



Southern African Accounting Association

Biennial International
Conference Proceedings
28-30 June 2023

In pursuit of accountability in an integrated world

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Southern African Accounting Association

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PREFACE

The 2023 Southern African Accounting Association (SAAA) Biennial International Conference was hosted in person at the Sun City Resort in South Africa from 28 to 30 June 2023 with the overall theme “In pursuit of accountability in an integrated world”.

OBJECTIVE OF THE CONFERENCE

The aim of the conference was to contribute towards the achievement of the SAAA vision of promoting excellence in Accountancy Higher Education and Research in Southern Africa. By providing a research and information-sharing platform that focuses on research in Accountancy, academics can play an active and leading role in Accountancy Higher Education and Research in Southern Africa.

REVIEW PROCESS AND COMMENTS

All papers submitted to the ‘refereed category’ (as published in this proceedings) were subjected to a rigorous process of double-blind peer review, meaning they were reviewed by at least two reviewers from an independent South African University, and in some cases, international reviewers. Comments and suggested amendments from the reviewers were communicated to authors. Reviewers and subject representatives/track chairs (associate editors) decided on the acceptance of the papers for presentation at the Conference and inclusion in the conference proceedings.

The accepted papers were contributed by academics representing several universities. The details on the 25 accepted papers are as follows (weighted according to author affiliation).

SOUTH AFRICAN UNIVERSITIES/ENTITIES

Akademia	1
Cape Peninsula University of Technology	0.5
Independent	0.5
North-West University	5.25
University of Cape Town	2
University of Pretoria	1.5
University of the Free State	4.17
University of the Witwatersrand	7.5
Vaal University of Technology	0.5
Walter Sisulu University	1.83
OTHER UNIVERSITIES/ENTITIES	
Glasgow Caledonian University	0.25
TOTAL NUMBER OF PAPERS	25.00

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LIST OF REVIEWERS

The review process was facilitated by 11 subject representatives (SAAA Extended Executive Committee) and 95 reviewers. The Chairperson of the Scientific Committee was George Nel (Stellenbosch University).

TAXATION SUBJECT REPRESENTATIVES:

Ms Tsireledzo Nemudzudzanyi (University of the Witwatersrand)
Mr Ockert Fourie (University of the Witwatersrand)

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Herman Van Dyk	North-West University
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Dr Léandi Steenkamp (Central University of Technology)

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Andre Essop	Cape Peninsula University of Technology
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Lindiwe Mabesele	Cape Peninsula University of Technology
Nandi Lubbe	Central University of Technology
Jean Mvunabandi	Durban University of Technology
Yolandé Smit	Higher Colleges of Technology
Mario Labuschagne	Nelson Mandela University
Houdini Fourie	Nelson Mandela University
Olive Stumke	North-West University
Henriette Scholtz	Stellenbosch University
Riaan Rudman	Stellenbosch University
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Ferina Marimuthu	Durban University of Technology
Tracy Beck	Nelson Mandela University
Phatu Monakali	Nelson Mandela University
Naeem Kader	Nelson Mandela University
Algene Koeberg	Nelson Mandela University
George Sarpong	Nelson Mandela University
Merwe Oberholzer	North-West University
Surika Van Rooyen	North-West University
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Nyasha Dhlembeu	University of Pretoria
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Mphagahlele Ndlovu	University of South Africa
Ronell Britz	University of the Free State
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Nico van der Merwe	North-West University
Herman Viviers	North-West University
Lilian Nwosu	North-West University
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Exploring segmental reporting in integrated reporting

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Purpose: The aim of this paper is to investigate whether segmental disclosures in integrated reports are indicative of integrated thinking. This is achieved by analysing the link between segmental disclosures in the integrated reports and IRQ.

Methodology: This research is exploratory in nature, using a longitudinal quantitative content analysis to investigate trends in segmental disclosures in integrated reports and the AFS for the JSE top-100 listed companies over a three-year period. An interpretive framework was used to analyse the data.

Findings: Integrated thinking evidenced by management's understanding of the entity, disclosure consistency between integrated reports and AFS, and integration of various segments within the business model and value creation process. Companies that integrate segmental disclosures throughout integrated reports (rather than disclosing this information in isolation or in a manner that merely mimics the disclosures in the financial statements) are found to have a higher IRQ (as ranked by EY's Excellence in Integrated Reporting Awards). Therefore, these findings suggest that integrated segmental disclosures are indicative of integrated thinking.

Contribution: This research responds to calls for further investigation into what companies are reporting about their business models, as well as drivers of organisational change and sustainable performance.

KEYWORDS: *Integrated reporting quality; integrated thinking; segmental disclosures*

INTRODUCTION

The purpose of this paper is to investigate whether segmental disclosures in integrated reports of the JSE top-100 companies are indicative of integrated thinking. This is achieved by firstly identifying the form and contents of segmental disclosures within the integrated reports for these companies. Thereafter, the link between these disclosures and IRQ (as ranked by EY's Excellence in Integrated Reporting Awards) is then established. This is done because integrated thinking (which is a key driver of IRQ) is necessary for the identification of segments (which consequently has an impact on the segmental disclosures). Furthermore, the consistency between segmental disclosures in the integrated reports and the AFS is assessed, because disclosure consistency communicates the link between financial information and the value creation process, which further evidence integrated thinking.

