

Types of Non-Financial Performance Measures Prevalent for Top 40 Companies Listed on the Johannesburg Securities Exchange

Witness Siwela¹, Peter N Kamala²

Abstract. *In the past decade, many companies have begun to make greater use of non-financial performance measures, which are believed to affect profitability ultimately. The attention to these non-financial metrics is in sync with the global trend of companies embracing sustainable corporate practices. This ascendancy of non-financial metrics entails that companies obtain a glimpse of their progress in real-time before a financial verdict is pronounced and the soundness of their investment allocations has become moot. However, prior studies show that most companies have made little attempt to identify types of non-financial performance that might advance their chosen strategy. This article aims to analyze the balanced scorecard's non-financial perspectives to unveil the most prevalent non-financial performance measures companies employ in South Africa. The study used a quantitative research paradigm and multiple case study design to empirically analyze the Top 40 companies listed on the Johannesburg Securities Exchange (JSE). Data were collected using the content analysis technique in congruence with the adopted research approach. A census approach was employed to select a sample to enhance the accuracy of the results. Accordingly, we drew snapshot data from Integrated Annual Reports (IARs) and Sustainability Reports (SRs) for analysis using a Control list and a Judgement scale. The results revealed that the sampled companies employed all three types of non-financial performance measures related to the non-financial perspectives of the balanced scorecard. Thus, out of the 34 performance measures listed, only two were not utilized by any of the sampled companies. The study's findings are expected to improve the quality of decisions made by the JSE-listed companies and their stakeholders by encouraging the use of the balanced scorecard approach to integrated reporting. Moreover, this study fills in the gap in research on the non-financial performance measurement practices of companies listed on the JSE.*

Keywords: *non-financial performance, sustainability, control list, integrated annual reports, contingency theory, balanced scorecard, financial measures.*

Received: 2 February 2025 | **Revised:** 18 February 2025 | **Accepted:** 28 February 2025 | **Published:** 30 March 2025

Suggested Citation

Siwela, W., & Kamala, P. N. (2025). Types of Non-Financial Performance Measures Prevalent for Top 40 Companies Listed on the Johannesburg Securities Exchange. *Oblik i finansi*, 1(107), 160-170. [https://doi.org/10.33146/2307-9878-2025-1\(107\)-160-170](https://doi.org/10.33146/2307-9878-2025-1(107)-160-170)



This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>), which permits use and distribution in any medium, provided the original work is properly cited and the use is non-commercial.

© 2025 The Author(s).

¹ **Witness Siwela**, College of Accounting Sciences, Department of Management Accounting, University of South Africa, Pretoria, South Africa.

ORCID 0009-0000-4414-2332

E-mail: 53265874@mylife.unisa.ac.za (*Corresponding author*)

² **Peter N Kamala**, Pilon School of Business, Sheridan College Institute of Technology and Advanced Learning, Mississauga, Canada.

Типи нефінансових показників ефективності, що притаманні 40 найкращим компаніям зареєстрованим на Йоганнесбурзькій фондовій біржі

Анотація. Протягом останнього десятиліття багато компаній почали ширше використовувати нефінансові показники ефективності, які, як вважається, зрештою впливають на прибутковість. Увага до нефінансових показників узгоджується з глобальною тенденцією компаній використовувати стійку корпоративну практику. Домінування нефінансових показників означає, що компанії отримують уявлення про свій прогрес у режимі реального часу ще до того, як буде винесено фінансовий вердикт, а обґрунтованість розподілу їхніх інвестицій стане спірною. Проте, попередні дослідження показують, що більшість компаній майже не намагалися визначити типи нефінансових показників, які могли б сприяти вибраній ними стратегії. Ця стаття має на меті проаналізувати перспективи збалансованої системи нефінансових показників, щоб розкрити найпоширеніші нефінансові показники ефективності, які використовують компанії в Південній Африці. У дослідженні використовувалася парадигма кількісного дослідження та дизайн кількох прикладів для емпіричного аналізу 40 найкращих компаній, зареєстрованих на Йоганнесбурзькій фондовій біржі (JSE). Дані були зібрані за допомогою техніки контент-аналізу відповідно до прийнятого дослідницького підходу. Щоб підвищити точність результатів, для формування вибірки було використано метод перепису. Відповідно, дослідники зібрили дані з інтегрованих річних звітів (IAR) і звітів про сталій розвиток (SR) для аналізу за допомогою контрольного списку та шкали оцінки. Результати показали, що компанії, які увійшли до вибірки, використовували всі три типи нефінансових показників ефективності, пов'язаних з перспективами збалансованої системи показників. Із 34 перерахованих показників ефективності лише два не були використані жодною з компаній, які увійшли до вибірки. Очікується, що результати дослідження покращать якість рішень, прийнятих компаніями, зареєстрованими на JSE, та їхніми зацікавленими сторонами, заохочуючи використання підходу збалансованої системи показників до інтегрованої звітності. Крім того, це дослідження заповнює прогалину в дослідженнях практики вимірювання не фінансових показників діяльності компаній, зареєстрованих на JSE.

Ключові слова: нефінансові показники, стійкість, контрольний список, інтегровані річні звіти, теорія непередбачених ситуацій, збалансована система показників, фінансові заходи.

