to provide new or different insights, as well as unanticipated revelations when analysed further.

Secondary data is characterized by its ability to be unobtrusive in the collection of data. Unobtrusive measurement is described as data collection in which the participant, in this case being the listed companies, were not aware that any form of measurement was taking place, thus providing *"products of human behaviour"* suitable for further analysis (Welman & Kruger, 2003, p. 144). Unobtrusive measurement was done to collect data for the study via downloads from corporate websites. Integrated reports were developed for reasons unrelated to the study, however, these reports will be useful in providing the required information for the research (Saunders et al., 2012). The use of secondary data also facilitates longitudinal research and especially in cases where comparisons are required (Saunders et al., 2012).

The use of the integrated report was justified for two primary reasons. Firstly, the report is a relevant, key mechanism for companies to communicate and engage with stakeholders particularly relating to sustainability reporting. Secondly, the reports are easily retrievable from the company website and do not require any interaction with company representatives in any way (Sapkauskiene & Leitoniene, 2014).

However, it is important to ensure that the secondary data available matched the needs and requirements of the research, and will be able to provide data that will ensure the research questions are addressed (Saunders et al., 2012). The researcher was able to evaluate the suitability of the data by sampling two reports prior to conducting formal data collection. Furthermore, the mandatory requirement enforced by the Johannesburg Stock Exchange (JSE) for all listed companies to produce reports, provided reassurance on the availability and validity of the data.

4.3.5 Measurement instrument

The reports were studied to identify any reference to indicators in the various sections of the reports. This was done with the use of coding frame. The coding frame was constructed using the Global Reporting Initiative (GRI) G4 indicators as a guide.

The coding frame was developed to expedite the content analysis of integrated reports. As an internationally recognised and accepted standard, the fourth and latest version, the Global Reporting Initiative (GRI) G4 guidelines, were identified as the most relevant source to develop the coding frame for this study.

Step 1: Developing the coding frame

The coding frame was constructed as an Excel spreadsheet using the category criteria and performance indicators outlined in the Global Reporting Initiative (GRI) G4 guidelines. The Global Reporting Initiative (GRI) G4 guidelines prescribe indicators as per economic, environmental and social indicator categories. The Global Reporting Initiative (GRI) indicators are well structured and identifiable by code names; for instance, the EN8 indicator is under environment and represents the total water withdrawal by source (Global Reporting Initiative, 2013).

There was a total of 91 indicators that were incorporated into the framework, selected based on their ability to address the research questions posed in Chapter 3. Each indicator was assigned with a description as per the guidelines to enable quick and easy interpretation during data analysis.

Based on the nature of reporting guidelines' ability to be used scoring mechanisms, each indicator was assigned a score based on varying levels of detail, ranging from not being mentioned at all to detailed documentation with quantitative abilities (Morhardt, Baird, & Freeman, 2002). This enabled the researcher to determine the level of quantification of each indicator.

A four-level ordinal scale was developed to measure the degree of disclosure within each report, facilitating the determination of measurability and comparability of each indicator against reporting narratives (Morhardt et al., 2002). A scoring instrument as per Table 1

was developed to allow for codification. Scoring was assigned according to points of either 0, 1, 2 or 3 depending on the level of disclosure.

Table 1 Indicator scoring instrument (Adapted from Morhardt et al., (2002))

Score	Description
0	No evidence of inclusion of indicator in report
1	Anecdotal or briefly mentioned
2	More detail, but characterising only selected facilities or using only self-comparison metrics
3	Company-wide, absolute or relative metrics that could be compared with other companies

Additional columns were included in the framework to record the following:

i. Is the indicator comparable or not? (respond = yes or no) (Morhardt et al., 2002);
ii. Comments (Boiral & Henri, 2015).

These additional columns were included in the framework to add richness and depth to the data and to address research question 2.

Furthermore, financial performance measures were incorporated to address research question three. More than one financial measure is recommended (Morhardt et al., 2002) and hence a total of two financial ratios were applied, these being:

i. Return on assets (ROA) – profitability measure (Weber et al., 2008)
ii. Return on equity (ROE) – measure to determine additional returns on reinvested earnings (Weber et al., 2008)

These operating metrics were selected as they are considered to provide information on the value changes within the organisation experienced during the reporting period (Dragomir, 2010; Williamson, 2009).

Additional data was collected through content analysis to address research question four. Report statements were collected that were found to pertain to sustainability oriented innovation efforts on the part of the organisation. These statements were used to determine the company's incorporation of sustainability oriented innovation practices into their sustainability activities.

Step 2: Compiling data

Data was compiled from the 52 reports according to the framework. All reports were downloaded in PDF format and comments/observations were all noted within the document for reference purposes. Each report was analysed according to the same framework criteria and despite the process being a demanding exercise, entry into the spreadsheet facilitated interpretation and representation of the data in a clear and concise manner. The coding framework has been included in Appendix 1.

4.4 Validity and reliability

The coding framework was developed from the Global Reporting Initiative (GRI) G4 guidelines and has been considered as a valid coding scheme. The Global Reporting Initiative (GRI) guidelines have been deemed as comprehensive and consistent assessment tool for a company's sustainability performance (Chen et al., 2015; Marimon et al., 2012). For the environmental performance assessment, the Global Reporting Initiative (GRI) provides 34 indicators and 48 indicators in the Social category, and the economic indicators total nine indicators.

Global Reporting Initiative (GRI) reporting guidelines are an assessed and thoroughly validated document and thus it was deemed appropriate to use to build the coding structure for the content analysis. The choice for the researcher who developed the coding framework to be the same person to conduct the content analysis was deliberate as the risk of conflicting coding arises when more than one coder is used due to reasoning and intellectual differences in interpreting the data (Dragomir, 2010).

Reproducibility and verification of scores is possible with the use of a Global Reporting Initiative (GRI) indicator scoring system as the indicators are specific as to what is being measured and the scoring system was simplified to only four values, i.e. zero, one, two and three (Dragomir, 2010; Morhardt et al., 2002).

4.5 Research analysis

Following the structured content analysis of the sampled integrated reports, numerical analysis of scores was done in Excel. The analysis and interpretation of data involved the comparisons of scores assigned within each integrated report at individual company level as well as comparisons at industry level. Disclosure levels were calculated based on total scores over the sample period 2013 – 2015.

Content analysis was identified as a suitable method for cross-industry comparisons as well as for a longitudinal study (Chen et al., 2015). Content analysis is defined as "*a research technique for making replicable and valid inferences from data in their context*" (Krippendorf, 1989, p. 403). It is described as being highly objective analytical technique (Ritchie & Lewis, 2003) and highly suitable for sustainability disclosure analysis (Sherman & DiGuilio, 2010). Content analysis was used in this research to extract and analyse data from 52 annual integrated reports.

4.6 Limitations

The study was limited to only three sectors of the Johannesburg Stock Exchange (JSE) and the Copenhagen Stock Exchange (CSE) to enable adequate time for collection of data and subsequent analysis. As a result, the sample may not be entirely representative of the entire population due to the dissimilarities between sectors, however it will provide comprehensive data that will enrich the study. This will subsequently provide opportunities for further research within the excluded sectors.

Despite the mandatory requirement for companies to produce integrated reports, this does not guarantee the quality of content in report. Content analysis is reliant on the quality of material being analysed and this was seen as a limitation as report qualities varied widely between samples.

The large amounts of data from 52 reports created some level of difficulty in order to sort through the report to identify the relevant information to the study. Restricting the study to only the integrated reports was a limitation as this may not fully represent the position of the business, however, previous studies have focused on integrated reports as they are considered widely accepted research instruments.

Content analysis was done only by the researcher which may introduce subjectivity to the analysis. This is in line with exploratory research as the perceptions of the researcher play a big part in the interpretation of the data. Due to the researchers experience in the industry of integrated reporting, these biases were acknowledged and every effort was made to remain objective particularly with the scoring of reports. Reports were also analysed more than once to ensure that all relevant information was captured and interpreted correctly.

Furthermore, no interviews were done and this made it difficult to acquire external viewpoints and responses to findings of the content analysis. This may introduce researcher bias as the interpretation of the data is reliant on the subjectivity of the researcher.

The sample size of 15 companies from three sectors of the Johannesburg Stock Exchange (JSE) presented limited data for more robust statistical analysis which would have provided the ability to further enrich the data findings. However, this will provide an opportunity for further research.

There was some difficulty obtaining Danish reports published in English, resulting in a limited sample population from which reports could be obtained.

Chapter 5: Results

5.1 Introduction

This chapter describes the findings obtained from the data analysis conducted on the research sample, comprised of 18 companies, 15 of which are listed on the Johannesburg Stock Exchange (JSE) with an additional three companies from the Copenhagen Stock Exchange (CSE).

The results are presented as per the defined research questions and objectives. The results are presented per industry in tabular and graphic form.

The research questions as outlined in Chapter 3 are restated as follows:

Research Question 1:
What is the extent of Global Reporting Initiative (GRI) indicator application, to measure sustainability performance, within multiple sectors of the Johannesburg Stock Exchange (JSE)?

Research Question 2:
To what extent is sustainability performance measurable and comparable within sectors and over a period of time?

Research Question 3:
To what degree is sustainability performance related to improved financial performance of the organisation?

Research Question 4:
What are the current sustainability oriented innovation's in place and to what extent do these innovations represent material environmental, social and governance (ESG) issues identified by the organisation?

5.2 Sample description

A total of 18 companies were analysed based on a pre-developed coding framework which consisted of 91 Global Reporting Initiative (GRI) indicators. The samples were analysed in groups based on industry descriptions as per the Johannesburg Stock Exchange (JSE), and the sample descriptions are outlines in sections 5.2.1, 5.2.2 and 5.2.3.

5.2.1 Basic materials industry

The sample of companies analysed within the basic materials industry consisted of companies within sub-sectors including nonferrous metals, iron and steel, platinum and precious metals, coal and general mining.

Integrated reports of the five companies were collected for the years 2013, 2014 and 2015. One additional company, SP Group, listed on the Copenhagen Stock Exchange (CSE), was also selected and included in the sample. The selection of companies listed on the Copenhagen Stock Exchange (CSE) within the basic materials sector, was difficult as there were only three companies within this sector, of which two other companies were no longer actively listed on the Copenhagen Stock Exchange (CSE) at the time of the study. Therefore, random selection of a company from this sector, to include within the sample was not possible as there was actually no other option available. SP Group manufactures and supplies plastic products for domestic use in Denmark as well as for export purposes. This company provided an international comparative view on the level of Global Reporting Initiative (GRI) indicator application between companies based in South Africa and Denmark. The companies randomly selected for inclusion within the sample are shown in Table 2 overleaf.

Table 2 Basic materials industry sample description

Company	Current market capitalisation (ZAR)	Number of employees (2015)	Applied sustainability reporting methods/guidelines	Third party non-financial assurance
Royal Bafokeng Platinum Limited	7 billion	7821	King III, Global Reporting Initiative's (GRI) guidelines, GRI's Mining and Metals Sector Supplement (MMSS), International Integrated Reporting Framework (IIRF), Listings Requirements of the JSE	Selected indicator assurance
Buildmax Limited	32.6 million	1241	JSE SRI Index, King III, Global Reporting Initiative (GRI) guidelines, International Integrated Reporting Framework (IIRF)	None reported
Insimbi Refractory and Alloy Supplies Limited	338 million	162	King III, International Integrated Reporting Framework (IIRF)	None reported
Kumba Iron Ore Limited	55.7 billion	11790	King III, International Integrated Reporting Framework (IIRF), Global Reporting Initiative's (GRI) guidelines, GRI's Mining and Metals Sector Supplement (MMSS), AA1000 – stakeholder engagement standard	Selected indicator assurance
Petmin Limited	853.8 million	>900	King III	None reported
SP Group (Denmark)	2.9 million	1452	None reported	None reported

A total of 16 out of a potential of 18 reports were analysed. The shortfall was due to two companies having inaccessible 2014 reports. However, availability of 2013 and 2015 reports would still provide adequate data for analysis. In these cases, the 2013 data was transposed into the 2014 data set to provide consistency with scoring.

5.2.2 Consumer services industry

Five companies from the consumer services industry were randomly selected for inclusion in the sample. These companies belonged to sub-sectors which included specialised consumer services, broad line and apparel retailers, broadcasting and entertainment and restaurants and bars. An additional international entity from Denmark, listed on the Copenhagen Stock Exchange (CSE) was purposively sampled for inclusion in the study. This method of sampling was necessary as the majority of companies within the industry group produced annual reports in Danish. It was a challenge to randomly select a company as a number of initially randomly selected companies did not provide integrated reports in English and therefore it was necessary to identify a company which could provide the required reports in English to facilitate analysis.

The Danish company, Tivoli Gardens, was selected. This company belongs to the entertainment sub-sector. Tivoli Gardens is a famous amusement park offering various activities such as rides and concerts and has been described as an international attraction.

The six companies were analysed using reports collected for 2013, 2014 and 2015 and all 18 required reports were available for collection. A sample description may be seen in Table 3 below.

Table 3 Consumer services industry sample description

Company	**Current market capitalisation (ZAR)**	**Number of employees (2015)**	**Applied sustainability reporting methods/guidelines (2015)**	**Third party non-financial assurance (2015)**
Curro Holdings Limited	19.8 billion	4 350	King III	None reported
Massmart Holdings Limited	27.8 billion	48 035	King III, International Integrated Reporting Framework (IIRF)	None reported
Mr. Price Group Limited	39.5 billion	17 098	King III, International Integrated Reporting Framework (IIRF)	None reported

Naspers Limited	860.3 billion	24000	King III, Global Reporting Initiative's (GRI) guidelines, International Integrated Reporting Framework (IIRF)	None reported
Famous Brands Limited	15.2 billion	1 472	King III	None reported
Tivoli Gardens (Denmark)	4.9 billion	886	UN Global Compact	None reported

5.2.3 Industrials sector

This industry consisted of companies within the construction and materials and general industrials sub-sectors. Five out of a total of 66 currently listed companies in the industrials industry were randomly selected. Reports were collected for 2013, 2014 and 2015 for each company to facilitate longitudinal analysis. A total of 18 reports were analysed and a sample description may be seen in Table 4 below.

Table 4 Industrials industry sample description

Company	**Current market capitalisation (ZAR)**	**Number of employees (2015)**	**Applied sustainability reporting methods/guidelines (2015)**	**Third party non-financial assurance (2015)**
Sephaku Holdings Limited	552 million	345	King III, International Integrated Reporting Framework (IIRF)	None reported
Stefanutti Stock Holdings Limited	874 million	13812	King III, Discussion Paper on Integrated Reporting (SAIRC), Global Reporting Initiative's (GRI) guidelines, International Integrated Reporting Framework (IIRF)	None reported
PPC Limited	8.9 billion	3372	King III, International Integrated Reporting Framework (IIRF), Global Reporting Initiative's (GRI) guidelines	Selected indicator assurance
Basil Read Holdings Limited	287 million	5325	King III, International Integrated Reporting Framework (IIRF), Global	None reported

			Reporting Initiative's (GRI) guidelines	
Bidvest Limited	58.6 billion	141015	King III, International Integrated Reporting Framework (IIRF), Global Reporting Initiative's (GRI) guidelines	Selected indicator assurance
Schouw & Co. (Denmark)	25.2 billion	2371	Danish Financial Statements Act, UN Global Compact	None reported

A Danish company, Schouw & Co. was selected for comparative analysis. Purposive sampling was done as availability of published reports in English also proved challenging within this industry. Schouw & Co., runs a number of diversified subsidiary businesses ranging between industrial fish farming feed and the manufacture of textiles.

5.3 Research criteria

The samples were analysed according to a coding framework based on Global Reporting Initiative (GRI) G4 guideline indicators. A total of 91 indicators were analysed based on the Global Reporting Initiative (GRI) indicator categories. These categories were economic, environmental, social, labour, human rights and product responsibility as seen in Table 5. The Global Reporting Initiative (GRI) general standard disclosures; these being strategy and analysis, organisational profile, identified material aspects and boundaries, stakeholder engagement, report profile, governance, ethics and integrity and general standard disclosures for sectors, were deemed outside the scope of the research and a specific focus on the indicators was more pertinent to the research objective stated in Chapter in section 1.3. The research criteria are detailed in Table 5 overleaf.

