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Corporate performance as reported by entities listed on the Johannesburg Stock Exchange

A research report submitted by

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Table of Contents

Abstract 4

Acknowledgements 4

1. Introduction 5

1.1 Statement of the problem 6

1.2 Significance of the study 7

1.3 Assumptions, limitations and delimitations 8

2. Background and literature 9

2.1 Integrated reporting 9

2.2 Stakeholder theory 12

2.3 Corporate Performance 13

2.4 Possible drivers of CP disclosure 15

3. Methodology 17

Summary of the section 18

3.1 Population and sample 18

3.2 Data collection 19

3.3 Data management 20

3.4 Data Analysis 21

3.5 Validity and Reliability 22

4. Results 22

4.1 Graphical representations 22

Results by industry 22

Results by industry and capital 24

Results by market capitalisation 26

Results by size and capital 27

Results by IRQ rating 29

Results by IRQ rating per capital 30

Results over time, from 2015 to 2018 31

Results by value capital per report section 32

4.2 Statistical Analysis 33

Evaluating correlations 33

Evaluating industry and size effects 35

Evaluating report quality and year effects 37
Evaluating industry disclosures per performance capital 38
Evaluating disclosures per performance capital by large and small companies 40
5. Conclusion 42
5.1 Summary of Key Findings 42
5.2 Recommendations and implications 44
5.3 Contribution 47
5.4 Limitations and areas for future research 47
Appendix A – Summary of integrated reporting research in South Africa 49
Appendix B - Summary of performance measures 57
Appendix C – Determinants of disclosures 59
Appendix D – Sample of Integrated reports reviewed 61
Appendix E – CP disclosure Checklist 65
Appendix F – Performance disclosure measures instances 67
6. References 69

Abstract

The purpose of this study is to examine corporate performance as disclosed in the integrated reports of entities listed on the Johannesburg Stock Exchange. The research is exploratory in nature and makes use of content analysis of integrated reports for the period 2015-2018, to which non-parametric statistical analysis was applied. The study, highlights trends and drivers of corporate performance of South African listed companies from 2015 to 2018. Secondly, the study provides a proposed definition for corporate performance from a reporting perspective. The research contributes to the body of literature on integrated reporting and considers integrated thinking at the core of corporate performance disclosure. The study further includes integrated reporting following the introduction of King IV, providing a more recent perspective on integrated reporting than prior literature.

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1. Introduction

In light of recent corporate failures, stakeholders question the ability of financial reporting systems to provide relevant information for decision making purposes (Walker, 2005, Mmako and van Rensburg, 2017, Steyn and De Beer, 2012). Financial information alone is no longer sufficient to gain a comprehensive understanding of entities' performance and ability to create and sustain value (Raemaekers,Maroun and Padia, 2016, Abdo and Fisher, 2007). It is, therefore, clear that corporate performance (CP) no longer refers to financial performance or profitability only (Bourne,Franco and Wilkes, 2003a, Wilkes, 2004, IOD, 2016, Malik and Makhdoom, 2016).

The Institute for Chartered Accountants of Scotland (ICAS) believes in a more holistic definition of performance which reflects how financial and non-financial information can be fused more effectively (ICAS, 2016). These sentiments are echoed in the King IV report on corporate governance which further indicates that performance should be linked to value creation on a holistic level and should be considered over a longer term (IOD, 2016).

CP as a holistic concept is not new. Performance management systems such as the Balanced Scorecard (BSC) (Kaplan and Norton, 2000), performance pyramids (Neely,Mills,Platts,Richards,Gregory,Bourne et al., 2000) and performance prisms (Neely and Adams, 2000) have been implemented by management to avoid short-termism in management decisions for decades (Chenhall, 2005). It is not, however, clear whether CP is reported in the same manner to external stakeholders as it is internally, and no single definition seems to exist for CP.

Integrated reporting combines reporting on both financial and non-financial information with the aim of promoting corporate strategy in a transparent manner, in order to provide benefits to a wide range of stakeholders Raemaekers et al. (2016), (Marx and Mohammadali-Haji, 2014, Uyar, 2016). In South Africa, integrated reporting is required by listed companies through King III which entails an 'apply or explain' approach. King III[1] requires integrated reporting on financial and non-financial information to various stakeholders to ensure short-term profitability and long-term sustainability (Marx and Van Der Watt, 2011). More recently, King IV[2] was introduced and is effective for financial years starting on or after 1 April 2017, which assumes application of all principles and requires entities to explain how the principles were

[1] King report on governance for South Africa 2009
[2] King IV report on governance for South Africa 2016

applied, as a result, an 'apply and explain' approach (Deloitte, 2016). Both King IV and King III, place an emphasis on the value capitals beyond financial capital, and include human, intellectual, social and relationship, manufactured and natural capital (IOD, 2016). This study considers the effects of King IV as well as the Integrated Reporting Framework of the IIRC, together with other external and internal influences on the reporting within the annual integrated reports of CP.

The next section discusses the research problem.

1.1 Statement of the problem

Most organisations consider their shareholders to be their most important stakeholders but, since the 1980s to 1990s, there has been an increased recognition of other stakeholders, for example, customers (recognised in the balanced scorecard (Kaplan and Norton, 2000)) and employees (Neely, 1999). For manufacturing and service entities suppliers are also considered important stakeholders. The increase in e-commerce has led to alliance partners as additional stakeholders (Neely and Adams, 2000). Other stakeholders include the legal or regulatory community, as well as pressure groups (such as Greenpeace) which have become enormously influential through their communications ability (Neely and Adams, 2000). There is greater stakeholder pressure on management to report to all stakeholders and not only with the shareholders' financial interests in mind (Sonnenberg and Hamann, 2006). The value of the broader stakeholder (not merely the shareholder) in the creation of value is prominent in King IV (Deloitte, 2016).

The King IV report on corporate governance has defined "performance" as:

> "An organisation's achievement relative to its strategic objectives, and its outcomes in terms of its effects on the capitals. It includes the organisation's outcomes in terms of its effects on the triple context in which the organisation operates. Performance is therefore the results (positive and negative) of the value creation process." (Institute of Directors of Southern Africa (IOD), 2016)

From this it can be seen that performance does not include only financial measures but also refers to the capitals of value creation which include human, intellectual, social and relationship and natural capitals (IIRC, 2013). In this context, the purpose of this study is to answer the call from ICAS to understand how companies are defining and reporting on CP. This research focuses on identifying the current CP reporting trends and drivers of the top JSE-listed entities within the integrated report, as well as the integration of the value capitals in CP reporting. The research questions addressed, for which detail is provided in the literature review, are as follows:

- *RQ1: Do entities define CP in their integrated reports?*
- *RQ2: Do mining companies include more non-financial performance disclosures in their integrated reports than non-mining companies?*
- *RQ3: Do larger companies include more non-financial performance disclosures in their integrated reports than smaller companies?*
- *RQ4: Do entities with higher rated Integrated Reporting Quality (IRQ) levels disclose more CP measures, specifically in the outcomes section of the annual reports, than entities with lower IRQ ratings?*
- *RQ5: Do entities include more non-financial performance disclosures in 2017 and 2018 than in 2015 and 2016?*
- *RQ6: Do entities include more non-financial performance disclosures in the Chairman's statement in their integrated reports than financial performance disclosures?*
- *RQ7: Do mining entities include more non-financial, specifically environmental performance disclosures, in their key performance indicators in their annual reports than non-mining companies?*
- *RQ8: Do entities include more environmental and innovation performance disclosures in the CEO's Report section of the annual report than in other sections of the integrated report?*

1.2 Significance of the study

The research makes an important contribution to prior literature on integrated reporting. Previous works have concentrated on the challenges, strengths and weaknesses (Rinaldi,Unerman and De Villiers, 2018), trends and quality (Liu,Jubb and Abhayawansa, 2019, Uyar, 2016, Malola and Maroun, 2019, Marx and Mohammadali-Haji, 2014) or assurance of integrated reporting (Simnett and Huggins, 2015, Eccles,Krzus and Watson, 2012, Reimsbach,Hahn and Gürtürk, 2018).

The research further examines a more recent period (2015-2018) than prior literature examined (see, for example, Setia,Abhayawansa,Joshi and Huynh (2015), Haji and Anifowose (2016), Du Toit,Van Zyl and Schütte (2017)). It focuses on reporting after the implementation of King IV pronouncements. The chosen period allows the study to provide the first set of results which consider King IV pronouncements and comparatives may be drawn between differences in integrated reports between King III and King IV implementation. This period is also two years after the initial release of the International Integrated

Reporting Council's (IIRC) framework on integrated reporting, allowing for initial teething problems in the application to be solved. This provides possible insights for future revisions of the integrated reporting framework by the IIRC.

This study will take the first steps in defining CP from a reporting perspective. This will be done by identifying factors commonly reported, as well as other factors of CP which are not emphasised in corporate reporting in the form of annual integrated reports. This study will assist entities in preparing comparable annual integrated reports, as well as assist the stakeholders making use of such annual integrated reports.

The data used for this study relate to South African entities. This is because of the leading role South Africa has taken in the implementation and innovation of integrated reporting (Clayton,Rogerson and Rampedi, 2015, Rossouw,Van der Watt and Rossouw, 2002, Ackers, 2009). This provides an established environment for studying integrated reporting and the performance measures included in integrated reports. Refer to Appendix A for a summary of prior literature on integrated reporting in South Africa.

1.3 Assumptions, limitations and delimitations

- This study will only consider CP in the context of South African annual integrated reports and findings may, as a result, not be extrapolated to other jurisdictions. Many of the JSE-listed entities are international, with cross-border operations and this risk is, therefore, limited.
- This study will concentrate on large companies and it may not be possible to extrapolate the findings related to these companies to smaller public interest entities and final results may be distorted (Raemaekers et al., 2016). This prevents the distortion of findings because of different levels of institutional investors, types of investors and access to capital which can have a significant effect on the quality of integrated reports (Churet and Eccles, 2014, Chen,Chen,Lobo and Wang, 2011).
- This study does not intend to analyse the quality of disclosures on CP in the annual integrated reports. In order to reduce researcher bias, only the presence or absence of the relevant disclosures will be considered (Raemaekers et al., 2016).
- Because of inherent cost and time restrictions, the study will not examine all South African listed entities and the final sample will only include entities listed on the main board of the JSE. Restrictions on the sample size and interpretive analysis of the data may lead to results of the study not being generalisable.

- This study does not explore all possible drivers of CP disclosure identified but focuses on firm size, industry and integrated report quality. Many other drivers of integrated reporting disclosures, such as profitability, corporate governance characteristics, geographical location and cultural dimensions, may be relevant to CP (De Villiers,Hsiao and Maroun, 2017). There is potential for future research in these areas.

The remainder of this paper is discussed as follows: literature review, followed by research methodology applied, results and discussion, conclusion, limitations and recommendations for future research.

2. Background and literature

This section will provide a background to integrated reporting, explore stakeholder theory and consider measures of CP according to prior studies. It discusses the possible drivers of CP disclosures and related research questions.

2.1 Integrated reporting

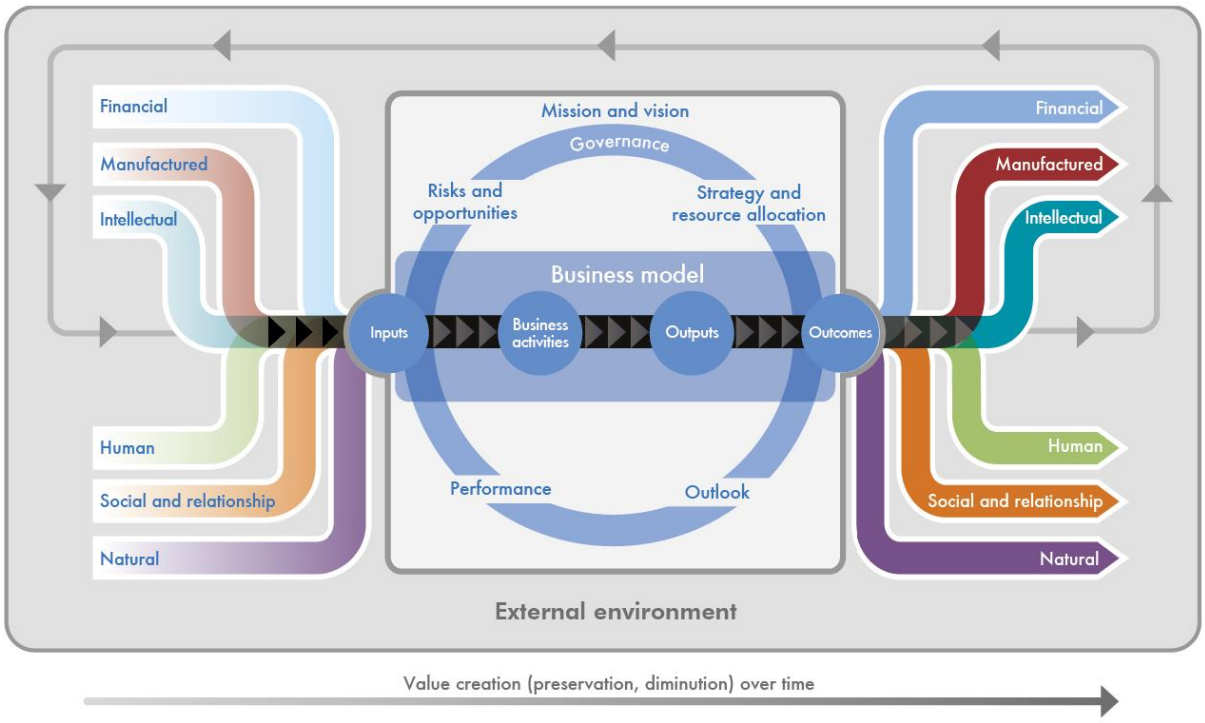
Reports which have a financial focus (with social, environmental and ethical disclosures being separate) may not provide the required insight which enables stakeholders to understand the total performance of an entity, nor its ability to create and sustain value over time (IIRC, 2013, Carels,Maroun and Padia, 2013). This is the primary reason for the IRCSA (2011) and King-III (IOD, 2009) calling for South Africa to move towards a more integrated approach to business management and reporting.

Integrated reporting is used to communicate information about resources and relationships used in order to create and sustain value within an enterprise (IIRC, 2013). Some entities started preparing integrated reports in the early 2000's and since then there has been rapid increase in integrated reporting with the introduction of the IIRC in 2010 and the release of the International Integrated Reporting Framework in 2013 (Rinaldi et al., 2018, Eccles,Krzus and Solano, 2019). South Africa has taken the lead in encouraging entities to adopt integrated reporting through the mandatory implementation of King III and, subsequently, King IV for all entities listed on the JSE since 2010 (Makiwane and Padia, 2013). One of the aims of integrated reporting is to:

> "Promote a more cohesive and efficient approach to corporate reporting that draws on different reporting strands and communicates the full range of factors that materially affect the ability of an organisation to create value over time" p.3 (IIRC, 2013)

This emphasises the idea of value creation by taking a range of factors into consideration. From this stems the idea of the "value capitals". Value capitals are used to create value for the entity and other stakeholders. This is known as the value creation process, as illustrated in Figure 1, obtained from the *International IR Framework*

Figure 1: The value creation process



(IIRC, 20113, p. 4)

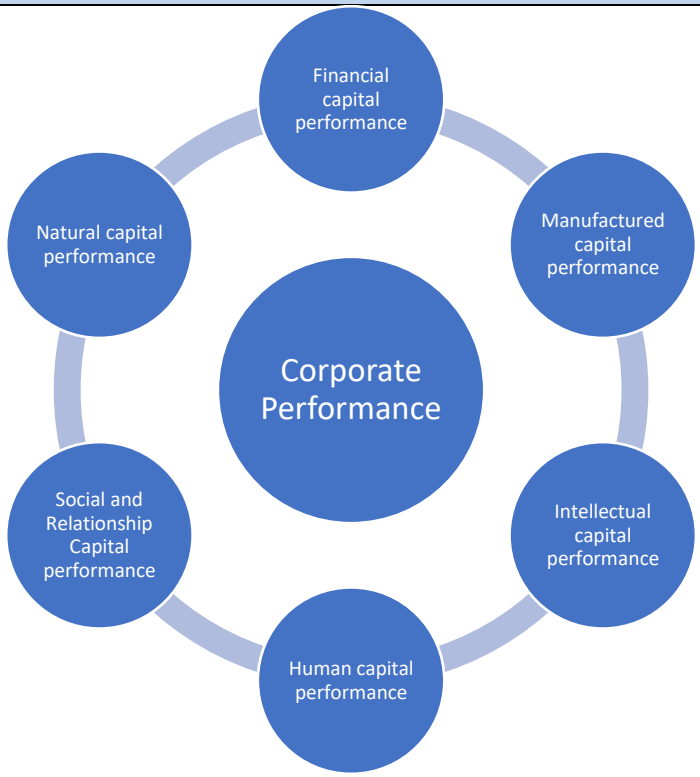
The business model exists within the context of the mission and vision of the whole organisation which operates within the external environment (which includes economic conditions, technological change, societal issues and environmental challenges). The value creation process has, at the core of the organisation, its business model which uses various value capitals as inputs into its business activities which is, in turn, converted to outputs (products, services, by-products and waste). This process leads to outcomes with regards to the effects on the capitals (IIRC, 2013).

Outcomes from the value creation process may be positive or negative as a result of the entity's activities and outputs. We can see here the six value capitals which are used and affected by the business activities:

financial capital, manufactured capital, intellectual capital, human capital, social and relationship capital and natural capital (IIRC, 2013).

The IIRC expects integrated reporting to become the norm in corporate reporting through a process of integrated thinking which should lead to integrated decision-making (IIRC, 2013). If integrated thinking leads to integrated decision making, we expect integrated CP measurement and disclosure. From this, CP is expected to include a value capitals approach from an integrated reporting perspective as illustrated in figure 2.

Figure 2: Corporate performance: Integrated reporting perspective



Financial capital performance can be measured using accounting-based performance measures (including earnings measures, return on equity, cash flows)(Bourne et al., 2003a, Firer and Mitchell Williams, 2003) as well as market-based measures (such as share price fluctuations) (Malik and Makhdoom, 2016, Suto and Takehara, 2016) as it relates to the pool of funds available to an organisation and the organisation's effects on performance.

Manufactured capital performance considers the use of fixed capital and infrastructure and should include production measures as well as capital expenditure (Krüger, 2011, IIRC, 2013). Intellectual capital

performance refers to knowledge-based intangibles and should include innovation measures (Neely and Adams, 2000).

Human capital performance relates to competencies and experience of the people driving the operation of the organisation (IIRC, 2013) and should include staff development (Neely and Adams, 2000) and satisfaction (Brown and Laverick, 1994) performance measures.