Integrated thinking and integrated reporting are mutually reinforcing factors (WICI, 2013, IIRC, 2013), which is why integrated thinking is the key driver behind IRQ (Adams, 2017). Prior literature has found

external pressures from stakeholders, organizational size, and social and environmental impact of the organization to be further drivers of IRQ (Malola, 2019; De Villiers et al., 2017b 2017; Lueg et al., 2016). Yet there is still limited empirical research on the other factors that drive IRQ and integrated thinking (Velte & Stawinoga, 2017).

This research contributes to the growing body of literature by considering different factors and unexplored research questions on the drivers behind IRQ, integrated thinking, organisational change, and sustainable performance (Adams and McNicholas, 2007, De Villiers et al., 2017a).

Understanding what drives a high-quality integrated report will enable companies to enhance their corporate reputations, reduce reputational risk, and improve their stakeholder relationships (Steyn, 2014, Lodhia, 2015, De Villiers et al., 2017a, Velte, 2019).

The findings indicate that segmental disclosures in the integrated reports are indicative of the concept of integrated thinking, which can be evidenced by

management's understanding of the entity and the integration of various segments within the business model and value creation process. Furthermore, companies that integrate segmental disclosures throughout the integrated reports (as opposed disclosing this information in isolation or in a manner that merely mimics the disclosures in the financial statements) are found to have a higher IRQ (as ranked by EY's Excellence in Integrated Reporting Awards).

The remainder of this research paper is structured as follows: an overview of prior literature is provided, followed by a discussion on the method used for this study. This is then followed by an analysis of the results and the conclusion.

LITERATURE REVIEW

Integrated thinking

The IIRC (2013) defines integrated thinking as:

"The active consideration by an organisation of the relationships between its various operating and functional units and the capitals that the organisation uses and affects".

From the definition of integrated thinking, it is evident that an in-depth understanding of the organisation (amongst others, operating segments) is required for integrated thinking to be achieved. Integrated thinking should result in integrated decisions being made that will lead to value-creation for the organisation in the short-, medium- and long-term (Guthrie et al., 2017, IIRC, 2013).

Segment reporting

IFRS 8 requires an entity to identify operating segments within the firm's internal organisational structure in the same way in which the CODM¹ would allocate resources and evaluate the performance of the organisation (Kajüter and Nienhaus, 2017). IFRS 8 then requires entities, specifically those with publicly traded securities, to disclose information about these operating segments (IASB, 2016b).

The key disclosure requirements per IFRS 8 are summarised in Appendix 1.

Segmental reporting has proven to add value to the investor appraisal process because it bridges the gap between management accounting and financial accounting (Kajüter and Nienhaus, 2017). IFRS 8 places a focus on internal information used by management to operate the business, and further allows for the reporting of non-IFRS measures (Nichols et al., 2012). Examples of such disclosures are major customers or internal restructuring (IASB, 2016b). These sort of segmental disclosures communicate information about the future cash flow streams of the individual segments, which speaks to the different economic environments under which the various segments operate (Givoly et al., 2000, Tse, 1989).

Importance of segment reporting in integrated reports

Since a great deal of management accounting is undertaken by business managers rather than accountants (Burns and Vaivio, 2001), IFRS 8 ensures that there is communication between accountants and those running the entity on a daily basis (Krzus, 2011, WICI, 2013, De Villiers et al., 2017a). A recently signed memorandum by the IIRC has indicated a need to remove internal barriers for a more efficient accounting and reporting process (de Villiers et al., 2014). Segment reporting aligns with the objectives of the IIRC through the alignment of internal and external accounting. The above will ensure that management truly understands those factors (such as risk and strategy) that affect the entity's long-term success (Kaplan, 1984, Tarquinio and Posadas, 2020, Waweru, 2010, Sarasvathy et al., 1998). Unsurprisingly, the introduction of the segmental reporting concept has resulted in greater consistency within the disclosures found in integrated reports (Nichols et al., 2012).

The disclosure of profit or loss, revenue and expenses for each segment (even for loss-making segments) allows users to not only gain an understanding of the performance and operations of the business (Mardini et al., 2012), but also gain an understanding as to which segments management deems to be significant in the value creation process. The disclosure of assets and liabilities for each segment communicates the financial position of the respective segments, and reflects the internal investment decisions made by the entity (IASB, 2016a). Based on the performance of the segments,

¹ chief operating decision-maker

management can allocate resources more efficiently and make decisions about the future operations of the segments. This results in the reporting of the connectivity and interdependencies of the various capitals, as well as the use thereof (IIRC, 2016).

These sort of disclosures (which are based on integrated thinking) have become a tool for stewardship and accountability (du Toit et al., 2017). Under the stewardship principle, management needs to be held accountable for how they utilised the company's assets entrusted to them (Whittington, 2008). Integrated reporting (which amongst others, aims to demonstrate integrated thinking) reduces information asymmetry, which promotes accountability (Whittington, 2008, IIRC, 2013 2013, Abeysekera, 2013). This in turn allows for the entity to become a corporate citizen whereby it acknowledges its rights, obligations and responsibilities to the society and the environment in which it operates (IOD, 2016, Murphy and O'Connell, 2013).

In becoming a corporate citizen, the organisation can be considered to be an integral part of society, conducting operations in a societal context in which it both affects and is also affected by society and the environment (IOD, 2016). The focus on individual segments allows for greater transparency of the entity's activities (Abeysekera, 2013). This serves as a reminder for management that organisational success is dependent on the triple-bottom line. Management has a duty to communicate these factors to its stakeholders (Silvestri et al., 2017, Murphy and O'Connell, 2013), which ultimately ensures that the entity follows a stakeholder-inclusive approach to decision-making and external reporting (IOD, 2016).