Table 5 Research criteria based on GRI indicators

GRI indicator categories	Indicator coverage	Number of indicators analysed
Economic	9 (EC1 - EC9)	9
Environmental	34 (EN1 - EN34)	34
Social	11 (SO1 - SO11)	11
Labour	16 (LA1 - LA16)	16
Human rights	12 (HR1 - HR12)	12
Product responsibility	9 (PR1 - PR9)	9
Total		91

5.4 Research findings

The research findings are outlined in this section according to each research question and shall be presented per industry.

5.4.1 Research Question 1

The research question states the following:
What is the extent of Global Reporting Initiative (GRI) indicator application to measure sustainability performance within multiple sectors of the Johannesburg Stock Exchange (JSE)?

The following research objectives were determined:

I. To measure the extent that sample companies have applied the Global Reporting Initiative (GRI) reporting indicators to measure sustainability performance.
II. To compare the application of Global Reporting Initiative (GRI) indicators between the basic materials, industrials and consumer services industries.

5.4.1.1 Research results for Objective I

This objective sought to measure the extent that sample companies have applied the Global Reporting Initiative (GRI) reporting indicators to measure sustainability performance. The results relating to this objective shall be presented per industry.

A. Basic materials industry

In this industry, the highest overall scores for indicator coverage were seen for the environmental indicators. With reference to Figure 3, which depicts the indicator coverage per Global Reporting Initiative (GRI) category for 2013, 2014 and 2015, the environmental indicators contributed 34% to the total scores of all companies within the industry, followed by labour at 19% and economic indicators at 16%. The lowest scores were observed for human rights indicators (7%) as well as social (13%) and product responsibility (11%). From the figure, marginal year on year improvements in indicator coverage can be seen.

Figure 4 depicts a radar chart which further emphasises the skewness observed towards environmental reporting indicators for Kumba and Bafokeng. Slight skewness is also seen for labour indicators for the two companies.

Figure 5 illustrates the company indicator coverage. The analysis was done to determine the extent of Global Reporting Initiative (GRI) guideline application at company level. Results show that Kumba and Royal Bafokeng are leading in terms of use of Global Reporting Initiative (GRI) indicators with SP Group (Denmark) and Insimbi showing the lowest application in their integrated reports.

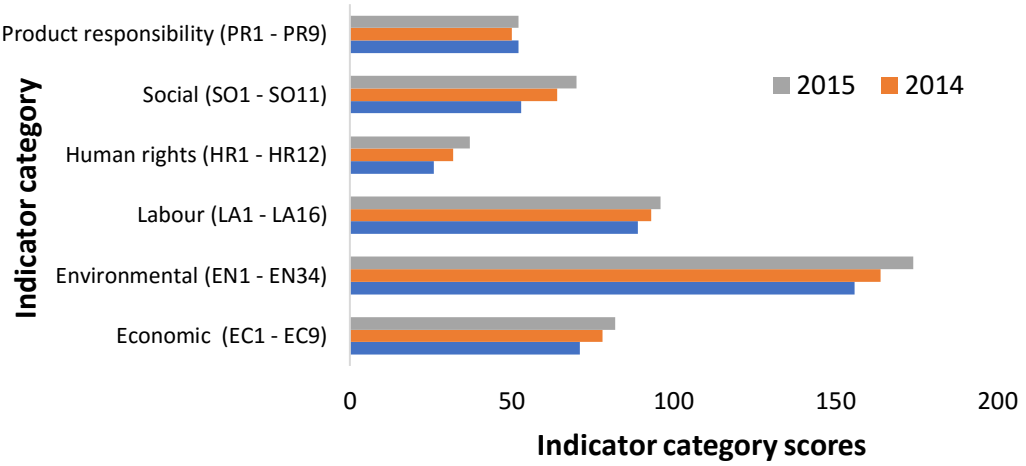

Figure 3 Indicator coverage per category – Basic materials industry

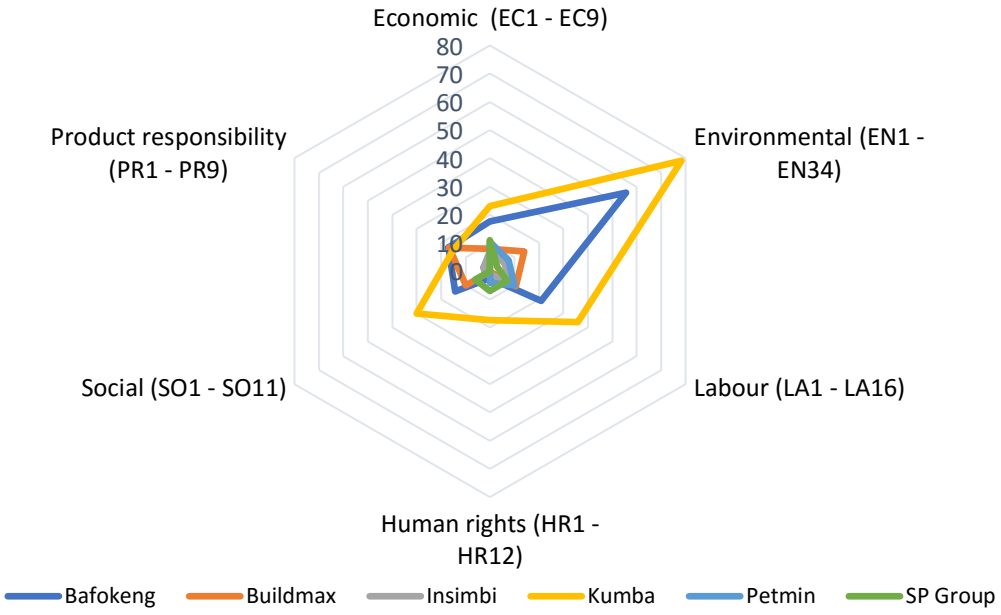

Figure 4 Company indicator coverage – Basic materials industry

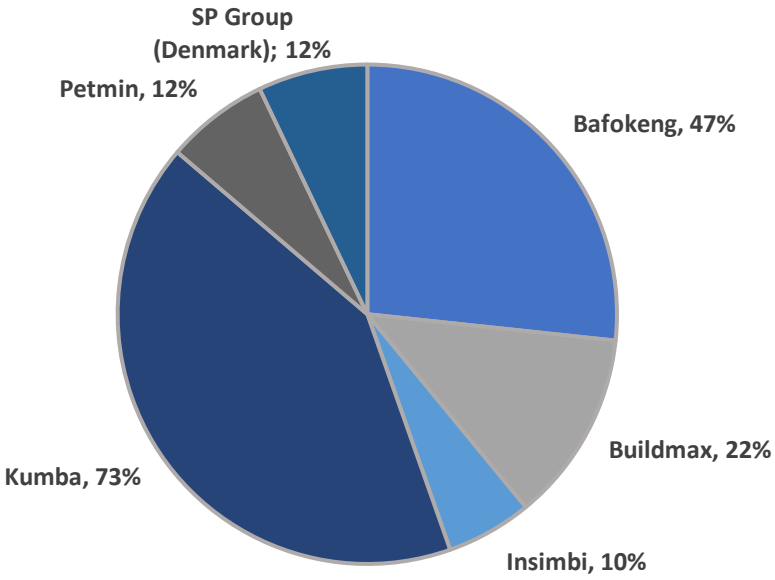

Figure 5 Company indicator coverage – Basic materials industry

B. Consumer services industry

With reference to Figure 6, which depicts the indicator coverage for the industry over the three-year period from 2013 – 2015. The consumer services industry appears to have a more balanced approach to indicator coverage, with the economic (21%), environmental (27%) and labour (30%) indicator categories being the most widely applied indicators, representing 21%, 27% and 30% of the total scores. Human rights, social and product responsibility were less applied representing 6%, 10% and 6% respectively.

Figure 7 depicts a radar chart which further emphasises the skewness observed towards environmental reporting indicators for Massmart. Slight skewness is also seen for labour indicators for the other companies.

The application of Global Reporting Initiative (GRI) guidelines at company level in this industry is shown in Figure 8. Massmart dominates with a 44% application of the Global Reporting Initiative (GRI) indicators, followed by Naspers at 24%.

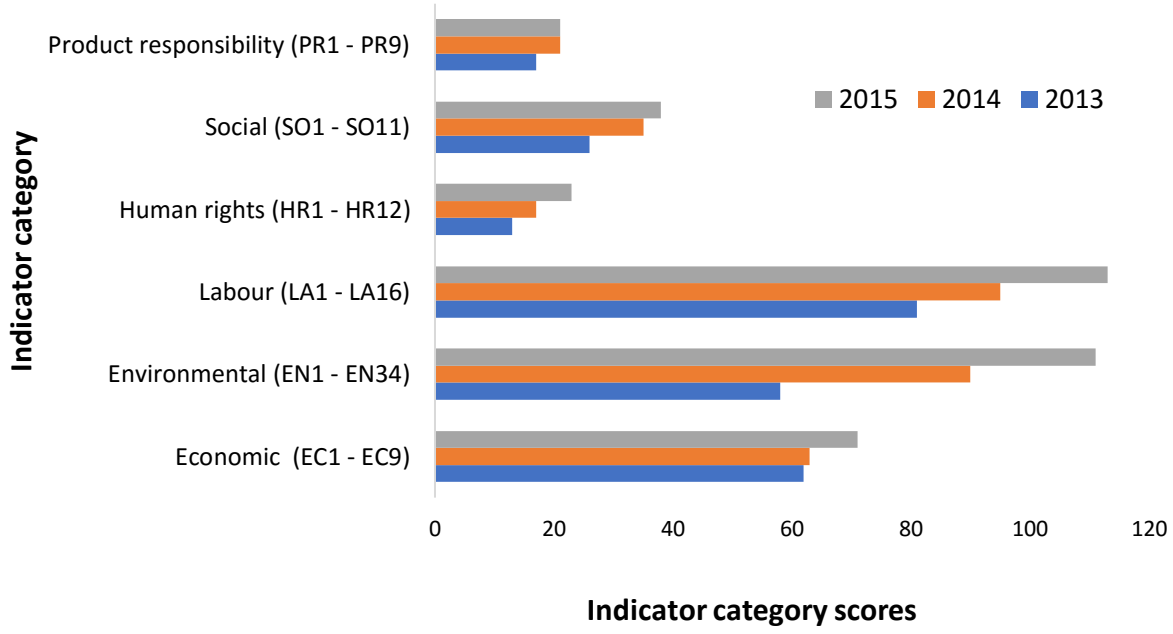

Figure 6 Company indicator coverage – Consumer services industry

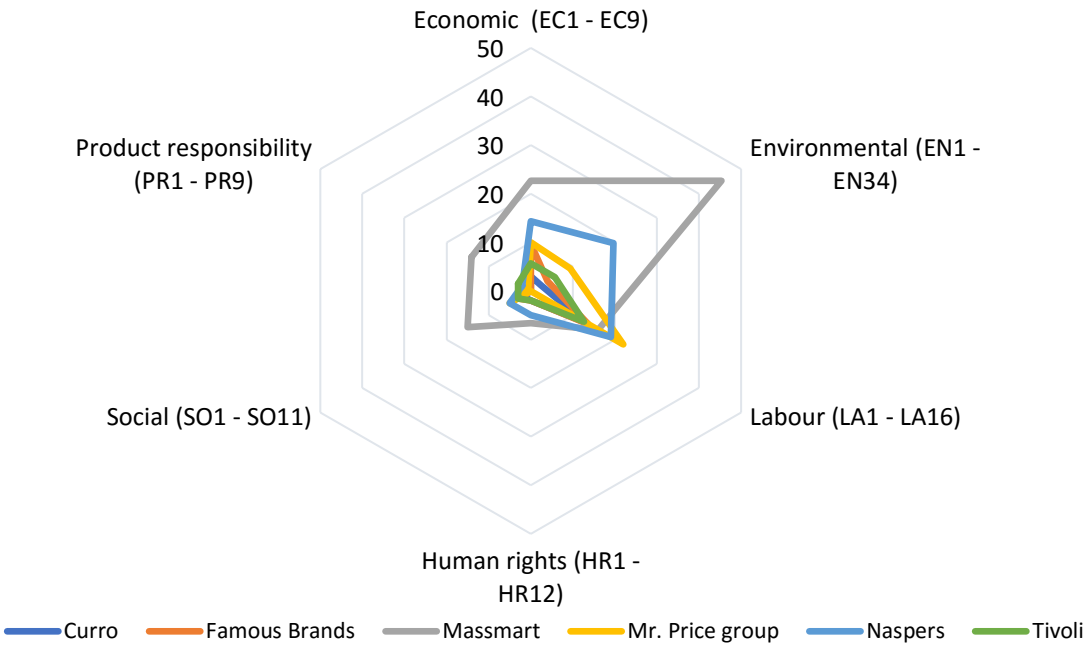

Figure 7 Company indicator coverage – Consumer services industry

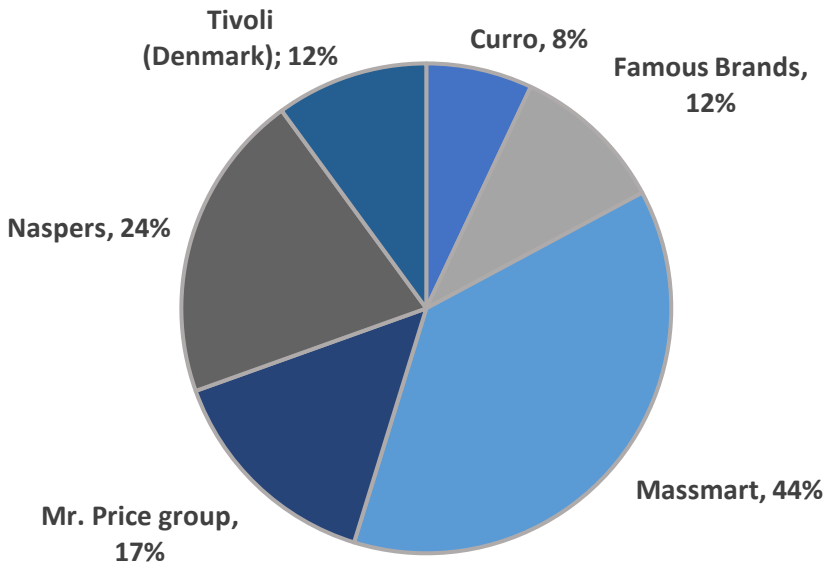

Figure 8 Consumer services indicator coverage

C. Industrials industry

With reference to Figure 9, which depicts represents the indicator coverage for the industry between 2013 and 2015, the industry showed a higher tendency to report on environmental indicators, with a 41% coverage over the course of three years. This was followed by labour indicators at 23%. Product responsibility and human rights were the least reported indicators with 2% and 3% coverage respectively. It can be seen that there is a distinct increase in coverage application between 2014 and 2015.

Figure 10 depicts a radar chart which further emphasises the skewness observed towards environmental reporting indicators but in this industry, the skewness is observed by all companies, with PPC indicator coverage being the most skewed towards environmental indicators. Slight skewness is also seen for labour indicators and to a lesser degree for social indicators for a few other companies in the industry.

Figure 11 compares the overall Global Reporting Initiative (GRI) indicator application per company. This industry appears to apply the indicator guidelines on a wider scale compared to the basic materials and consumer services industries. PPC is the leader of the pack with an impressive 74% application, the highest coverage of all three sectors. Stefanutti follows with 61% coverage. The Danish company Schouw & Co. is the lowest at 8% coverage, denoting the lowest coverage out of all the Danish companies within the sample.