Social and relationship capital performance considers the communities within which the entity operates, as well as stakeholder groups directly and indirectly affected by the entity (IIRC, 2013). This will include measures relating to the well-being of the community and stakeholders such as corporate social investment, diversity measures and socially responsible trading (Edgley,Jones and Atkins, 2015).

Natural capital performance measures should consider the environmental impact of organisational activities including the use of natural resources and consequences relating to air, water, land, minerals and forests (IIRC, 2013) such as pollution and deforestation. Table 1 indicates how the performance measures are linked to the value capitals.

Integrated reports are expected to be stakeholder-centric beyond the providers of financial capital only as integrated reports should benefit all stakeholders (Atkins and Maroun, 2015, Eccles et al., 2019). This links with stakeholder theory.

2.2 Stakeholder theory

Agency theory is concerned with the separation between ownership and management, and creates a need for shareholders to monitor and control the performance of management (Ross, 1973, Abdo and Fisher, 2007). Agency theory ties in with the neo-classical notion that the primary objective of entities is profit maximisation (Brown and Laverick, 1994). In contrast, stakeholder theory considers the wider interests of society in general and recognises the many stakeholders who are affected by decisions of management and that these relationships are very important (Friedman and Miles, 2002).

Many non-financial measures are developed from stakeholder theory. The main idea of stakeholder theory is that the success of an organisation depends on whether the organisation is capable of managing its relationships with key groups. The key groups include financers, shareholders, customers, employees, communities and societies (Van Beurden and Gössling, 2008). Stakeholder theory suggests that all stakeholders have a right to information regarding how a business is run and how this impacts them. From this stems the concept of organisational accountability which extends beyond economic and financial performance (Guthrie,Petty,Yongvanich and Ricceri, 2004). For example, in their study of materiality in

social and environmental reporting (SER), Edgley et al. (2015) noted that social factors important to stakeholders can substantially influence institutional change, extending the focus of reporting from a focused financial account to the non-financial impacts of organisations on society.

In a study of the past, present and future of business performance measurement, Marr and Schiuma (2003) found that there is no cohesive body of knowledge in the field of business performance measurement. There are many authors contributing to the field of business performance measurement but there are few which bridge the gap between disciplinary boundaries. The leading concept in the field is the balanced scorecard of Kaplan and Norton, followed by the performance prism concept of Neely (Marr and Schiuma, 2003) which are used for internal management, rather than external reporting.

2.3 Corporate Performance

The term "corporate performance" (Perrini and Tencati, 2006, Wijethilake,Ekanayake and Perera, 2015, Khlif,Guidara and Souissi, 2015, Brown and Laverick, 1994), "firm performance" (Hansen and Wernerfelt, 1989, Lee and Jungbae Roh, 2012, Wernerfelt and Montgomery, 1988, Malik and Makhdoom, 2016) and "business performance"(Garg,Joubert and Pellissier, 2004, Marr and Schiuma, 2003, Krüger, 2011) are used interchangeably. CP has different meanings to different people, and different disciplines such as economics, management accounting and human resources approach performance differently (Marr and Schiuma, 2003). This has led to the existence of many different theories on CP. Firer and Mitchell Williams (2003) noted that a definition of CP does not appear to be available even though many scholars, policy makers and stakeholder groups often refer to it. CP is associated with a variety of facets of a firm's overall well-being (Firer and Mitchell Williams, 2003).

There are a multitude of performance measures available and the theories on CP range from financial measures exclusively, to non-financial measures, as well as composite measures incorporating both financial and non-financial measures and different stakeholder needs.

Appendix B provides a summary of the prior research dealing with CP, primarily from an economic perspective. Although these are often used as a management tool, they are not commonly reported on to stakeholders. There does not appear to be one best model for performance measurement. What is clear is that business performance is a multi-faceted concept (Neely and Adams, 2000).

Based on the performance measures identified, the researchers were able to link the value capitals of CP per figure 2 to the performance measures in Appendix B. Financial measures and manufacturing were self-evidently linked to financial capital and manufacturing capital respectively. Innovation and

governance measures were linked to intellectual capital while all customer and employee performance metrics were linked to human capital. Health and safety and other social investment performance measures were linked to social and relationship capital. Finally, environmental performance measures were linked to natural capital. Refer to table 1 for details.

Table 1: CP metrics linked to the six value capitals

Core CP axioms	Value Capitals (IOD, 2016)	CP metrics
Financial performance	Financial capital	• Accounting based measures(Van Beurden and Gössling, 2008, Firer and Mitchell Williams, 2003, Bourne et al., 2003a, Malik and Makhdoom, 2016, Suto and Takehara, 2016) • Market based measures (Malik and Makhdoom, 2016, Suto and Takehara, 2016)
	Manufactured capital	• Production volumes (Krüger, 2011) • Sales volumes (Krüger, 2011) • System Downtime(Krüger, 2011)
Operating performance	Intellectual capital	• Innovation measures (Neely and Adams, 2000) • Governance measures (Wilkes, 2004, Chvatalová,Kocmanová and Dočekalová, 2011, Raemaekers et al., 2016, Malik and Makhdoom, 2016)
	Human capital	• Employee turnover (Brown and Laverick, 1994, Neely and Adams, 2000) • Staff training and education (Brown and Laverick, 1994, Neely and Adams, 2000)
Social responsibility performance	Social and relationship capital	• Health and safety measures (Edgley et al., 2015) • Financial investment in social responsibility initiatives (Edgley et al., 2015) • Socially responsible sourcing (Edgley et al., 2015) • Diversity (Edgley et al., 2015)
	Natural capital	• Air (IIRC, 2013, Edgley et al., 2015) • Water (IIRC, 2013, Edgley et al., 2015) • Land (IIRC, 2013) • Minerals (IIRC, 2013) • Forestry (IIRC, 2013) • Biodiversity and eco-system health (IIRC, 2013)

2.4 Possible drivers of CP disclosure

There is a large body of work dealing with the determinants and consequences of non-financial disclosures found in integrated and sustainability reports (De Villiers and Maroun, 2018). This research highlights the importance of firm-specific characteristics and the external environment (such as industry membership) for the nature and extent of non-financial reporting. (For a summary of this work, refer to Appendix C). Although the prior research does not deal specifically with CP, the potential drivers of non-financial disclosures in integrated reports may be equally relevant for how companies explain their performance.

The integrated reporting framework does not set benchmarks for the organisation's levels of performance, nor does it prescribe specific performance indicators, measurement methods or the disclosure of individual matters. It does though consider "performance" as a key content element of integrated reporting. This should include quantitative and qualitative information about performance, including the organisation's effects on the capitals, key stakeholder relationships, targets, risks and opportunities (IIRC, 2013). Furthermore, according to the King report, good performance is linked to achieving strategic objectives and positive outcomes relating to the use of its capitals (IOD, 2016). Accountability for organisational performance is ensured through reporting and disclosure (IOD, 2016). This provides the basis for the first research question:

RQ1: Do entities define CP in their integrated reports?

Increasing the quantity of non-financial disclosures can be an effective way of managing legitimacy when faced with significant public scrutiny; this may be because of the entity's relative size or its environmental and social impact (Deegan, 2002, Cho,Michelon,Patten and Roberts, 2014). Large entities or entities which operate in environmentally or socially sensitive industries have more information to report to their stakeholders and, as a result, are expected to prepare more detailed integrated reports (De Villiers et al., 2017). These entities may also have more to gain from increased performance disclosures in their reporting. For example, entities in the South African mining sector have significant social and environmental impact (Carels et al., 2013). This impact, together with the mining sector's substantial contribution to the South African economy, creates a need for increased non-financial performance disclosures. Beyond environmental disclosures, greater disclosures regarding Broad-Based Black Economic Empowerment (BB-BEE) and other socio-economic performance disclosures are expected by mining companies in South Africa (Rungan,Cawood and Minnitt, 2005).

RQ2: Do mining companies include more non-financial performance disclosures in their integrated reports than non-mining companies?

An entity's relative size may lead to an increase is non-financial disclosures as larger entities tend to have a greater environmental and social impact (Deegan, 2002, Michelon,Pilonato and Ricceri, 2015). Larger entities also have more stakeholders to whom they are accountable and so are expected to include more non-financial disclosures in their reporting. Additional disclosures may also be used to avoid more stringent regulation(De Villiers and van Staden, 2011).

RQ3: Do larger companies include more non-financial performance disclosures in their integrated reports than smaller companies?

The relative size of entities in the sample are based on their market capitalisation, as at 28 November 2017. Entities whose market capitalisation are greater than the median are considered to be large, while all other entities were considered to be small for the purpose of this study.

Entities are ranked based on their integrated reporting quality by EY during their EY Excellence in Integrated reporting awards. These rankings relate specifically to the quality of the integrated reporting disclosures and we expect a direct correlation between IRQ ratings and CP disclosures. This is expected even more in the portion of the annual report relating to capital ourcomes because of the fundamental concepts which the EY Excellence in Integrated reporting awards consider, namely, the capitals an entity uses and how it creates value (EY, 2018).

RQ4: Do entities with higher rated IRQ levels disclose more CP measures, specifically in the outcomes section of the annual reports than entities with lower IRQ ratings?

Because of greater pressure on companies to give back to their communities and greater focus on social responsibility in recent years (Edgley et al., 2015) we expect increased CP disclosures in recent years. The implementation of the King IV report in April 2017 will also affect reporting for 2017-2018. As greater emphasis is placed on governance and sustainability issues in the King IV report (Deloitte, 2016), it is expected that non-financial performance disclosures will increase in 2017 and 2018 compared to 2015 and 2016.

RQ5: Do entities include more non-financial performance disclosures in 2017 and 2018 than in 2015 and 2016?

Information included in the Chairman's statement in the annual reports is expected to include more non-financial disclosures (Gitahi,Memba and Nasieku, 2018) because of the narrative nature of such reports. This is in contradiction of the findings that chairman's statements are closely associated with financial

performance (Smith and Taffler, 2000) but this may only hold true for entities with positive financial results (Clatworthy and Jones, 2006, Smith and Taffler, 1992, Bhana, 2009, Smith,Jamil,Johari and Ahmad, 2006). More non-financial performance disclosures in the chairman's report indicates a greater commitment to non-financial performance by management.

RQ6: Do entities include more non-financial performance disclosures in the Chairman's statement in their integrated reports than in other sections of the integrated report?

Similarly, key performance indicators are expected to include environmental, social and governance (ESG) data as well as financial prospects (Lydenberg and Rogers, 2010, Bartolini,Santini and Silvi, 2013). Key performance indicators should further be based on their activity domains (Roxana-Ioana, 2016) and mining entities which are environmental resource intensive should have more key performance indicator reporting relating to that activity.

RQ7: Do mining entities include more non-financial, specifically environmental performance disclosures, in their key performance indicators in their annual reports than non-mining entities?

The CEO's report reflects the tone at the top by reflecting management attitudes and values (Amernic,Craig and Tourish, 2010). Business leaders are trying to find new ways to remain competitive and adapt their business models and improve innovation (Pohle and Chapman, 2006), while CEO's personal traits affect environmental innovation (Arena,Michelon and Trojanowski, 2018, Lewis,Walls and Dowell, 2014, Hyland, 1998). The CEO's reports focus on the entity's survival (Jonäll and Rimmel, 2010) and is expected to consider sustainability.

RQ8: Do large entities include more environmental and innovation performance disclosures in the CEO's Report section of the annual report than in other section of the integrated report?

3. Methodology

Although this study makes use of quantitative methods to explore the possible drivers of CP disclosures, it is inspired by an interpretive epistemology. This approach, which is considered a legitimate alternative to the more traditional positivist approach (Lee, 1991), is considered appropriate as the intention of this study is not to quantify the quality of CP disclosures or to extrapolate findings. This research is exploratory

in nature and highlights trends and drivers in CP disclosures of South African listed companies from 2015-2018.

Summary of the section

This section discusses the population and sample selected for the study. It describes the process for data collection and data management. It further discusses how the data are analysed, including graphical analysis, statistical analysis and textual interpretation. Finally, it considers validity and reliability of methodology applied.

3.1 Population and sample

The study is based on 60 observations which include the annual reports of the top 5 largest mining companies by market capitalisation, as well as 10 non-mining companies whose primary listing is on the Johannesburg Stock Exchange (JSE). This represents a sample of the population of all companies listed of the JSE. The period for review covers the years 2015-2018. There is an assumption that organisations have a clear understanding of who their stakeholders are and what their needs are (Neely and Adams, 2000). Based on this assumption, it stands to reason that entities will report to their stakeholders regarding their wants and needs. Refer to appendix D for a list of annual reports reviewed.

As financial reporting only considers financial performance and is aimed at meeting the needs of investors, creditors and lenders, financial reporting is only one aspect of reporting that may be considered. For this reason, we will inspect the annual reports (also referred to as the integrated report) which are aimed at all the stakeholders of the entities for the purposes of the content analysis.

According to Guthrie and Abeysekera (2006) organisations commonly signal what they perceive as important through annual reports. Important issues are featured, reported and discussed while less important issues are absent or included in low profile sections of the report. What organisations include or exclude from their annual reports is a conscious decision which communicates a specific message to stakeholders (Guthrie and Abeysekera, 2006).

All forms of stakeholder communications may be considered part of the accountability-discharge activity of an organisation and may be important in determining an understanding of what CP is to different stakeholders. The problem is that it is impossible to be certain that all communications have been identified, reducing the focus to annual reports provides relevant and useful information (Guthrie et al., 2004). Unlike financial reports, the annual report does not need to comply with strict prescriptive

presentation and disclosure standards. The reports indicate what management and the preparers of the integrated reports deemed to be important to the entity and its stakeholders.

Although the sample size is relatively small, interpretive textual analysis is a labour-intensive process and does not need large samples as the study is exploratory in nature and is not meant to be generalised. Small samples can, be analysed in order to respond to general research questions (Solomon and Maroun, 2012, Raemaekers et al., 2016, Merkl-Davies,Brennan and Vourvachis, 2011). This is comparable to similar studies (Hrasky, 2012, Borghei,Leung and Guthrie, 2016, Raemaekers et al., 2016).

3.2 Data collection

In order to obtain empirical evidence regarding reporting of CP the researcher determined content analysis to be the appropriate research method. Content analysis is a research technique which categorises words or content based on explicit coding rules in order to extrapolate ideas and notions from a population of textual data (Weber, 1990, Stemler, 2001, Guthrie et al., 2004, Hsieh and Shannon, 2005, Guthrie and Abeysekera, 2006, Krippendorff, 1980, Krippendorff, 2004). Content analysis can be used to evaluate large amounts of data by creating categories of ideas. Content analysis is useful as it is a replicable technique which is unobtrusive and is generally considered an objective, reliable measure which is useful in dealing with large quantities of qualitative data (Guthrie et al., 2004, Stemler, 2001).

The integrated annual reports for 2015-2018 were reviewed for the sample selected. A disclosure checklist (Appendix E) for performance indicators was compiled by the researcher based on the axioms of performance identified in Table 1 in the literature review. A pilot of 5 of the companies' annual integrated reports were inspected to identify additional performance indicators within the performance axioms identified. The pilot study ensured that the performance metrics identified are mutually exclusive as well as exhaustive.

The following sections of the integrated reports which make reference to CP, were identified:

- Highlights (This is also referred to in some annual reports as the “Overview”)
- Chairman’s statement
- CEO’s report
- Key performance indicators
- Outcomes of value capitals

The highlights section of the annual report is most often included near the start of the annual report, giving it prominence. It provides a summary of what occurred during the reporting period, providing the users of the reports with their first impression of the entity's performance.

The chairman's statement is closely associated with performance and although this information is largely unaudited, it contains important information regarding the entity's performance (Smith and Taffler, 2000). The CEO's report gives insight to management's perspective and is driven by management's values and attitudes rather than by the entity's performance. It may also be used as a strategic document to influence readers of the report to present a positive image of the entity and so gives an indication of how management would like stakeholders to perceive performance within the entity (Hyland, 1998, Segars and Kohut, 2001).

The key performance indicators focus the attention of investors, managers and stakeholders on the issues most material to the business model (Lydenberg and Rogers, 2010). Key performance indicators give an indication of an entity's internal performance measurement systems which may also be integrated to external performance disclosures (Bartolini et al., 2013).

As shown in figure 1, the value creation process results in outcomes relating to the value capitals. Performance relating to these outcomes has a direct impact on the entity's ability to create sustainable value (IIRC, 2013). This section of the annual integrated report is essential to understanding management's CP reporting.

These sections were analysed in terms of the disclosure checklist. A frequency table was generated to record the number of performance indicators referred to in each identified section of the annual integrated report. A sliding scale was used, indicating a score of 'nil' where the performance indicator was not disclosed in the section of the annual integrated report. Where descriptive disclosures regarding a performance indicator is present (qualitative disclosure) a score of '1' was awarded. Quantitative disclosures of performance indicators (figures, ratios and graphs) were indicated with a score of '2'. Where narrative as well as figures are used to disclose a performance indicator (a combination of qualitative and quantitative) a score of '3' was awarded (Dube and Maroun, 2017, Michelon et al., 2015).

3.3 Data management

Each annual integrated report for each company was saved in a designated folder which is easily identifiable and clearly marked. The data collected from the reports were input into an Excel workbook with a separate code assigned to each entity. The workbook differentiates among performance

disclosures found in the different sections of the annual integrated reports. This allows for further inferences regarding the CP reporting.

3.4 Data Analysis

Data are presented graphically using bar and line charts presenting performance disclosures relating to the variables according to Table 2. Disclosures per performance capital as in Table 1 in the literature review are also presented. From the graphical representations, trends are identified and reported.

Descriptive statistics were performed to analyse the data collected. According to an un-tabulated Kolmogorov-Smirnov and Shapiro-Wilk test, not all the data were normally distributed. Correlations among performance disclosures are presented using a Spearman's rho.

For each of the variables under review a non-parametric Mann-Whitney-U[3] or Kruskal Wallis test was used to examine the differences in performance disclosures by potential determinants (treated as grouping variables). These variables are measured according to Table 2. The tests chosen are considered appropriate for data which are not normally distributed. They are also less sensitive to shrinkage effects resulting from a relatively small sample. A 1% significant threshold is used although findings which are significant at the 5% level are also reported.

Table 2: Summary of Performance disclosure drivers

Potential Driver	Measure
Industry	A dummy variable distinguishing between mining (Industry = 1) and non-mining (industry = 0)
Size	Market capitalisation in South African Rands as at 28 November 2017
IRQ level	Integrated reporting quality level as per the *EY Excellence in Integrated Reporting Awards (EY, 2018)*
Time	2015-2018

The statistics are complemented by a qualitative analysis of management's attitude to CP aspects by inspection of the narratives surrounding the CP indicators reported. The researcher considered the company's use of rhetoric surrounding CP disclosures. This was done as a subjective process of the researcher's understanding and sense-making of the reports through numerous rounds of reading the reports (Laine, 2009).