INTRODUCTION

Companies in contemporary times are experiencing the involvement of the Environmental, Social and Governance (ESG) imperatives in the context of the prevailing climate change crisis (Bauer & Hann, 2012). According to Kordsachia et al. (2022), most stakeholders are beginning to embrace sustainable practices to mitigate risks associated with climate change. This has compelled lobby groups to make a clarion call for compliance regarding ESG initiatives promoting a sustainable environment. To this end, the Johannesburg Stock Exchange (JSE) has made it mandatory for listed companies to report on non-financial performance (Van Zyl, 2013; Steyn, 2014; Fakoya & Malatji, 2020). Thus, this approach has several companies begin to place emphasis on the Balanced scorecard's non-financial performance dimensions. This stance is antagonistic to the traditional reporting practices that elevated the financial metrics. This traditional approach has now been discredited by the proponents of the stakeholder theory, who posit that much attention should be given to external stakeholders 'vis a vis' the internal ones. Dragu and Tiron-Tudor (2013) postulate that the financial performance measures address the needs of mainly internal stakeholders such as investors who are

interested in the quantitative information about financial performance. However, external stakeholders are becoming sensitive to ESG imperatives; they demand that sustainability performance be reported as part of the Integrated Annual Reports (IARs) that are relied on for decision-making.

Besides, performance measures are argued to be the most effective way of increasing competitiveness, which leads to profitability and stakeholders' support. Moreover, Reverte (2020) argues that the academic community now hold a view that backs the claims that non-financial performance measures improve companies' performance since these emphasise critical success factors such as efficiency of business processes, customer satisfaction, and innovation and employee satisfaction. These success factors address crucial stakeholders such as customers and employees embracing green practices (Butler et al., 2011; Arora & Sharma, 2022; MacNeil & Esser, 2022). Despite this noticeable emphasis on non-financial performance measures, prior literature reveals inconsistencies in reporting, meaning disclosures that can be relied on for decision-making by stakeholders who are recipients of such IARs.

Carels et al. (2016) investigated mining companies' non-financial performance measurement practices in a more sector-specific study. Specifically, the researchers attempted to estimate how much social, environmental and ethical (SEE) issues were disclosed in the IARs of 15 JSE-listed South African mining companies between 2008 and 2012. Carels et al. (2016) found a substantial increase in the quantity of non-financial performance disclosures in the IARs during the studied period. The disclosures were consistent with the argument that SEE disclosures could bolster the reporting entity's legitimacy. Carels et al.'s (2016) study also found substantial inconsistencies in the non-financial performance measures employed. Based on such literature, the paper seeks to expand the existing research to investigate the types of non-financial performance measures employed by listed companies from the balanced scorecard approach stance.

Furthermore, while advocacy groups for sustainability reporting, such as the Global Reporting Innovative (GRI), have made strides in developing reporting guidelines, there is scanty literature on the non-financial performance measures that companies have embraced (Kuzey & Uyar, 2017; Ali et al., 2019). Hence, this paper seeks to sift through the balanced scorecard's non-financial perspectives to unveil the most prevalent non-financial performance measures companies employ in South Africa. The next section of this paper deals with a related literature review. Section 3 gives a brief outline of the methodology employed in this study. Section 4 presents the empirical results and discussion while section 5 renders a concise conclusion of the paper.

LITERATURE REVIEW

This study finds its basis in the contingency theory, which asserts a perspective that emphasizes how contingent factors affect the functioning of an entity. The contingent factors in this study are those associated with the ESG imperatives. The contingency theory finds the premise that the functioning and structures of an entity should be set in such a way that they respond to a set of contingencies. Thus, in this paper, companies are expected to have systems in place that are set to embrace crucial nonfinancial performance measures that are crucial to complement the financial ones. Prior literature indicates that the prevailing management accounting systems are designed in a way that seeks to incorporate especially the environmental variables identified by most researchers in the contingency theory literature. Next, a brief overview of prior studies that present relevant themes of this research paper is presented.

International Performance Measurement Perspectives

Only a few studies have employed the perspectives of the balanced scorecard approach to evaluate the non-financial performance measures reported in annual reports. In one such study, Pineno (2013) adopted the balanced scorecard approach to evaluate the sustainability reports of four universities: Princeton University, the University of North Carolina, the University of Maryland

and Clark University. Accordingly, Pineno (2013) introduced a fifth perspective to the balanced scorecard, namely, the 'environmental or sustainability perspective'. The findings indicated that integrating environmental or sustainability metrics as the fifth category of the balanced scorecard allowed such entities used in the study to change their sustainability or environmental strategies and visions into action plans. Thus, the end reports can then be used to provide a basis for monitoring and further action. Pineno (2013) further selected a wide range of GRI indicators and paired them with ten market forces. In so doing, the researcher demonstrated that entities such as universities can adopt a balanced scorecard approach.

Furthermore, the balanced scorecard approach may help overcome resistance to organizational sustainability initiatives (Pineno, 2013). Findings further demonstrated how the four universities employed balanced scorecards in their annual reports. The study postulated that using a balanced scorecard approach may require a new paradigm of a unique reporting structure informed by accounting standards that can facilitate the traditional financial reporting systems to work in a synergetic manner with non-financial disclosures. Although informative, Pineno's (2013) study was conducted in the United States and only sampled four universities. Therefore, its findings cannot be generalizable to the companies listed in South Africa.

A related study by De Villiers et al. (2014) sought to determine how accountability research and accounting were synthesized into the growing field of integrated reporting. The researchers proposed that a more comprehensive integrated reporting research agenda be adopted in the future with a particular focus on management accounting. Thus, their study laid a foundation based on which the management accounting tools can be investigated from reports typically associated with external reporting, such as IARs.