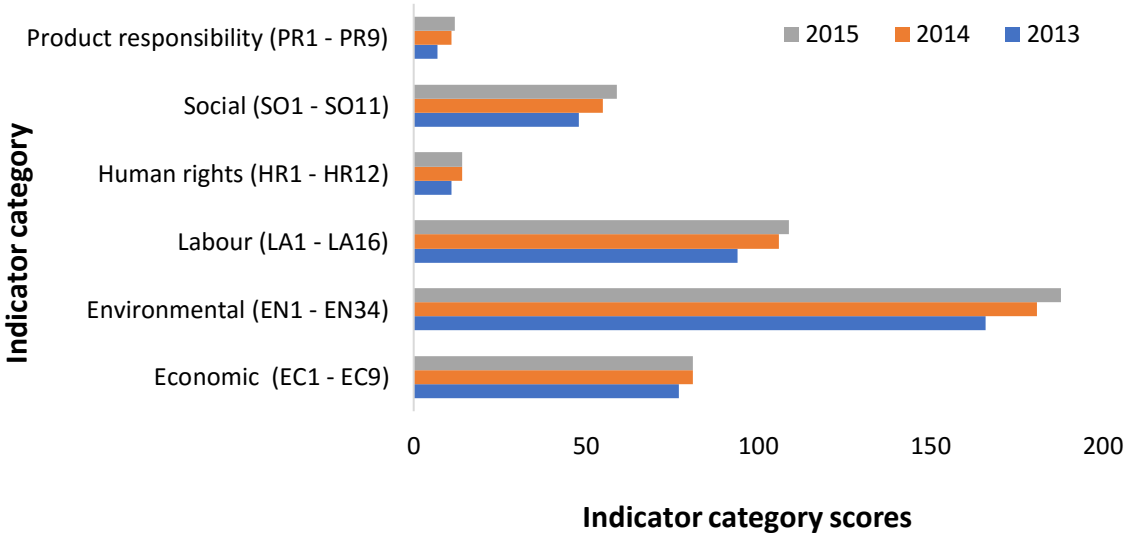

Figure 9 Industrials indicator coverage

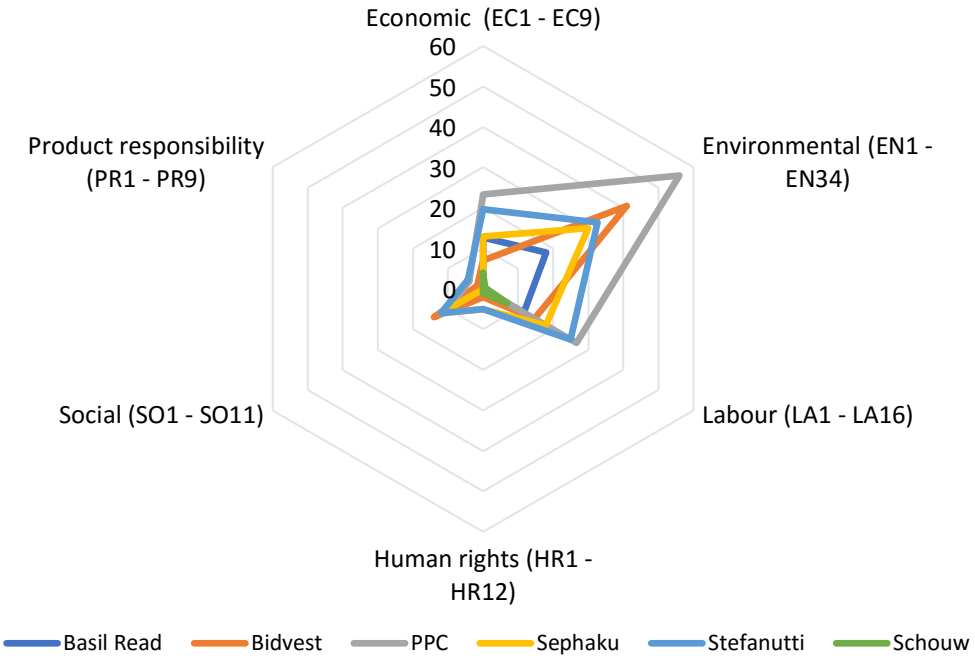

Figure 10 Company indicator coverage – Industrials industry

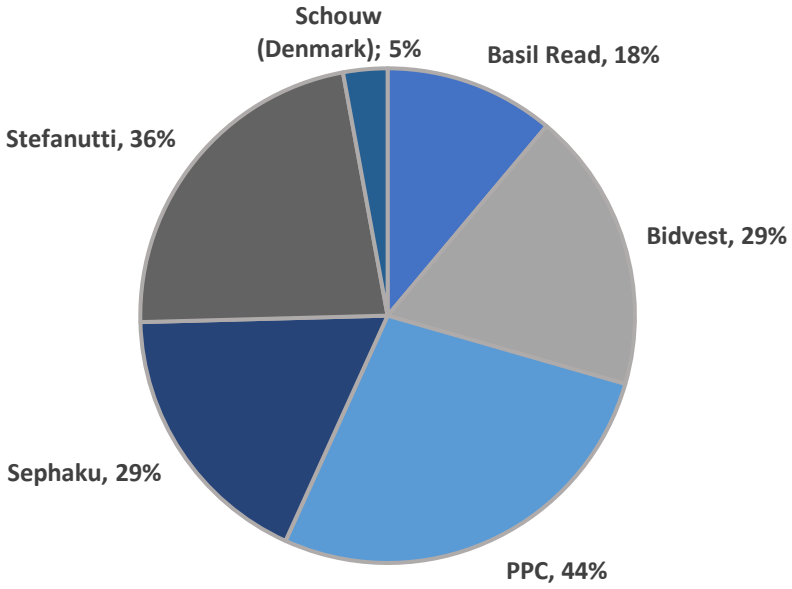

Figure 11 Company indicator coverage – Industrials industry

5.4.1.2 Research results for Objective II

This objective sought to compare the application of Global Reporting Initiative (GRI) indicators between the basic materials, industrials and consumer services industries. The industrials industry dominates the three industries in terms of overall indicator application. This industry shows the highest application of the economic, environmental, labour and social indicator categories. The basic materials industry shows the highest application of the human rights and product responsibility categories. Figure 12 illustrates the comparison between industries of overall indicator application.

Figure 13, compares the indicator application across the industries and shows a common skewness to environmental indicators, particularly within the basic materials and industrials industries. There is marginal skewness towards labour and social indicators as well. Consumer services extent of Global Reporting Initiative (GRI) application is evident in both Figure 12 and 13, showing a more balanced but lower performance across all indicator categories.

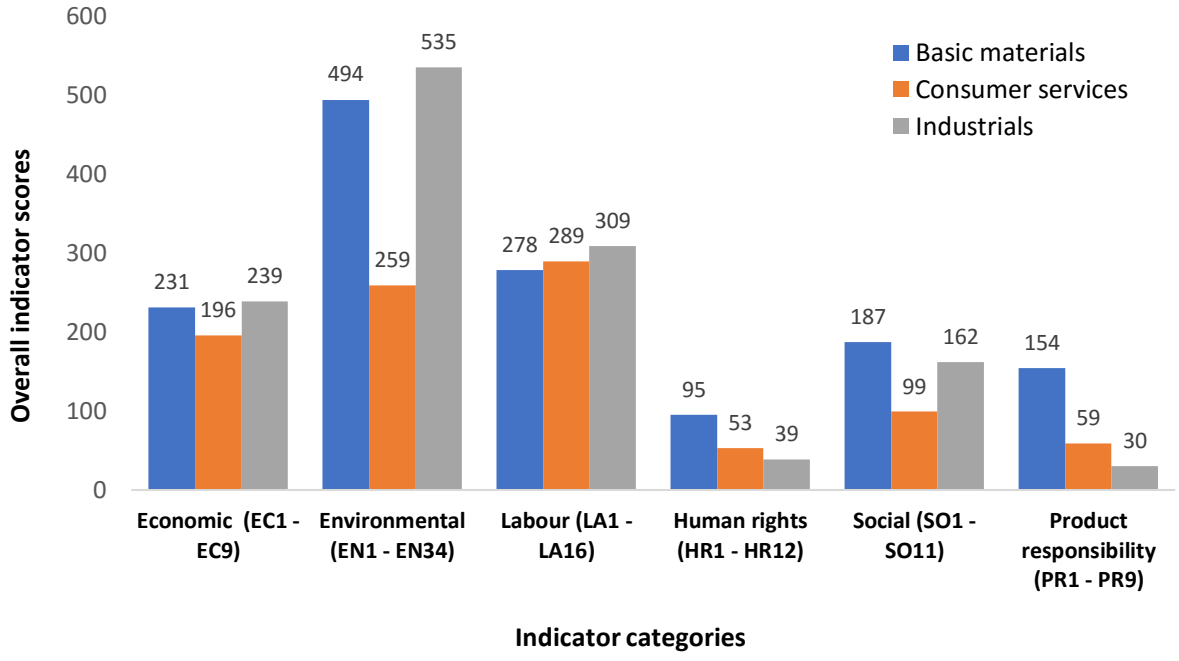

Figure 12 Cross industry indicator application comparison

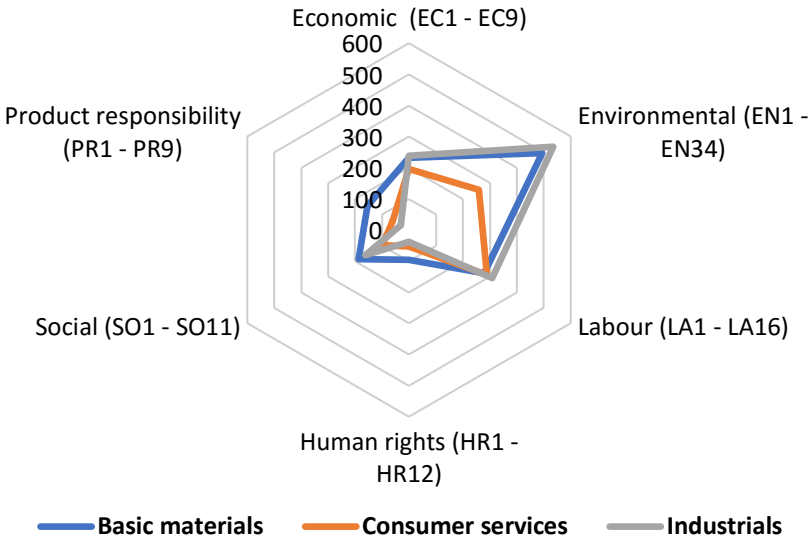

Figure 13 Cross industry indicator application comparison

5.4.2 Research Question 2

The research question states the following:
To what extent is sustainability performance measurable and comparable, within sectors and over a period of time? The following research objectives were determined:

1. To determine the number of fully-reported indicators within each indicator category, company and industry.
2. To compare the degree with which the application of sustainability indicators change over the course of three years within distinct sectors.

5.4.2.1 Research results for Objective 1

The objective was to determine the number of fully-reported indicators within each indicator category, company and industry.

Comparability was analysed based on the occurrence of common fully-reported indicators disclosed within the integrated reports between companies within the same industry. A fully reported indicator is that which achieved a score of three.

Tables 6, 7 and 8 demonstrate the application of indicators and which indicators are consistently reported over the course of the three-year period between January 2013 and December 2015. Only reported indicators between the five companies are shown in the table, any indicators which were not reported were omitted from the results tables. The column labelled “count of indicator” represents the total number of times the indicator has been disclosed by all companies over the three-year period.

As can be seen from Tables 6, 7 and 8, the distribution of indicators within each industry is inconsistent. The only indicator that was consistently applied was EC1 - Direct economic value generated and distributed. This was consistently applied due to the nature of the indicator, which is economic and is a fundamental cornerstone of the integrated annual report. Besides indicator EC1, the number of times an individual indicator was applied varied between 1 and 3.

Table 6 Consumer services indicator comparability analysis

Indicators	Curro	Famous brands	Massmart	Mr.Price Grp	Naspers	Tivoli	Count of indicator	%
EC1	EC1	EC1	EC1	EC1	EC1	EC1	6	100%
EC2		EC3		EC3	EC3		3	50%
LA2			LA2	LA2	LA2		3	50%
EN15			EN15		EN15		2	33%
EN16			EN16		EN16		2	33%
LA10				LA10	LA10		2	33%
LA12				LA12		LA12	2	33%
PR5			PR5			PR5	2	33%
EC4			EC4				1	17%
EC6			EC6				1	17%
EC9			EC9				1	17%
EN3			EN3				1	17%
EN5			EN5				1	17%
EN8			EN8				1	17%
EN18			EN18				1	17%
EN19					EN19		1	17%
EN27					EN27		1	17%
EN29					EN29		1	17%
LA7					LA7		1	17%
LA9					LA9		1	17%
LA16				LA16			1	17%
HR5					HR5		1	17%
PR7			PR7				1	17%
Total	**1**	**2**	**13**	**6**	**12**	**3**	**37**	

Table 7 Basic materials indicator comparability analysis

Indicators	Bafokeng	Buildmax	Insimbi	Kumba	Petmin	SP Group	Count of indicator	%
EC1	EC1	EC1	EC1	EC1	EC1	EC1	6	100%
EN29	EN29	EN29		EN29			3	50%
LA6	LA6	LA6		LA6			3	50%
SO8	SO8	SO8		SO8			3	50%
PR9	PR9	PR9		PR9			3	50%
EC3			EC3	EC3			2	33%
EC7				EC7	EC7		2	33%
EC9		EC9		EC9			2	33%
EN1	EN1			EN1			2	33%
EN3	EN3			EN3			2	33%
EN6	EN6			EN6			2	33%
EN22	EN22			EN22			2	33%
LA2	LA2		LA2				2	33%
LA7	LA7			LA7			2	33%
SO5				SO5		SO5	2	33%
SO6		SO6		SO6			2	33%
PR3	PR3	PR3					2	33%
PR4	PR4	PR4					2	33%
PR7	PR7	PR7					2	33%
EC4				EC4			1	17%
EC6				EC6			1	17%
EC8				EC8			1	17%
EN5				EN5			1	17%
EN8				EN8			1	17%
EN9				EN9			1	17%
EN10				EN10			1	17%
EN13		EN13					1	17%
EN15				EN15			1	17%
EN16				EN16			1	17%
EN17				EN17			1	17%
EN18				EN18			1	17%
EN19				EN19			1	17%
EN20				EN20			1	17%
EN21				EN21			1	17%
EN23	EN23						1	17%
EN24		EN24					1	17%
EN25	EN25						1	17%
EN30				EN30			1	17%
EN32				EN32			1	17%
EN33				EN33			1	17%
EN34				EN34			1	17%
LA1				LA1			1	17%
LA5				LA5			1	17%
LA8				LA8			1	17%
LA9				LA9			1	17%
LA10				LA10			1	17%
LA12				LA12			1	17%
LA15				LA15			1	17%
LA16				LA16			1	17%
HR3				HR3			1	17%
HR5						HR5	1	17%
HR6						HR6	1	17%
HR7				HR7			1	17%
HR11				HR11			1	17%
HR12				HR12			1	17%
SO1				SO1			1	17%
SO3				SO3			1	17%
SO4				SO4			1	17%
SO7				SO7			1	17%
SO11				SO11			1	17%
PR2	PR2						1	17%
PR6		PR6					1	17%
Total	**17**	**13**	**3**	**50**	**2**	**4**	**89**	

Table 8 Industrials indicator comparability analysis

Indicators	Basil Read	Bidvest	PPC	Sephaku	Steffanutti	Schouw	Count of indicator
EC1	EC1	EC1	EC1		EC1	EC1	5
SO7	SO7	SO7			SO7		3
EC4			EC4		EC4		2
EC7				EC7	EC7		2
EN3		EN3			EN3		2
EN15		EN15	EN15				2
EN16		EN16	EN16				2
EN17		EN17	EN17				2
EN18		EN18	EN18				2
EN27			EN27		EN27		2
LA6			LA6		LA6		2
LA9			LA9		LA9		2
LA10			LA10		LA10		2
LA12			LA12		LA12		2
SO6		SO6		SO6			2
SO8		SO8			SO8		2
EC6			EC6				1
EC8			EC8				1
EC9			EC9				1
EN2			EN2				1
EN8					EN8		1
EN19			EN19				1
EN21			EN21				1
EN23			EN23				1
EN24		EN24					1
EN28					EN28		1
EN29					EN29		1
EN34			EN34				1
LA13					LA13		1
HR3					HR3		1
Total	**2**	**10**	**22**	**4**	**16**	**1**	**55**

5.4.2.2 Research results for Objective 2

To compare the degree with which the application of sustainability indicators change over the course of three years within distinct sectors. This objective sought to determine the levels of indicator disclosure improvements over time (2013 to 2015) as a means to determine the degree of increasing comparability within industries.

Figures 14, 15 and 16 show the indicator disclosure changes between the first sample report of 2013 to 2014 and the subsequent changes between indicator disclosure from 2014 to 2015. The level of change is represented per indicator category and is shown as the percentage change within each period. See Figure 14 below which illustrates the percentage change in indicator application for the basic materials industry.