[3] The Mann-Whitney-U and Kruskall Wallis tests were considered appropriate for relatively small sample sizes as used in this study

3.5 Validity and Reliability

The following factors were considered regarding the validity and reliability of the methodology applied in this study:

- External validity refers to whether the results of the study apply to different real-world settings. As the content analysis is performed on annual reports which are drawn from real world documentation, the external validity is much higher (Gordon and Porter, 2009).
- Definitions of categories should be mutually exclusive and exhaustive (Stemler, 2001). It is imperative that categories are coded clearly with little room for interpretation or subjectivity. This was achieved through performing a pilot study of 5 companies as per section 3.2.
- Reliability may be considered in three respects: stability, reproducibility and accuracy (Krippendorff, 1980, Stemler, 2001). In order to address stability, the researcher applied the disclosure checklist to one entity as a pilot study. After sufficient time had passed, the researcher repeated the disclosure checklist to this company and compared the results. For any discrepancies identified the researcher first ensured that the definitions of the coding categories were updated and made clearer. The procedures to address stability also affect accuracy. The researcher has taken care in applying the coding categories consistently and accurately.

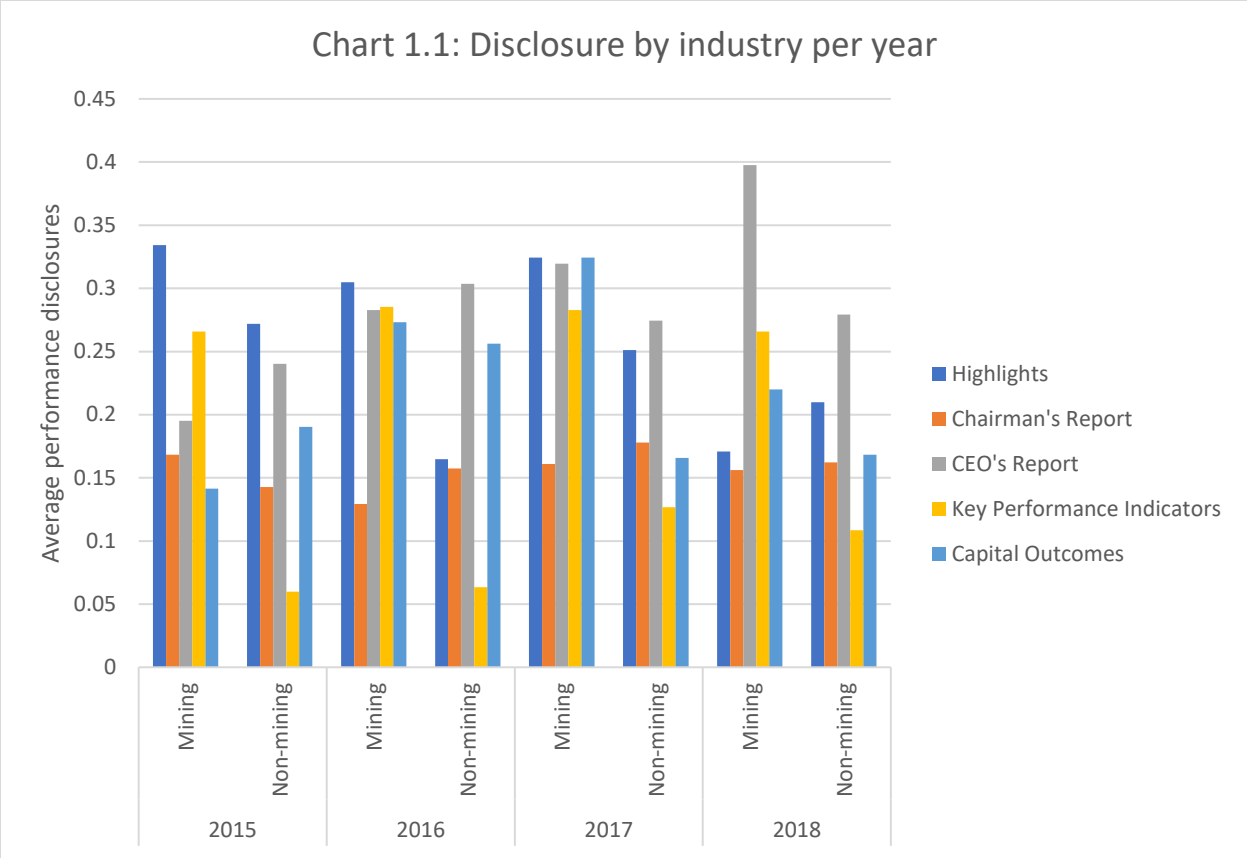
4. Results

The results of the study, firstly, include graphical representations of trends in CP disclosures in the form of bar and line graphs. Using the graphs, interpretations of relationships between variables and CP disclosure drivers are observed. Second, statistical analysis using Spearman's Rho correlations, as well as Kruskall Wallis tests are performed. Additionally, Jonckheere-Terpstra tests were used for ordered alternatives for more than 2 variables to identify trends.

4.1 Graphical representations

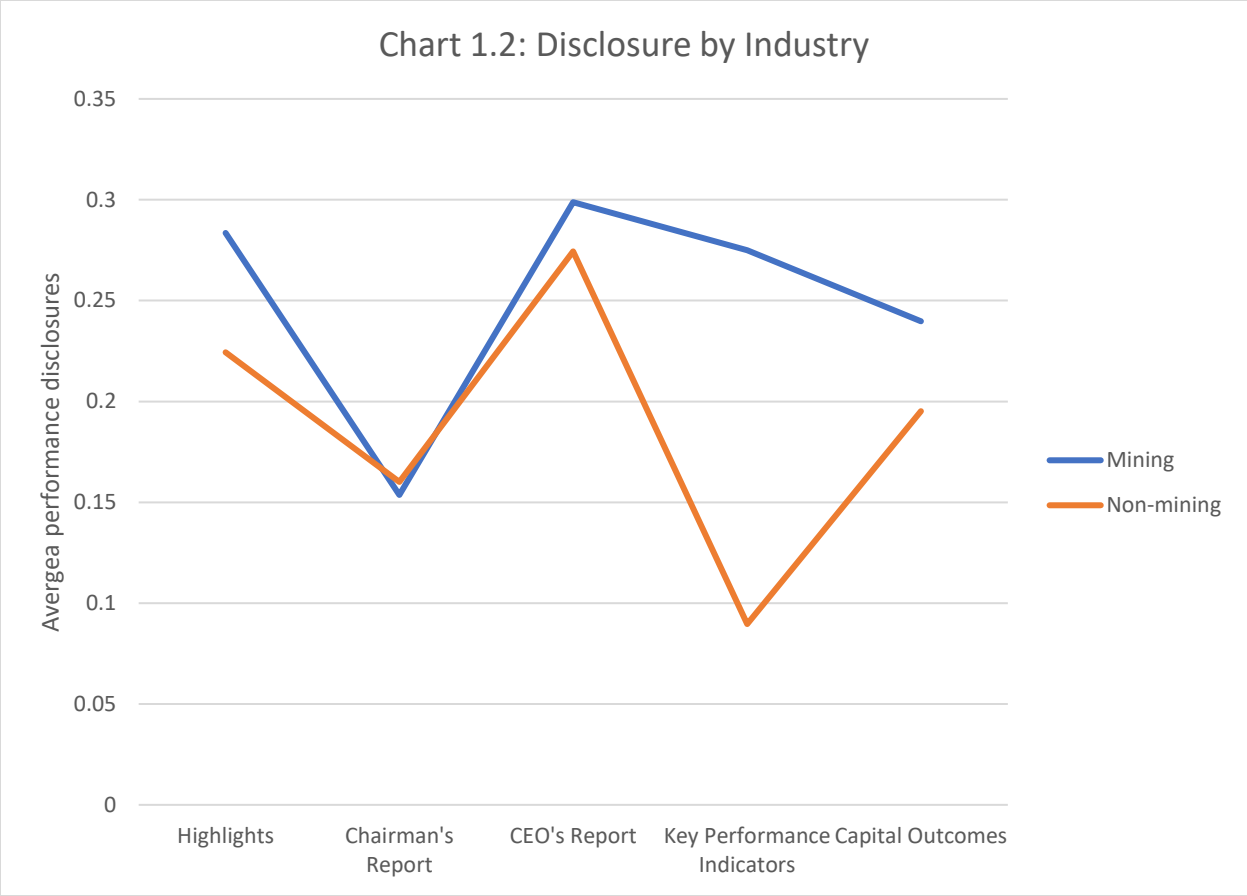
Results by industry

Chart 1.1 illustrates that, in all years under review, mining entities' average performance disclosures exceed those of non-mining entities. This is because of the significant social and environmental impact of mining companies in South Africa, as well as their relative contributions to the South African economy (Carels et al., 2013).



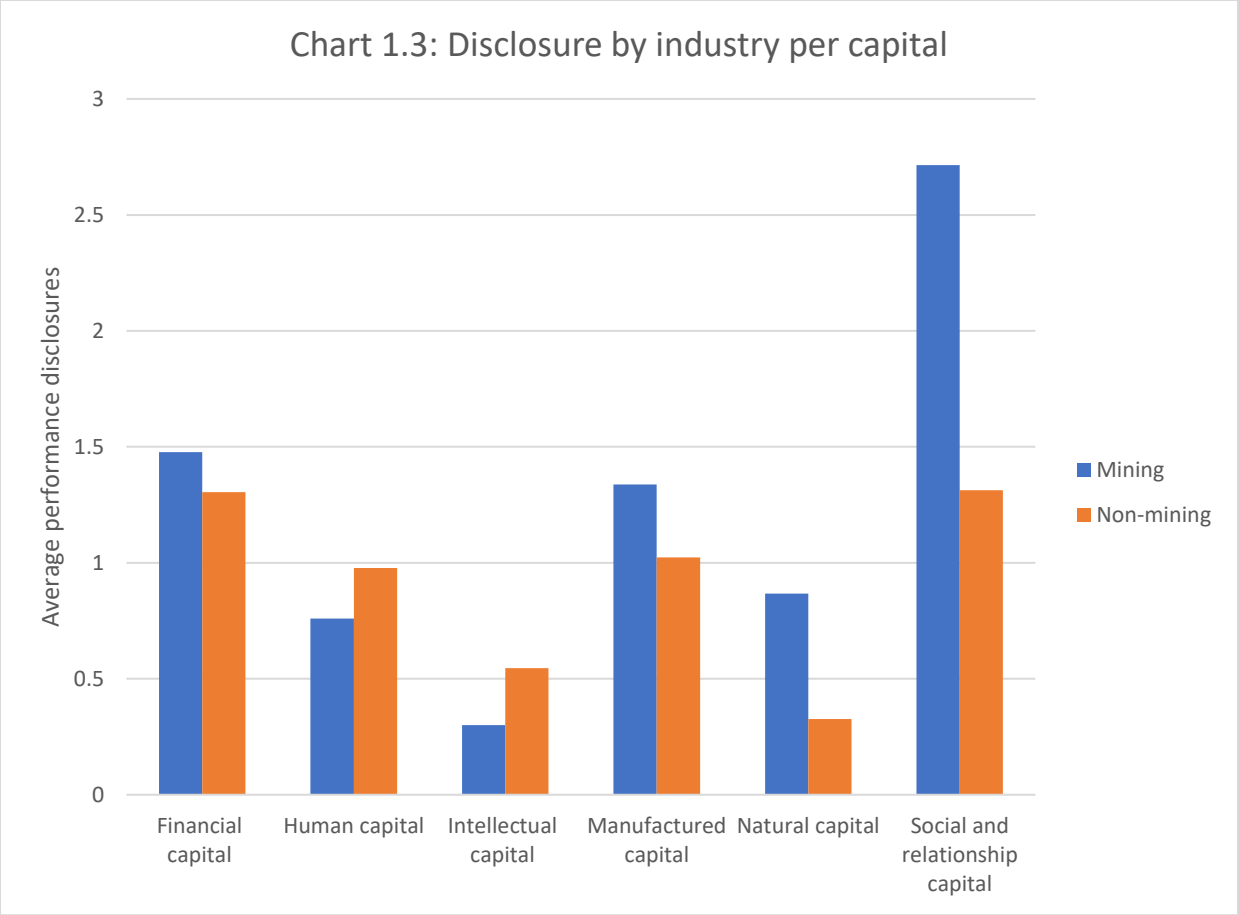
Mining is a socially sensitive industry and will have more information to report, resulting in more detailed integrated reports (De Villiers et al., 2017).

This is further demonstrated in Chart 1.2 which indicates that average performance disclosures of mining entities exceeded those of non-mining companies in all sections of the integrated report under review, except the Chairman's report where average performance disclosures appear approximately equal for mining and non-mining companies. This may be due to the Chairman's report being more driven by the financial and overall performance of the entity (Smith et al., 2006, Smith and Taffler, 2000) than by the relative industry.



Results by industry and capital

Chart 1.3 expands on the observations for mining vs non-mining companies' performance disclosures by illustrating the average performance disclosures for each value capital. This indicates that non-mining companies have greater performance disclosures only for human capital and intellectual capital. This is expected as mining companies do not require significant innovation, brand loyalty or information technology. To provide context, the data are organised by industry and capital.



The average performance disclosures by mining companies relating to manufactured capital and natural capital significantly exceed those of non-mining entities. This is in line with expectation because of the significant impact of mining on the environment (Carels et al., 2013) as well as the asset intensive nature of mining. Mining companies have far greater average performance disclosures relating to social and relationship capital because of the socio-economic impact of mining as well as the safety requirements of mining.

There also appears to be a significant focus on diversity, including broad based black economic empowerment (BB-BEE) and treatment of women and minorities within mining companies (Rungan et al., 2005). Mining is a strictly regulated industry and increased disclosures relating to natural capital and social capital may be used to avoid additional regulation (De Villiers and van Staden, 2011).

Results by market capitalisation

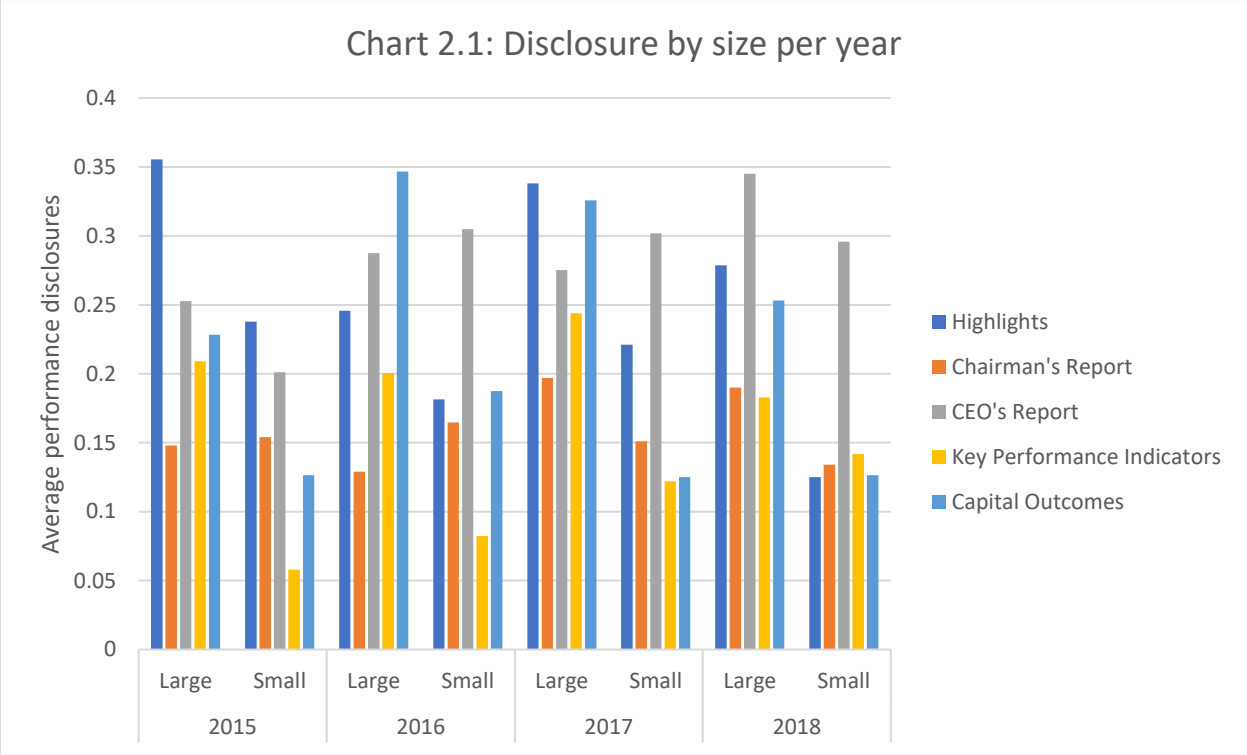
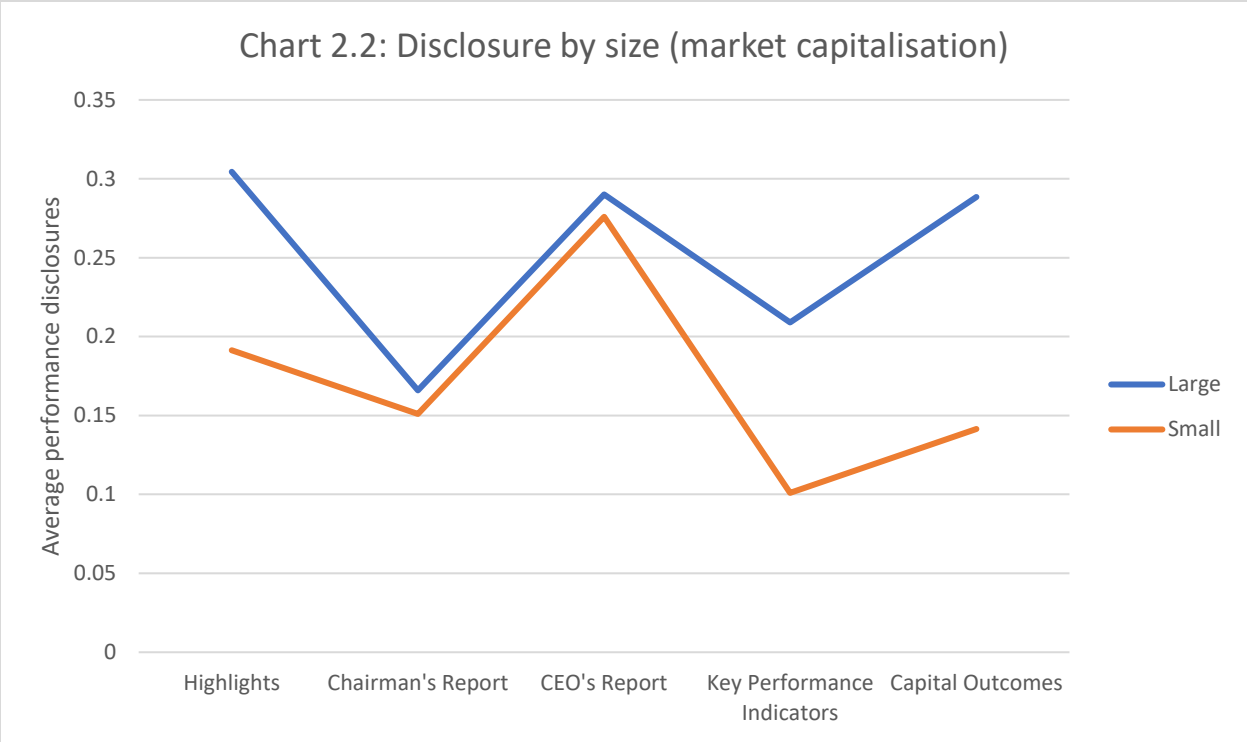


Chart 2.1 illustrates that larger companies, by marketshare, consistently present greater perfomance disclosures than smaller companies do. This may be in order to manage legitimacy because of significant public scrutiny relating to the entity's relative size (Deegan, 2002, Cho et al., 2014).