Part of the limitations of sustainability reporting is caused by the presentation of financial information which shows no consistency or link with the long-term objectives of the organisation (Abeysekera, 2013). Information is presented in silos, so there is no disclosure of how the activities undertaken by the organisation are connected (Abeysekera, 2013) to one another in order to create value. A further limitation of integrated reporting is the restriction of certain types of information into specific sections (De Villiers et al., 2017a). Organisations struggle to interpret and apply a principles-based reporting framework and this limits the quality of the integrated report (IOD, 2016, McNally et al., 2017). According to du Toit (2017),

managers have struggled to improve the quality of integrated reports as a reduction of information in a report does not necessarily enhance the quality (De Villiers et al., 2017a). Yet another challenge faced by organisations when preparing integrated reports is that environmental disclosures tend to be both repetitive and generic (Solomon and Maroun, 2012, McNally et al., 2017). Although management provides qualitative information which is crucial to the users' understanding (Malola, 2019), management struggles to quantify certain information such as risk exposure to non-financial capital (McNally et al., 2017, Raemaekers et al., 2016, PwC, 2015).

Integrated thinking can be achieved through consistency in the information which then further enhances comparability (Jeffrey and Perkins, 2014). The consistency in disclosure communicates the link between the financial information contained in the AFS and the value creation process. It is evident that segmental reporting has the potential to address these issues faced by organisations when preparing integrated reports.

As there is evidence that segment reporting is necessary within integrated thinking, the main objective of this paper is to determine whether better quality segmental reporting will result in better integrated reporting quality, which in turn evidence integrated thinking.

Figure 1 summarises the above.

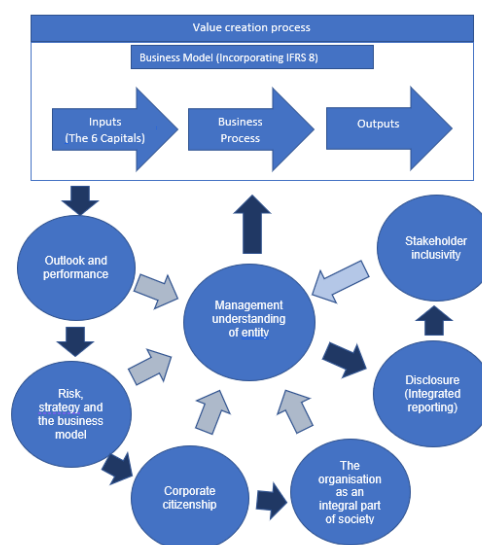


Figure 1: Segmental reporting and integrated reporting

METHODOLOGY

Population, sampling, validity and limitations

The listed companies on the JSE make up the population, whilst purposive sampling was used to select the sample (Creswell and Clark, 2017), which consists of the companies assessed in the EY Excellence in Integrated Reporting Awards in 2015, 2016 and 2017.

The EY score sheets have in the past been evaluated and found to align to the IIRC Framework, and deemed to be an appropriate measure of IRQ (Barth et al., 2017, Krippendorff, 2018). Furthermore, the companies assessed in the EY Excellence in Integrated Reporting Awards are generally the JSE-top 100 companies, which represent approximately 94% of the market capitalisation of the JSE. Only 96 companies of these JSE top-100 were included in the sample, as 4 of the entities delisted or deteriorated in terms of integrated reporting quality. Furthermore, only companies with integrated reports for the year-ended on or before 31 December were included in the sample.

Companies with a dual listing were not excluded from the sample (see Appendix 2). This is because companies listed on the JSE are required to comply with King IV, and King IV in turn requires companies to prepare an integrated report. Whilst King IV does not specifically prescribe the IIRC Framework as the basis for preparing these integrated reports, King IV is nevertheless largely adapted from the IIRC Framework.

The extent to which companies comply with the IIRC framework is not considered in this study. Similarly, the impact of primary listing status is not addressed by this research. Furthermore, content analysis is inherently subjective. These are all inherent limitations of the study.

Data collection

This study made use of a longitudinal quantitative content analysis over a three-year period (from 2015 until 2017), whereby words, sentences and graphics were used to identify segmental disclosures (IIRC, 2013). The iterative process associated with this data collection process ensures that the data collected is accurate (Krippendorff, 2018).

An IFRS 8 disclosure checklist (see Appendix 1) was used to collect data on segmental disclosures contained in the respective note to the financial statements. The use of an IFRS 8 disclosure checklist enhances the validity of this study due to the credibility of the IASB's accounting standards (Merkl-Davies et al., 2011, IASB, 2016a).

The same information, along with a set of additional information (again, see Appendix 1) was then collected from the integrated reports. Amongst others, the information obtained from the integrated reports enables the researchers to assess the extent to which segments are integrated into the various other aspects of the business, such as strategy and risk.

Data analysis

Using content analysis and following the same approach as Maroun et al. (2018), the entire integrated reports of the companies were first analysed to obtain an overall understanding of the structure and the content of the reports. The content was then interpretively analysed to ensure that all information relating to segmental disclosures in the integrated reports were identified, and the extent of integration amongst disclosures assessed (Merkl-Davies et al., 2011, Carels et al., 2013).