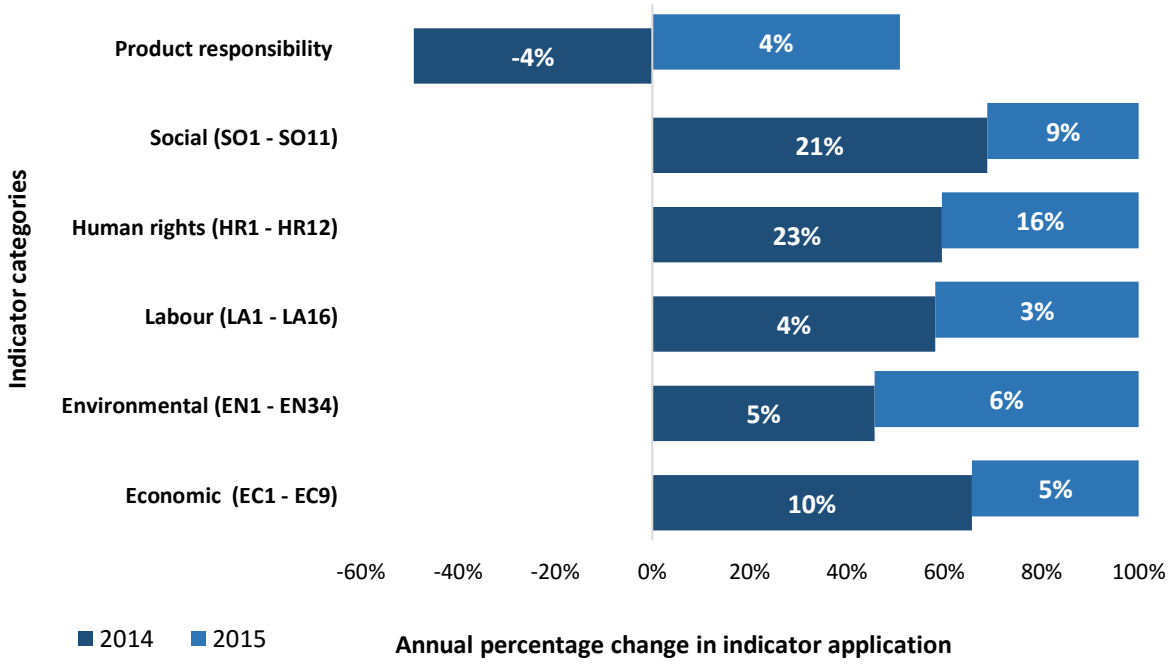

Figure 14 Basic materials indicator reporting annual changes

In the basic materials industry, shown in Figure 14, there were sizeable changes in the social and human rights categories. Small levels of change were seen in the product responsibility, labour, environmental and economic categories.

The consumer services industry showed significant levels of indicator disclosure between 2013 and 2014, with five out of six indicator categories showing a minimum of 17% improvement in indicator application, with the highest improvement seen in the environmental category. Despite significant improvements between 2013 and 2014, there continued to be significant improvements between 2014 and 2015, five out of six companies showing >10% improvements in indicator application. See Figure 15 below which illustrates the percentage change in indicator application for the consumer services industry.

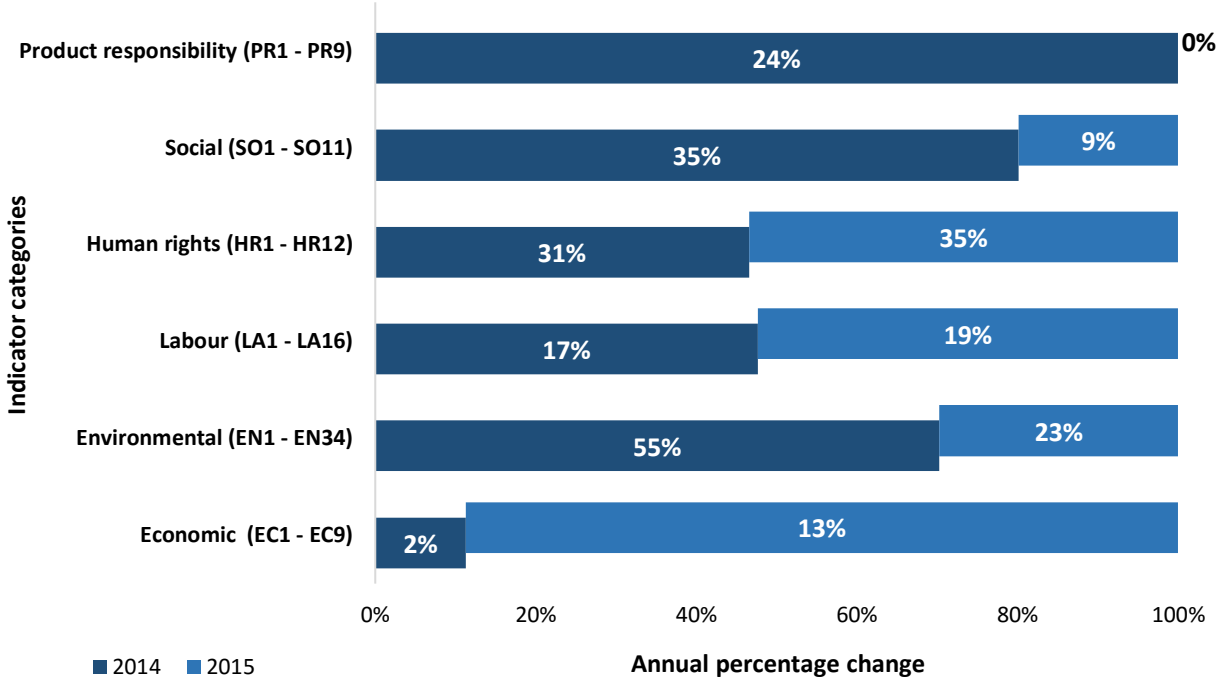

Figure 15 Consumer services indicator reporting annual changes

The industrials industry, seen in Figure 16 below, shows significant changes in the improvement of indicator disclosure between 2014 and 2015. All six indicators showed an improvement in their application within the integrated reports.

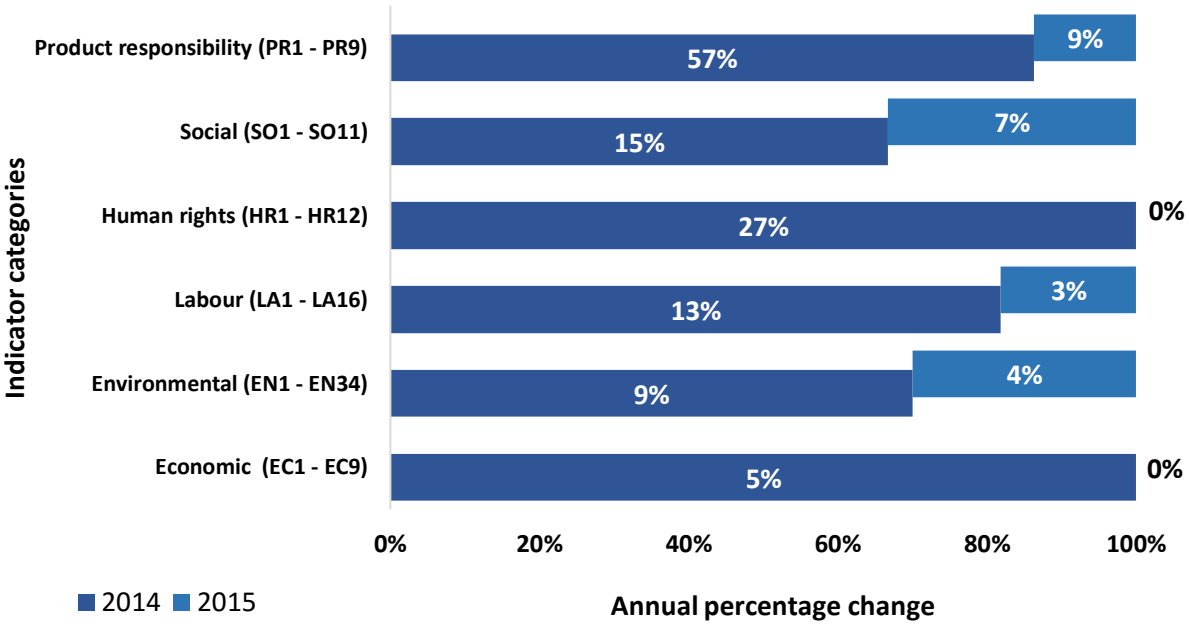

Figure 16 Industrials indicator reporting annual changes

5.4.3 Research Question 3

The research question states the following:
To what degree is sustainability performance related to improved financial performance of the organisation?

To answer this research question, analysis was done to compare the changes in the average sustainability scores with the return on assets (ROA) and return on equity (ROE). Analysis was done in excel and comparisons made by way of graphs. Figures 14 to 19 will depict the relationships between sustainability and financial performance per industry.

A. Basic materials industry

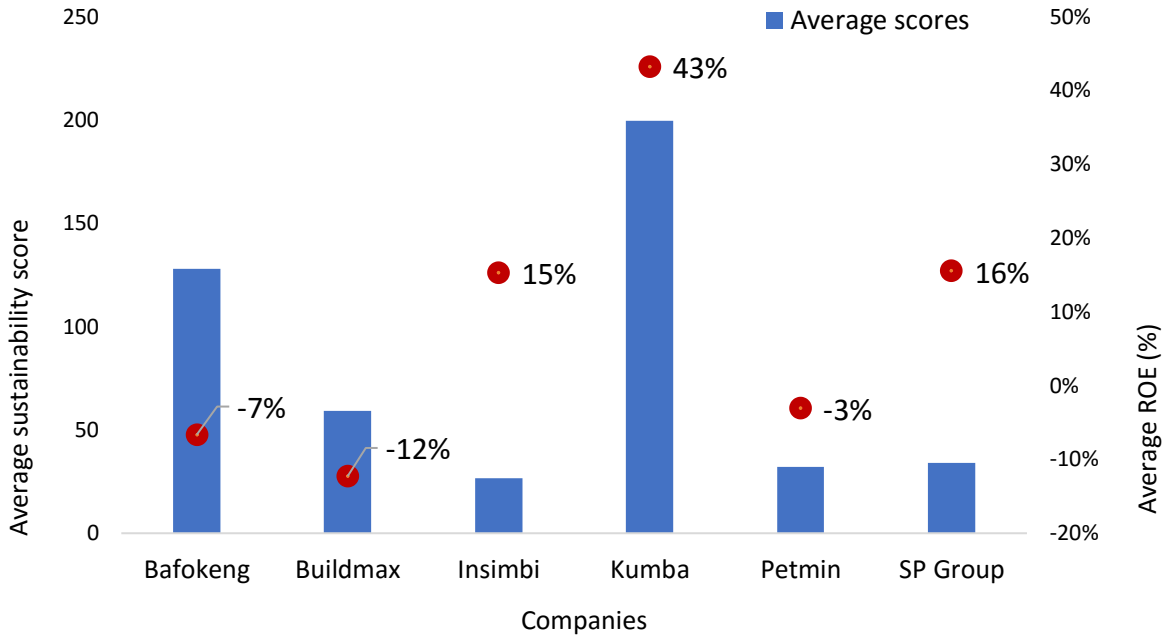

Figure 17 Basic materials sustainability scores vs ROE (2013 – 2015)

From Figure 17 above, it can be seen that Kumba Iron Ore retains a favourable relationship between the variables, indicating high sustainability scores paired with a high average return on equity (ROE). However, this ideal is not consistent with the other companies in the sector, with the next best performing company, Royal Bafokeng exhibiting a negative return on equity (ROE). Another anomaly was seen with SP Group and Insimbi, who scored low on sustainability performance whilst retaining favourable return on equity (ROE)'s of 16% and 15% respectively. Petmin and Buildmax, who both scored fairly low in terms of sustainability performance, also showed negative return on equity (ROE)'s of -3% and -12% respectively.

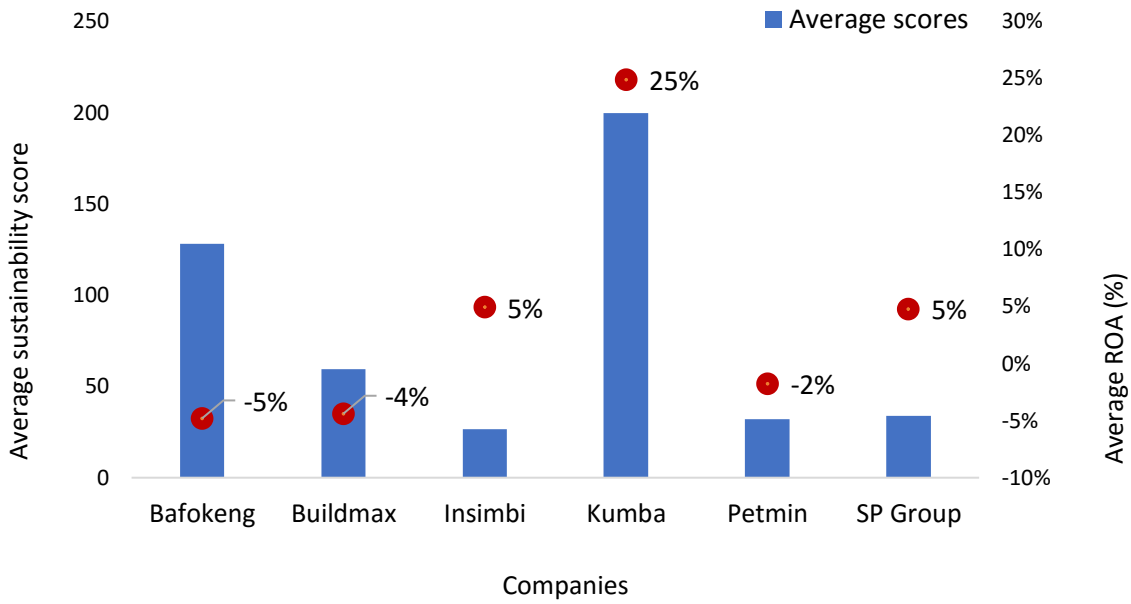

Figure 18 Basic materials sustainability scores vs ROA (2013 – 2015)

Figure 18 above, shows the comparison between companies' average sustainability scores and return on assets (ROA). There are anomalies, with only Kumba Iron Ore exhibiting a positive relationship between the two variables. Both Insimbi and SP Group have 5% return on assets (ROA) with relatively low sustainability scores. Royal Bafokeng has an average sustainability score with a negative return on assets (ROA), whilst Petmin and Buildmax have low scores and negative return on assets (ROA)'s.

B. Consumer services industry

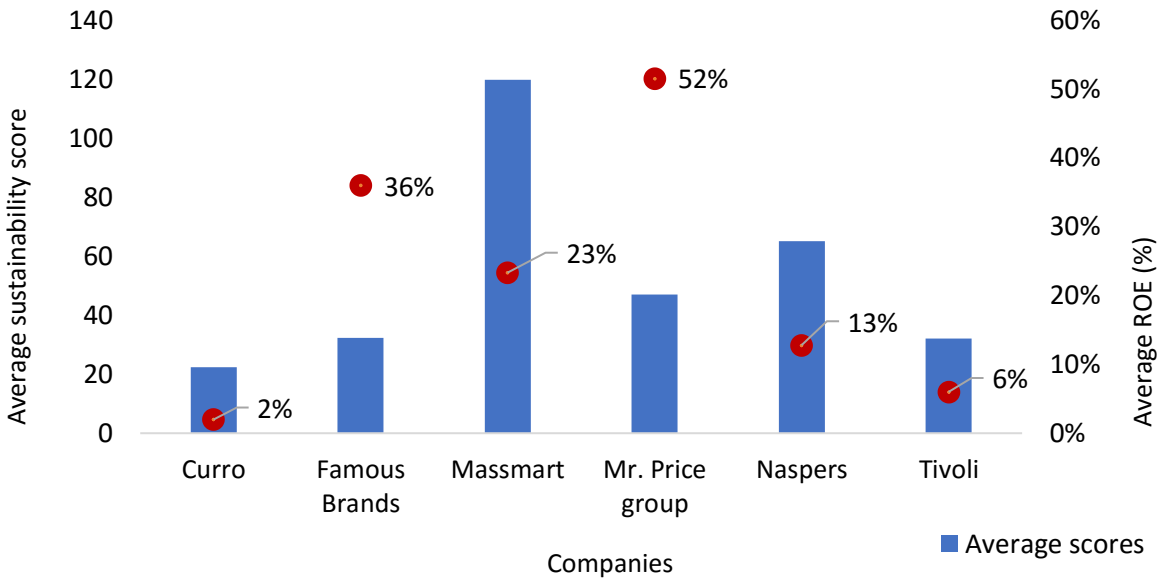

Figure 19 Consumer services sustainability scores vs ROE (2013 – 2015)

As seen in Figure 19 above, Famous Brands and Mr. Price Group achieved relatively high return on equity (ROE)'s despite their low to average sustainability performance. Massmart, achieved high sustainability performance scores and a favourable return on equity (ROE), however the return on equity (ROE) figure was not as high as that of Famous Brands and Mr. Price Group. Curro and Tivoli had low sustainability scores and correspondingly low return on equity (ROE) figures.