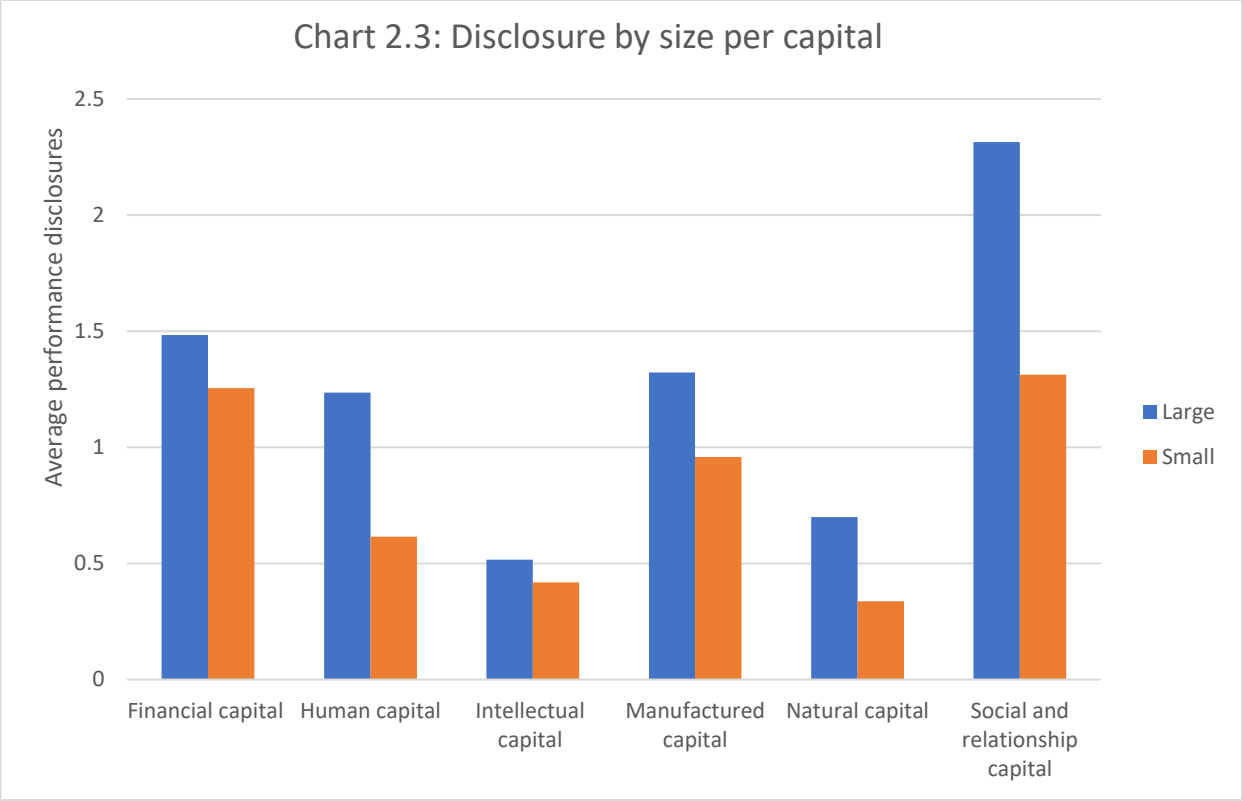
Chart 2.2 shows that large companies' performance disclosures trend above those of small companies, but there is little difference in performance reporting in the Chairman's reports and CEO's reports. This may be due to the CEO's report being more dependent on the tone at the top and management's personal attitudes and values rather than on the entity's size (Amernic et al., 2010, Hyland, 1998, Arena et al., 2018).



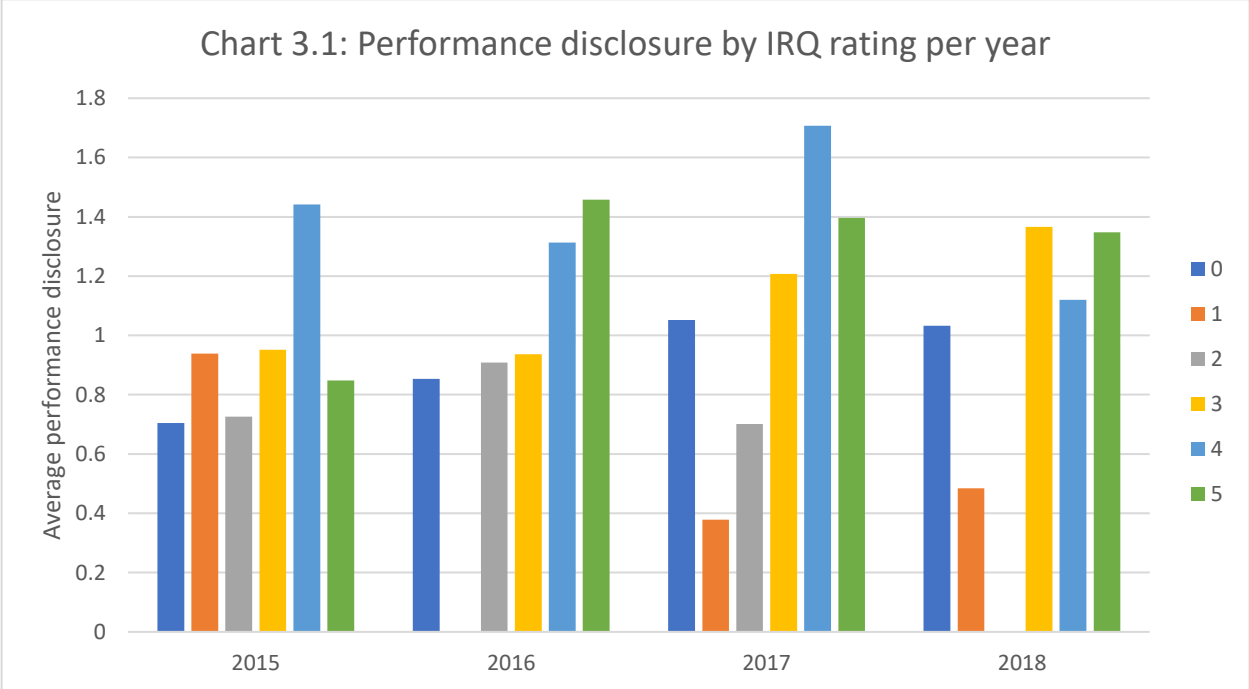
Results by size and capital

When considering the performance disclosures by value capital per Chart 2.3, it is once again evident that larger companies by market capitalisation make greater performance disclosures than small companies do for all value capitals. Larger companies have more stakeholders whose needs are catered for in the reports and are under more scrutiny, which results in more detailed disclosure on performance measures (De Villiers et al., 2017, Guthrie et al., 2004).

Financial capital and intellectual capital performance disclosures for small and large companies are similar which may be caused by all companies placing a focus on finanical performance (Bourne et al., 2003a). Intellectual capital is also less affected by whether an entity is big or small, as innovation, governance and brand value are equally important, irrespective of market capitalisation.



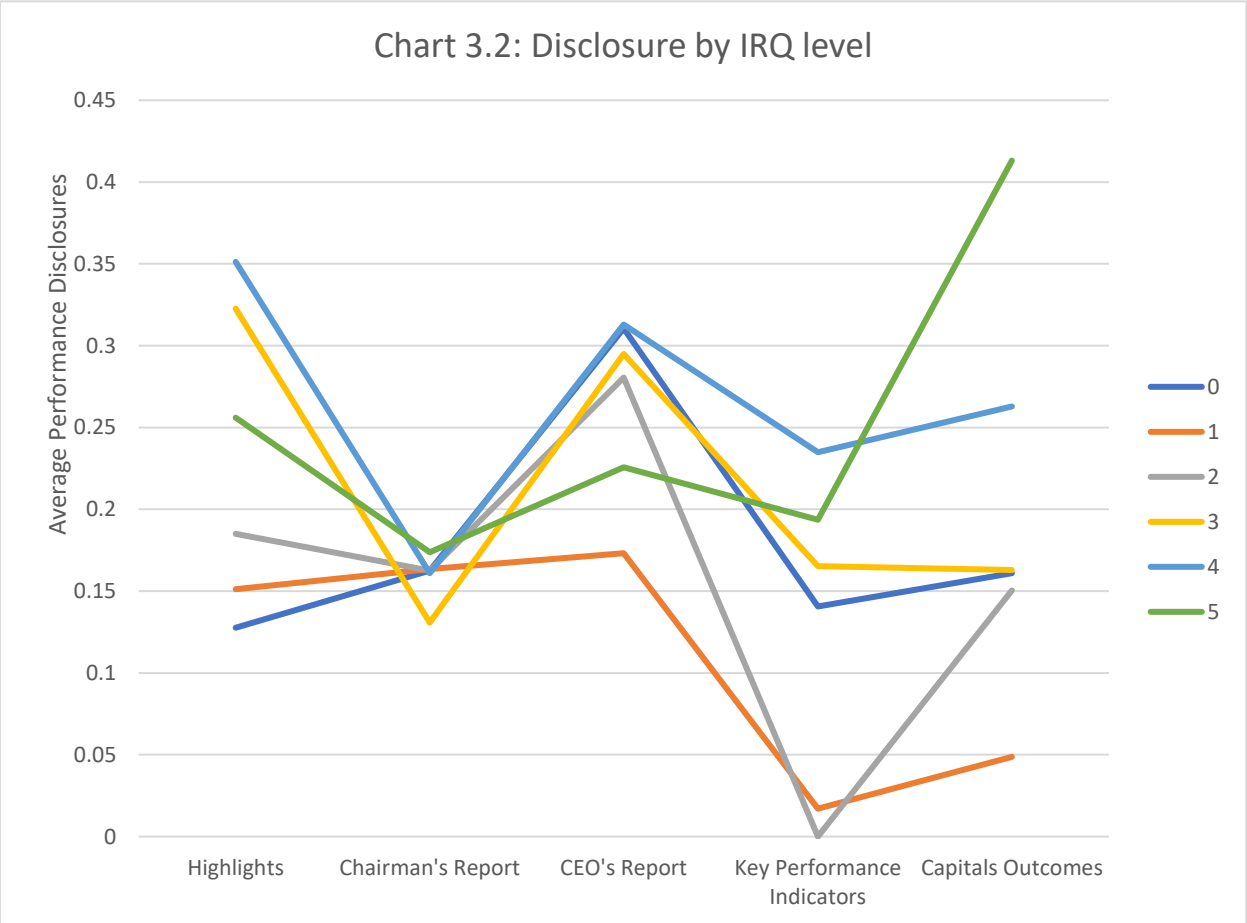
In contrast, far greater performance disclosures for manufactured capital, natural capital and social and relationship capital are observed for large companies, because of the impact of large entities on their natural and socio-economic environments (De Villiers et al., 2017).



Results by IRQ rating

Average preformance disclosure tends to increase for companies with higher IRQ ratings as illustrated in Chart 3.1. Although there are some exceptions and outliers, Chart 3.2 confirms that higher IRQ rated companies have greater performance disclosures. This is specifically true for the capitals outcomes section of the annual reports. This is expected because of the fundamental concepts which the EY Excellence in Integrated reporting awards consider, being relating to the capitals an entity uses and how it creates value (EY, 2018).

While there is little difference in performance disclosures by IRQ levels in the Chairman's report, the CEO's report shows small differences which are not in relation to the IRQ ratings. This is because of disclosures in the Chairman's statement and CEO's report being driven by management's personal attitudes and a desire to take credit for good performance while blaming outside factors for poor performance, rather than focusing on reporting quality (Hyland, 1998, Lewis et al., 2014, Arena et al., 2018).



Results by IRQ rating per capital

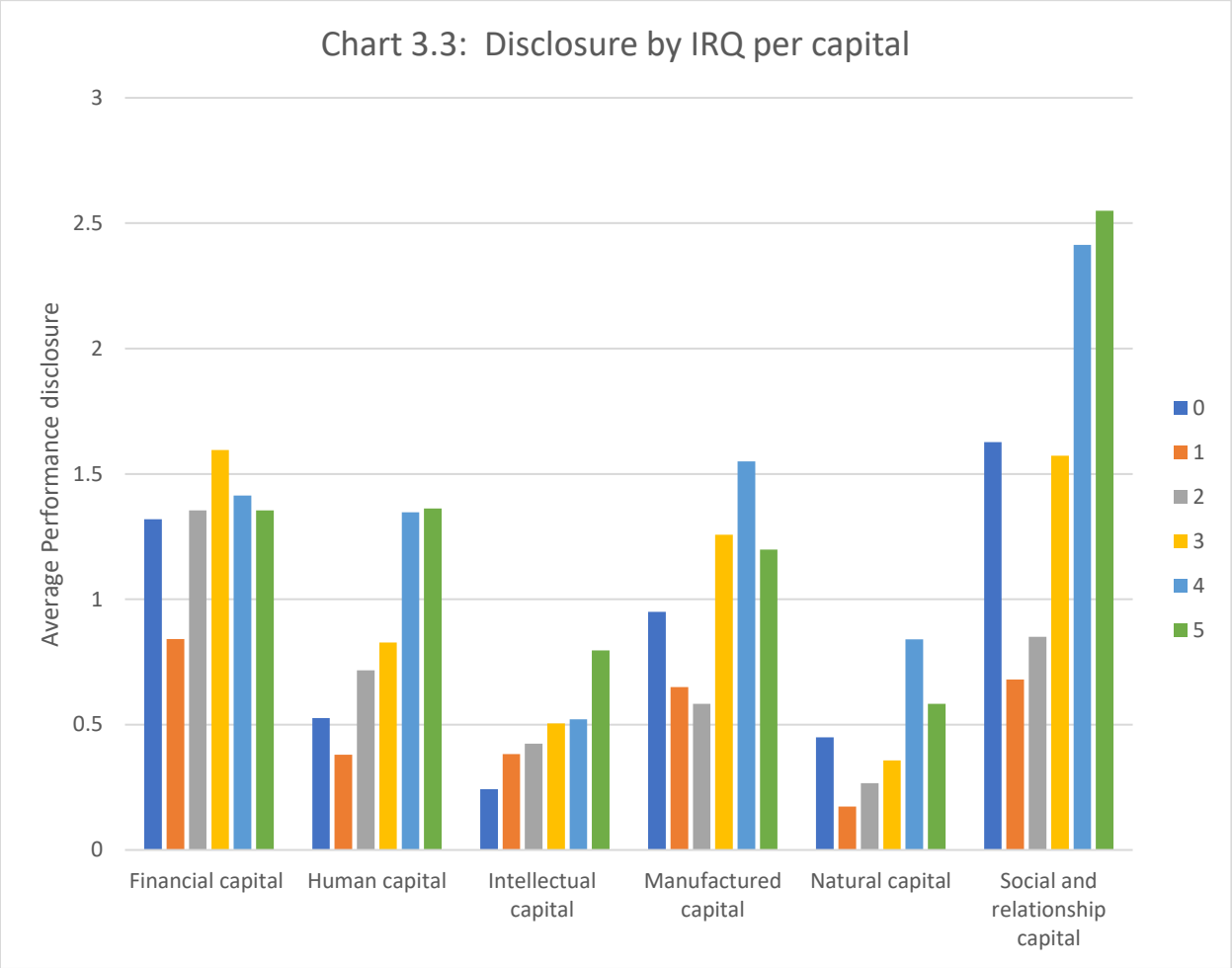


Chart 3.3 further indicates that performance disclosures relating to financial capital do not vary greatly for different levels of IRQ ratings. This is bacause financial disclosures do not affect report quality (EY, 2018). For all other value capitals the performance disclosures tend to increase as the IRQ ratings increase from 1 to 4 but from level 4 to level 5 there is little or no increase in performance disclosures. This again relates to the fundamental concepts of value capitals in integrated reporting which the IRQ ratings are based on (EY, 2018).