Non-financial Performance Measurement Practices in South Africa

The literature review reveals that few empirical studies have been conducted to investigate non-financial performance measurement practices of listed companies in South Africa. In one such study, Makiwane and Padia (2013) examined various levels of disclosures for corporate governance principles with a particular focus on JSE-listed companies. Their study did not consider initiatives for integrated reporting separately; however, it provided a wider scope of the non-financial performance measures included in the company's annual reports to comply with the King III Report. The introduction of the King III Report marked a crucial point in the beginning of corporate governance in the country as it was anticipated that the report would create essential opportunities for different companies that adhere to its principles.

Makiwane and Padia (2013) analyzed trends in non-financial performance measures using 14 disclosure categories. The performance measures analyzed comprised the board of directors' activities, sustainability of the economy, internal audits, information technology governance, environmental sustainability, ethical

leadership, social sustainability and corporate citizenship. The researchers used 111 performance indicators recommended in the King III Report and GRI. Thus, they analyzed the content of the integrated reports of ninety-two entities and the changes in quantity of the non-financial performance measures reported for the years 2009 up to 2011. The researchers found that companies were increasingly putting more emphasis on non-financial measures, as evidenced by the increase in non-financial disclosures over the studied period. Although informative, Makiwane and Padia (2013) did not investigate the types of non-financial performance measures disclosed by the sampled JSE-listed companies, nor did it investigate whether the companies employed the non-financial perspectives of the balanced scorecard approach.

Similarly, Dragu and Tudor-Tiron (2013) conducted a study that provided a precise background of integrated reporting. The researchers identified three stages in the development of the integrated report. Firstly, this study highlighted the commencement of initiatives for non-financial reporting. Secondly, the study also identified the so-called 'sustainability era'; thirdly, it identified the contemporary integrated reports stage. The researchers concluded that global reporting standards should be adopted to increase the quality of the integrated reports. Although informative, Dragu and Tudor-Tiron's (2013) study did not specifically investigate the types of non-financial performance measures utilized by the listed companies and whether, the companies employed a balanced scorecard approach.

In another related study, Van Zyl (2013) examined the disclosure of sustainability information by companies ranked top on the Social Responsibility Index (SRI) of the JSE. She developed a disclosure checklist on a five-point scale. The reports of 23 companies were used in the study as they were matched with the disclosures of the same companies in the subsequent year. Van Zyl's (2013) study revealed various findings concerning performance measurement practices of the sampled companies. Firstly, the scope of sustainability concerns revealed that, though information was very generic, there was an increase in risk disclosure and risk management. Secondly, regarding the scope of social sustainability, there were substantial disclosures of social issues, although companies appeared to be struggling with contextualizing their reports. Thirdly, from the economic sustainability perspective, the study revealed a lack of context for BEE-related disclosures.

Van Zyl (2013) concluded that there was uncertainty concerning the contents of a good integrated report. Although useful, Van Zyl's (2013) study did not investigate the types of non-financial performance measures employed by the sampled companies of the current study. Moreover, the study did not clarify whether the companies sampled applied the balanced scorecard approach when disclosing their non-financial performance measures. Besides, the study employed a limited sample of 23 companies. Hence, its findings may not be generalized to the JSE-listed companies, given their relatively large number.

Solomon and Maroun (2012) attempted to identify specific SEE information using interpretive text analysis in the IARs of ten large companies listed on the JSE. They revealed a significant increase in SEE data volumes reported in IARs. Their study also showed that IARs focused more on environmental and social information than ethical information. The researchers attributed the increase in the disclosure of the above-mentioned non-financial information to the introduction of the King III Report and the publishing of the Integrated Reporting Committee of South Africa's (IRCSA) discussion paper on integrated reporting. Although relevant, Solomon and Maroun's (2012) study was purely qualitative; thus, its objectivity can be questioned. In addition, their study employed a relatively small sample, which may not represent all the listed companies. More importantly, their study did not specifically investigate the non-financial performance indicators the listed companies used and whether the companies employed a balanced scorecard approach.

Hindley and Buys (2012) sought to evaluate the quality of IARs of South African mining companies that are part of the JSE top 40. This was done by assessing their compliance with the sustainability reporting requirements stipulated by the GRI guidelines. They reviewed and contrasted IARs for the financial years 2010 and 2011. Findings revealed an increase in non-financial related performance measures disclosures of the period under investigation. The researchers also observed an increase in the production of integrated reports as well as separate non-financial reports during the period. However, most companies tended to embellish their compliance with the GRI guidelines. Although helpful, the study only focused on the mining sector; thus, its findings may not apply to other industries. Secondly, their study did not specifically investigate the non-financial performance measures the listed companies used and whether the companies employed a balanced scorecard approach.

In a landmark study, PWC (2014) investigated the non-financial disclosures of the IARs of the JSE top 40 listed companies. The study revealed several findings which are of paramount importance. Firstly, regarding entity context and overview, quantifiable indicators of market performance, trends, and positioning were lacking. Also lacking was quantified data regarding the factors which could impact the organization in the future. In addition, companies showed a tendency to neglect a thorough discussion regarding the competitive landscape. Secondly, as far as governance is concerned, the study revealed that most IARs had generic or standardized disclosures without contextualization (PWC, 2014). Thus, the board of directors lacked information about the creation and sustenance of value for the companies. Thirdly, concerning the opportunities and risks, the study revealed that most companies provided narrative disclosures without giving specific details that are linked to quantifiable measures.

Moreover, other findings by PWC (2014) also reveal that only 6% of the sampled companies provided holistic communication of their performance to users.

In addition, only a few companies provided detailed commentary on their prospects and detailed plans for creating and sustaining value in the long run. Although informative, this enquiry was done by a firm with a vested interest in non-financial disclosure; thus, its impartiality may be questionable. In addition, it did not discuss the types of non-financial disclosures disclosed.