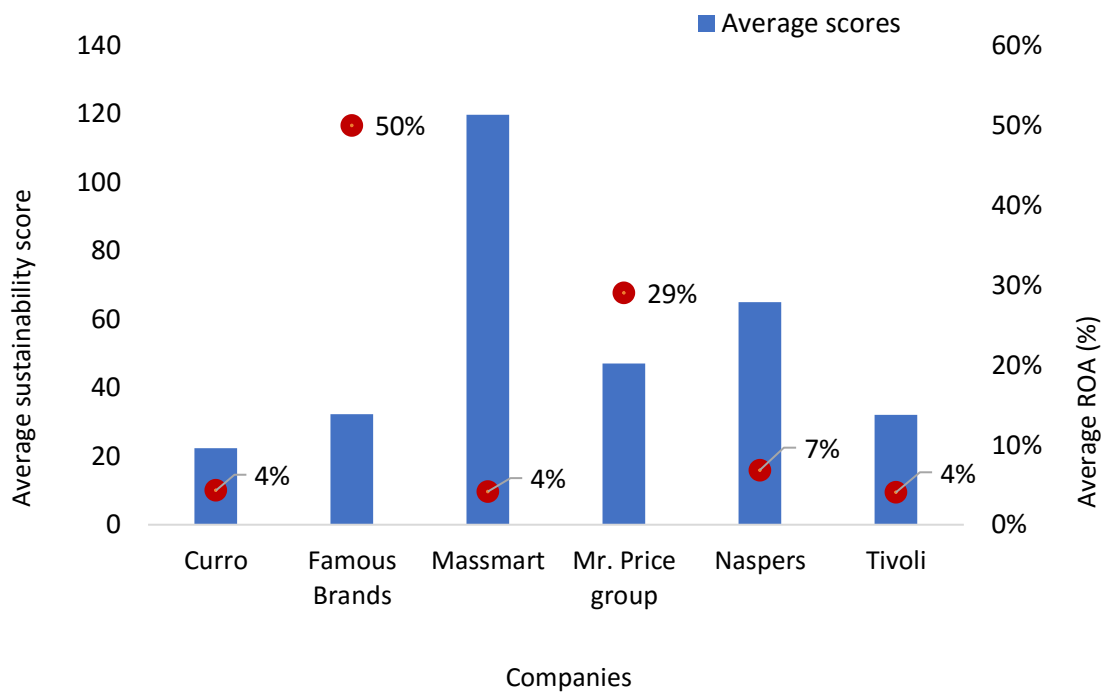

Figure 20 Consumer services sustainability scores vs ROA (2013 – 2015)

Figure 20 above depicts the relationship between company sustainability scores and return on assets (ROA). Notably, Famous Brands achieved a high return on assets (ROA) despite a relatively low sustainability score. This is sharply contrasted with Massmart having achieved a high sustainability score and a relatively low return on assets (ROA).

The consumer services industry does not clearly indicate a relationship between sustainability performance and financial performance, particularly in the case of return on assets (ROA) analysis. It can thus be concluded that the contribution of sustainability performance is lower than other factors to the financial performance within this industry.

C. Industrials industry

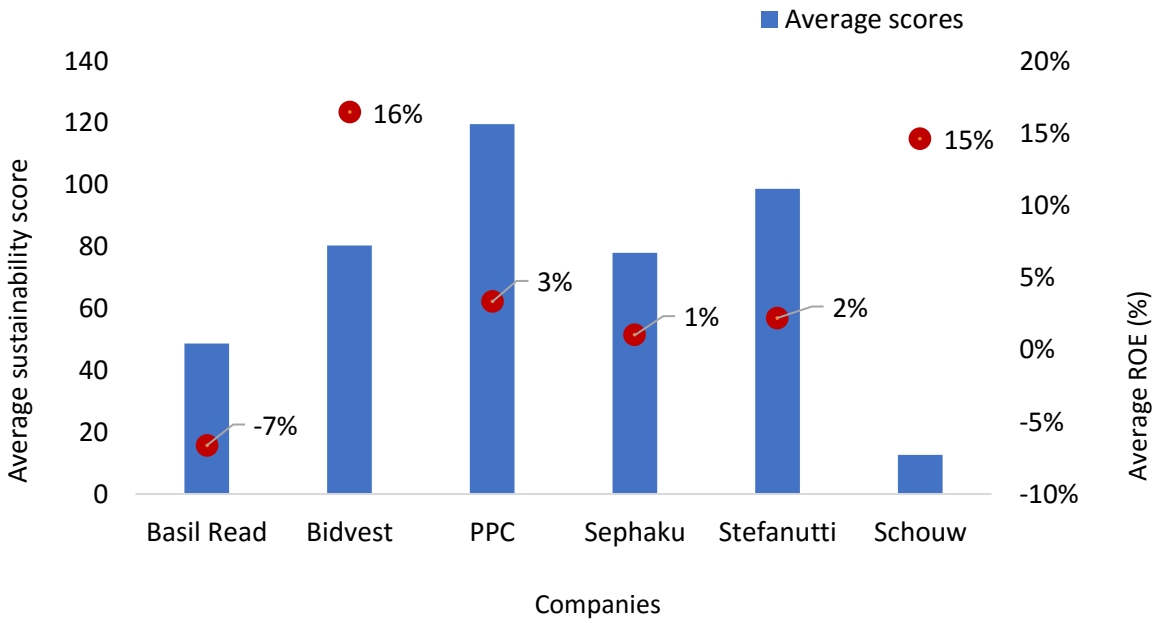

Figure 21 Industrials sustainability scores vs ROE (2013 – 2015)

Figure 21 above depicts the sustainability scores compared to the average return on equity (ROE) values for the period 2013 – 2015. Three companies, PPC, Sephaku and Stefanutti all achieved relatively high sustainability scores, however these do not correlate with their return on equity (ROE) values which are the lowest compared to their peers. Bidvest achieved average sustainability performance however, the company's return on equity (ROE) is the highest of the group at 16%. Schouw & Co. on the other hand, had low sustainability performance scores and a high return on equity (ROE).

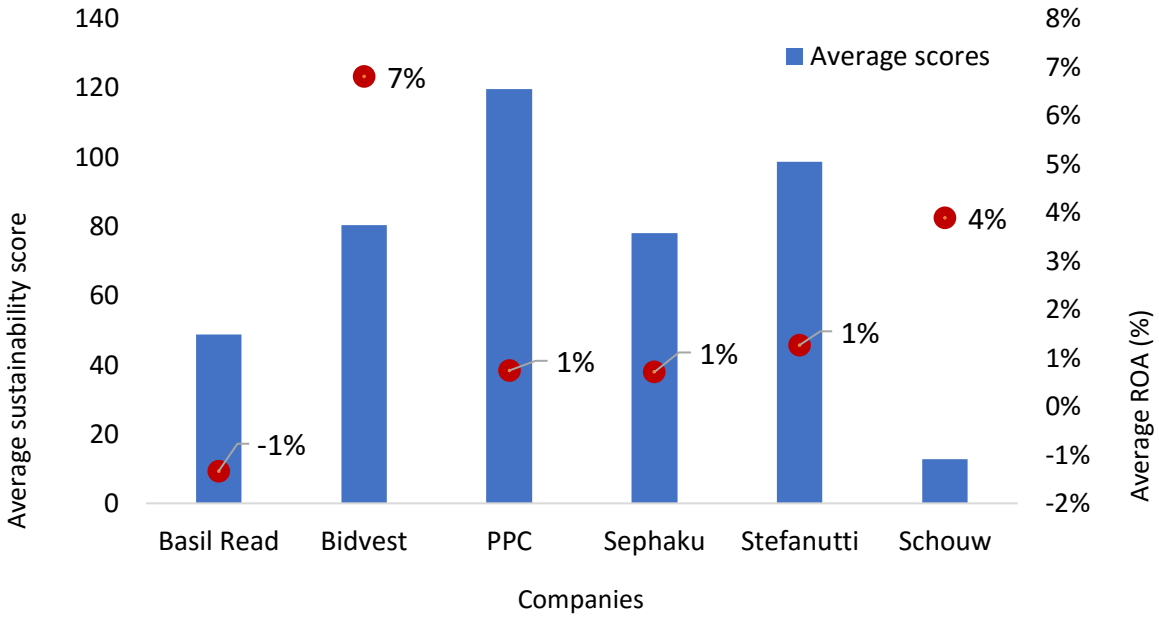

Figure 22 Industrials sustainability scores vs ROA (2013 – 2015)

Figure 22 depicts the comparisons between the average sustainability scores and return on assets (ROA) values between 2013 and 2015 for the industrials industry. This industry had particularly lower average return on assets (ROA)'s compared to the other two industries, consumer services and basic materials. However, it also achieved more average to high sustainability scores compared to the other industries. The highest return on assets (ROA) was achieved by Bidvest with a corresponding average sustainability score of 138.

This analysis does not indicate an evident relationship between the financial performance and sustainability performance of organisation within the industrials sector. The results actually indicate that sustainability performance is highly achievable despite lower than anticipated financial outcomes of the reporting period. This may indicate that other factors play a greater role in financial performance than sustainability performance and its subsequent reporting does.

5.4.4 Research Question 4

The research question states the following:
What are the current sustainability oriented innovation efforts in place and to what extent do these innovations represent material environmental, social and governance (ESG) issues identified by the organisation?

In order to answer the research question it was necessary to identify keywords, quotes and references to innovation efforts that companies have previously embarked on or are currently implementing. These were noted during the content analysis and statements from the reports were collected. These are presented as follows.

A. Basic materials industry

"We continue to identify further opportunities to make our operations more energy efficient … the construction of a water treatment plant at BRPM will allow us to remove the nitrates from mine water and make it suitable for use in most of the concentrator processes that require water". Royal Bafokeng, 2013

"Nuisance to community members living near our concentrator for some time now is the vibration coming from the concentrator's screening area… One particular solution has proved to be effective: a variable speed drive which, by matching the frequency of the vibration, neutralises it". Royal Bafokeng, 2013

"We are improving our water use efficiency by installing a state of the art 4Ml per day water treatment plant to treat our tailings return water and excess underground water to different quality standards". Royal Bafokeng, 2013

"Methods to reduce water usage are continuously being investigated. One such method was the introduction of a Dakota Air Separator to remove unwanted fine material from sand". Buildmax, 2013

"…have introduced decentralised grinders on all machines to replace the central grinders…in this way, a larger part of the plastic material is used…which increases the rate of use and reduces waste". SP Group,2013

"In 2013, SP Group carried out tests using recycled plastics for selected products (Plastic Wood Compound) … thus, SP Group will contribute to dramatically reducing not only its own but also others' environmental impact. The goal is to replace wood from rain forests with plastics from sorted household waste". SP Group, 2013

Summary:

Three companies are represented in this industry; however, the sustainability oriented innovations were only observed in 2013. Royal Bafokeng dominated with the most sustainability oriented innovation initiatives found in their reports. The company actually presents within the report a section which discusses technology and innovation and its relation to environmental efforts are discussed. This indicates an understanding of innovations role in sustainability performance improvement. However, discussion of new innovation initiatives from 2013 – 2015 were not found and repetitive discussion of the same initiatives was observed.

B. Consumer services industry

"To achieve this goal we will continue to implement technologies such as LED sales floor lighting, daylight harvesting systems and high-performance refrigeration plants in our new stores and retrofit programmes" Massmart, 2013

"During the year additional productivity and efficiency programmes were initiated to ensure sustainability... environmental programme will be further enhanced with biomass boilers replacing electrical/diesel boilers." Naspers, 2013

"Tests in 2015 involving mini cardboard compressors at several locations at Tivoli demonstrated positive results. The plan is therefore to expand the scheme throughout the Gardens in 2016, and generally maintain an ongoing focus on smarter management of waste fractions." Tivoli, 2015

"In 2015, recyclable jugs were introduced for Friday Rock events. This experiment will continue in 2016. At the recyclable wash plant, water consumption dropped by 59% per cup after trials with better rinsing procedures. Electricity consumption rose by 24% per wash since new air conditioning was installed in the wash plant. Work is under way to improve the extractor system to reduce the need for air conditioning in 2016, thereby minimising electricity consumption." Tivoli, 2015

"Lighting is one of the areas where power is being saved. The electricity consumption for lighting fell by 57,000 kWh despite the extended season. This resulted from the change to LED and streamlined timing of when the lights are switched on." Tivoli, 2015

"However, we are focusing on eliminating work tools fuelled by petrol… In 2015, electric robotic lawn mowers were introduced to mow the grass..." Tivoli, 2015

Summary:
Three companies are also represented in this industry for the years 2013 and 2015. Tivoli, Denmark had the most initiatives presented in their report for 2015. Despite the industry's relatively low sustainability performance scores, the industry was favourably found to have a few initiatives in place. Only two South African companies, Massmart and Naspers, were found to have reported on sustainability oriented innovation related activities.

C. Industrials industry

"One of our innovations is using waste material to create building panels for houses or any market" Basil Read, 2013

"Renew or upgrade equipment, especially relating to environment or efficiency" PPC, 2013

"Renewable energy: construction on first wind farm on PPC site under way" PPC, 2013

"PPC Dwaalboom completed the cooler upgrade which led to significant reduction in dust emissions" PPC, 2015

"After receiving authorisation, PPC Colleen Bawn initiated the construction of a state-of-the-art landfilling facility to replace the current communal landfill, becoming the first company in Zimbabwe to implement new stringent legal requirements. The new facility will prevent the contamination of underground water" PPC, 2015

"Our operations and people embraced the need for good environmental practice many years ago. The challenge therefore is to innovate constantly to drive further gains… All businesses of significant scale have invested in their own generators to mitigate the risk of power outages. Energy efficiency is a priority and LED lighting is fitted wherever possible" Bidvest, 2015

"To embrace new technology and develop innovations continuously which will reduce Sephaku Cement's environmental footprint and set an example for other industry players. By incorporating modern advances such as vertical roller mills for raw mix, coal and cement grinding; implementing variable frequency drives maximising the extension of some of its products and its electrical energy consumption for a tonne of cement will be up to 20% lower than the industry norm". Sephaku, 2013

"The bunker structure was used to support a 25t overhead gantry crane erecting some of the precast concrete panels. This innovation reduced and minimised the risk of team members working at heights with the bulk of the work being constructed at ground level resulting in superior quality and safety statistics". Steffanutti, 2015

Summary:
Five companies were represented in this industry for the years 2013 and 2015. PPC had the most occurrences of sustainability oriented innovation related activities. PPC presented the renewal and upgrades of equipment as a key strategic driver towards environmental performance progress. This may be associated to their sustainability oriented innovation as being embedded into strategic thinking and planning, clearly representing the principles of integrated thinking that the international integrated reporting framework encourages.

5.5 Conclusion

This chapter presented the findings which have provided comprehension of the extent that Global Reporting Initiative (GRI) indicator reporting has been adopted which was translated to scoring to determine the sustainability performance of sample companies. Furthermore, the relationship between sustainability and financial performance was

presented, as well as the degree of sustainability oriented innovation activities undertaken within each industry.

Accordingly, the next chapter shall discuss the findings and their implications within the context of the research questions.