Results over time, from 2015 to 2018

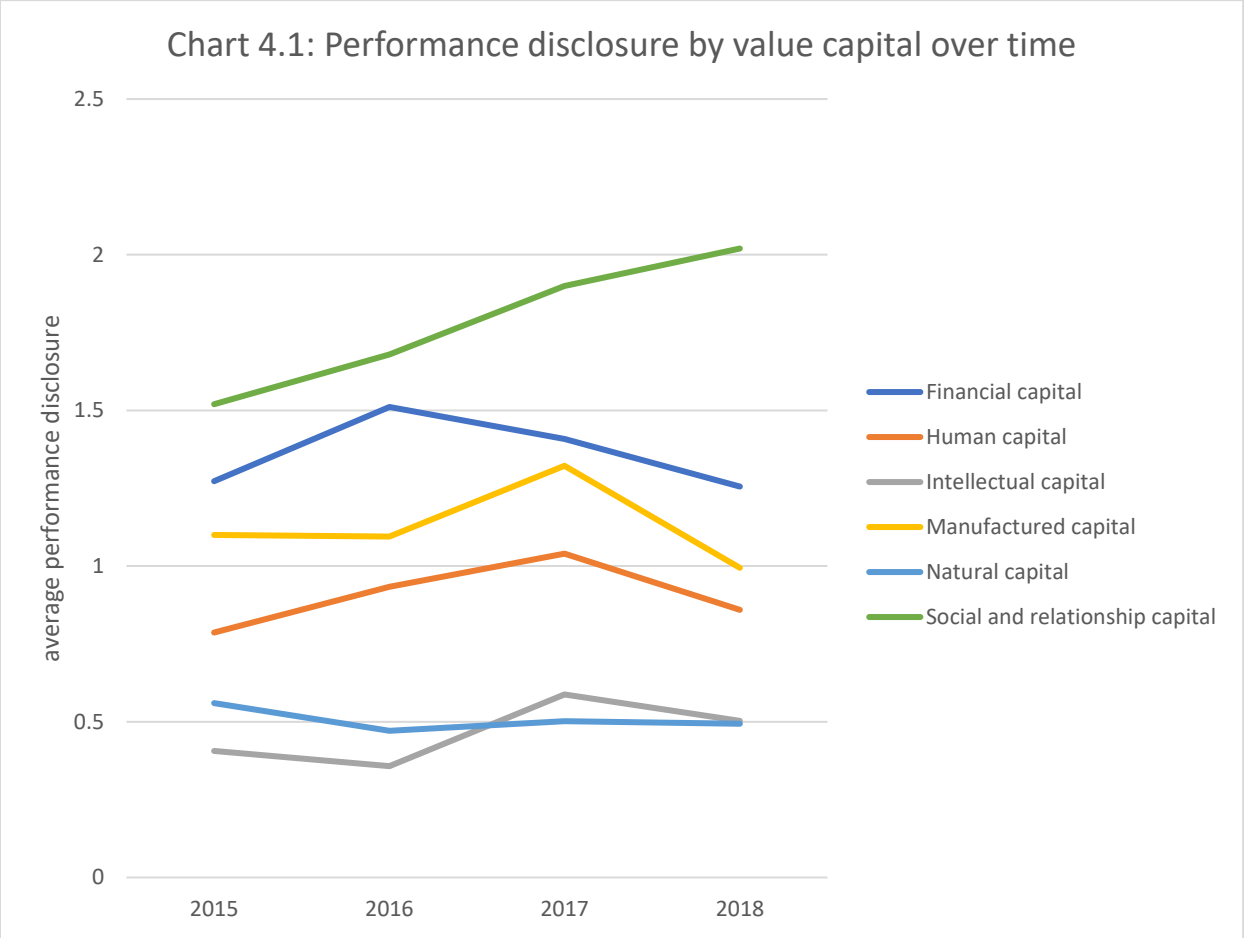


Chart 4.1 illustrates the trends in performance disclosures over time. A consistent increase in social and relationship capital performance disclosures is observed. This is in response to greater pressure on companies to give back to their communities and greater focus on social responsibility (Edgley et al., 2015).

A relatively sharp decline in financial capital performance disclosures can be seen from 2016-2018. This is because the emphasis of reporting has become less financially oriented. King IV also became compulsory for entities from April 2017 and the emphasis on governance and sustainability may have brought about less emphasis on financial performance (Deloitte, 2016). Even though there is a decline, it is still higher than most other capitals, other than social and relationship capital.

Manufacturing, Human and Intellectual capital increased from 2015 to 2017 but declined from 2017 to 2018. Natural capital performance disclosure remained fairly constant with a moderate decrease over

the four-year period. The decrease in natural capital performance disclosures is not expected (Camilleri, 2017) and may be due to increased disclosures in 2015 when many entities were already moving towards environmentally conscious trading and reporting since the release by the IIRC of a consultation draft of the integrated reporting framework in March 2013 already (Cheng,Green,Conradie,Konishi and Romi, 2014).

Results by value capital per report section

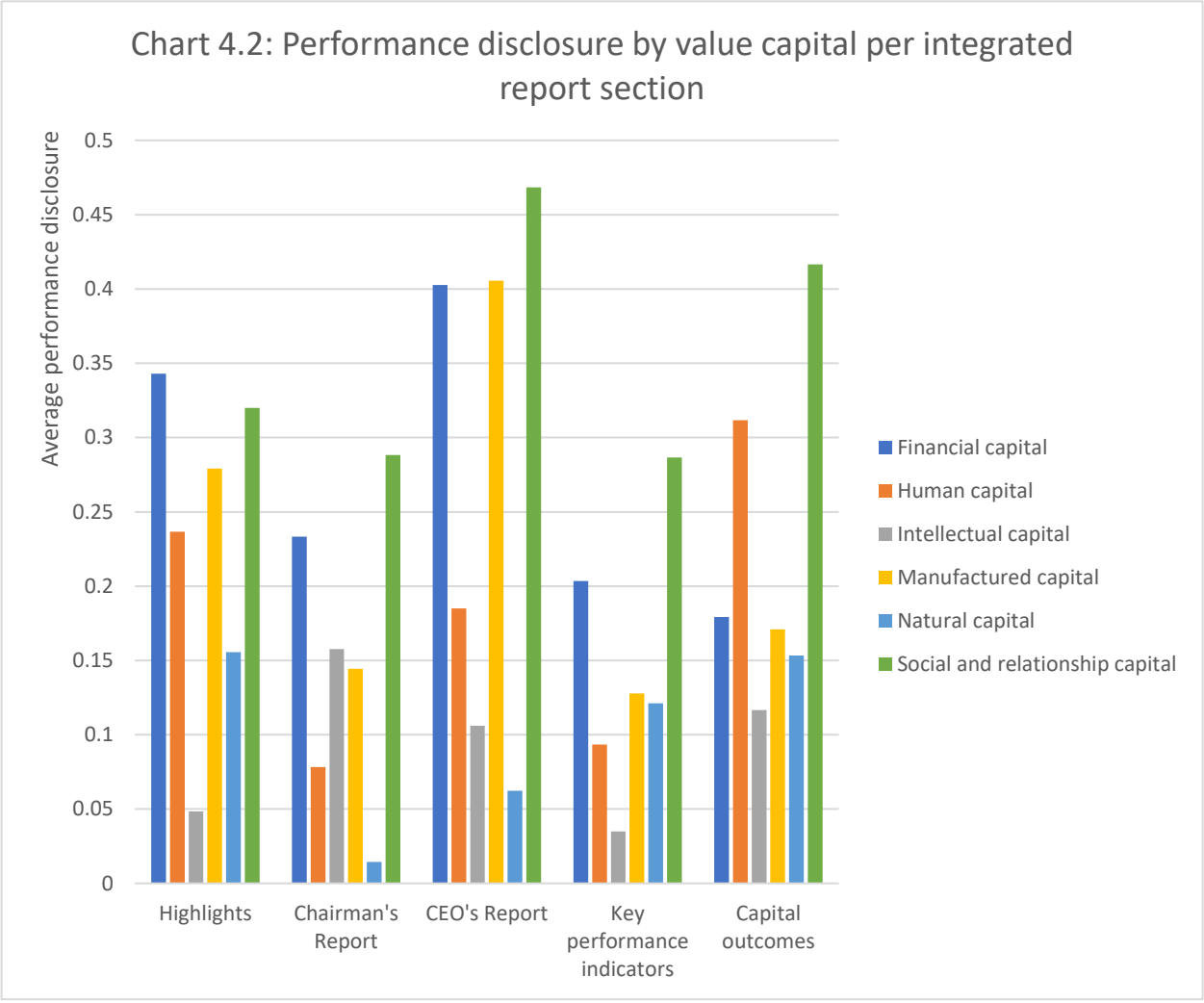


Chart 4.2 illustrates which sections of the integrated report that were reviewed, focused on which value capital. Financial capital is the focus of the highlights section of the integrated report, followed by social and relationship capital.

Both the Chairman's report and the CEO's report place most emphasis on social and relationship capital, followed by financial capital. We see the increased non-financial disclosure in the chairman's statement

(Gitahi et al., 2018) which focuses specifically on social and relationship performance disclosures but significant emphasis is still placed on financial performance (Smith and Taffler, 1992).

Key performance indicators again place most focus on social and relationship capital followed by financial capital reaffirming the reporting of the Chairman and CEO reports. The Capital outcomes section also places greatest emphasis on social and relationship capital but is, interestingly, followed by human capital performance disclosures.

4.2 Statistical Analysis

This section provides statistical analysis of performance disclosures in the sampled companies' integrated reports. The effects of firm size, industry and reporting quality are considered separately, using non-parametric tests (see Section 3).

Evaluating correlations

Table 3 presents the correlations in performance disclosures among entity variables and integrated report sections reviewed. There is a strong negative correlation between industry and IRQ (r_s=-0.411, p<0.01) which is statistically significant at the 1% level. Which indicates that mining companies tend to have a higher IRQ rating than do non-mining companies. This may be because entities in the mining sector have a significant social and environmental impact (Carels et al., 2013). There is also a very strong negative correlation between size and IRQ (r_s=-0.726, p<0.01) which is statistically significant at the 1% level. This indicates that, as we move from large to small entities, the IRQ rating decreases.

There is a moderately strong positive correlation between industry and total performance disclosures (r_s=0.229, p<0.01) which is statistically significant at the 1% level. This indicates that mining companies tend to have greater performance disclosures than non-mining companies. This affirms what was observed in Chart 1.1 above. There is only weak correlation among industry and specific sections of the integrated report. There are only weak correlations among size and performance disclosures in all sections of the integrated report as well as in total performance disclosures. There are also only weak correlations among IRQ and all sections of the integrated report and total disclosure.

TABLE 3: CORRELATIONS (SPEARMAN'S RHO)

	Industry	Size	IRQ	Highlights	Chairman's Report	CEO's Report	KPIs	Capital Outcomes	Total disclosure
INDUSTRY	1.000	0.472**	-0.411**	-0.033*	0.014	0.007	-0.114**	-.040**	0.229**
SIZE		1.000	-0.726**	-0.082**	-0.021	0.017	-0.063**	-0.119**	0.190**
IRQ			1.000	0.109**	0.016	-0.039**	0.067**	0.134**	-0.169**
HIGHLIGHTS				1.000	0.222**	0.314**	0.279**	0.194**	-0.017
CHAIRMAN'S REPORT					1.000	0.282**	0.131**	0.148**	0.012
CEO'S REPORT						1.000	0.266**	0.281**	0.043**
KPIS							1.000	0.259**	0.028
CAPITAL OUTCOMES								1.000	0.098**
TOTAL DISCLOSURE									1.000

****CORRELATION IS SIGNIFICANT AT THE 1% LEVEL (2-TAILED)**
***CORRELATION IS SIGNIFICANT AT THE 5% LEVEL (2-TAILED)**

There are moderately strong positive correlations among disclosures in the highlights section of the integrated report and Chairman's report (r_s=-0.222, p<0.01), CEO's Report (r_s=-0.314, p<0.01), Key performance indicators (r_s=-0.279, p<0.01) and capital outcomes (r_s=-0.194, p<0.01) sections of the integrated reports which are significant at the 1% level. This indicates that more performance disclosures in the highlights section may also indicate more disclosures in the other sections reviewed.

There is also a moderately strong positive correlation among performance disclosures in the Chairman's report and the CEO's report (r_s=-0.282, p<0.01) which is statistically significant at the 1% level. This indicates that more performance disclosures in the Chairman's report may correlate to more performance disclosures in the CEO's report.

There is also a moderately strong positive correlation among performance disclosures in the CEO's report and the key performance indicators section (r_s=-0.266, p<0.01) and the capital outcomes section (r_s=-0.281, p<0.01) of the integrated report which are statistically significant at the 1% level. This indicates that more performance disclosures in the CEO's report may correlate to more performance disclosures in the key performance indicators and capital outcomes sections of the integrated report. There is also a moderately strong positive correlation between performance disclosures in the key performance indicators section and the capital outcomes section (r_s=-0.259, p<0.01) of the integrated report, which is statistically significant at the 1% level.

Evaluating industry and size effects

A Kruskal-Wallis test was used to examine if there are significant differences in performance disclosures between mining and non-mining entities. Table 4 presents the results for the four years under review.

Panel A of Table 4 shows that performance disclosures by mining companies in the highlights section of the integrated report (mean = 0.28) is significantly higher than that of non-mining companies (mean = 0.22). This difference is statistically significant at the 1% level (U=26.262, p<0.01). Similarly, the mean performance disclosures in the key performance indicators section of the integrated report (U=25.114, p<0.01) and the outcomes of value capitals section of the integrated reports (U=26.167, p<0.01) by mining companies exceed those of non-mining companies. These differences are statistically significant at the 1% level.

Table 4: Changes in performance disclosures by industry and size

	A: By Industry			B: By Size (Market Capitalisation)		
	U-Statistic	**Mean: Mining entities**	**Mean: Non-mining entities**	**U-Statistic**	**Mean: Large companies**	**Mean: Small Companies**
Highlights section	26.262**	0.28	0.22	28.488***	0.30	0.19
Chairman's Report	26.642[ŧ]	0.15	0.16	29.732*	0.17	0.15
CEO's Report	26.754[ŧ]	0.30	0.27	29.755[ŧ]	0.29	0.28
Key Performance Indicators	25.114***	0.28	0.09	29.083***	0.21	0.10
Capitals Outcomes	26.167***	0.24	0.20	27.856***	0.29	0.14
Total Integrated report	19.432***	4.00	2.80	23.567***	4.03	3.11

*****significant at the 1% level (2-tailed)**
****significant at the 5 % level (2-tailed)**
***significant at the 10% level (2-tailed)**
[ŧ] No significance

There is, however, no statistically significant difference between the performance disclosures of mining and non-mining companies in the Chairman's report (U=26.642, p>0.1) and the CEO's report (U=26.754, p>0.1) in the integrated annual reports. This is consistent with the findings in section 4.1 that disclosures in the Chairman's report and CEO's report are not dependent on the industry in which the entity operates but rather on management's attitudes and values (Amernic et al., 2010) .

Significant changes in performance disclosures among large and small entities (by market capitalisation) were examined using a Kruskal-Wallis test. Table 4 Panel B presents the results for the four years under review[4].

A significant (at the 1% level) change in total performance disclosures based on size is evident. The mean performance disclosures in the highlights section (U=28.488, P<0.01), key performance indicators section (U=29.083, p<0.01) and outcomes of value capitals section of the integrated reports (U=27.856,p<0.01) is more in large companies than smaller companies and is significant at the 1% level, as per Table 4. This is

[4] Panel B of Table 4 tests for differences in disclosures by company size (rather than industry). For this purpose, the companies were ranked by market capitalisation. Those with market capitalisations greater than the sample median are classified as large companies. All other firms are small companies.

consistent with the view that larger companies have more information to report to their shareholders (Deegan, 2002, Cho et al., 2014). There are no significant changes in performance disclosures in the CEO's report (U=29.755, p>0.1). The mean performance disclosures in the Chairman's report (U=29.732, p<0.1) are more in large companies than small companies but is only significant at the 10% level. This is probably because of these reports being more dependent on management's values than the industry in which they operate(Amernic et al., 2010) which is consistent with the findings in section 4.1 above.

Evaluating report quality and year effects

A Kruskal Wallis H test (Table 5, Panel A) shows that there is a statistically significant difference in performance disclosures in companies with different IRQ ratings in all sections in the integrated report other than the Chairman's Report (H=6.433, p>0.1), for which the differences are not considered significant. Refer to Table 5.

TABLE 5: Changes in performance disclosures by IRQ rating and over time

	IRQ differences		Year differences	
	H-Statistic	**Std. J-T-statistic**	**H-Statistic**	**Std. J-T-statistic**
Highlights section	93.257***	7.665***	15.739***	-2.682***
Chairman's report	6.433 ǂ	1.095 ǂ	3.877 ǂ	0.511 ǂ
CEO's report	13.768**	-2.711***	9.686**	2.782***
Key performance indicators	101.665***	4.702***	12.153***	2.786***
Capitals outcomes	122.103***	9.422***	13.599***	0.180 ǂ
Total integrated report	397.441***	11.786***	83.092***	-2.139**
*****significant at the 1% level (2-tailed)**				
****significant at the 5 % level (2-tailed)**				
***significant at the 10% level (2-tailed)**				
ǂ No significance				

The Jonckheere-Terpstra test for ordered alternatives on IRQ differences show that there was a statistically significant positive trend of greater performance disclosures for higher IRQ rankings in the highlights section (J-T=7.665, p<0.01), the key performance indicators (J-T=4.702,p<0.01) and the outcomes of value capitals section (J-T=9.422, p<0.01). There is a statistically significant negative trend in performance disclosures compared to IRQ ratings in the CEO's report (JT=-2.711, p<0.01), indicating that as IRQ ratings increase, performance disclosures in the CEO's report decrease.

These findings are consistent with more disclosures in higher IRQ rated companies and iterates the findings in section 4.1 above that due to the fundamental concepts which the EY Excellence in Integrated

reporting awards requiring disclosures relating to the use and outcomes of value capitals (EY, 2018) more performance disclosures are expected.

Panel B of Table 5 shows the differences in disclosure scores over time. In the comparison of performance disclosures over the four-year period under review, the Kruskal Wallis H test shows that there is a statistically significant difference in performance disclosures in companies in different years in all sections in the integrated report other than the Chairman's Report ($H=3.877$, $p>0.1$) for which the differences are not considered significant. A Jonckheere-Terpstra test for ordered alternatives on reporting year, show that there was a statistically significant positive trend of greater performance disclosures for later years in the CEO's report ($J\text{-}T=2.782$, $p<0.01$) and key performance indicators section ($J\text{-}T=2.786$,$p<0.01$). There was a statistically significant negative trend of greater performance disclosures over time in the highlights section of the integrated report ($J\text{-}T=-2.682$, $p<0.01$) and the total of reviewed sections of the integrated report ($J\text{-}T=-2.139$, $p<0.05$). The positive trend for performance disclosures over time was not deemed significant for disclosures in the outcomes of value capitals section of the integrated report ($J\text{-}T=0.18$, $p>0.1$).

Evaluating industry disclosures per performance capital

A further Kruskal-Wallis test was used to examine if there are statistically significant differences in performance disclosures between mining and non-mining entities relating to the specific performance capitals. Manufactured capital and natural capital did not have any statistically significant differences and so were excluded from the results. It is interesting that there were no statistically significant differences relating to natural capital as it is expected that mining companies include more performance disclosures regarding natural capital because of the environmental impact of mining (Carels et al., 2013). This may be an indication that even entities which do not have a significant environmental impact are reporting on natural capital to an extent similar to mining entities.

Table 6 presents the results for the four years under review. Table 6 shows that performance disclosures by non-mining companies relating to financial capital in the key performance indicators section of the integrated report (mean = 0.24) are significantly higher than those of mining companies (mean = 0.11). This difference is statistically significant at the 1% level ($U=43.183$, $p<0.01$). This indicates that key performance indicators of non-mining companies are significantly related to financial capital more than non-mining companies are. Financial capital performance disclosures of the total integrated report of non-mining companies (mean = 3.11) is significantly lower than those of mining companies (mean = 4.03).