Descriptive statistics (Castellano et al., 2019) were used to analyse the data. In addition, a Spearman's rho correlation analysis was used to identify the inter-relationship between individual disclosure elements identified in Appendix 1. A Kruskal-Wallis test was then used to determine which disclosures change as the industry (see Appendix 3) and IRQ changes. The industries were categorised in terms of their level of complexity and impact (Maroun et al., 2022, Michelon et al., 2015). A Jonkheere-Terpstra test further used to determine whether the change in disclosures identified from the Kruskal Wallis test represent an upward or downward trend. The canonical discriminant analysis was then used to determine the factors (groups of disclosures) that differentiate across industries.

Integrated thinking models

As a result of integrated thinking being proven by Adams (2017) to be a key driver of IRQ, during the analysis process, the data collected from the integrated reports are grouped into four different models, each representing, integrated thinking. The

following four models are identified based on the data collection disclosure factors in Appendix 1. Although these four models have only been used in isolation in prior literature to analyse data collected (IIRC, 2013, Young, 2012, De Villiers et al., 2017b, Dumay et al., 2017, Sun, 2012, IOD, 2016), the four models are used as a basis to group data that has been collected as the four models are a representation of the concepts that make up integrated thinking.

Model 1

This model incorporates how management understands the components of the business, as well as the basis of measurement that management uses internally to measure segments (which allow non-IFRS specific measurements such as headline earnings and EBITDA). This aligns with the concept of integrated thinking as it demonstrates management's understanding of the business operations and the industry in which the entity operates (Young, 2012, IIRC, 2013, Velte, 2019).

$$\text{Model 1} = \frac{\text{Basis of management AFS}}{\text{Basis of management IR}} + \frac{\text{Basis of organisation AFS}}{\text{Basis of organisation IR}}$$

$$\frac{\text{Disclosure of factors used to identify segments in AFS}}{\text{Disclosure of factors used to identify segments in IR}}$$

Model 2

This model represents the proportion of segmental disclosures that are the same in both the AFS and the integrated report. This also aligns with the concept of integrated thinking as it assesses the consistency between the disclosures of the two reports (adapted from De Villiers et al., 2017b, IIRC, 2013).

$$\text{Model 2} = \frac{\text{no. of segments in AFS}}{\text{no. of segments in IR}} +$$

$$\frac{\text{segment revenue in AFS}}{\text{segment revenue in IR}} + \frac{\text{segment profit or loss AFS}}{\text{segment profit or loss IR}} +$$

$$\frac{\text{segment expenses in AFS}}{\text{segment expenses in IR}} + \frac{\text{segment assets in AFS}}{\text{segment assets in IR}} +$$

$$\frac{\text{segment liabilities in AFS}}{\text{segment liabilities in IR}}$$

Model 3

² EY does not publish individual score sheets. It publishes broad categorical scores ranging from 1 (Excellent with honours) to 6 (progress to be made).

This model represents the extent to which segmental disclosures are integrated with other aspects of the integrated report (such as strategy, business model and risk) (Dumay and Dai, 2017, Sun, 2012, Macias and Farfan-Lievano, 2017), which also evidences integrated thinking.

$$\text{Cross – reference variable} = \frac{\sum(\text{Seg1 ; Seg n})}{\text{no. of pages in IR}}$$

Model 4

Assuming that entities do disclose segmental information in their business model (as per model 3), this model specifically considers exactly where within the business model the segments are integrated (inputs processes, and/or outputs). This is an indicator of integrated thinking as it indicates that segments contribute in different ways to the value creation process of an entity either in inputs, processes, or outputs (Krzus, 2011, WICI, 2013, IOD, 2016).

Model 4 =

$$\frac{\text{No. of segments in inputs} \times \text{No. of segments in process} \times \text{No. of segments in outputs}}{3 \times \text{No. of total segments}}$$

Results

Descriptive statistics

Descriptive statistics are represented in Table 1. The results are largely consistent from one year to the next.

IRQ remains relatively constant from 2015 to 2017 (averages in 2015 = 4.17², 2016 = 4.07, 2017 = 4.09) (Malola, 2019). The average number of segments identified in the AFS also remains relatively consistent from 2015 to 2017 (averages in 2015 = 3.71 segments, 2016 = 3.72 segments, 2017 = 3.82 segments). Furthermore, the average number of segments identified in the integrated reports also remains relatively consistent between 2015 to 2017 (averages in 2015 = 3.31 segments, 2016 = 3.21 segments, 2017 = 3.22 segments). The proportion of companies that disclose the same number of segments in both the AFS and the integrated reports further also remains fairly consistent from 2015 to 2017 (averages in 2015 = 81%, 2016 = 82%, 2017 = 79%).

The results from integrated thinking model 1 indicate a marginal deterioration in the consistency of how management understands and measures the components of the business as per the AFS versus as per the integrated reports (2015 = 83%, 2016 = 82%, 2017 = 79%). The results for model 2 indicate that there has also been a marginal deterioration in the consistency of segmental disclosures per the AFS versus the integrated reports (2015 = 54%, 2016 = 54%, 2017 = 52%). However, there has been a slight increase over the years of companies which disclose segments within the strategy, risk, and business model, as represented by the model 3 findings (2015 = 33%, 2016 = 34%, 2017 = 36%) and model 4 findings (2015 = 9%, 2016 = 18%, 2017 = 14%) indicating that management finds segments increasingly crucial to the day-to-day operations of the business.