Chapter 6: Discussion of results

6.1 Introduction

The following chapter deliberates the findings that have been presented in Chapter 5 and will make reference to pertinent literature presented in Chapter 2, to explain, support or negate the outcomes of the research. The content analysis of 52 corporate integrated reports has provided evidence to answer each of the four research questions presented in Chapter 3.

6.2 Research Question 1

What is the extent of Global Reporting Initiative (GRI) indicator application to measure sustainability performance within multiple sectors of the Johannesburg Stock Exchange (JSE)?

Research objectives:

1. To measure the extent that sample companies have applied the Global Reporting Initiative (GRI) reporting indicators to measure sustainability performance.
2. To compare the application of Global Reporting Initiative (GRI) indicators between the basic materials, industrials and consumer services industries.

The “EXTENT” of reporting referred in the research question pays particular attention to the levels of disclosure at company level and further into industry level. Levels of disclosure were judged by the number and type of indicators reported (Roca & Searcy, 2012), the reliability of reported information (Fonseca, McAllister, & Fitzpatrick, 2014), greenwashing tendencies (Stubbs & Higgins, 2014) and the ability to improve reporting iterations with time (Sherman & DiGuilio, 2010).

6.2.1 Application of Global Reporting Initiative (GRI) indicators

6.2.1.1 Declaration of Global Reporting Initiative (GRI) guideline application

From the sample of companies selected, there were clear inconsistencies in terms of the reporting declarations within reports of the application of the international integrated reporting framework (IIRF) and the Global Reporting Initiative (GRI) guidelines (refer to Tables 2, 3 and 4). Three companies from basic materials, one company in consumer services and four companies in the industrials industry declared use of the Global Reporting Initiative (GRI) guidelines. Some companies did not explicitly state that the report followed a particular guideline, however there was evidence of varying degrees of the use of prescribed indicators within the reports.

This observation agrees with the nature of reporting based largely on company discretion as described by (Marimon et al., 2014; Roca & Searcy, 2012). Lee and Yeo (2015) perceive the discretionary nature of reporting as a guarded stance that many companies decide to adopt in response to the perceived threat of exposing too much company information. The research findings further assert this notion as a major factor in the decisions made by companies on the extent of sustainability disclosure particularly where these are linked to strategy. However, data of the majority of companies in the sample, did show extensive reporting practices from 2013, observed particularly in the industrials industry.

6.2.1.2 Third party assurance

From Tables 2, 3 and 4, it was further apparent that third party assurance was not a key attribute of integrated reporting by companies. Two companies from basic materials, none in consumer services and two companies in the industrials industry stated that the reports had received third party assurance. Assurance, as that for financial reporting, seeks to provide legitimacy to the reported information and indicators and also provides a degree of certainty that the report has not been ‘greenwashed’ or overstated in any way (Bagnoli et al., 2016).

Due to the voluntary nature of sustainability reporting, assurance also follows the same stance and leaves it to the discretion of the reporting organisation (Roca & Searcy, 2012). This is counterproductive as reassurance to stakeholders cannot be provided which may reduce the effectiveness of reporting.

Furthermore, the lack of assurance of reports further reduces the level of performance comparability among organisations and creates increased variability in the substance and format of reports (Bagnoli et al., 2016). This was undoubtedly observed during the content analysis process as those reports that had obtained third party assurance applied both International Integrated Reporting Framework (IIRF) and Global Reporting Initiative (GRI) guidelines and had higher sustainability reporting scores compared to their peers.

The quality of reporting was evidently better and the content of the reports was more detailed. This finding agrees with Bagnoli et al. (2015) who found that quality of reports, especially in the nature of language and numerical content used, is positively associated with third party assurance.

6.2.1.3 Global Reporting Initiative (GRI) Indicator coverage

The alignment with Global Reporting Initiative (GRI) guidelines helps to provide structure and direction for companies to best direct their non-financial value creation activities and this results in better sustainability performance (Marimon et al., 2014).

The data shows a largely uneven application of the Global Reporting Initiative (GRI) indicators across the categories (refer to Tables 2, 3 and 4). Most indicators reported belonged to either environmental, economic, social or labour. There was low application of the human rights and product responsibility indicators, and in some cases the social indicators were also applied to a lesser extent.

It was evident that those companies who aligned their reporting to the Global Reporting Initiative (GRI) guidelines were more actively involved in environmental and social responsibility activities, with particular investments in community development such as building houses for employees and bursaries and educational grants for the community.

These findings agree with Lee and Maxfield (2015) who found that reports compiled according to the Global Reporting Initiative (GRI) guidelines performed better in their corporate social responsibility (CSR) and financial indicators than those who used more general guidelines.

One key factor that influences disclosure is the nature of the company's business activities. This appeared to be a major factor in whether companies choose to apply the indicators and reporting more or less extensively, with companies such those in the mining industry (i.e. basic materials) are found to report more extensively due to their more significant impacts on the natural environment and society, as well as reputational pressure and the need to legitimise the businesses operations to society (Boiral & Henri, 2015; Fonseca et al., 2014).

The data agrees with the findings of Hahn and Kühnen (2013), who suggest that factors such as external stakeholder pressure, risk exposure, legal requirements and the company's need for legitimacy, influence sustainability reporting. Signaling theory is also suggested as a factor which influences reporting within sectors as companies seek to reduce information asymmetry and legitimise operations, this is more of a critical need for businesses that are highly polluting or have extensive environmental and social impacts (Hahn & Kühnen, 2013).

However, the presence of at least one company in each industry achieving high scores due to extensive application of the guidelines, indicate that the guidelines and prescribed indicators are not impractical to apply and that attainment of a 100% disclosure level is indeed achievable (Dragomir, 2010).

Companies with the largest market capitalisation within the industry groups were noted as being the ones who performed more extensive sustainability reporting using the Global Reporting Initiative (GRI) guidelines. There was a direct relationship observed between the size of market capitalisation and sustainability scores. However, the industrials sector, which had the best performing companies in terms of sustainability reporting did not appear to be influenced in any way by the size or profitability of the business.

In terms of combined market capitalisation's, the industrials sector had the second largest market capitalisation after the consumer services industry, however, they were the best performing industry in terms of sustainability reporting out of the three industries analysed. The consumer services industry had the lowest scores for reporting despite having the largest combined market capitalisation.

A direct relationship between market capitalisation, size and profitability of a company and sustainability reporting has been shown in previous studies (Hahn & Kühnen, 2013; Marimon et al., 2014), as it is expected that more profitable companies are better equipped financially to assume the costs of reporting.

It appears that in the South African context, the association of large market capitalisation and reporting performance in the basic materials and industrials industries agrees with the authors findings, however the same relationship is not seen in the consumer services industry. It may be concluded that other factors are playing a larger role in determining the extent of reporting.

Data also shows that a number of consumer services companies who included disclaimers in their reports, stated the following,

"*due to an… inherent soft impact on the environment*" Curro, 2013

"due to a decision from the Board who believe that the organisations activities do not severely impact the environment nor threaten the sustainability of either the company's existing operations or the environment which future generations will inherit" Famous Brands, 2013

"… there is this understanding that measuring and monitoring impacts on environment and society is only necessary if these impacts are significant" Mr Price Group, 2014

"We continue to believe that value creation is best supported by according our individual portfolio companies a degree of self-determination in planning their work, and that specifically laying down general CSR policies for all Group companies would thus not serve any purpose" Schouw & Co. , 2015

Such statements were not found to be supported by any factual information, such as impact assessment results to understand how the organisation came to the conclusion that their impacts on the environment were relatively insignificant. There appeared to be no real sense or appreciation of sustainability issues in the consumer services industry. Some indicators, that could be measured with less effort, such as electricity consumption, water consumption, recycling efforts and waste produced are simply not being reported.

This industry showed more of a concern for their financial indicators, evident as being the industry with the highest application of economic indicators. The reports were directed to a large degree to investors/providers of capital and lesser to all relevant stakeholders. Such judgements made on the organisations impact or lack thereof, cannot be enough to convince stakeholders and may be perceived as a way for companies to greenwash and hide the real facts.

The low application of Global Reporting Initiative (GRI) indicators was contrary to the findings of Bagnoli et al. (2015) who found that consumer related sectors, who indeed face great public scrutiny, are more inclined to produce reports of a higher quality in terms of sustainability disclosures. The authors assert that those organisations who perceive reporting quality to be of beneficial to the business as a whole, are more likely to report more extensively on their sustainability efforts.

The data also shows a common and discernable inclination for companies to report more extensively on environmental indicators (refer to figures 4, 7 and 10). Dragomir (2010) suggests that companies report more broadly on environmental indicators, particularly the environmental indicators, EN5 to EN7, as these are viewed as ‘soft disclosures’ which speak more to the company’s duty to reporting and less to the evaluation of its actual performance. The focus on energy efficiencies, particularly the indicators EN3 to EN7, are considered by Dragomir (2010) as more of an illusion of sustainability commitments and more in line with greenwashing and the need to ‘appear’ as a responsible citizen.

The discussion of social issues in reports was more detailed than those for environmental issues, especially in the basic materials and industrials sectors. This is particularly interesting as the results of indicator scores indicate a more dominant use of environmental indicators.

However, the ability to measure social performance is more difficult (Dragomir, 2010), and thus despite extensive social activities and investments, translation into Global Reporting Initiative (GRI) indicator measurements cannot be done. For instance, Global Reporting Initiative (GRI) indicators do not account for the financial investment in social responsibility, which is the primary measure used by South African companies. The investment, usually set at 1% of profits, is routinely reported by companies but excluded from the Global Reporting Initiative (GRI) indicators.

6.2.1.4 Comparative analysis with Denmark

The data shows that all three Danish companies included in the sample achieved the lowest scores within their respective industries (refer to Figures 5, 8 and 11). This was surprising as Denmark is rated among the top ten countries in the RobecoSAM ratings which rates countries according to environmental, social and governance factors from an investor perspective. The companies included very minimal information regarding environmental and social activities, and did not refer to either the International Integrated Reporting Framework (IIRF) or Global Reporting Initiative (GRI) guidelines within their reports.

The reports were more focused towards economic and labour related indicators. As a result, the Johannesburg Stock Exchange (JSE) listed companies sample of companies was found to be higher performing in terms of reporting compared to the Copenhagen Stock Exchange listed companies.

The data agrees with Hąbek and Wolniak (2016) whose research showed that reporting quality tends to be lower in countries where sustainability reports are more commonly published, with specific mention to the United Kingdom and Denmark. It is suggested that countries where reporting is a common and popular practice are more likely to place little emphasis on content and quality of reports, whereas countries with less common reporting practices place emphasis on these features in order to stand out amongst their peers.

Further analysis may be required on a larger sample group to gain further insight into the countries reporting practices.

6.2.2 Conclusion to Research Question 1

With the common strategies followed by most companies, as stated in their reports, plans for expansion and continued growth are key contents of the reporting production, particularly as these strategies are in line with continued financial profitability and key to long-term business sustainability. However, the companies neglect to mention how sustainability efforts fit into the growth and expansion of the business, and none even highlight the impending increase in negative impacts on their natural capital base as a material issue as a result of the growth strategies.

The research results of question 1 measured the extent of application of the Global Reporting Initiative (GRI) indicators within the Johannesburg Stock Exchange (JSE) and Copenhagen Stock Exchange (CSE) listed companies over the course of three years. The data showed that the indicators are applied to widely varying degrees among companies even within the same industry (refer to Figures 3, 6 and 9). The highest performing company achieved a 73% indicator coverage score in the basic materials industry (refer to Figure 5) and the lowest performer achieved 5% indicator coverage and belonged to the industrials industry (refer to Figure 11).

The results agree with the findings of Roca and Searcy (2012) of a high diversity in indicator application and recognise the difficulty this poses for the purposes of comparability. The results further show an inconsistent application of the indicators, with preference for environmental, social and labour indicators constituting the majority of annual total scores (refer to Figures 4, 7 and 10) which attests to the preference of companies to focus on indicators which are less burdensome to quantify and lean towards a greenwashing tendency which allows companies to ‘appear’ responsible to society.

The results also bring the Global Reporting Initiative (GRI) approach into question, as companies that apply the guidelines were shown to score similar or higher than those who do not apply the guidelines. Companies statements of adherence to the guidelines may create perception of responsibility and transparency even within companies who are not completely invested in the promotion and implementation of sustainable practices (Fonseca et al., 2014). The promotion of third party assurance needs to be emphasised for non-financial reporting whether Global Reporting Initiative (GRI) is applied or not. This will create confidence and provide credibility to sustainability claims.

The results have shown that there is a need to improve reporting consistency and the application of the guidelines. There is also a need for industries to seriously consider their impacts in order to honestly and transparently report their efforts, achievements and shortcomings to stakeholders congruent with international standards and best practices. The study also indicated that a lot of work is being done in terms of socio-economic and environmental projects in various countries, however, indicators to measure these efforts are not being consolidated and reported accordingly, it is therefore difficult to compare these efforts against industry peers.

South Africa was found to be superior in terms of reporting when compared to an international peer, Denmark. This is a positive outcome as it shows that companies have embraced their responsibility to preserve and nurture their natural, human and relational capitals.

6.3 Research Question 2

Question: To what extent is sustainability performance measurable and comparable, within sectors and over a period of time?

Research objectives:

1. To determine the number of fully-reported indicators within each indicator category, company and industry.
2. To compare the degree with which the application of sustainability indicators change over the course of three years within distinct sectors.

A discussion of the findings to the above research question have been structured as per the research objectives related to the question.

6.3.1 Objective 1

To determine the number of fully-reported indicators within each indicator category, company and industry.

The basis for the use of reporting guidelines among companies is to aid the comparability of performance, which in the case of this study was focused on sustainability performance. With the increasing adoption of integrated reporting globally, major issues stem from the ability to assess comparability of reports as well as uniformity and consistency for the effective benchmarking and performance evaluation (Sherman & DiGuilio, 2010).

This is a particular problem for investors as they need to understand the non-financial performance of a business particularly from a risk exposure point of view (Chen et al., 2015) as well as the financial aspects of the business. The Global Reporting Initiative (GRI) guidelines have sought to assist in the problem by providing a standard set of indicators which cover various aspects of the business in an effort to quantify, within limits, both the financial and non-financial performance of a company of any size and type (Sherman & DiGuilio, 2010).

This study assessed reports from three industries to determine their extent of Global Reporting Initiative (GRI) indicator application and the subsequent level of comparability within their respective industries. This objective was analysed by comparing the occurrence of common fully-reported indicators, over the course of the three-year period

from 2013 to 2015, between companies in their respective industries. In light of the data from research question 1, it was not surprising to note that the commonly-reported indicators belonged to categories where the majority of companies focused on in their annual reports.

The data from this research confirmed the inconsistent distribution of indicators within each industry, with only the indicator for direct economic value generated and distributed being commonly reported by all companies. This apparent inconsistent application of indicators, even within the same industry makes it difficult and near impossible to compare sustainability performance within and across industries. If companies, within the same industry, apply the same reporting rules set by governing bodies and voluntary guidelines, information contained within the reports is assumed to be comparable to a greater extent due to the convergence of these factors (Boiral & Henri, 2015). This however, was not the case for all three sampled industries.

The data agrees with Boiral and Henri (2015) who found that comparability between 12 mining firms using the Global Reporting Initiative (GRI) guidelines was difficult and near impossible. They highlight that the qualitative aspects of the Global Reporting Initiative (GRI), incomplete reporting of indicators and data heterogeneity due to inconsistent use of units of measurement, all contributed to the impossibility of comparing non-financial performance.

The same problems were encountered with many vague statements issued through the reports as opposed to numerical measures as per indicator requirements. It was also observed that for companies who also presented their Global Reporting Initiative (GRI) compliance checklist within their reports, a number of indicators were shown to have been reported, but upon verification, it was found that the majority of indicators were deemed as reported by merely referring to the indicator or by making a statement of compliance but without supporting data. This was observed particularly for the following indicators:

EN1 - Materials used by weight or volume;
EN31 - Total environmental protection expenditures and investments by type - expenditures not totaled;
LA13 - Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation - salary difference not reviewed;

EN27 - extent of impact mitigation of environmental impacts of products and services. These indicators were briefly discussed or simply referred to within the reports with no supporting metrics as per Global Reporting Initiative (GRI) guideline requirements.