TABLE 6: CHANGES IN PERFORMANCE DISCLOSURES BY INDUSTRY – U STATISTICS

	Financial Capital	Intellectual Capital	Human Capital	Social and Relationship capital
HIGHLIGHTS	45.199ŧ	46.966**	27.562***	33.926***
CHAIRMAN'S REPORT	44.894*	47.190ŧ	29.041ŧ	38.445ŧ
CEO'S REPORT	44.863*	43.659***	29.103ŧ	33.621***
KPIS	43.183***	46.967**	27.282***	32.820***
CAPITAL OUTCOMES	45.927ŧ	47.842ŧ	27.665***	37.350*
TOTAL DISCLOSURE	33.408***	34.969***	21.068***	28.900***

*****SIGNIFICANT AT THE 1% LEVEL (2-TAILED)**
****SIGNIFICANT AT THE 5 % LEVEL (2-TAILED)**
***SIGNIFICANT AT THE 10% LEVEL (2-TAILED)**
ŧ NO SIGNIFICANCE

This difference is statistically significant at the 1% level (U=33.408, p<0.01). This indicates that, although financial capital performance disclosures of non-mining entities exceed mining companies in the key performance indicators section of the integrated report, overall mining companies include more financial capital performance disclosures than non-mining companies. This is most likely because overall disclosures of mining companies exceed performance disclosures of non-mining companies.

Intellectual capital performance disclosures of non-mining companies exceed those of mining companies in the highlights section (U=46.966, p<0.05) and key performance indicators section (U=46.967, p<0.05) of the integrated report and is statistically significant at the 5% level. Conversely, intellectual capital performance disclosures of non-mining companies are significantly lower than those of mining companies in the CEO's report (U=43.659, p<0.01), as well as overall in the total integrated report (U=34.696, p<0.01) and is statistically significant at the 1% level.

Performance disclosures relating to human capital of non-mining companies are significantly higher than those of mining companies in the highlights section (U=27.562, p<0.01), key performance indicators section(U=27.282, p<0.01) and capital outcomes section (U=27.665, p<0.01). The differences are statistically significant at the 1% level. This indicates that the highlights, key performance indicators and capital outcomes of non-mining entities are more closely linked to human capital performance than those of mining companies. The overall disclosures in the integrated report relating to human capital of mining companies still exceed those of non-mining companies (U=21.068, p<0.01) and the difference is statistically significant at the 1% level.

Performance disclosures relating to social and relationship capital of mining companies are significantly higher than those of non-mining companies in the highlights section (U=33.926, p<0.01), CEO's report (U=33.621, p<0.01) and key performance indicators section (U=32.820, p<0.01) and are statistically significant at the 1% level. This indicates that the highlights, CEO's report and key performance indicators of mining entities are more closely linked to social and relationship capital performance than those of non-mining companies. The overall performance disclosures in the integrated report relating to social and relationship capital of mining companies are also more than those of non-mining companies (U=28.900, p<0.01) and the difference is statistically significant at the 1% level.

The key performance indicators sections of mining companies include more performance disclosures than those of non-mining companies for financial capital and social and relationship capital. This is in line with the findings that mining entities' key performance indicators are related to the activity domains which include mining in socially sensitive areas, creating a need for socio-economic development (Lydenberg and Rogers, 2010, Bartolini et al., 2013, Roxana-Ioana, 2016).

Evaluating disclosures per performance capital by large and small companies

A further Kruskal-Wallis test was used to examine if there are statistically significant differences in performance disclosures in large and small entities by market capitalisation relating to the specific performance capitals. Manufactured capital and natural capital did not have any statistically significant differences are were excluded from the results. Table 7 presents the results for the four years under review.

Table 7 shows that performance disclosures by small companies relating to financial capital in the highlights section of the integrated report (mean = 0.32) are significantly higher than those of larger companies (mean = 0.29). This difference is statistically significant at the 1% level (U=48.880, p<0.01). Performance disclosures by small companies relating to financial capital in the key performance indicators section of the integrated report (mean = 0.10) are significantly lower than those of larger companies (mean = 0.31). This difference is statistically significant at the 1% level (U=49.681, p<0.01). This indicates that key performance indicators of large companies are more significantly related to financial capital than are small companies.

TABLE 7: CHANGES IN PERFORMANCE DISCLOSURES BY SIZE – U STATISTICS

	Financial Capital	Intellectual Capital	Human Capital	Social and Relationship capital
HIGHLIGHTS	48.880***	53.305ŧ	31.112***	39.983***
CHAIRMAN'S REPORT	51.501ŧ	51.414*	32.5142ŧ	43.803ŧ
CEO'S REPORT	50.915ŧ	52.268ŧ	32.146ŧ	42.975ŧ
KPIS	49.681***	53.610ŧ	31.703**	41.196***
CAPITAL OUTCOMES	48.057***	52.012**	30.328***	38.864***
TOTAL DISCLOSURE	40.518***	42.410***	25.551***	35.050***

*****SIGNIFICANT AT THE 1% LEVEL (2-TAILED)**
****SIGNIFICANT AT THE 5 % LEVEL (2-TAILED)**
***SIGNIFICANT AT THE 10% LEVEL (2-TAILED)**
ŧ NO SIGNIFICANCE

Furthermore, financial capital performance disclosures of the total integrated report of small companies (mean = 4.00) are significantly higher than large companies (mean = 2.801). This difference is statistically significant at the 1% level (U=40.518, p<0.01). This indicates that although financial capital performance disclosures of large entities are more than those of small companies in the key performance indicators section of the integrated report, overall, in the integrated report small companies have more financial capital performance disclosures than large companies. This may indicate more emphasis on financial capital by small companies.

Intellectual capital performance disclosures of small companies (mean = 0.13) exceed those of large companies (mean = 0.10) in the capital outcomes section of the integrated report and are statistically significant at the 5% level (U=52.012, p<0.05). This is also true for the total disclosures in the integrated report where small companies (mean = 4.00) significantly exceed companies with large market capitalisation (mean = 2.80). The difference is significant at the 1% level (U=42.410, p<0.01).

Performance disclosures relating to human capital of large companies significantly exceed those of small companies in the highlights section (U=31.112, P<0.01), key performance indicators section (U=31.703, p<0.05), capital outcomes section (U=30.328, p<0.01), as well as for total disclosure in the integrated report (U=25.551, p<0.01). This indicates that large companies place more emphasis on human capital performance than do smaller market capitalisation entities.

Social and relationship capital performance disclosures of large market capitalisation companies significantly exceed that of small companies in the highlights section (U=39.1983, P<0.01), key performance indicators section (U=41.196, p<0.01), capital outcomes section (U=38.864, p<0.01), as well as for total disclosure in the integrated report (U=35.050, p<0.01). This indicates that large companies place more emphasis on social and relationship capital performance than do smaller market capitalisation entities.

5. Conclusion

In this section, the key findings of the study are summarised (Section 5.1). Implications of the findings and resulting recommendations are also presented (Section 5.2). The contribution which this study makes is discussed and its limitations and areas for future research are identified (Section 5.3).

5.1 Summary of Key Findings

This study examines trends in CP disclosure in integrated reports. While CP disclosures include many non-financial CP measures there is still a focus on financial performance measures for all entities reviewed. The most common financial performance measure noted by the researcher is EBITDA. Most entities do not attempt to define CP in their annual reports while the few who do all include financial measures, with some referring to sustainability, risk and strategy. One mining entity refers specifically to safety, while another non-mining entity makes specific reference to ESG and BB-BEE as part of their definition of CP (*RQ1*). It is clear that there is not one clear definition of CP but financial performance remains at the core (Brown and Laverick, 1994) while sustainability and strategy are gaining importance (Cho et al., 2014, Clayton et al., 2015).

The CP disclosures by mining companies relating to manufactured capital significantly exceed that of non-mining entities. This is because of the asset intensive nature of mining. Mining companies have far greater CP disclosures than non-mining entities relating to social and relationship capital because of the socio-economic impact of mining, as well as the safety requirements. It is evident that mining companies have more non-financial CP disclosures than do non-mining companies (*RQ2*). This holds true for all sections of the annual report reviewed other than the Chairman's Statement and CEO's report, in which performance disclosures of mining companies were not statistically more than non-mining companies. There were no statistically significant differences noted for natural capital which may indicate that mining companies are not disclosing significantly more relating to natural capital than do non-mining companies. From the observations made by the researcher during data collection, this appears to be because non-mining companies include more CP disclosure on natural capital, rather than mining companies disclosing less

than expected natural capital CP disclosures. This is in contradiction of the expectation that mining companies would disclosure more regarding natural capital because of their significant impact on the environment (Carels et al., 2013).

In line with expectation, large entities (by market capitalisation) have significantly more CP disclosures than smaller entities do for all value capitals. Except for CP disclosures relating to financial capital for which the difference is not significant. Large companies include more non-financial performance disclosures than do small companies (*RQ3*). This is consistent with the view that larger companies have more information to report to their shareholders than small companies (Deegan, 2002, Cho et al., 2014). Larger companies have more stakeholders whose needs are catered for in the reports and are under more scrutiny which results in more detailed disclosure on performance measures (De Villiers et al., 2017, Guthrie et al., 2004).

It was further observed that higher IRQ rated companies have more CP disclosures. This is true for the capitals outcomes section of the annual reports (*RQ4*). This is because of the fundamental concepts which the EY Excellence in Integrated reporting awards consider in determining the IRQ rating. This requires companies to report on the capitals an entity uses and how it creates value (EY, 2018). Interestingly, it was found that there is a strong negative correlation between IRQ level and CP disclosures in the CEO's report section of the annual report. It is possible that the CEO's reports include fewer CP disclosures due to the fact that this is addressed in detail elsewhere in the annual report.

Performing longitudinal analysis of the disclosures over time significant trends are observed. A consistent increase in social and relationship capital performance disclosures was observed over the period 2015-2018, while financial capital CP disclosures declined from 2016-2018 *(RQ5)*. This is in response to greater pressure on companies to give back to their communities and greater focus on social responsibility and less on financial CP (Edgley et al., 2015). Even though there is a decline in financial capital CP disclosure, it is still more than all other capitals other than social and relationship capital.

Natural capital performance disclosure remained constant with a moderate decrease over the four-year period. The decrease in natural capital performance disclosures is not expected (Camilleri, 2017) and may be because of increased disclosures in 2015 already, when many entities were moving towards environmentally conscious reporting since the release by the IIRC of a consultation draft of the integrated reporting framework in March 2013 (Cheng et al., 2014).

It was noted that there is increased non-financial disclosure in the chairman's statement (Gitahi et al., 2018) which focuses specifically on social and relationship performance disclosures but significant emphasis is still placed on financial performance (Smith and Taffler, 1992) within the chairman's statement (*RQ6*). There was however no statistical significance between mining and non-mining entities disclosures in the Chairman's statement or between large and small entities. Industry and size are therefore not drivers of CP disclosures in the chairman's statement section of the annual reports. This confirms that disclosures in the chairman's statement are not dependent on the size or nature of the industry in which the entity operates but rather on management's attitudes and values (Amernic et al., 2010).

Mining entities include far more CP disclosures in their key performance indicators section of the annual reports than do non-mining entities. CP disclosures by non-mining companies relating to financial capital in the key performance indicators section of the integrated report are significantly higher than those of mining companies. This indicates that key performance indicators of non-mining companies are more significantly related to financial capital than mining companies. The key performance indicators sections of mining companies exceed non-mining companies for social and relationship capital as expected, but differences in disclosures relating to natural capital were not statistically significant (*RQ7*) (Lydenberg and Rogers, 2010, Bartolini et al., 2013, Roxana-Ioana, 2016).

From the graphical representations it was observed that the CEO's report places the most emphasis on social and relationship capital, followed by financial capital. The increased non-financial disclosure in the CEO's report focuses specifically on social and relationship performance disclosures but significant emphasis is still placed on financial performance (Smith and Taffler, 1992). There are no statistically significant differences in CP disclosures between small and large entities in the CEO's report (*RQ8*).

5.2 Recommendations and implications

The results show that some companies have already started to engage with integrated thinking and consider all six of the value capitals in reporting on their performance. Other entities include far less reporting on the non-financial value capitals. These entities appear to include other performance measures only in order to comply with the requirements of King IV and the integrated reporting framework of the IIRC. This is evident from the Chairman's statement and CEO's report which indicate managements' intentions and values which included limited non-financial CP disclosures beyond the social and relationship capital as per the graphic representations in Section 4.1.

It is clear that there is no consistent definition for CP but that a stakeholder approach has been adopted in integrated reporting. This creates the opportunity for entities to include only positive performance in their reporting which may be misleading to stakeholders. It also hinders comparability among entities and over time. If entities apply one consistent definition for CP, this will create opportunity for comparison. As per Figure 1 (see Section 2.1) the definition of CP should include an integrated perspective including all six value capitals. It is as a result suggested that CP should be defined as follows: Corporate performance is the achievement of the entity's strategy to enhance value with regards to six value capitals, these being financial capital, manufactured capital, intellectual capital, human capital, social and relationship capital and natural capital, for all stakeholders. (IIRC, 2013)

This should be measured and disclosed whether the outcomes are positive or negative. Refer to figure 3 below for an illustration of suggested CP definition and measurement. Although additional disclosures may still be necessary to meet the needs of stakeholders, applying a consistent definition for CP will make entities directly comparable. The performance measures are not exhaustive but should rather be considered a minimum requirement. Each value capital has been assigned only 3 measures to give each equal weighting and not to emphasise one capital over another. In all sections of the annual integrated reports in which CP is referred to, the above definition should be taken into account. Where this is not the case, an entity should specify to which performance they are referring rather than using the general term 'CP'. This will also lead to integrated thinking, as when management are considering these elements for reporting, they will be more focused on achieving success in these respects.

In order to determine the performance measures per value capital, the three most commonly disclosed measures of performance, as identified by the researcher in the data collected, were included (refer to Appendix F). Financial capital performance should be measured by movements in earnings before interest, taxes, depreciation and amortisation (EBITDA), earnings per share (EPS) and cash flows from operations (Malik and Makhdoom, 2016, Suto and Takehara, 2016). Manufactured capital performance should be measured by capital expenditure (CAPEX), cost of production and production volumes (Krüger, 2011). Intellectual capital performance measures include innovation, governance and stakeholder engagement (Neely, 2000; Raemaekers, 2016). Human capital performance should be measured by staff satisfaction (can be measured as staff turnover), staff training and development and customer satisfaction which can be measured with reference to the number of customer complaints (Wilkes, 2004). Social and relationship capital performance measures include corporate social investment (CSI), health and safety measures (including number of fatalities) and transformation (which considers diversity in the workplace

and treatment of women and minorities as well as BB-BEE) (Edgley, 2015; Van Beurden, 2008). Performance measures for natural capital include air pollution measures of, for example greenhouse gas (GHG) emissions, resource usage such as energy and water usage and environmental incidents (Edgley, 2015; IIRC, 2013).

Figure 3: Corporate performance definition



5.3 Contribution

The research makes an important contribution to prior literature on integrated reporting. This research is the first to consider integrated thinking in the sense that it does not merely consider the inclusion of reporting elements but focuses also on the sections of the integrated reports in which different elements of performance disclosures are reported, as well as the drivers of such reporting. Previous works have concentrated on the challenges, strengths and weaknesses (Rinaldi et al., 2018), trends and quality (Liu et al., 2019, Uyar, 2016, Malola and Maroun, 2019, Marx and Mohammadali-Haji, 2014) or assurance of integrated reporting (Simnett and Huggins, 2015, Eccles et al., 2012, Reimsbach et al., 2018).

The research for the chosen period (2015-2018) allows the study to provide the first set of results which consider the pronouncements of King IV as it examines a more recent period than did prior literature. From this, comparisons were drawn between differences in integrated reporting in King III and King IV implementation. This indicated that subsequent to the implementation on King IV, fewer financial CP measures were disclosed, and more social responsibility measures were disclosed. This period is also a few years after the initial release of the International Integrated Reporting Council's (IIRC) framework on integrated reporting, which allowed for initial teething problems in application to be overcome. This provides significant insight for future revisions of the integrated reporting framework by the IIRC.

These findings make an important contribution to both academic literature and financial reporting practice. This study is the first to attempt to define CP from a reporting perspective while taking a stakeholder perspective into account. This will be valuable to both academics and practitioners who wish to measure and compare CP.

Finally, this research takes the first strides in determining the drivers of CP disclosures in integrated reports, considering industry and size, as well IRQ ratings. These drivers were all found to have statistically significant relationships with CP disclosures. There is still an array of possible drivers which were not included in this study which may be considered for future research studies.

5.4 Limitations and areas for future research

In this study the presence of CP disclosures was considered, but it did not consider the quality of such disclosures. As a result, further research may be required to evaluate the quality of CP disclosures in such annual reports.

An inherent limitation of this research is that it does not engage the individual preparers of the annual reports in order to understand managements' attitudes towards CP nor their intentions with the

disclosure of CP measures. Similarly, the research does not take stakeholders' perceptions of annual reports into account as the assumption is made that managers know what their stakeholders need and communicate this using their annual integrated reports. Future research can add significantly to our understanding of CP by engaging with the preparers and stakeholders to obtain an understanding of their needs and intentions. It may also be considered how these perceptions change over time or vary by stakeholder group and so gain fascinating insights.

As mentioned earlier in this paper, this study is based on a relatively small sample from a single jurisdiction which cannot prove a causal relationship between CP disclosures and potential drivers and results may not be extrapolated to the population. The results discussed in this study can be expanded by considering a larger sample, over a longer period and by comparing results in different countries. The results relate to South African listed companies where integrated reporting is compulsory for JSE-listed entities and so the inclusion of some CP disclosures (particularly non-financial CP disclosures) may only be to meet the requirements of the integrated reporting framework of the IIRC, rather than relating to management's perception of CP.

In this study only four possible drivers of CP disclosure were examined while a multitude of drivers were identified (De Villiers et al., 2017). Further research may be useful in understanding the impact of other possible drivers of CP, such as profitability and financial performance, ownership structures, leverage, organisational culture, disclosure costs and geographical location. The drivers which were considered, namely size and industry, may also be expanded as industry only considered mining and non-mining while many other industries may have significant impact on CP disclosures. Size was considered by market capitalisation but may have a much greater impact on CP disclosure if smaller entities were included in the sample, such as those listed on the AltX-board of the JSE.

Finally, while this research has taken the first steps to define CP, the proposed definition may not be final. Most notably, this definition does not consider that smaller entities with fewer stakeholders and less significant environmental impact may not need to address all the components of the CP definition. It also does not take into account the additional needs of entities within different industries, such as high technology industries in which information technology performance would be considered an integral component of CP. Future research is, as a result, required to develop a more refined CP definition or even definitions for different industries.

Appendix A – Summary of integrated reporting research in South Africa

South Africa has played a leading role in the development of integrated reporting since implementation of King III and King IV which requires mandatory integrated reporting for all companies listed on the JSE (Clayton et al., 2015). As a result, significant research has been done on integrated reporting in a South African context. The table below provides a summary of integrated reporting research from a South African perspective as referred to in Section 1.2.