Despite the improving trend, the limited integration of segmental disclosures with other financial and non-financial disclosures in the integrated reports (as identified by the model 3 and model 4 findings), suggest that management does not put thought into segmental disclosures and merely replicates the disclosures per the AFS, possibly as a legitimacy exercise. This further emphasises the fact that integrated reporting is still largely seen as an extension of the AFS (Silvestri et al., 2017). These findings may however also infer that management does not understand the business or industry in which they operate or how the segments fit into the value creation process.

Table 1: Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
Year	2015				2016				2017			
Number of operating segments identified in AFS	1.00	10.00	3.71	1.76	1.00	10.00	3.72	1.72	1.00	10.00	3.82	1.88
Number of operating segments identified in IR	1.00	10.00	3.31	1.93	1.00	10.00	3.21	1.86	1.00	10.00	3.22	2.10
Proportion of companies that disclose the same segments in both AFS and IR	0	1.00	0.81	0.39	0	1.00	0.82	0.38	0	1.00	0.79	0.41
MODEL 1	0	1.00	0.83	0.34	-	1.00	0.82	0.35	0	1.00	0.79	0.37
MODEL 2	0.06	1.00	0.54	0.25	0.06	0.95	0.54	0.26	0	0.95	0.52	0.27
MODEL 3	0	0.93	0.33	0.18	-	0.94	0.34	0.20	0	1.00	0.36	0.21
MODEL 4	0	0.75	0.09	0.15	-	1.00	0.11	0.18	0	1.00	0.14	0.21
PAGES	48.00	552.00	150.56	75.54	32.00	324.00	145.64	58.58	58.00	348.00	146.88	61.49
IRQ	2.00	6.00	4.17	1.24	1.00	6.00	4.07	1.22	1.00	6.00	4.09	1.33
Valid N (listwise)	96.00				96.00				96.00			

THE RELATIONSHIP BETWEEN IRQ AND SEGMENTAL DISCLOSURES

Table 2 shows the results from the correlation analysis³.

The only statistically significant strong (negative) correlation reported was between IRQ and model 4

($r_s = -0.617$, $p < 0.01$). Model 4 specifically focusses on where within the value-creation process the segmental information is disclosed. This integration into the value-creation process aligns to the concept of integrated thinking (Macias and Farfan-Lievano, 2017). The results of the descriptive statistics indicate an increase in the mean for model 4 over the years (see Table 1). This may be driven by the decrease in the

³ For purposes of this analysis, correlations with an absolute value of 0.6 or greater were classified as strong, whereas correlations with an absolute value 0.3 or large, but below 0.6 were classified as moderate.

mean number of segments disclosed in the integrated reports over time (again, see Table 1). This pattern may infer that segments are simply being disclosed less, possibly due to management's inability to clearly position these segments within the value-creation process. This may be the reason as to why there is a negative correlation, as one would naturally expect model 4 and IRQ to show a positive correlation. The negative correlation may further imply that separately identifying segments within inputs, processes, and outputs, instead of viewing segments in an integrated manner, does not necessarily result in better IRQ. This seems logical as segments do not operate in isolation when it comes to value-creation (IOD, 2016).

There are moderate (positive) correlations between IRQ and integrated thinking models 1 ($r_s = 0.373$, $p < 0.01$) and 2 ($r_s = 0.381$, $p < 0.01$). This is consistent with prior literature which suggests that an in-depth understanding of the entity (which allows for the identification of segments), as well as disclosure

consistency within AFS and integrated reports, are components of integrated thinking (Dumay and Dai, 2017, WICI, 2013), which in turn drives integrated reporting and the quality thereof (Adams, 2017).

There is a moderately strong (negative) correlation between IRQ and integrated thinking model 3 ($r_s = -0.366$, $p < 0.01$). Model 3 factors into account the number of pages in the integrated reports. The results of the descriptive statistics indicate an increase in the mean for model 3 over the years (see Table 1). This may be driven by the decrease in the mean number of pages comprising the integrated reports over the years (again, see Table 1). The negative correlation may imply that the quality of the disclosures has deteriorated, which may be due to the decreasing total page numbers of integrated reports over time. Less pages reduces an entity's ability to articulate themselves and consequently either results in decreased or omitted disclosures.

Table 2: Correlation analysis

	PAGES	IND-AGG ⁴	ASSETS	PROFIT	MODEL 1	MODEL 2	MODEL 3	MODEL 4	Number of operating segments IR	IRQ
PAGES	1.000	-.234**	-.088	-.155**	.143*	.203**	.092	.000	.121*	.112
IND-AGG	-.234**	1.000	.056	.285**	.034	.031	-.172**	-.207**	-.053	.077
ASSETS	-.088	.056	1.000	.702**	-.081	-.154**	.013	-.053	.063	.098
PROFIT	-.155**	.285**	.702**	1.000	-.025	-.142*	-.081	-.107	.046	.094
MODEL 1	.143*	.034	-.081	-.025	1.000	.649**	-.165**	-.362**	.594**	.373**
MODEL 2	.203**	.031	-.154**	-.142*	.649**	1.000	-.218**	-.225**	.162**	.381**
MODEL 3	.092	-.172**	.013	-.081	-.165**	-.218**	1.000	.533**	.212**	-.366**
MODEL 4	.000	-.207**	-.053	-.107	-.362**	-.225**	.533**	1.000	-.302**	-.617**
Number of operating segments IR	.121*	-.053	.063	.046	.594**	.162**	.212**	-.302**	1.000	.129*
IRQ	.112	.077	.098	.094	.373**	.381**	-.366**	-.617**	.129*	1.000

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).
Spearman's rho above the diagonal; Kendal's tau-b below the diagonal

Differences between industries and IRQ

x 3 shows the results from the confirmatory tests.