METHODOLOGY

Research Paradigm and Design

The study adopted a quantitative research paradigm, given that this approach helps the researcher collect quantified, objective, and accurate information from the top 40 JSE-listed companies efficiently. This aspect minimises a researcher's personal bias to enhance the validity and reliability of the results obtained. Moreover, Hui et al. (2011) argues that quantitative methods allow researchers to summarise different data sources and assist in comparing across categories and over time. Furthermore, Yin (2014) indicates that a case study involves the study of a problem with a comprehensive view of a case, and it involves understanding an activity, event, or process. In addition, other researchers view it as an in-depth empirical enquiry into a contemporary problem within its real-life context (Rashid et al., 2019). Therefore, this paper is a multiple case study designed to scrutinise the cases of companies on the JSE main board.

Research population and sample

The population of this study constitutes the JSE top 40 operating companies listed based on market capitalization. Given the small population, a census approach was adopted to sample the companies that were included in the study. This approach was adopted to increase the accuracy and external validity of the results by reducing the sampling error. The sampled companies were chosen according to the market capitalization of operating companies on the JSE's All-Share Index. Researchers obtained information regarding the market capitalization of operating companies from the share-net website. The selection of the JSE Top 40 listed companies is justified as they are large and thus have a more significant impact on their local economies than their smaller counterparts (Jose & Lee, 2006). The selection of these companies is also justified as the integrated reports of these companies are more readily available on public platforms than those of forms of other businesses.

Research Data

This study employed content analysis approach to collect the data required to address the research objective. (Holsti, 1969:14) defined content analysis as "any method for making inferences by systematically and objectively ascertaining specified characteristics of messages". (Wolfe, 1991:282) also described it as "a technique of coding units of text or words against a specific schema of interest, thereby reducing the text to a more concise and structured information, to draw inferences from its source or text". Therefore, given that the study's main aim was to ascertain the types of non-

financial performance measures employed by the JSE Top 40 listed companies, a content analysis of the IARs and Sustainability Reports (SRs) was considered the most relevant. This approach has been a successful and widely utilized technique in prior studies with a similar objective (Kamala et al., 2015; Carels et al., 2016; PWC, 2014; Van Zyl, 2013; Hindley & Buys, 2012; Solomon & Maroun, 2012). The content analysis technique was preferred because of its multiple advantages. First, it is a non-reactive method, as the intended reader or the reporting entity is unaware that IARs will be analyzed (Wolfe, 1991). Thus, the reporting entity tends to act 'naturally', thereby leaving the researcher with the IARs to analyze. Moreover, Abogazia et al. (2022) argues that such unobtrusive research methods eliminate the effects of non-responsive interviewers and social desirability bias that may occur when using other research methods like interviews or questionnaires.

Data collection process and analysis

Several questions need to be addressed prior to the commencement of a content analysis study. According to Hanafi (2006), these include where to analyse (Determining the communication channels to be analysed, also referred to as the sampling units), what to analyse (Determining the information to be analysed), and how to analyse (Coding data and calculating scores using a disclosure index). Below, we will address each of these in detail.

Where to analyze?

The first decision that needs to be taken in a content analysis study is the choice of the communication channel (sampling units) to be analyzed (Hanafi, 2006; Krippendorff & Weber, 1987). Considering that South African companies frequently disclose their non-financial information through many channels, it is practically impossible to identify, let alone analyse, the content of all communication channels (Hibbitt & Collison, 2004). Consequently, faced with such a dilemma, most researchers have selected a pragmatic approach where they limited the communication channels that they analyzed while conducting their research studies (Kamala, 2014; KPMG, 2017; Zhou et al., 2017; Cowen et al., 1987; EY, 2013). However, under normal circumstances, the sampling units chosen for research study must cover a substantial number of non-financial disclosures, and such sampling units must rely on the objectives set for the study, the population to which inferences are to be made, and information to be analyzed (Hibbitt & Collison, 2004). Hence, the channels selected for the current study are IARs and SRs, the justification for which has already been provided.

What to analyze? (Data collection instrument design)

The content analysis study necessitates an exclusive and accurate definition of what is to be studied (Hanafi, 2006; Kamala et al., 2016). This calls for precise identification of non-financial performance information disclosure categories alongside the list of relevant questions in each category as presented in the control list.

This control list is used as a checklist to capture and interrogate the absence or presence of specific disclosures in the sampled IARs (Hanafi, 2006).

A control list was designed that comprised three categories and 34 questions to determine whether pre-selected items of non-financial performance have been disclosed in the sampled integrated reports. The categories were based on the balance scorecard's non-financial perspectives: customer, internal business process and learning and innovation perspectives. Under the customer perspective, questions were asked regarding whether an integrated report discloses customer satisfaction, percentage of repeat customers, number of customer complaints, customer retention rate, market share percentage, marketing expenses as a percentage of sales, sales volume, customer loyalty and after-sales services provided.

Under the internal business process perspective, questions were asked regarding whether an integrated report discloses the average development time of a new product, the average product labour-output ratio, completion of capital projects, response time to customers, improvement in business process, and investment in IT Systems and Computer Equipment. In addition, questions were asked regarding whether an integrated report discloses the modernization of plant and equipment, business process re-engineering, average time from placing the order to its completion, efficiency of information systems, impact of a company's products on the external environment and emission of hazardous substances to the environment.

Under the learning and innovation perspective, questions were asked regarding whether an integrated report discloses the number of new products/services, process-related innovations, staff satisfaction surveys, staff membership of trade/professional bodies, staff training, level of multiskilling, productivity, staff turnover, staff absenteeism, and staff injury or sickness on duty.