Paper	Objective	Method	Finding
Rossouw et al. (2002)	Provide an overview of corporate governance in South Africa.	Review of Corporate governance in South Africa and detailed literature review.	The financial and ethical dimension of corporate governance in South Africa were considered. Broad and narrow corporate governance were analysed.
Ackers (2009)	Examining corporate social responsibility (CSR) assurance in South Africa.	Content analysis of the annual or CSR reports of the top 100 JSE-listed companies.	CSR assurance prevalence is growing and South African companies compared favourably to more developed countries.
Makiwane and Padia (2013)	Determining whether the level of reporting of South African listed companies has improved since the implementation of King III	A comparative study of South African listed entities in the year 2010/2011 compared to the base year 2009 to determine whether the level of reporting has improved since King III.	Although there has been some progress in the level of integrated reporting, there is still room for improvement in order to meet the objectives of integrated reporting.
De Villiers,Unerman and Rinaldi (2014)	To synthesise insights from accounting and accountability research into the field of integrated reporting and propose a comprehensive agenda for future research in this area.	The paper draws upon and sythesises academic analysis and insights provided in integrated reporting academic literature, together with policy pronouncements.	The rapid development of integrated reporting policy and early developments of practice present theoretical and empirical challenges because of the different interpretations of integrated reporting. Many areas of further robust research requirements are highlighted.
Haller and van Staden (2014)	Proposing the use of a value-added statement as a practical tool to apply the integrated reporting concept in corporate practice	A deductive normative research approach was followed	A proposed value-added statement may serve as a practical and effective reporting instrument to meet the needs of integrated reporting.

Marx and Mohammadali-Haji (2014)	Providing an overview of the development of integrated reporting and evidence of integrated reporting practices in South Africa	Comprehensive literature review of current corporate governance practices and content analysis of integrated reports of JSE-listed entities.	Integrated reporting is evolving but inconsistencies exist regarding the process to follow, format, content and value.
Steyn (2014)	To investigate the perceptions of Chief executive officers (CEOs), Chief financial officers (CFOs) and senior executives of South African listed companies on the perceived benefits and implementation challenges relating to the implementing of integrated reporting requirements. To identify the motives for preparing an integrated report two years after the introduction of integrated reporting requirements in South Africa	A self-administered web-based survey aimed at CEOs and CFOs of South African listed companies.	Compliance is seen as the primary motive for preparing integrated reports with advancement of corporate reputation identified as a secondary key motivation. Managers are more motivated by the legitimising aspect of advancing corporate reputation and stakeholder needs than by satisfying investor needs. Integrated reporting does not appear to result in better resource allocation decisions or cost reductions. Accessing economic value creation and strategy are not considered key motives for companies to prepare integrated reports.
Atkins and Maroun (2015)	Exploring the initial reactions of the South African institutional investment community to the first sets of integrated reports prepared by companies listed on the JSE	Detailed interviews with 20 experts. Interpretive thematic analysis was used to identify themes and principles.	The new reporting framework is an improvement on the traditional annual report of South African listed entities. There is more emphasis on non-financial measures and an effort to integrate financial and environmental, social and governance measures. Integrated thinking is limited by the length of reports, repetition and check box approach to reporting.
Clayton et al. (2015)	Review the development of integrated reporting in South Africa and the impact of the transition from separate sustainability reporting to integrated reporting on non-financial reporting.	Content analysis of annual reports of eight South African companies for the period 2008-2013	Increased assurance of non-financial information in integrated reports was noted. An emergence of new reporting themes and a clear shift towards stakeholder orientation were noted.

PWC (2015)	The purpose of the report is to guide management and preparers of integrated reports to focus their attention and on the value creation process using a roadmap developed by the authors.	A survey was conducted of the top 40 JSE-listed companies for the period 2014-2015 by means of content analysis.	Reporting on strategy and resource allocation showed effective communication in the integrated reports. Reporting on performance and governance showed improvement but governance reporting is still not sufficient. Reporting on outlook also requires improvement.
Setia et al. (2015)	Examining whether integrated reports, prepared in accordance with King III, can communicate the ability of an entity to create and sustain value.	Content analysis of the integrated reports of the top 25 JSE listed companies for the years 2009/2010 and 2011/2012. Legitimacy theory is used to formulate two alternate propositions on how entities disclose information regarding the value capitals per the IIRC.	The introduction of integrated reporting in South Africa resulted in increased disclosure of human, social and relationship, natural and intellectual capital information. The increase in disclosures relating to social and relationship capital is significantly greater than it is about the other capitals. JSE-listed companies are adopting a legitimisation strategy based on symbolic management when preparing their disclosures.
Simnett and Huggins (2015)	To provide insights into the issues of the development of the integrated reporting framework and emerging problems with its implementation.	An archival analysis of the responses to the IIRC's public consultation process.	The paper identifies a range of problems and future research opportunities to assess the costs and benefits to companies of reporting in accordance with the integrated reporting framework.
Ungerer and Vorster (2015)	Examining strategy disclosure trends in South Africa across six industries.	A comparative analysis of strategy disclosure based on three baselines across six industries for companies in South Africa for the period 2010-2011.	Although positive trends towards greater transparency and improved accountability to stakeholders was noted, disclosure of forward-looking strategic themes and competitive strategy sub-scales represent areas needing improvement.
Haji and Anifowose (2016)	Examining the trend of integrated reporting practice in South Africa after an "apply or explain" requirement. More specifically, whether integrated reporting practice is ceremonial or substantive	Content analysis of the extent and quality of integrated reporting over a three-year period (2011-2013), following the introduction of the integrated reporting requirement in South Africa.	An overall significant increase in integrated reporting quality and extent. Significant improvements in connectivity of information, materiality determination and reliability and completeness of integrated reports. Integrated reporting practice is

	in the context of a soft regulatory environment.		mostly ceremonial in nature in order to obtain organisational legitimacy.
Haji and Hossain (2016)	Examining how multiple capitals are integrated and reported through various organisational reporting channels after the mandatory 'apply of explain' approach to integrated reporting in South Africa	A qualitative case study approach, based on discourse analysis was used to examine various organisational reports of highly regarded integrated reporters in South Africa for the period 2011-2014.	Companies are making use of reporting language obtained from integrated reporting guidelines, but disclosures are merely generic. The substance of organisational reports has not improved.
Raemaekers et al. (2016)	Examining the changes in the extent of risk disclosures in integrated reporting after the introduction of King III	Content analysis of integrated reports of JSE-listed companies for the period 2010 to 2012.	There has been an increase in risk disclosures, but this may be a compliance-based exercise rather, than effective stakeholder communication.
Barth,Cahan,Chen and Venter (2017)	Examining the economic effects of integrated reporting on the capital market channel and real effects channel.	Disaggregation of firm value into three components of cost of capital, liquidity and expected future cash flows to analyse statistical associations with IRQ.	The findings support the integrated reporting objectives of improved external information and better internal decisions.
De Villiers et al. (2017)	Developing a conceptual model for the development of integrated reporting.	Use of a narrative/discursive style to summarise key findings from the literature reviewed and develop a normative research agenda	A new conceptual model was developed, based on the findings of prior literature.
Du Toit (2017)	Investigate the understandability of integrated reports to assess whether these reports are accessible to the recipients and value-adding to stakeholders.	Analysis was performed on the understandability of integrated reports of all companies listed on the JSE for 2015 and 2016.	The understandability of integrated reports is impaired by the complex nature of the language used, which affects the value the information provides to stakeholders.
Du Toit et al. (2017)	Reporting on the long-term effect of integrated reporting on the quality of information.	Detailed content review of four companies for a period of three years (2012 to 2014)	A distinct decrease in information provided in the integrated reports was noted. Significant uncertainty still exists regarding the amount of reporting required.
Dumay,Bernardi,Guthrie and La Torre (2017)	Synthesis of insights from contemporary accounting research relating to integrated reporting specifically focusing on possible barriers and specific issues which	The paper draws upon and synthesises academic analysis and insights provided in integrated reporting academic literature and policy pronouncements	Different ways of interpreting and enacting integrated reporting creates numerous theoretical and empirical challenges for academics

	could be rectified to advance integrated reporting.		
Haji and Anifowose (2017)	Explore the implications of integrated reporting practice on disclosure practices by companies in South Africa	Content analysis of integrated reports of South African companies for the period 2011-2013 across six industries.	Corporate disclosures have increased significantly overall, but companies do not address interdependencies and trade-offs between capitals. Companies use specific disclosure strategies to respond to external pressures relating to strategic legitimacy. Institutional legitimacy is achieved by disclosure strategies becoming institutionalised within various industries.
McNally,Cerbone and Maroun (2017)	Exploring the challenges of integrated reporting, emphasising the importance of integrated thinking and the interconnection of sustainability performance, proactive sustainability management and integrated reporting.	Detailed interviews with 26 preparers at 9 entities in South Africa, highlighting practical problems in preparing integrated reports.	Reporting guidelines are treated as a tick-box exercise with limited stakeholder engagement and data analysis. Preparers do not believe that investors take integrated reports seriously.
Mmako and van Rensburg (2017)	To examine the content elements included in the chairman's statement of 50 top performing and 50 poor performing JSE-listed entities.	Qualitative content analysis was performed to identify how content elements were communicated in the 2012 chairpersons' statements	South African companies embrace new reporting requirements and can become an international benchmark for integrated reporting. The chairman's statement does not include all elements of integrated reporting, but these seem to provide a useful framework on what to include.
Van Zijl,Wöstmann and Maroun (2017)	To examine the current extent of social, environmental and economic (SEE) related strategy disclosure of financial services companies listed on the JSE	The study uses signaling and legitimacy theory to analyse findings from a developed SEE strategy related disclosure checklist.	Economic strategy related disclosures still take preference over social and environmental strategy disclosures.
Zhou,Simnett and Green (2017)	To examine whether analyst forecast errors reduce as a company aligns to the integrated reporting framework.	Comparisons were drawn between analyst forecast errors and the level of alignment with the integrated reporting framework while controlling factors	Analyst forecast error reduces as a company's level of alignment with the integrated reporting framework increases.

		relating to financial transparency and issuing of stand-alone non-financial reports.	This is further associated with lower cost of capital for some entities.
Bernardi and Stark (2018)	Evaluate users' perceptions of the usefulness of integrated reporting by considering the impact of the change to mandatory integrated reporting in South Africa on analyst forecast accuracy for the period 2008 to 2012.	A balanced panel research design was followed, including forty-one companies over eight sectors between 2008 and 2012 in South Africa.	The level of environmental, social and governance disclosures is a mediating variable in determining the effectiveness of integrated reporting.
Naynar,Ram and Maroun (2018)	To explore whether there is a perception gap between the emphasis placed on integrated reporting themes by financial services entities and stakeholders' perception of the importance of these reports.	A mixed methods approach is used, using an interpretively constructed disclosure checklist and a questionnaire of a sample of investors. A factor analysis was performed on the results to determine the statistically significant disclosure themes. The nature of the perception gap was determined by comparing the differences between the emphasis placed on disclosure themes by companies and their perceived importance to investors.	A perception gap is identified as a result of companies not understanding what information is valued by their stakeholders.
McNally and Maroun (2018)	To challenge the idea that non-financial information in integrated reporting is about impression management.	A case study of an African eco-tourism company is used to highlight differences in presentation of an integrated business model in integrated reports and how individual preparers interpret the requirement to prepare the reports.	Even though integrated reporting procedures are met with resistance by preparers, accounting for financial and non-financial information facilitates broader management control and promotes an integrated concept of value.
Steenkamp (2018)	To provide insight regarding the leading practice in integrated reporting with regards to material matters and determination of materiality.	Content analysis of the top 10 South African companies per the 2015 Ernst and Young excellence in integrated reporting awards for the period 2014-2015.	The determination of materiality, material matters, and companies' description of materiality varies significantly among companies.
Conway (2019)	Examining the impact of the introduction of mandatory integrated	Financial, risk, institutional and ESG data were collected from companies listed on	Since the start of mandatory integrated reporting in South Africa, financial

	reporting in 2011 on financial performance, risk and institutional shareholding in South African listed companies. This is compared to companies listed on stock exchanges in Nigeria and Egypt where integrated reporting is not mandatory.	the three African stock exchanges from 2006 to 2015 and a series of multivariate ordinary least squares regressions were estimated.	performance and risk appear to have decreased while institutional shareholding has increased.
Malola and Maroun (2019)	Developing a measure for integrated reporting quality and exploring potential drivers of quality in integrated reporting.	A detailed content analysis was performed to construct a quality measure for integrated reporting.	There is still much room for improvement of integrated reporting in South Africa, despite its being well established. As integrated reporting improves, external factors contribute less to the quality of reporting than internal processes.
Tlili,Othman and Hussainey (2019)	To investigate the value relevance of organisational capital after the mandatory adoption of integrated reporting in South Africa	Quantitative methods were used to test the hypotheses within the South African context for the period 2006-2015.	The adoption of integrated reporting has a positive and significant impact on the value relevance of organisational capital.
Wachira,Berndt and Romero (2019)	To explore the factors which influence voluntary adoption of international sustainability and integrated reporting guidelines within a mandatory reporting framework.	The study uses two logistic regression equations to predict the likelihood of companies complying with the Global Reporting Initiative (GRI) or the integrated reported framework. The annual, sustainability and integrated reports for the year 2014 were considered.	A positive relationship was found between adoption of the GRI's guidelines and the level of transparency of non-financial information disclosed and environmental sensitivity was noted.
Zhou,Simnett and Hoang (2019)	Combined assurance is considered as a new credibility enhancing tool for integrated reports.	Content analysis is used to examine the integrated reports of the top 100 JSE-listed entities for the period 2009 to 2015.	Reporting the details of combined assurance is useful to reduce analyst forecast errors and dispersions and to decrease the bid-ask spread in share prices for companies in weak information environments.
Le Roux and Pretorius (2019)	Exploring the relationship between integrated reporting and sustainability embeddedness in companies.	A single exploratory case study design strategy was applied to a company listed on the JSE. Multiple data gathering	It was found that sustainability embeddedness is driven by integrated reporting.

		techniques were applied to a diverse group of employees in the company.	
Hoang,Vu,Nguyen and Luu (2020)	To understand whether mandatory integrated reporting increases or decreases misreporting by companies.	Empirical analysis of a sample of South African listed companies was performed.	Mandatory integrated reporting results in a decrease in misreporting by companies. Increasing compliance with integrated reporting guiding principles results in decreasing levels of misreporting.
Muttakin,Mihret,Lemma and Khan (2020)	To examine whether cost of debt is influenced by integrated reporting.	Models were developed by the authors to link integrated reporting and financial reporting quality with the cost of debt. Observations drawn from non-financial JSE-listed entities for the years 2009-2015 were analysed.	Lower cost of debts is associated with the preparation of integrated reports

Appendix B - Summary of performance measures

Performance measures have been widely researched and discussed, primarily from an economic perspective. The following table summarises the literature reviewed relating to performance measurement which has been considered in section 2.3.

Performance Measure	**Performance metrics included**
Accounting based performance measures	• Return on Assets (Suto and Takehara, 2016, Firer and Mitchell Williams, 2003, Van Beurden and Gössling, 2008, Malik and Makhdoom, 2016, Wilkes, 2004) • Return on Equity (Malik and Makhdoom, 2016, Suto and Takehara, 2016) • Growth rate of total assets (Suto and Takehara, 2016) • Cash flows from operations to total assets (Suto and Takehara, 2016) • Debt ratio (Suto and Takehara, 2016) • Revenue growth (Bourne,Franco and Wilkes, 2003b) • Asset turnover (Firer and Mitchell Williams, 2003, Van Beurden and Gössling, 2008)
Market based financial performance measures	• Market share (Van Beurden and Gössling, 2008, Wilkes, 2004) • Share price (Van Beurden and Gössling, 2008) • Book to market ratio (Van Beurden and Gössling, 2008, Firer and Mitchell Williams, 2003, Suto and Takehara, 2016)
Manufacturing performance measures	• Production/sales volumes (Krüger, 2011) • System downtime (Krüger, 2011) • Growth rate of total assets (Suto and Takehara, 2016, Van Beurden and Gössling, 2008)
Balanced Scorecard (BSC) of Kaplan and Norton (Kaplan and Norton, 2000)	Four Dimensions: • Customers • Shareholders • Process performance • Innovation and Learning

Performance Measure	Performance metrics included
Performance prisms (Neely and Adams, 2000)	Stakeholder focus: • Stakeholder satisfaction • Stakeholder contribution • Strategies • Processes • Capabilities Organisations which want to be successful have a clear understanding of who their stakeholders are and what they want
Strategy maps (Kaplan and Norton, 2004)	Value creation perspectives: • Financial perspective • Customer perspective • Internal processes perspective • Learning and growth perspective
Governance performance measures	• External perception of corporate governance (Wilkes, 2004) • Application of King III (Raemakers et al., 2016)
Social and environmental reporting (SER) measures (Edgley et al., 2015)	Social: • Health and safety measures • Corporate social investment (CSI) • Socially responsible trading • Diversity Environmental: • Air pollution • Water usage • Water pollution • Hazardous spills • Energy usage • Waste management

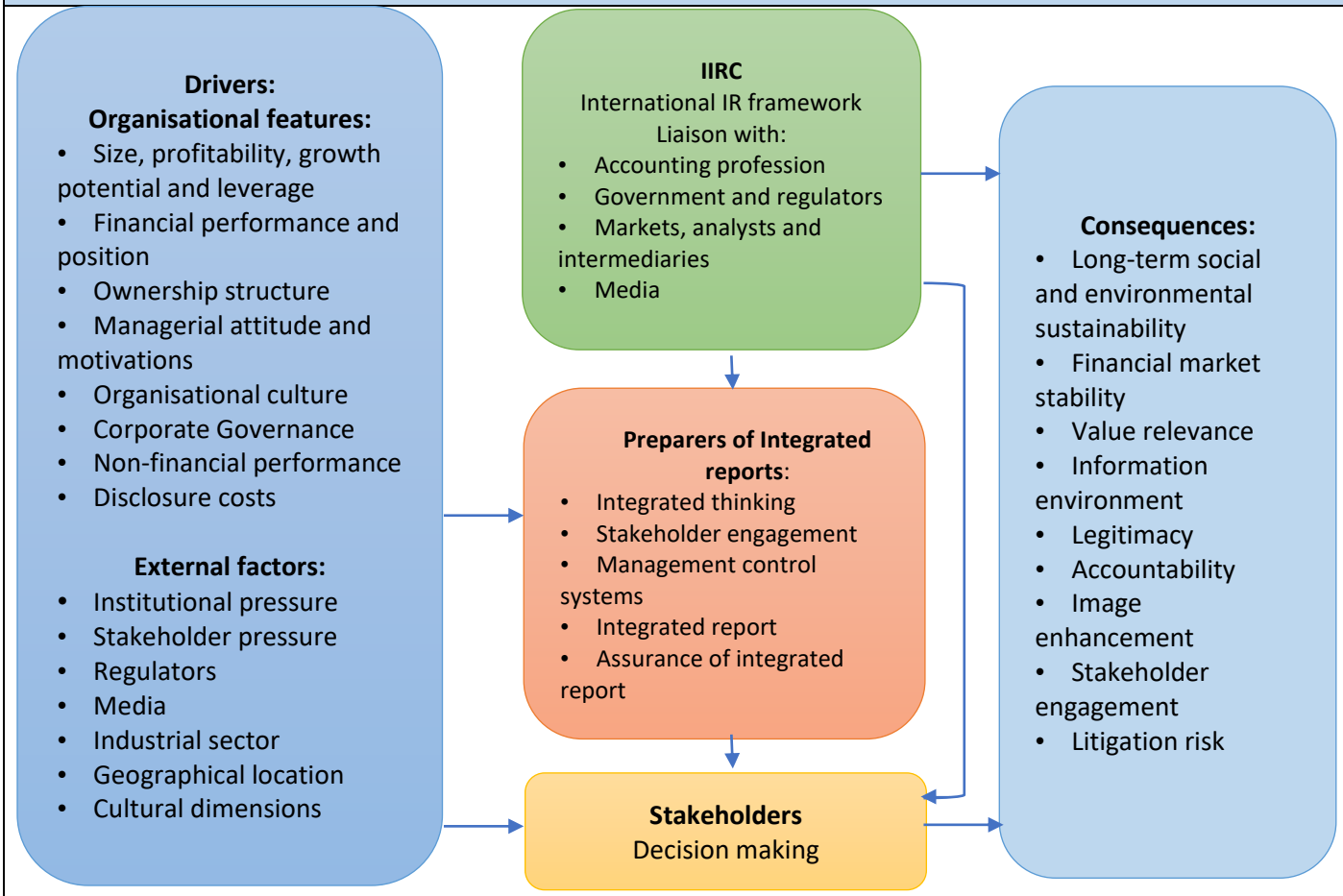
Appendix C – Determinants of disclosures

This appendix provides additional information regarding the determinants and consequences of non-financial disclosures found in integrated and sustainability reports (De Villiers and Maroun, 2018) referred to in section 2.4.