There is a significant upward trend in IRQ ($H = 29.628$, $p < 0.01$; $J-T = 1.571$) as the industries change. Furthermore, as the industries change, there is also a significant upward trend with model 1 ($H = 41.914$, $p <$

0.01 ; $J-T = 6.180$) and model 2 ($H = 52.911$, $p < 0.01$; $J-T = 6.115$). The same trends with model 1 ($H = 15.562$, $p < 0.01$; $J-T = 2.3685$) and model 2 ($H = 17.424$, $p < 0.01$; $J-T = 1.741$) hold true as IRQ changes. This suggests that as industries become less complex and less asset-intensive, such as the telecommunications sector (see Appendix 3), management is better able to

⁴ Industry Aggregated code as per Appendix 3

demonstrates a deeper understanding of the business, which in turn leads to better integrated thinking and consequently better IRQ.

As industries change, there is a significant downward trend with model 3 ($H = 16.972$, $p < 0.01$; -3.295) and model 4 ($H = 29.877$, $p < 0.01$; -2.868). The same trends with model 3 ($H = 48.234$, $p < 0.01$; $J-T = -6.094$) and model 4 ($H = 103.245$, $p < 0.01$; $J-T = -10.325$) hold true as IRQ changes. This implies that industries such as the mining sector or the financial services sector disclose more segmental information and in a more integrated manner, when compared to other industries such as the telecommunications sector. The mining industry and the financial services industry are highly complex and highly regulated, when compared to other industries (Maroun et al., 2022, Michelin et al., 2015). It may be for this reason that industries such as the telecommunications sector tend to disclose less (integrated) segmental information, so as to maintain a competitive advantage with regards to the business strategy and the internal business operations, as their businesses are easier to replicate (Abeysekera, 2013).

Based on the above, it is becoming evident that segmental disclosures may not necessarily be the most suitable proxy for integrated thinking.

Table 3: Changes in key disclosure elements, controlling for industry and IRQ

	GROUPING BY INDUSTRY		GROUPING BY IRQ	
	N = 100		N = 100	
	H-STATISTIC	STD J-T STATISTIC	H-STATISTIC	STD J-T STATISTIC
MODEL 1	15.562**	2.368*	41.914**	6.180**
MODEL 2	17.424**	1.741	52.911**	6.115**
MODEL 3	16.972**	-3.295*	48.234**	-6.094**
MODEL 4	29.877**	-2.868**	103.245**	-10.325**
IRQ	29.628**	1.571	N/A	N/A

** . significant at the 0.01 level (2-tailed).

* . significant at the 0.05 level (2-tailed).

Discriminant analysis

Table 4 shows the segmental disclosures loading onto two functions.

These two functions for the discriminant analysis account for 70,4% of the variance in IRQ among the different industries (Function 1 = 40,9% and Function 2 = 29,5%). Discriminant analysis is used because the dependent variables (the different industries) are categorical.

Table 4: Disclosure elements⁵

	Function 1	Function 2
Number of operating segments disclosed in IR	✓	
Number of operating segments disclosed in AFS		
Disclosure of reconciliation in AFS		
Basis in AFS = Basis in IR		
Proportion of measurement bases IR = AFS		✓
Factors used to identify segments in AFS = IR	✓	
Proportion of segments IR = AFS	✓	
Proportion of segments with P&L IR = AFS		✓
Proportion of segments with Rev IR = AFS	✓	
Proportion of segments with Exp IR = AFS	✓	
Proportion of segments with Assets IR = AFS		✓
Proportion of segments with Liabilities IR = AFS		✓
Cross references		
No of segments in inputs/capitals		
No of segments disclosed in processes		
No of segments disclosed in outputs		
No of segments disclosed in business model	✓	
No of segments disclosed in risk		

Function 1 is labelled “connectivity and performance” and loads mainly with the identification of segments,

the incorporation of segments into the business model, and consistency of income statement-related segment

⁵ Function 1 has a Wilks' Lambda of 0.306 ($\chi = 324.742$, $p < 0.01$) and Function 2 has a Wilks' Lambda of 0.483 ($\chi = 199.548$, $p < 0.01$). Table 4 indicates the disclosure elements which were grouped together and whether function 1 and function 2 incorporates these elements.

information. Function 2 is labelled “disclosure consistency and values” and loads mainly with the disclosure consistencies of the measurement basis as well as the disclosure consistencies of the balance-sheet-related segment information.

It is evident that Function 1 has a stewardship underpinning, whilst Function 2 has a neoliberalism underpinning. The identification of segments and the assessment of their performance (Function 1) enables users to hold management accountable in terms of how they have managed the company and utilized the assets available at their disposal to generate returns (Whittington, 2008). In contrast, balance-sheet-related information (Function 2) communicates less about performance, and more about current and future values (Zhang and Andrew, 2014). This emphasizes the fact that there are still different types of users of AFS seeking different information.

Figure 2 presents the final discriminate plot with industry on Function 1 and Function 2.