How to analyze? (Judgement scale)

A judgement scale was designed based on prior studies to codify the disclosure of the items contained in the questions of the checklist and analyze the non-financial performance measures contained in the sampled integrated reports. Thus, a score of 0 was assigned for non-disclosure of an item, a score of 1 for narrative disclosure, 2 for disclosure relative to prior periods, 3 for disclosure relative to targets, and 4 for disclosure relative to industry averages. Accordingly, with prior research studies, the quantitative disclosures will be accorded a greater weight (2) in the judgement scale when compared to narrative disclosures (1) simply because qualified information is more precise, comparable and has higher potential value in decision-making by different stakeholders (Wingard & Vorster, 2001; Kamala, 2014). On the other hand, disclosure relative to targets was weighted higher (3) than quantitative disclosure (2) as it can better enable one to assess whether the company is

achieving its set goals or not. Likewise, disclosure relative to industry averages was weighted higher (4) than disclosure relative to targets (3), enabling one to gauge a company's performance against its peers.

On completion of the scoring, a simple percentage calculation was computed for each integrated report out of 136 maximum possible points. The companies in the sample were then arranged according to descending order, i.e., from the highest to the lowest. In addition, average percentage scores were computed for each of the three perspectives aligned to the balanced scorecard's non-financial perspectives.

RESULTS AND DISCUSSION

Researchers analyzed non-financial performance disclosures contained in the IARs of the Top 40 listed companies on the JSE to address the research objective of this paper. These companies, which are also referred to as the operating large-cap (Top 40), are industry leaders in their sectors, with a high turnover, operating in most provinces in South Africa and internationally. Given that these companies are large, they typically have an advanced management information system and have the resources and human capital to measure and monitor their non-financial performance measures.

As alluded to in the methodology section, the top 40 JSE-listed operating companies that form part of the sample were taken from various sectors, as depicted in Table 1. Of the companies sampled, 18% were from the mining, industrial metals and mining sectors combined, followed by those from the financial services sector (15%) and then those from the banking (10%) and real estate investment trusts sectors (10%). Other companies included in the sample were from the life insurance services sector (8%), healthcare equipment and services sector (5%), personal goods sector (5%) and mobile telecommunications sector (5%). Among the least presented sectors (3%) in the sample were media, food and drug retailers, food producers, general industrials, general retailers, insurance, oil and gas producers, and pharmaceuticals and biotechnology.

The objective of this study was to ascertain the types of non-financial performance measures employed by the JSE Top 40 listed companies. To address this objective, a content analysis of the integrated reports of the sampled companies was conducted, focussing on the three perspectives of the balanced scorecard's non-financial performance measures: the customer, internal business process, and learning and innovation perspective.

Each company's integrated annual report was evaluated using a control list and judgement scale as outlined in the methodology section. The performance measures of each perspective were allocated a maximum of 4 points. A 0 score was assigned for non-disclosure of a performance measure, 1 for narrative disclosure, 2 for disclosure relative to prior periods, 3 for disclosure relative to targets, and 4 for disclosure relative to industry averages.

Table 1. Classification of the JSE top 40 companies by sector

No	Sector	Sampled companies	Percentage
1	Banks	4	10%
2	Beverages	1	3%
3	Financial Services	6	15%
4	Food & Drug Retailers	1	3%
5	Food Producers	1	3%
6	General Industrials	1	3%
7	General Retailers	1	3%
8	Health Care Equipment & Services	2	5%
9	Industrial Metals & Mining	3	8%
10	Insurance	1	3%
11	Life Insurance	3	8%
12	Media	1	3%
13	Mining	4	10%
14	Mobile Telecommunications	2	5%
15	Oil & Gas Producers	1	3%
16	Personal Goods	2	5%
17	Pharmaceuticals & Biotechnology	1	3%
18	Real Estate Investment Trusts	4	10%
19	Tobacco	1	3%
	TOTAL	40	100%

Source: Authors' computation (2024).

The aggregate score of all sampled companies was computed for each performance measure and expressed as a percentage of the maximum possible aggregate score of 160 points (4 maximum points obtainable x 40 JSE-listed companies). The percentages were then arranged in descending order for the three perspectives of the balanced scorecard, as depicted in Tables 2, 3, and 4.

Table 2. Balanced scorecard customer perspective's nonfinancial performance measures

	Company score (160 points)	Percentage Scored	Ranking
Customer profitability	87	54%	1
Market share (%)	77	48%	2
Customer orientation	46	29%	3
Customer loyalty	44	28%	4
Number of customers	35	22%	5
Customer satisfaction	31	19%	6
Volume of sales	29	18%	7
Marketing expenses as a percentage of sales	24	15%	8
Customer retention rate	21	13%	9
Percentage of repeat customers	10	6%	10
After-sales services provided	8	5%	11
Number of customer complaints	3	2%	12

Source: Authors' computation (2024).

Table 3. Balanced scorecard internal business process's nonfinancial performance measures

	Company score (160 points)	Percentage Scored	Ranking
Investment in IT Systems and Computer Equipment	71	44%	1
Modernisation of plant and equipment	52	33%	2
Completion of capital projects	48	30%	3
Improvement in business process	42	26%	4
Business process -reengineering	41	26%	5
Emission of hazardous substances to the environment	27	17%	6
Efficiency of information systems	26	16%	7
Average development time of a new product	23	14%	8
Influence of company products on the external environment	23	14%	9
Response time to customers	12	8%	10
Average product labour-output ratio	0	0%	11
Average time from placing the order to its completion	0	0%	12

Source: Authors' computation (2024).