Commonly reported indicators across all sectors were found to occur no more than three times. In other words, there were no more than three companies that would apply a particular indicator within any given industry as can be seen in the 'count of indicator' columns in Table 6, 7 and 8. It was also apparent from the Tables 6, 7 and 8, that certain companies, such as Kumba Iron Ore and PPC, appeared to be more meticulous in ensuring adherence the global reporting initiative (GRI) requirements.

The 50% common occurrence of indicators between each group of companies per industry is summarised as follows:

Basic materials commonly reported indicators:
EN29 - monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations (aspect – compliance).
LA6 - type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender (aspect - occupational health and safety).
SO8 - monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations (aspect – compliance).
PR9 - monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services (aspect – compliance).

Industrials commonly reported indicators:
SO7 - total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes (aspect - anti-competitive behavior).

Consumer services commonly reported indicators:
EC3 – coverage of the organization's defined benefit plan obligations (aspect – economic performance).
LA2 - benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation (aspect – employment).

As can be seen above, there are no common indicators occurring across industries. This is expected to a small degree due to the difference in industry requirements and business

practices. An assessment of the indicators helps to reflect which aspects are given more focus within each industry. The basic materials industry is more focused on compliance; consumer services is more focused on financial and labour related aspects and the industrials are more focused on anti-competitive behaviour.

It is apparent that indicators which have been prioritised for reporting are industry specific, however, the irregularities and under-reporting of core indicators, even among companies in the same industry illuminates the futility of comparability of non-financial performance even when guided by explicit guidelines. This data agrees with Sherman and DiGuilio (2010) who concluded that comparability in disclosures of core indicators varied significantly between multiple industries. The authors however did find a few indicators that were commonly reported and indeed comparable but there were also difficulties in comparing data reported in varied units of measurement. They found a lack of objectivity in the reporting, particularly for social indicators.

The ability for any person to determine the best or worst performing company in an industry would be difficult as they would have to essentially try and compare unlike variables.

6.3.2 Objective 2

To compare the degree with which the application of sustainability indicators change over the course of three years within distinct sectors.

This objective sought to determine the level of indicator improvements between 2013 and 2015 as a way to assess the degree of increasing comparability, refer to Figures 14, 15 and 16. The data shown in Figures 15 denotes that the consumer services industry had the largest combined indicator reporting improvements, however this industry was the lowest in terms of overall reporting disclosures. This may in fact be the reason for the higher indicator reporting improvements as the industry was essentially lagging behind and needed to show substantial reporting improvements, particularly for product responsibility, social, environmental and human rights disclosures. As a primarily customer-focused industry the improvements were essential to stakeholder interests. All industry's show indicator reporting improvements over the three years, however the levels of reporting differ considerably.

It was noted that the notable increase in indicator disclosures with successive iterations of the integrated report did not coincide with improved industry reporting as the large adoption of indicators did not necessarily represent fully reported indicators that are comparable between industry peers.

The results disagree with Sherman and DiGuilio (2010) who did not find any increase in reporting within their sample of eight pharmaceutical companies. This however may be attributed to contextual differences and the general maturity of Global Reporting Initiative (GRI) reporting within the samples.

South African companies are relatively still new to the application of the guidelines in comparison and as a result larger changes in indicator application will be seen with every report publication. Sherman and DiGuilio (2010) based their study on the assumption that with an increase in indicator disclosure in successive report iterations, coupled with commonality in the reporting of these indicators would ultimately facilitate comparability.

6.3.3 Conclusion to Research Question 2

From this study, it can be concluded that the general state of commonality between indicators is more influential than the increase of indicator applications, as it can be seen that an inconsistent increase in indicator adoption between peer companies does not facilitate comparability. The lack of commonality in indicators reported exacerbates the difficulty of comparing performance.

Roca and Searcy (2012) state that despite an expectation for indicator application to differ between industries, the wide differences in reporting and inconsistent use of units of measurement further compromise comparability of indicators. Even with the use of the Global Reporting Initiative (GRI), there is a need for companies to measure indicators uniformly and this may require explicit enforcement by the responsible governing bodies.

6.4 Research Question 3

Question: *To what degree is sustainability performance related to improved financial performance of the organisation?*

Data related to this research question was obtained through an analysis of changes in the average sustainability scores with the average return on assets (ROA) and return on equity (ROE) figures.

Only one company in the basic materials sector, Kumba Iron Ore, showed a positive association between their sustainability score and their return on equity (ROE) and return on assets (ROA), refer to Figures 17 and 18. Companies in this industry with low sustainability scores achieved either very low to medium average return on equity (ROE) and return on assets (ROA) figures over the three years.

The data shows that those companies who achieved high sustainability performance, i.e. Kumba Iron Ore, Massmart and Bidvest were more likely to achieve between low to high return on equity (ROE) and return on assets (ROA). The data also shows that the lowest sustainability performance scores never matched with the highest return on equity (ROE) or return on assets (ROA). These figures would either be very low (i.e. negative) to average when compared to sustainability scores.

With reference to Figures 17 to 22, the contribution of sustainability performance to financial performance in all industries is relatively low, and that other contributing factors may play a larger role in determining the financial success of a business. It can be concluded that very high sustainability performance does not correlate with very high return on equity (ROE)'s and return on assets (ROA)'s within the sample industries. There are inconsistencies in the relationship between sustainability performance and financial outputs. This contradicts studies conducted by Lee and Yeo (2015); Eccles et al. (2014); Levi et al. (2016); Weber et al. (2008), who found a positive association between integrated reporting and higher stock returns and profitability.

This result may indicate external forces that greatly influence the financial returns of a business in which sustainability plays a lesser role. However, results from the consumer services industry show low sustainability performance scores, see Figures 19 and 20.

Together with supporting evidence of research question 1, this industry also shows the lowest application of indicators amongst all industries. This industry applies the lowest number of environmental and social indicators and several companies indicated that they would not report extensively on their sustainability issues. The question of whether financial performance results in improved sustainability performance or vice-versa remains to be definitively answered and a cause-effect relationship is yet to be irrefutably established as a number of studies have shown both positive and negative relationships that exist between environmental, social and governance (ESG) performance and financial success of a business (Peloza, 2009).

However, a larger data set may prove useful to further assess the relationship between sustainability and financial performance within South African companies, as larger sets of data are able to facilitate statistical analysis. Some authors have suggested that longitudinal studies over long periods of time will be more conclusive in determining the relationship between these variables however this will only be possible after a sizeable number of years in which consistent reporting is done in any particular group of companies (Churet & Eccles, 2014).

6.4.1 Conclusion to Research Question 3

The data was able to show, to a small degree the positive influence of non-financial reporting has on financial performance by comparing company scores with return on equity (ROE) and return on assets (ROA) over three years. However, there remains a number of inconsistencies within industry groups which cannot facilitate a definitive positive relationship to be established between the variables.

6.5 Research Question 4

Question: *What are the current sustainability oriented innovations efforts in place and to what extent do these innovations represent material environmental, social and governance issues identified by the organisation?*

The sample of integrated reports were reviewed to determine which companies are incorporating sustainability oriented innovations activities into their sustainability efforts. It is important for companies to incorporate long term value creation strategies towards sustainability and the degree to which this is done is representative of the level of integrated thinking in the organisation (Jay & Gerard, 2015). This goes beyond producing largely comprehensive, aesthetically appealing reports and positions the company for sustainable growth.

Positively a number of companies were identified as being actively pursuing these efforts. The companies identified were all average to high sustainability performers, none of the companies with low sustainability performance scores were identified as pursuant of sustainability oriented innovations activities. This is a reflection of the sentiments of Eccles and Serafaim (2013) who state that a business that is able to focus resources towards sustainability oriented innovation associated activities will in turn contribute to both sustainability and financial success. However, sustainability oriented innovations activities may be largely pursued only by companies with the financial and human capital resources to do so.

Metrics of financial investments into these projects were not included within integrated reports and thus it was not possible to determine the degree of investment companies have committed to. This would have been helpful for a comparison of the costs and benefits of the projects as well as to incorporate these measures into the Global Reporting Initiative (GRI) indicator *"EN31 - total environmental protection expenditures and investments by type".*

This additional information, as well as the extent of the impact of the sustainability oriented innovations once implemented would also facilitate the reader to determine the level of innovation in which the activity belongs – minor, moderate and major.

Eccles and Serafaim (2013) refer to these levels of innovation as a determinant of achieving financial and environmental, social and governance (ESG) performance as they are all positively correlated. The authors posit that only 'major innovations' are adequate enough to achieve the simultaneous success of financial and environmental, social and governance (ESG) variables.

It was positively noted that each industry had at least one company engaging in innovative practices that contributed to the overall organisations efforts. The most widely represented industry was the industrials sector which was also the highest reporting industry. This may be attributed to the nature of companies in this industry. The Danish companies in the basic materials and consumer services industries were also active in implementing sustainability oriented innovations activities despite scoring low in terms of sustainability performance. This may be attributed to the greater influence of technology and innovation in business that exists in the Denmark.

The general themes of sustainability oriented identified were related to energy efficiency, water conservation and efficiency, waste reduction and safety. The sustainability oriented innovations thus fall into the categories of technological, organisational and institutional/social as described by Jay and Gerard (2015). There is still room for more sustainability oriented innovations within these companies and more emphasis needs to be placed on the importance of these activities towards the long-term improvement in sustainability performance.

6.5.1 Conclusion to Research Question 4

The data suggests that a positive relationship between companies actively engaging in sustainability oriented innovations activities exists with positive sustainability and financial performance.

Chapter 7: Conclusion and recommendations

7.1 Introduction

This chapter reviews the research findings of the study. The discussion takes into account relevant literature in relation to the findings presented in chapter 5 and 6. The research makes contributions to existing theory and expands on the concept of non-financial reporting. The next discussion focuses on the implications to management as well recommendations for sustainability managers. Finally, the discussion proposes future research needs based on the outcomes of this study. The conclusion follows to summarise the entire research effort.

The research was aimed at determining the extent of non-financial reporting of Johannesburg Stock Exchange (JSE) listed companies, together with a comparative analysis of these companies against companies listed on the Copenhagen Stock Exchange (CSE) in Denmark.

The study sought to analyse reporting entities belonging to the basic materials, consumer services and industrials industries in South Africa and Denmark. The nature of these industries integrated reporting practices was analysed based on a framework constructed using the Global Reporting Initiative (GRI) guidelines. The guidelines prescribe the use of reporting indicators related to the economic, environmental and social aspects of sustainability reporting. Four research questions were used to direct the research accordingly.

7.2 Review of findings and study contributions

Figure 23 overleaf outlines the key concepts covered in this research project. The research is principally directed by the definition of sustainability and how it is interpreted by reporting entities. This is important as it determines the importance placed on sustainability issues and the position a company will choose to adopt towards the investment in sustainability related activities. Large fear rests with the danger of sustainability losing its meaning and becoming an ill-interpreted concept that companies are unable to adequately conceive and act upon (Van Zyl, 2013).

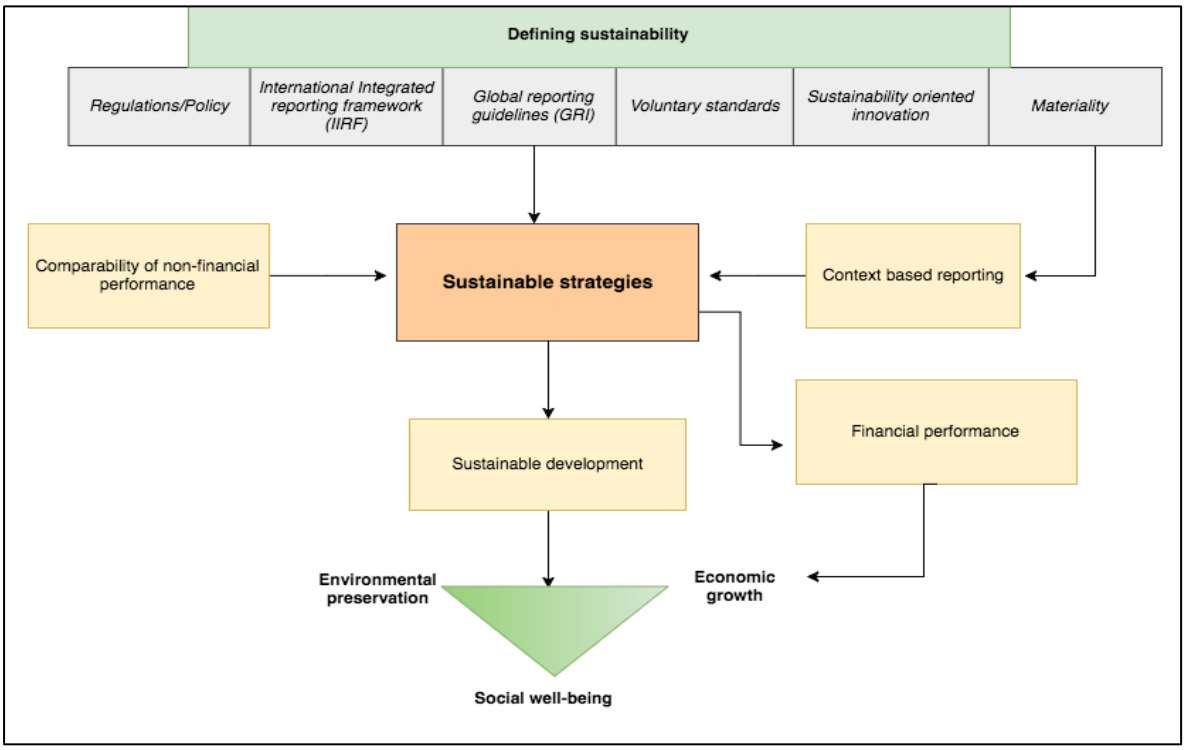

Figure 23 Conceptual research model (Author's own)

Following this, other factors that feed into how companies may execute on sustainable strategies – that is, strategies that ensure the interconnected development of the organisation, society and the environment. All these factors are developed in light of how sustainability is interpreted. Regulations and policy, voluntary standards and guidelines, such as the International Integrated Reporting Framework and the Global Reporting Initiative (GRI), innovation and adequate materiality identification may be utilised to ensure that companies are aware of their impacts, identify and engage with the relevant stakeholders and invest their sustainability efforts appropriately.

Research question one was aimed at determining the extent of Global Reporting Initiative (GRI) indicator application, to measure sustainability performance, within multiple sectors of the Johannesburg Stock Exchange (JSE). The results showed extensive reporting practices in existence across all three sectors of the Johannesburg Stock Exchange (JSE), which is primarily attributed to the mandatory reporting requirements in place. The reporting quality differed considerably and the use of Global Reporting Initiative (GRI) indicators varied between companies even in the same industry.

A large part of this rests with the voluntary aspect of reporting, leaving a large amount of discretion to be placed with reporting companies. More importantly, it was evident that companies who aligned reporting to the Global Reporting Initiative (GRI) guidelines produced more detailed reports and were also more actively involved in social development activities, confirming research conducted by Lee and Maxfield (2015). It was evident that companies need to greatly improve reporting consistency in the application of non-financial indicators, across all industries.

The findings will contribute to literature based on the diffusion and application of the Global Reporting Initiative (GRI) standard, with a particular focus on an emerging economy like South Africa. The results highlight the increased efforts required to raise the level of non-financial reporting capabilities in South African firms.

Research question two dealt with the determination of the extent that sustainability performance is measurable and comparable, within sectors and over a period of time. Integrated reporting has become a mandatory requirement for listed companies in South Africa. It is important to follow this requirement with adequate efforts to ensure that companies are able to report comprehensively and avoid embellishing reports to appear compliant and responsible. The comparability of performance is important to identify high performers and mediocre efforts (Boiral & Henri, 2015; Sherman & DiGuilio, 2010). This is a fundamental requirement to facilitate benchmarking of financial and non-financial performance.

Whilst financial reporting is primarily guided by established reporting requirements, non-financial reporting, which encompasses sustainability measurements, does not have any specific, established reporting standards. As a result, companies resort to international best practices, such as the use of the International Integrated Reporting Framework (IIRF) and the Global Reporting Initiative (GRI) guidelines. The consistent use of reporting guidelines within industries allows for performance parameters to be compared between one company and the next (Boiral & Henri, 2015; Van Zyl, 2013). Thus, comparability is shown in Figure 23 as an input towards the development of sustainable strategies.