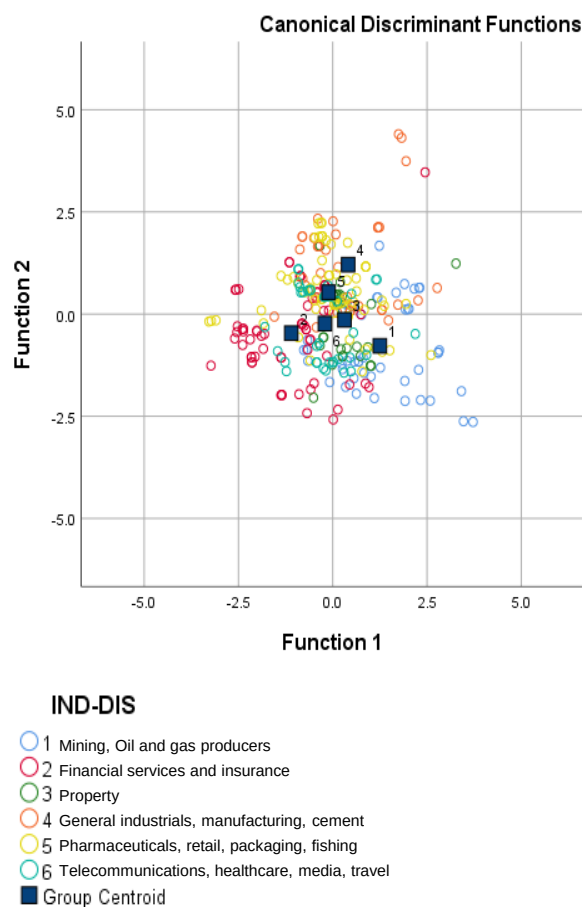


Figure 2: Canonical discriminant function

Function 1

Industries 3, 4, 5 and 6 are largely similar in terms of their placement on the X-axis. This implies that the main contributors to the variance in IRQ between the mining sector and the financial services sector is the identification of segments, the incorporation of segments into the business model, and the focus on income-related segment information.

One of the reasons for the differences between the mining industry and the financial services industry is that the former is generally more concerned with information presented in the statement of profit or loss and other comprehensive income, whereas the latter is more concerned with information presented in the statement of financial position.

Furthermore, the difference between the mining industry and financial services may also be attributed to the financial services industry identifying more operating segments within the entity, as well as increased integration of these disclosed segments in the business model. This is consistent with the findings by Herbert and Graham (2019) and Quick and Inwinkl (2020), which proved that the financial services

industry is far more compliant in terms of embedding content within the integrated reports, as opposed to providing disclosure to increase corporate legitimacy. The embedding of content indicates that management has a better understanding of the entity and the industry in which it operates, which in turn should translate into better IRQ.

Function 2

Industries 2, 3, 5 and 6 are largely similar in terms of their placement on the Y-axis. This implies that the main contributors to the variance in IRQ between the mining sector and the general industrials sector is the disclosure consistencies of the measurement basis as well as the disclosure consistencies of the balance-sheet-related segment information.

Industries with a greater environmental impact (such as the mining industry) tend to provide generic disclosures to maintain legitimacy. (De Villiers and Marques, 2016, Stacchezzini et al., 2016). This can imply that these industries do not necessarily apply integrated thinking but use disclosure in the integrated report as a form of legitimacy. Furthermore, the application (or lack thereof) of IFRS 8 measurement bases principles within the integrated reports could be used as a signalling tool, whereby management might decide to aggregate loss-making segments in the integrated reports, whilst still being able to claim

compliance with IFRS. Consequently, it can be argued that Function 2's ability to serve as a proxy of integrated thinking is conditional upon management's intentions.

CONCLUSION

Management is permitted to voluntarily disclose information in the integrated reports that they deem to be material (IIRC, 2016, Mohamed et al., 2019, Shima and Fung, 2019). The findings of this paper indicate that JSE-listed companies do tend to provide increasingly more segmental disclosures in the integrated reports. This implies that management deems segmental information to be material, and thereby acknowledge the importance of integration amongst segments for the day-to-day operations of the entity.

When companies do provide segmental disclosures in the integrated reports, half the time these disclosures merely mimic those of the AFS, with a lack of integration between financial and various non-financial information. Whilst segmental disclosures could potentially be disclosed simply for legitimacy reasons, these findings could also imply that management may not have an in-depth or integrated understanding of the entity's value-creation process/value-chain (despite their acknowledgement of its importance). Whilst the extent of compliance with the IIRC Framework was not accessed as part of this research, the findings nonetheless indicate that integrated reports are still largely seen as a mere extension of the AFS.

The findings further indicate (with minor differences between various industries) that increased segmental disclosures are found in integrated reports of higher quality. However, an evaluation of a causal relationship between these two variables is beyond the scope of this paper. An area for future research could focus on the determination of a causal relationship by means of a regression analysis.

The identification of various operating segments, as well as the integration of associated disclosures in the integrated report, is linked to management's understanding of the entity, its business model and its value-creation process. Hence segmental disclosures in the integrated report can be used as a means to assess the absence/prevalence of integrated thinking. The

findings of this paper point towards the slow emergence thereof.