Table 4. Balanced scorecard learning and innovation perspective's nonfinancial performance measures

	Company score (160 points)	Percentage Scored	Ranking
Number of new products/services	84	53%	1
Staff training	50	31%	2
Process related innovations	44	28%	3
Level of multiskilling	43	27%	4
Productivity	40	25%	5
Staff turnover	39	24%	6
Staff absenteeism	29	18%	7
Staff satisfaction surveys	23	14%	8
Staff injury or sickness on duty	16	10%	9
Staff membership of trade/professional bodies	5	3%	10

Source: Authors' computation (2024).

In Tables (Table 2, 3 and 4) presented above, all three types of non-financial performance measures related to the non-financial perspectives of the balanced scorecard were employed by the sampled companies, albeit to a varying but limited extent. In fact, out of the 34 performance measures listed, only two, namely, the average product labour-output ratio and the average time from placing the order to its completion, are not utilized by any of the sampled companies. Therefore, this means the sampled companies employed 94% of the selected performance measures collectively. However, individual companies' use of the performance measures was somewhat limited.

Regarding the customer perspective of the balanced scorecard, the performance measure that was used by most of the companies was customer profitability (54%), followed by market share (48%) and then customer orientation (29%) and customer loyalty (28%). Among the least used performance measures under this perspective was the percentage of repeat customers (6%), followed by after-sales service provided (5%) and then customer complaints (2%). Conversely, considering the internal business process perspective, the performance measure that was used by most of the companies was an investment in IT systems and computer equipment (44%), followed by modernization of plant and equipment (33%) and then completion of capital projects (30%).

Among the least used performance measures under this perspective were response time to customers (8%), average product labour-output ratio (0%) and the average time from placing the order to its completion (0%). Furthermore, concerning the learning and innovation perspective, the performance measure that was used by most of the companies was a number of new products/services (53%), followed by staff training (31%) and then process-related innovations (28%). Among the least used performance measures under this perspective were staff satisfaction surveys (14%), followed by staff injury or sickness on duty (10%) and then staff membership of trade/professional bodies (3%).

As can be observed, only two non-financial performance measures, namely, customer profitability (54%) and number of new products/services (53%), were employed by more than half of the companies. Accordingly, 32 out of the 34 performance measures were employed by a minority of the companies. Worse still, 28 out of the 34 performance measures were employed by 30% or less of the sampled companies. Thus, the above results, which suggest a low uptake of non-financial performance measures by the JSE top 40 listed companies, are consistent with those of Van Zyl (2013), who found that companies are disclosing few non-financial performance measures which lack detailed environmental management plans and fairer link between environmental issues and strategy considerations. Furthermore, Van Zyl (2013) found that the non-financial performance measures utilized by companies were more inclined to social issues as companies appeared to be struggling with contextualizing their reporting. The above results, however, contrast those of Hindley and Buys (2012), who found that there has been an improvement in the disclosure of non-financial performance measures even though companies were embellishing their compliance with the GRI reporting guidelines. A possible explanation for the disparity in results is that the prior research study (Hindley & Buys, 2012) was based on a limited sample of only 23 companies reporting on a one-year period. The current study employed a sample of 40 companies, which yields conclusive results.

In conjunction with the contingency theory's assertions, the internal environment category reveals that managerial control systems are generally underdeveloped in terms of reporting non-financial performance measures. This is influenced by the notion that non-financial performance reporting is a recent phenomenon, and companies are still learning to apply the developed reporting guidelines in integrated reporting (Dragu & Tiron-Tudor, 2013; PWC, 2014). This is evidenced by the findings of this study that stipulate that only 94% of the types of non-financial performance measures are employed by the JSE top 40 listed companies. Thus, the 6% discrepancy may point to non-financial performance measures that are still not understood by managers or not embedded in their control systems for non-financial reporting.

CONCLUSION

This paper sought to sift through the balanced scorecard's non-financial perspectives to unveil the most prevalent non-financial performance measures companies employ in South Africa. To achieve this objective, the study adopted a quantitative research paradigm and multiple case study design to analyze the Top 40 companies listed on the JSE empirically. These companies are believed to comply more with the JSE listing requirements that promote the triple bottom line (planet, people and profit). Besides, most companies form part of the JSE Responsible Investment Index. Using content analysis approaches, the researchers drew snapshot data from IARs and SRs for analysis using a control list and a judgement scale. The results revealed that the sampled companies employed all three types of non-financial performance measures related to the non-financial perspectives of the balanced scorecard. Thus, out of the 34 performance measures listed, only two were not utilized by any of the sampled companies. This means that the sampled companies employed 94% of the selected performance measures as a collective, although the use of the performance measures by individual companies was rather limited. Accordingly, zooming in the customer perspective of the balanced scorecard, the performance measure used by most companies was customer profitability, followed by market share, and then customer orientation and loyalty. On the other hand, regarding the internal business process perspective, the performance measure used by most companies was investment in IT systems and computer equipment, then modernization of plant and equipment and then completion of capital projects. Concerning the learning and innovation perspective, the performance measure used by most companies was the number of new products or services, followed by staff training and process-related innovations. Only two non-financial performance measures, namely, customer profitability and number of new products or services, were employed by more than half of the companies.

This paper is significant and unique as it employs integrated reports, which are typically utilized for analyzing financial reporting to evaluate non-financial performance using the balanced scorecard approach. This approach is generally associated with management accounting. The study's findings are expected to improve the quality of decisions made by the JSE-listed companies and their stakeholders by encouraging the use of the balanced scorecard approach to integrated reporting. Moreover, this study fills in the gap in research on the non-financial performance measurement practices of companies listed on the JSE main board. Although many studies have been conducted on using the balanced scorecard approach to reporting in other countries, little research has been conducted in South Africa focusing on the listed companies.