The following diagram, figure 3, was adapted from De Villiers et. al, (2017) and illustrates the overall integrated reporting process. The model provides the following:

- Potential drivers of reporting disclosures in integrated reporting
- Influences from the IIRC
- Preparers of integrated reporting's considerations
- Stakeholder considerations
- Intended outcomes of integrated reporting

Figure 3: The integrated reporting process



Drivers of integrated reporting:

Some of the common themes which researchers have explored as drivers of integrated reporting disclosure include institutional pressure, stakeholder pressure and establishing corporate legitimacy (De Villiers et al., 2017). Reporting managers experience a two-fold pressure to prepare integrated reports, internally from management and externally from stakeholders. This is a direct result of pressure from reporting practices adopted by peers. Irrespective of the conceived value of integrated reporting disclosure, managers find it unavoidable to adopt integrated reporting (Higgins,Stubbs and Love, 2014). Demands by shareholders, local authorities, employees and customers drive the external pressures for integrated reporting, while integrated reporting is strongly associated with advancing corporate reputation, improving stakeholder relationships and reduced reputational risk (Lueg,Lueg,Andersen and Dancianu, 2016, Steyn, 2014, Lodhia, 2015).

Factors which may deter entities from preparing integrated reporting disclosures include the corporate confidentiality and incremental costs (De Villiers et al., 2017). Disclosing material information in integrated reporting may not support maintaining business confidentiality (Steyn, 2014). Forward-looking and strategic information disclosures in integrated reporting are often considered an additional reporting burden and may cause exposure to litigation risk (Perego,Kennedy and Whiteman, 2016).

Institutional and cultural factors such as a country's legal system or cultural dimensions may influence the adoption of integrated reporting, as found in some preliminary quantitative studies (Frias-Aceituno,Rodríguez-Ariza and García-Sánchez, 2013, García-Sánchez,Rodríguez-Ariza and Frías-Aceituno, 2013). A range of variables such as firm size, profitability, corporate governance characteristics and non-financial performance are often considered to influence the decision (Fasan and Mio, 2017, Lai,Melloni and Stacchezzini, 2016).

Although a multitude of drivers of integrated reporting have been identified, this study examines the potential correlations of CP with firm size, industry and integrated reporting quality only. A potential for future research relating to the other drivers of integrated reporting exists.

Appendix D – Sample of Integrated reports reviewed

The sample of companies reviewed for the purpose of this study, referred to in section 3.1, includes companies listed on the JSE, of which 5 are the largest companies within the mining industry. Only companies with their primary listing on the JSE were considered for selection for whom integrated reports were available for all four year under review (2015-2018).

Company Year Code	Company Name	Year-end	Name of Report	Market Capitalisation[5]
AECI2015	AECI Ltd	31 December 2015	Integrated Report and Annual financial statements 2015	R 11.33bn
AECI2016	AECI Ltd	31 December 2016	Integrated Report and Annual financial statements 2016	R 11.33bn
AECI2017	AECI Ltd	31 December 2017	Integrated Report and Annual financial statements 2017	R 11.33bn
AECI2018	AECI Ltd	31 December 2018	2018 Integrated Report and summarised financial statements	R 11.33bn
Amplats2015	Anglo American Platinum Ltd	31 December 2015	Integrated report 2015	R 101.08bn
Amplats2016	Anglo American Platinum Ltd	31 December 2016	Integrated report 2016	R 101.08bn
Amplats2017	Anglo American Platinum Ltd	31 December 2017	Integrated report 2017	R 101.08bn
Amplats2018	Anglo American Platinum Ltd	31 December 2018	Integrated report 2018	R 101.08bn
AngloAsh2015	Anglo Gold Ashanti Ltd	31 December 2015	Integrated report 2015	R 57.78bn
AngloAsh2016	Anglo Gold Ashanti Ltd	31 December 2016	Integrated report 2016	R 57.78bn
AngloAsh2017	Anglo Gold Ashanti Ltd	31 December 2017	Integrated report 2017	R 57.78bn
AngloAsh2018	Anglo Gold Ashanti Ltd	31 December 2018	Integrated report 2018	R 57.78bn

[5] Market Capitalisation as at 28 November 2017 as obtained from http://www.sharedata.co.za/v2/scripts/Shares.aspx

BHP2015	BHP Billiton Ltd	30 June 2015	Annual Report 2015	R 544.03bn
BHP2016	BHP Billiton Ltd	30 June 2016	Annual Report 2016	R 544.03bn
BHP2017	BHP Billiton Ltd	30 June 2017	Annual Report 2017	R 544.03bn
BHP2018	BHP Billiton Ltd	30 June 2018	Annual Report 2018	R 544.03bn
Bidvest2015	The Bidvest Group Ltd	30 June 2015	Annual Integrated Report 2015	R 93.58bn
Bidvest2016	The Bidvest Group Ltd	30 June 2016	Annual Integrated Report 2016	R 93.58bn
Bidvest2017	The Bidvest Group Ltd	30 June 2017	Annual Integrated Report 2017	R 93.58bn
Bidvest2018	The Bidvest Group Ltd	30 June 2018	Integrated Report 2018	R 93.58bn
BlueLabel2015	Blue Label Telecoms Ltd	31 May 2015	Integrated Annual Report 2015	R 13.43bn
BlueLabel2016	Blue Label Telecoms Ltd	31 May 2016	Integrated Annual Report 2016	R 13.43bn
BlueLabel2017	Blue Label Telecoms Ltd	31 May 2017	Integrated Annual Report 2017	R 13.43bn
BlueLabel2018	Blue Label Telecoms Ltd	31 May 2018	Integrated Annual Report 2018	R 13.43bn
Hosken2015	Hosken Consolidated Investments Limited	31 March 2015	Integrated Annual Report 2015	R 11.90bn
Hosken2016	Hosken Consolidated Investments Limited	31 March 2016	Integrated Annual Report 2016	R 11.90bn
Hosken2017	Hosken Consolidated Investments Limited	31 March 2017	Integrated Annual Report 2017	R 11.90bn
Hosken2018	Hosken Consolidated Investments Limited	31 March 2018	Integrated Annual Report 2018	R 11.90bn
KAP2015	KAP Industrial Holdings Limited	30 June 2015	Integrated report 2015	R 22.92bn
KAP2016	KAP Industrial Holdings Limited	30 June 2016	Integrated report 2016	R 22.92bn

KAP2017	KAP Industrial Holdings Limited	30 June 2017	Integrated report 2017	R 22.92bn
KAP2018	KAP Industrial Holdings Limited	30 June 2018	Integrated report 2018	R 22.92bn
KIOC2015	Kumba Iron Ore Limited	31 December 2015	Integrated report 2015	R 105.72bn
KIOC2016	Kumba Iron Ore Limited	31 December 2016	Integrated report 2016	R 105.72bn
KIOC2017	Kumba Iron Ore Limited	31 December 2017	Integrated report 2017	R 105.72bn
KIOC2018	Kumba Iron Ore Limited	31 December 2018	Integrated report 2018	R 105.72bn
MTN2015	MTN Group Limited	31 December 2015	Integrated report for the year ended 31 December 2015	R 241.19bn
MTN2016	MTN Group Limited	31 December 2016	Integrated report for the year ended 31 December 2016	R 241.19bn
MTN2017	MTN Group Limited	31 December 2017	Integrated report for the year ended 31 December 2017	R 241.19bn
MTN2018	MTN Group Limited	31 December 2018	Integrated report for the year ended 31 December 2018	R 241.19bn
PPC2015	PPC Ltd	30 September 2015	Integrated report 2015	R 10.74bn
PPC2016	PPC Ltd	30 September 2016	Integrated report 2016	R 10.74bn
PPC2017	PPC Ltd	30 September 2017	Integrated report 2017	R 10.74bn
PPC2018	PPC Ltd	30 September 2018	Integrated report 2018	R 10.74bn
Reunert2015	Reunert Limited	30 September 2015	Integrated report 2015	R 13.23bn
Reunert2016	Reunert Limited	30 September 2016	Integrated report 2016	R 13.23bn
Reunert2017	Reunert Limited	30 September 2017	Integrated report 2017	R 13.23bn
Reunert2018	Reunert Limited	30 September 2018	Integrated report 2018	R 13.23bn

SASOL2015	Sasol Limited	30 June 2015	Annual Integrated Report	R 289.13bn
SASOL2016	Sasol Limited	30 June 2016	Integrated Report 2016	R 289.13bn
SASOL2017	Sasol Limited	30 June 2017	Integrated Report 2017	R 289.13bn
SASOL2018	Sasol Limited	30 June 2018	Integrated Report 2018	R 289.13bn
Telkom2015	Telkom SA SOC Limited	31 March 2015	Integrated report 2015	R 25.34bn
Telkom2016	Telkom SA SOC Limited	31 March 2016	Integrated report 2016	R 25.34bn
Telkom2017	Telkom SA SOC Limited	31 March 2017	Integrated report 2017	R 25.34bn
Telkom2018	Telkom SA SOC Limited	31 March 2018	Integrated report 2018	R 25.34bn
Vodacom2015	Vodacom Group Limited	31 March 2015	Integrated report for the year ended 31 March 2015	R 249.23bn
Vodacom2016	Vodacom Group Limited	31 March 2016	Integrated report for the year ended 31 March 2016	R 249.23bn
Vodacom2017	Vodacom Group Limited	31 March 2017	Integrated report for the year ended 31 March 2017	R 249.23bn
Vodacom2018	Vodacom Group Limited	31 March 2018	Integrated report for the year ended 31 March 2018	R 249.23bn

Appendix E – CP disclosure Checklist

A disclosure checklist of possible CP disclosures was compiled by the researcher based on prior literature surrounding performance and a pilot of 5 of the top JSE listed companies' annual integrated reports. The table below represents the disclosure checklist compiled, as referred to in Section 3.2.

	Accounting Based Measures	(Malik et al., 2016; Suto et al., 2016)
1	Earnings per share (EPS)	Anglo 2016
2	EBITDA movement	Naspers 2016, MTN 2016
3	Operating profit/loss	Anglo 2016
4	Trading margin	Shoprite 2016
5	Cost to income ratio	Barclays 2016
6	Production growth /volume	Anglo 2016
7	Return on equity (ROE)	(Malik et al., 2016; Suto et al., 2016; Wilkes, 2004)
8	Return on assets (ROA)	(Firer and Mitchell Williams, 2003; Van Beurden and Gössling, 2008; Malik et al., 2016; Wilkes, 2004)
9	Revenue growth/volume	(Bourne et al., 2003)
10	Cash flows from operations to total assets (CFOTA)	(Suto et al., 2016)
11	Asset turnover	(Firer and Mitchell Williams, 2003; Van Beurden and Gössling, 2008)
12	Debt ratio	(Suto et al., 2016)
13	Net debt	MTN 2016
14	Dividends per share	Anglo 2016, NASPERS 2016
15	Dividend cover	Shoprite 2016
16	Free cash flow	Anglo 2016
	Market Based Measures - Suto, Malik	
17	Market share	(Van Beurden and Gössling, 2008; Wilkes, 2004)
18	Share price	(Van Beurden and Gössling, 2008)
19	Book to market ratio (B/M)	(Firer and Mitchell Williams, 2003; Van Beurden and Gössling, 2008; Suto et al., 2016)
	MANUFACTURED CAPITAL	
20	Production volumes	(Krüger, 2011)
21	Sales volumes	(Krüger, 2011)
22	System downtime	(Krüger, 2011)
23	Growth rate of total assets	(Van Beurden and Gössling, 2008; Suto et al., 2016)
24	Cost of production	Anglo 2016
25	Capital expenditure (Capex)	Anglo 2016
	OPERATING PERFORMANCE	
	INTELLECTUAL CAPITAL	

	Possible Disclosure	Reference
	OPERATING PERFORMANCE	
	INTELLECTUAL CAPITAL	
26	Innovation measures	(Neely and Adams, 2000)
27	Governance measures - External perception	(Wilkes, 2004)
28	Governance - Compliance	Naspers 2016
29	Governance - Application of King III	(Raemakers et al., 2016)
30	Governannce - Code of ethics	Naspers 2016
31	Research and development spending	Naspers 2016, Barclays 2016
32	IT Performance	Barclays 2016
	HUMAN CAPITAL	
33	Customer service - Number of complaints	(Wilkes, 2004)
34	Customer base movement/customer retention	(Wilkes, 2004)
35	Employee turnover	MTN 2016
36	Staff training and education	Shoprite 2016
37	Number of employees	Barclays 2016
38	employee remuneration	Barclays 2016
39	employee satisfaction	Barclays 2016
	SOCIAL RESPONSIBILITY PERFORMANCE	
	SOCIAL AND RELATIONSHIP CAPITAL	
40	Health and safety measures	(Edgley et al., 2015)
41	Number of fatalities	Anglo 2016
42	New cases of occupational diseases	Anglo 2016
43	HIV/AIDS and health testing	Shoprite 2016
44	Financial investment in social responsibility measures	(Edgley et al., 2015)
45	Socially responsible sourcing (Fair trade)	(Edgley et al., 2015)
46	Treatment of women and minorities/diversity	(Van Beurden and Gössling, 2008; Edgley et al., 2015)
47	Volunteering hours	Barclays 2016
48	Conduct index score	Barclays 2016
	NATURAL CAPITAL	
49	Air pollution (CO2/GHG Emmissions)	(Edgley et al., 2015)
50	Water usage	(Edgley et al., 2015)
51	Water pollution	(Edgley et al., 2015)
52	Hazardous spills	(Edgley et al., 2015)
53	Land conservation and restoration	(IIRC, 2013)
54	Minerals usage	(IIRC, 2013)
55	Forestry - Deforestation and conservation	(IIRC, 2013)
56	Energy usage	(Edgley et al., 2015)
57	Bio-diversity and eco-system health	(IIRC, 2013)
58	Waste levels and management	(Edgley et al., 2015)
59	Investment in pollution control equipment	(Van Beurden and Gössling, 2008)
60	Recycling	Shoprite 2016

Appendix F – Performance disclosure measures instances

A summary of all the instances of each performance measure was prepared from the data collected. The table below indicates the total disclosures of each measure and has been sorted from the largest number of instances to the lowest number per value capital. The top three performance measures for each capital were considered for inclusion in the suggested CP definition per section 5.2.

Financial capital	**Total**
Dividends[6]	228
Earnings per share (EPS)	216
Cash flows/ Free cash flow	201
EBITDA & movement, EBIT	184
Operating profit/loss	181
Return on equity (ROE) & Return on assets (ROA)	131
Costs	80
Net debt	71
Net debt/EBITDA	65
Commodity prices	58
Market share	52
Gearing and liquidity	44
Trading margin	42
Share buy-backs	33
Debt ratings	29
Selling prices	28
Share price	27
Net asset value	16
Working capital management	16
Debt ratio	15
Human capital	**Total**
Staff training and education	130
Customer service - Number of complaints	55
Employee turnover (%)	49
Employee performance management	39
Employee satisfaction	33
Customer base movement/customer retention	29
Labour productivity	22
Financial well-being of employees	4
Intellectual capital	**Total**
Innovation measures	63
Stakeholder engagement	46

[6] Dividends were excluded from the performance measures per the CP definition in section 5.1 as dividends are controllable by the entity as it is declared by the directors and not necessarily dependent on performance.

Governance - Board effectiveness	43
Governance - Compliance	39
Brand	35
Research and development spending	24
IT Performance	15
Governance - Application of King III	14
Governance - Code of ethics	11
Governance measures - External perception	9
Intangible assets	7
Manufactured capital	**Total**
Capital expenditure (Capex)	200
Production volumes	172
Cost of production	145
Sales/revenue volumes	136
Acquisitions	76
Monetisation of assets	43
Product quality	17
Value of PPE	11
System downtime	4
Capacity utilisation	3
Rationalisation and consolidation of property portfolio	3
Growth rate of total assets	2
Natural capital	**Total**
Air pollution (CO2/GHG Emissions)	139
Energy usage	96
Water usage	78
Reportable environmental incidents	57
Waste levels and management	26
reusing, recycling, and reducing waste	21
Social responsibility index	11
Land conservation and restoration	10
Minerals usage	9
Biodiversity and eco-system health	3
Forestry - Deforestation and conservation	2
awareness and training	1
Hazardous spills	1
Investment in pollution control equipment	1
Water pollution	1
Social and relationship capital	**Total**
Health and Safety measures	235
Financial investment in social responsibility measures	204

Number of fatalities[7]	203
Treatment of women and minorities/diversity	177
Socio-economic development	106
Socially responsible sourcing (Fair trade)	57
New cases of occupational diseases	45
HIV/AIDS and health testing	34
Volunteering hours	4
Conduct index score	3

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[7] Number of fatalities is a health and safety performance measure and is not considered a separate CP measure in terms of the CP definition referred to in Section 5.1.

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