Results showed further consistencies in the distribution of common indicators within each industry. Commonly reported indicators were found to occur a maximum of only three times. This demonstrates the impossibility of comparing sustainability performance, as the association of the same indicators between different companies cannot be done. Though integrated reporting is mandatory, the voluntary aspect of deciding on the content of the report is counter-productive as the assessment of performance, as well as incremental improvements in this performance is impossible.

Furthermore, companies do not apply context based reporting, which takes into account the assessment of performance in view of the impact on the larger environment. Failing to incorporate targets based on contextual realities further complicates the ability to determine performance and comparability. Context based reporting has been identified as an input towards sustainable strategies, and the further expansion into the definition of sustainability, that forces companies and individuals to look beyond the present and focus on the future impacts on the environment and how these can be managed and minimised (Azcárate et al., 2011).

These findings contribute to existing literature on the subject of sustainability reporting and suggests that comparability of performance among companies in both South Africa and possibly Denmark still needs development and possibly intervention into further enabling the reporting of consistent and comparable data.

Research question three was focused on assessing the evidence of a relationship between non-financial and financial performance. The findings showed that companies with relatively higher sustainability performance had a positive relationship with financial performance. They agree with the findings of Lee and Yeo (2015), Eccles et al. (2014), Levi et al. (2016), Weber et al. (2008) who found a positive association between the variables, however, a definitive relationship cannot be conclusively established as there were a number of inconsistencies in reporting.

These findings will add to previous research conducted and provide a basis for future research opportunities. These findings also contribute to business as they suggest that companies that do well from a sustainability point of view will reap the rewards financially as well, as it was seen that all low performing companies had correspondingly low return on equity (ROE) and return on assets (ROA) figures.

Financial performance, as seen in Figure 23 is an output of a sustainable strategy which further feeds into the economic growth of a nation. Financial performance is also a by-product of sustainability oriented innovations (Eccles & Serafaim, 2013).

Research question four was based on the assessment of sustainability oriented innovations efforts in place in the sample organisations and how they represent material environmental, social and governance issues identified by the organisation. Eccles and Serafaim (2013) believe that a business that is able to focus resources towards sustainability oriented innovations associated activities will in turn contribute to both sustainability and financial success.

Each industry was found to be incorporating sustainability oriented innovations into their businesses, however not all companies showed progress towards sustainability oriented innovations. More work needs to be done in terms of specific sustainability oriented innovations activities, particularly as a goal towards long-term value creation, as these efforts are more forward and future looking endeavours.

This will contribute to business as a means to encourage businesses to actively consider ways they can work towards preserving resources and creating greater efficiencies in their operations. This analysis also contributes to the literature as South African companies are able to understand the activities of their peers and benchmark accordingly.

In reference to figure 23, ultimately sustainable strategies contribute positively towards sustainable development in a larger context. The internal activities of an organisation have far-reaching impacts and business decisions and strategies must be developed to reflect that understanding. In this way, true sustainability is defined as less of an internalised concept but rather as a national and global issue that requires a paradigm shift in the way things are done in business. A deep appreciation of the contextual impacts of business, will see more effective and efficient actions towards managing and measuring non-financial performance going forwards.

7.3 Recommendations for Sustainability Managers

Leaders planning to begin or improve on existing reporting structures would find the research findings useful in determining the best course of action. The use of the conceptual model, Figure 23 will also aid in guiding the manager on the input required to achieve the best possible reporting content.

Managers should extensively assess the reporting practices of their peers as well international entities to use as a basis for benchmarking. Every business is different and thus materiality assessments must be comprehensive to determine the key issues to focus on.

Managers are also encouraged not to rely on the reporting of popular metrics such as those related to environment and labour. These so called 'soft-issues' are inherently easier to quantify however the courage to move beyond the comfort zone of easily interpreted indicators will enable progression and international best practice in reporting.

Managers should also create an environment and culture around sustainability in the organisation so it is embedded with the core values of the business. Encouraging participation in the discussion and development of innovative activities to reduce environmental and social impacts from multiple levels of the organisation will help to nurture sustainability oriented innovations that will in time contribute to both the financial and non-financial bottom lines.

Managers should also ensure that there is a value adding relationship developed between financial and non-financial indicators. Non-financial indicators and general sustainability activities are viewed as financially negative undertakings. To ensure ongoing commitment to sustainability efforts, a clear mutually beneficial relationship must be established and communicated. Showing the inter-connectedness between the two variables will encourage well-thought out plans of action that have long-term value creation features.

It is also recommended that industry must work towards a standardised format for reporting specifically towards the use of indicators. Indicators applicable to companies in the same industry are expected to be the same as they have the same issues, regulatory requirements and operational activities. Creating a standard reporting checklist would help direct companies, particularly those who are struggling to report adequately, towards identifying the critical issues in that industry that require quantification. In this way, some level of consistency in reporting may be achieved with time.

7.4 Managerial Implications

The research confirms the literature in several instances:

- The largely discretionary nature of reporting contributes to the inconsistent reporting of organisations (Lee & Yeo, 2015; Marimon et al., 2014);
- Third party assurance positively contributes to improved reporting quality and credibility of information published (Bagnoli et al., 2016);
- Alignment of reporting to global reporting initiative (GRI) guidelines contributes to improved reporting quality and overall performance (Lee & Maxfield, 2015);
- There is a common, evident inclination for companies to report more extensively on environmental indicators (Dragomir, 2010);
- Comparability of non-financial reporting was difficult and near impossible across all industries (Boiral & Henri, 2015);
- There is a gap in the implementation of sustainability oriented innovations despite a positive relationship that exists between financial and non-financial performance as a result of sustainability oriented innovations activities (Eccles & Serafaim, 2013).

In light of these findings, management should respond accordingly and adjust reporting practices in order to improve reporting capabilities for long-term value creation. It is evident that reporting currently embodies a fair degree of greenwashing and the need for validation of sustainability achievements and claims, as well as compliance, needs to be prioritised by management. Despite the valiant efforts by numerous companies towards integrated reporting, there is still room for improvement and companies should use these findings as a means to identify areas to focus on.

7.5 Limitations

The study was limited to only three sectors of the Johannesburg Stock Exchange (JSE) and the Copenhagen Stock Exchange (CSE) to enable adequate time for collection of data and subsequent analysis. As a result, the sample may not be entirely representative of the entire population due to the dissimilarities between sectors, however it will provide comprehensive data that will enrich the study. This will subsequently provide opportunities for further research within the excluded sectors.

Despite the mandatory requirement for companies to produce integrated reports, this does not guarantee the quality of content in report. Content analysis is reliant on the quality of material being analysed and this was seen as a limitation as report qualities varied widely between samples.

The large amounts of data from 52 reports created some level of difficulty in order to sort through the report to identify the relevant information to the study. Restricting the study to only the integrated reports was a limitation as this may not fully represent the position of the business, however, previous studies have focused on integrated reports as they are considered widely accepted research instruments.

Content analysis was done only by the researcher which may introduce subjectivity to the analysis. This is in line with exploratory research as the perceptions of the researcher play a big part in the interpretation of the data. Due to the researchers experience in the industry of integrated reporting, these biases were acknowledged and every effort was made to remain objective particularly with the scoring of reports. Reports were also analysed more than once to ensure that all relevant information was captured and interpreted correctly.

Furthermore, no interviews were done and this made it difficult to acquire external viewpoints and responses to findings of the content analysis. This may introduce researcher bias as the interpretation of the data is reliant on the subjectivity of the researcher.

The sample size of 15 companies from three sectors presented limited data for more robust statistical analysis which would have provided the ability to further enrich the data findings. However, this will present an opportunity for further research. There was also some difficulty obtaining Danish reports published in English, resulting in a limited sample population from which reports could be obtained.

7.6 Recommendations for future research

The concept of integrated reporting and sustainability performance measurement are still developing. This exploratory study was aimed at further assessing the application and effectiveness of the global reporting initiative (GRI) guideline in improving reporting outputs and measuring performance. Based on the research limitations and findings, further research is required to provide additional insight to the subject area.

- A study aimed at determining the level of understanding and applicability of context based sustainability performance of SA companies.
- A survey on the extent that companies are developing performance incentives relating to sustainability performance indicators.
- A study into the feasibility of the creation of materiality maps for different industries in South Africa.
- An interview based study with Executives on the processes used to identify and prioritise sustainability oriented innovations.
- A study of whether the voluntary third party assurance of integrated reports – correlates with environmentally and socially better performing firms.
- A study to develop industry specific global reporting initiative (GRI) based frameworks for the purpose of promoting more significant and consistent sustainability performance information.
- A study to assess the investment/costs-benefit analysis of sustainability oriented innovations projects.

It is clear that the opportunities to develop the countries integrated reporting capabilities relies extensively on further research.

7.7 Conclusion

The findings from this study have served to contribute to existing literature on the subject of sustainability reporting and performance. Literature has shown the relationships that exist between sustainability reporting and key business aspects including financial reporting. As the concept of integrated reporting is still developing, there is still much to be learned. However, the issues underlying the need to report and conduct business responsibly are critical. Society is more aware of the responsibility that lies with those contributing to the exploitation of the environment and are more determined as ever to hold them accountable. The commitment and guidance required for effective reporting will ensure the realisation of shared value.

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APPENDICES

Appendix 1: Coding framework

Ref.	G4 Indicator	Description	Scoring	Is indicator comparable or not? (Yes/No)	Comments
EC	EC1	Direct economic value generated and distributed			
EC	EC2	Financial implications and other risks and opportunities due to climate change			
EC	EC3	Defined benefit plan obligations			
EC	EC4	Financial assistance from government			
EC	EC5	Ratios of standard entry level wage by gender compared to local minimum wage			
EC	EC6	Proportion of senior management hired from local community			
EC	EC7	Development and impact of infrastructur investments and services supported			
EC	EC8	Indirect economic impacts			
EC	EC9	Proportion of spending on local suppliers			
EN	EN1	Materials used by weight or volume			
EN	EN2	Percentage of materials used that are recycled input materials			
EN	EN3	Energy consumption within the organisation			
EN	EN4	Energy consumption outside the organisation			
EN	EN5	Energy intensity			
EN	EN6	Reduction of energy consumption			
EN	EN7	Reduction in energy requirements of products and services			
EN	EN8	Total water withdrawal by source			
EN	EN9	Water sources significantly affected by withdrawal of water			
EN	EN10	Water recycled and reused			
EN	EN11	Sites in protected areas and areas of high biodiversity value			
EN	EN12	Significant impacts on biodiversity			
EN	EN13	Habitats protected or restored			
EN	EN14	IUCN Red List species in areas affected by operations			
EN	EN15	Direct greenhouse gas (GHG) emissions (scope 1)			
EN	EN16	Energy indirect GHG emissions (scope 2)			
EN	EN17	Other indirect GHG emissions (scope 3)			
EN	EN18	GHG emissions intensity			
EN	EN19	Reductions of GHG emissions			

Ref.	G4 Indicator	Description	Scoring	Is indicator comparable or not? (Yes/No)	Comments
EN	EN20	Emissions of ozone-depleting substances			
EN	EN21	NOx, SOx, and other significant air emissions			
EN	EN22	Water discharge by quality and destination			
EN	EN23	Waste by type and disposal method			
EN	EN24	Significant spills			
EN	EN25	Hazardous waste transported, imported, exported, treated and shipped internationally			
EN	EN26	Water bodies and related habitats affected by organisation's water discharges and runoff			
EN	EN27	Extent of impact mitigation of environmental impacts of products and services			
EN	EN28	Packaging materials reclaimed			
EN	EN29	Non-compliance with environmental laws and regulations			
EN	EN30	Environmental impact of transportation			
EN	EN31	Environmental protection expenditures and investments			
EN	EN32	New suppliers screened using environmental criteria			
EN	EN33	Negative environmental impacts in the supply chain and actions taken			
EN	EN34	Grievances about environmental impacts			
LA	LA1	New employee hires and employee turnover by age group, gender and region			
LA	LA2	Benefits provided to employees			
LA	LA3	Return to work and retention rates after parental leave			
LA	LA4	Minimum notice periods			
LA	LA5	Management-worker health and safety committees			
LA	LA6	Injuries, occupational diseases, lost days, absenteeism and fatalities			
LA	LA7	Workers with high incidence or risk of diseases related to occupation			
LA	LA8	Health and safety topics covered in formal agreements with trade unions			
LA	LA9	Employee training hours by gender and employee category			
LA	LA10	Programmes for skills management and lifelong learning			
LA	LA11	Performance and career development reviews			
LA	LA12	Diversity breakdown of employees and governance bodies			
LA	LA13	Salary ratio of men to women			

Ref.	G4 Indicator	Description	Scoring	Is indicator comparable or not? (Yes/No)	Comments
LA	LA14	New suppliers screened using labour practices criteria			
LA	LA15	Labour practice impacts in the supply chain and actions taken			
LA	LA16	Grievances about labour practices			
HR	HR1	Investment agreements and contracts including human rights clauses or underwent human rights screening			
HR	HR2	Employee training on human rights			
HR	HR3	Incidents of discrimination and actions taken			
HR	HR4	Operations and suppliers with the right to exercise freedom of association			
HR	HR5	Operations with risk for incidents of child labour			
HR	HR6	Operations with risk for incidents of forced or compulsory labour			
HR	HR7	Security personnel trained on human rights			
HR	HR8	Incidents of violations involving the rights of indigenous peoples			
HR	HR9	Operations subject to human rights reviews or impact assessments			
HR	HR10	New suppliers screened using human rights criteria			
HR	HR11	Human rights impacts in the supply chain and actions taken			
HR	HR12	Grievances about human rights			
SO	SO1	Implementation of community engagement, impact assessments and development plans			
SO	SO2	Impacts of operations on local communities			
SO	SO3	Business units analysed for risks related to corruption			
SO	SO4	Communication and training on anti-corruption policies and procedures			
SO	SO5	Confirmed incidents of corruption and actions taken			
SO	SO6	Political contributions by country and recipient/beneficiary			
SO	SO7	Legal actions for anti-competitive behaviour, anti-trust and monopoly practices			
SO	SO8	Non-compliance with laws and regulations			
SO	SO9	New suppliers screened for impacts on society			
SO	SO10	Impacts on society in the supply chain and actions taken			
SO	SO11	Grievances about impacts on society			
PR	PR1	Health and safety of products			

Ref.	G4 Indicator	Description	Scoring	Is indicator comparable or not? (Yes/No)	Comments
PR	PR2	Non-compliance with regulations concerning health and safety of products			
PR	PR3	Product and service information			
PR	PR4	Non-compliance with regulations concerning product and service information			
PR	PR5	Surveys measuring customer satisfaction			
PR	PR6	Sale of banned or disputed products			
PR	PR7	Non-compliance with regulations concerning marketing communications			
PR	PR8	Breaches of customer privacy and loss of customer data			
PR	PR9	Non-compliance with regulations concerning the provision and use of products and services			
Source: Global reporting initiative G4 reporting principles and guidelines (2013)			Source: Morhardt et al., (2002);	Source: Morhardt et al., (2002)	Source: Boiral & Henri, (2015)

SCORING CRITERIA (Adapted from *Morhardt et al., 2002)*

Score	Description
0	No evidence of inclusion of indicator in report
1	Anecdotal or briefly mentioned
2	More detail, but characterising only selected facilities or using only self-comparison metrics
3	Company-wide, absolute or relative metrics that could be compared with other companies

ADDITIONAL SUPPORTING ANALYSIS PARAMETERS:

i. Net profit
ii. Revenue
iii. Total assets
iv. Total equity
v. Return on equity
vi. Return on assets
vii. Number of fatalities'
viii. Market capitalisation
ix. Number of employees
x. Separate sustainability reports generated
xi. Third party assurance

Appendix 2: Ethical clearance

A copy of the ethical clearance received for this study has been provided below for reference purposes.

Dear Miss Elaine Peters

Protocol Number: **Temp2016-02014**

Title: **Creating non-financial value through sustainable strategies - an analysis of South African companies**

Please be advised that your application for Ethical Clearance has been APPROVED.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards,

Adele Bekker

Appendix 3: Turn-it-in submission report

Please see attached forthwith the first five pages of the turn-it-in submission report.