Based on the results, this study recommends that listed companies embrace all three non-financial perspectives of the balanced scorecard rather than only one or two. This will not only help provide a complete picture of the companies' performance, but it will also enhance consistency in reporting and comparability of reports from one company to another.

Research Limitations

There are several limitations when interpreting the findings of this content analysis study. Firstly, according to Hibbitt and Collison (2004), content analysis studies do not give precise data as the resulting data is not absolute. Still, it is merely indicative of the quality of these integrated reports. Thus, this methodology may not be suitable for further statistical analysis. Secondly, Kamala (2014) argued that content analysis studies involve the construction of disclosure indices, which are susceptible to bias or subjectivity as different researchers may interpret the same document differently. Thirdly, the computation of the overall scores in the control list involves attaching an equal weighting to all non-financial

indicators, even though these cannot be equally important to all the stakeholders. Furthermore, future research may extend this study to address the caveats proffered. The researcher notes that the construction and use of the content analysis research instruments, namely, the checklist and judgement scale, give room for a possibility of bias or subjectivity. Thus, other researchers may interpret the same IARs and SRs used in this study differently (Kamala, 2014). Therefore, further research must replicate the current study and validate its findings by constructing and using similar checklists and judgement scales; moreover, this study only provided a snapshot of the non-financial performance measurement practices of the top 40 JSE-listed companies. Thus, instead of giving a snapshot of non-financial performance measurement practices, an analysis of integrated report content for a period of more than one year could be done to provide a more representative picture of these practices over several years. This will also show the emerging trends in non-financial performance measurement practices of these top 40 listed companies on the JSE.

4 References

- Abogazia, A. H., Hashim, H. A., Salleh, Z., & Ettish, A. A. (2022). The moderating effect of external financing on the relationship between integrated reporting and firm value in Egypt. *Journal of Financial Reporting and Accounting*, 22(5), 1380-1409. <http://dx.doi.org/10.1108/JFRA-05-2022-0195>
- Ali, M. N., Hameedi, K. S. & Almagtome, A. H. (2019). Does sustainability reporting via accounting information system influence investment decisions in Iraq?. *International Journal of Innovation, Creativity and Change*, 9(9), 294-312.
- Arora, A. & Sharma, D. (2022). Do Environmental, Social and Governance (ESG) Performance Scores Reduce the Cost of Debt? Evidence from Indian firms. *Australasian Business, Accounting and Finance Journal*, 16(5), 4-18. <https://doi.org/10.14453/aabfj.v16i5.02>
- Bauer, R. & Hann, D. (2012). Corporate Environmental Management and Credit Risk. *SSRN Electronic Journal*, 1(1), 1-43. <https://doi.org/10.2139/ssrn.1660470>
- Butler, J. B., Henderson, S. C. & Raiborn, C. (2011). Sustainability and the Balanced Scorecard: Integrating Green Measures into Business Reporting. *Management Accounting Quarterly*, 12(2), 1-10.
- Carels, C., Maroun, W. & Padia, N. (2016). Percepção da população assistida sobre a inserção de estudantes de medicina na Unidade Básica de Saúde. *Trabalho de conclusão de curso*, 1(9), 1-10. <https://doi.org/10.1017/CBO9781107415324.004>
- Cowen, S. S., Ferreri, L. B. & Parker, L. D. (1987). The impact of corporate characteristics on social responsibility disclosure: A typology and frequency-based analysis. *Accounting, Organizations and Society*, 12(2), 111-122. [https://doi.org/10.1016/0361-3682\(87\)90001-8](https://doi.org/10.1016/0361-3682(87)90001-8)
- De Villiers, C., Rinaldi, L. & Unerman, J. (2014). Integrated reporting: Insights, gaps and an agenda for future research. *Accounting, Auditing and Accountability Journal*, 27(7), 1042-1067. <https://doi.org/10.1108/AAAJ-06-2014-1736>
- Dragu, I. & Tudor-Tiron, A. (2013). New corporate reporting trends. Analysis on the evolution of Integrated Reporting. *Annals of the university of Oradea, Economic Science Series*, 22(1), 1221-1228. <https://doi.org/10.1007/s13398-014-0173-7.2>
- Dragu, I.-M. & Tiron-Tudor, A. (2013). GRI compliance and prerequisites of Integrated Reporting for Asian-Pacific companies. *Annales Universitatis Apulensis Series Oeconomica*, 15(2), 432-442.
- EY (2013). Integrated Reporting. *EY Point of View*, 1(1), 4. <https://doi.org/10.1007/978-3-319-02168-3>
- Fakoya, M. B. & Malatji, S. E. (2020). Integrating ESG factors in investment decisions by mutual fund managers: A case of selected Johannesburg Stock Exchange-listed companies. *Investment Management and Financial Innovations*, 17(4), 258-270. [https://doi.org/10.21511/imfi.17\(4\).2020.23](https://doi.org/10.21511/imfi.17(4).2020.23)
- Hanafi, R. A. (2006). An exploration of corporate social and environmental disclosure in Egypt and the UK: a comparative study. PhD thesis. Retrieved from <http://theses.gla.ac.uk/1536/>
- Hibbitt, C. & Collison, D. (2004). Corporate environmental disclosure and reporting developments in Europe. *Social and Environmental Accountability Journal*, 24(1), 1-11. <https://doi.org/10.1080/0969160X.2004.9651708>
- Hindley, T. & Buys, P. W. (2012). Integrated Reporting Compliance With the Global Reporting Initiative Framework: An Analysis of the South African Mining Industry. *International Business & Economics Research Journal (IBER)*, 11(11), 1249. <https://doi.org/10.19030/iber.v11i11.7372>
- Holsti, O. (1969). Content analysis for the social sciences and humanities. London: Addison-Wesley.

- Hui, C., Foxcroft, L. C., Richardson, D. M., & MacFadyen, S. (2011). Defining optimal sampling effort for large-scale monitoring of invasive alien plants: a Bayesian method for estimating abundance and distribution. *Journal of Applied Ecology*, 48(3), 768-776. <https://doi.org/10.1111/j.1365-2664.2011.01974.x>
- Jose, A. & Lee, S. (2006). Environmental Reporting of Global Corporations- A Content Analysis based on Website Disclosures Ó Springer. *Journal of Business Ethics*, 1(72), 307–321.
- Kamala, P. N. (2014). The decision-usefulness of corporate environmental reports in South Africa. Phd Thesis. Retrieved from <https://core.ac.uk/download/43176922.pdf>
- Kamala, P. N., Wingard, C., & Cronjé, C. (2016). Users' corporate environmental information needs. *South African Journal of Economic and Management Sciences*, 19(4), 579-591. <https://doi.org/10.4102/sajems.v19i4.1312>
- Kamala, P. N., Wingard, H. C. & Cronje, C. J. (2015). Evolution of corporate environmental reports in South Africa. *Journal of Accounting and Management*, 5(2), 31–34.
- Kordsachia, O., Focke, M. & Velte, P. (2022). Do sustainable institutional investors contribute to firms' environmental performance? Empirical evidence from Europe. *Review of Managerial Science*, 16(5), 1409–1436. <https://doi.org/10.1007/s11846-021-00484-7>
- KPMG (2017). The KPMG Survey of Corporate Responsibility Reporting 2017: The road ahead. *KPMG's Global Center of Excellence for Climate Change and Sustainability*, 1(1), 1–57. <https://doi.org/10.1038/nnano.2013.238>
- Krippendorff, K. & Weber, R. P. (1987). Basic Content Analysis. *Journal of the American Statistical Association*, 82(397), 354-355. <https://doi.org/10.2307/2289192>
- Kuzey, C. & Uyar, A. (2017). Determinants of sustainability reporting and its impact on firm value: Evidence from the emerging market of Turkey. *Journal of Cleaner Production*, 143(1), 27–39. <https://doi.org/10.1016/j.jclepro.2016.12.153>
- MacNeil, I., & Esser, I. M. (2022). From a financial to an entity model of ESG. *European Business Organization Law Review*, 23(1), 9-45. <https://doi.org/10.1007/s40804-021-00234-y>
- Makiwane, T. S. & Padia, N. (2013). Evaluation of corporate integrated reporting in South Africa post King III release South Africa – An Exploratory Enquiry. *Journal of Economic and Financial Sciences*, 6(2), 421–438. <https://doi.org/10.3149/fth.1003.257>
- Pineno, C. J. (2013). Sustainability Reporting By Universities and Corporations: an Integrated Approach or a Separate Category Within the Balanced Scorecard. *Journal of Business & Accounting*, 6(1), 51–64.
- PWC (2014). The value creation journey: A survey of JSE Top-40 companies' integrated reports. *Brunei – History, Islam, Society and Contemporary Issues*, 01–44. <https://doi.org/10.2307/j.ctt19705fq.3>
- Rashid, Y., Rashid, A., Warraich, M. A., Sabir, S. S., & Waseem, A. (2019). Case study method: A step-by-step guide for business researchers. *International journal of qualitative methods*, 18, 1609406919862424. <https://doi.org/10.1177/1609406919862424>
- Reverte, C. (2020). Do investors value the voluntary assurance of sustainability information? Evidence from the Spanish stock market. *Sustainable Development*, 1(1), 1–17. <https://doi.org/10.1002/sd.2157>
- Solomon, J., & Maroun, W. (2012). Integrated reporting: The new face of social, ethical and environmental reporting in South Africa. London: The Association of Chartered Certified Accountants. Retrieved from <https://www.accaglobal.com/content/dam/acca/global/PDF-technical/integrated-reporting/tech-tp-iirsa.pdf>
- Steyn, M. (2014). Organisational benefits and implementation challenges of mandatory integrated reporting: Perspectives of senior executives at South African listed companies. *Sustainability Accounting, Management and Policy Journal*, 5(4), 476–503. <https://doi.org/10.1108/sampj-11-2013-0052>
- Van Zyl, A. S. (2013). Sustainability And Integrated Reporting In The South African Corporate Sector. *International Business & Economics Research Journal*, 12(8). Retrieved from <http://hdl.handle.net/10019.1/85279>
- Wingard, H. C. & Vorster, Q. (2001). Financial performance of environmentally responsible South African listed companies. *Meditari Accountancy Research*, 9(April), 313–332.
- Wolfe, R. (1991). The use of content analysis to assess corporate social responsibility. In *J. E. Post (Ed.), Research in Corporate Social Performance and Policy*, 12, 281-308.
- Yin, R. K. (2014). Case study research design and methods. *CJPE*, 28(1), 61–103. <https://doi.org/10.3138/CJPE.BR-240>
- Zhou, S., Simmet, R. & Green, W. (2017). Does integrated reporting matter to the capital market?. *Abacus*, 53(1), 94–132. <https://doi.org/10.1111/abac.12104>