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APPENDIX 1

IFRS 8 Disclosure Checklist Used to Collect Data on Segmental Disclosures from The Segment Reporting Note to The Financial Statements (IASB, 2016a)		Additional Data Pertaining to Segmental Disclosures Collected from The Integrated Reports	Additional Data Collected from EY Excellence in Integrated Reporting Awards	Reference
Name of the entity				-
Year (2015 – 2017)				-
Basis of organisation			-	(IASB, 2016a)
Number of operating segments			-	
Aggregation of operating segments			-	
Segment profit or loss			-	
Segment revenue			-	
Segment expenses			-	
Segment assets			-	
Segment liabilities			-	
Basis of measurement			-	
Amount based on the basis of measurement (EBITDA, Headline earnings etc.)			-	
Nature of differences in measurement			-	
Disclosure of reconciliation			-	
-	Number of pages in the integrated report		-	(Maroun et al., 2018)
-	Disclosure in the value creation process in the integrated report (input, business activities, output)		-	(de Villiers et al., 2014, Barth et al., 2017, Leedy and Ormrod, 2005)
-	Strategy		-	(Barth et al., 2017, de Villiers et al., 2014)
-	Risk		-	(Sarasvathy et al., 1998)
-	Segment represents subsidiary/joint venture/associate/investment		-	-
-			EY Scores	-

APPENDIX 2

Dual listed entities in the EY Excellence in Integrated Reporting Awards (EY, 2017)	
Brait SE	
British America Tobacco plc	
ArcelorMittal South Africa Ltd	
SABMiller plc	
Grindrod Ltd	
Glencore plc	
Investec plc	
Lonmin plc	
Mondi plc	
Old Mutual plc	
Mediclinic International plc	
MMI Holdings Ltd	
Mr Price Group Ltd	
Naspers Ltd	
Northam Platinum Ltd	
Steinhoff International Holdings Ltd	
Vukile Property Fund Ltd	
Rockcastle Global Real Estate Company Ltd	

APPENDIX 3

Industry percentages representation		
Group	Industry	Percentage
1	Mining, Oil and Gas producers	16.67%
2	Financial Services, Insurance	21.88%
3	Property	11.46%
4	General Industrials, Manufacturing, Cement and Chemicals	12.50%
5	Pharmaceuticals, Retail, Packaging, Fishing, Food and Beverages	23.96%
6	Telecommunications, Healthcare, Media, Travel and leisure and Technology	13.54%

Linking firm performance measures and key performance indicators of JSE-listed firms: A systematic review

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Purpose: The paper investigates whether firm performance measures (FPMs) used by researchers to examine pay-to-performance links are aligned to the key performance indicators (KPIs) utilised by firms listed on the Johannesburg Stock Exchange (JSE), considering the need for alignment between research and practice.

Design/Methodology/Approach: The research employed a systematic review and qualitative comparative analysis as research methods. An Excel spreadsheet was used to identify, extract, capture, and analyse FPMs and KPIs, with results summarised in tables and figures.

Findings: The results indicate that approximately twenty-five percent of the FPMs align with the firms' KPIs, suggesting a seventy-five percent disconnection between FPMs and KPIs. Moreover, none of the FPMs were non-financial in type and nature, despite the growing calls to consider the triple context of performance, with firms adopting numerous non-financial KPIs. This discrepancy could lead to different and potentially misleading research conclusions due to a skewed understanding of realities between the corporate world and the field of research.

Contribution: The paper contributes empirically to knowledge by developing a conceptual framework that links financial and non-financial FPMs for use by researchers in measuring executives' performance. It emphasises the need for increased attention to non-financial FPMs and theoretical reviews to bridge the gap between researchers and practitioners.

KEYWORDS: executives' performance; firm performance measures; firm performance; firms; key performance indicator; performance measurement; performance; researchers.

INTRODUCTION

Performance measurement has been an area of attention in the business field over the past four decades due to performance being central to a firm's success (Taouab & Issor 2019; Singh, Darwish & Potočník 2016). This attention has mostly been on how firms measure performance and less on how or why researchers choose certain firm performance measures (FPMs) in their studies featuring firm performance as a variable. This paper argues that performance measurement is equally important to both firms and researchers, such that research that neglects how firms measure performance is likely to be irrelevant in practice. This is based on the old research notion that an instrument should measure what it ought to measure, as this has an effect on the validity of the research (Carton & Hofer 2007a). Therefore the choice of FPMs should be contextualised to the firms being investigated (Carton & Hofer 2007b) through considering the firms' KPIs. Various authors have questioned the misalignment of performance measures from the actual performance it sought to measure (Richard, Devinney, Yip & Johnson 2009;

Fitzgerald & Storbeck 2003; Chakravarthy 1986) while others have suggested ways to better measure performance (Matemane, Moloi & Adelowotan, 2022; Selvam, Gayathri, Vasanth, Lingaraja & Marxiaoli, 2016; Sliwka 2001).

The King Code has also made attempts to persuade firms to structure performance measures in a way that captures both the financial and non-financial nature of business to accommodate different stakeholders that interact over time to create firms' wealth (Barney 2020). For instance, King III, which was implemented in 2009 and advanced in 2016 in South Africa (SA), recommends the inclusion of non-financial key performance indicators (KPIs) in measuring executives' performance (Institute of Directors South Africa 2009, 2016) as they are more realistic in assessing strategic positions of firms (Tahir, Ibrahim & Nurullah 2019). The King Code also recommends that the measurement of executives' performance resembles the triple context (economic, social, and environmental) aspects that firms operate within (Institute of Directors South Africa 2016). This is since firms need to prioritise all their stakeholders in order to minimise risks that may

emerge from neglect (Nigam, Benetti & Mbarek 2018). The choice of variables is important as they measure different attributes (Carton & Hofer 2007c). Cho, Ibrahim and Yan (2019) observed that combining financial and non-financial KPIs produces more committed executives whose pay easily aligns to performance. As such, firms are gradually adopting non-financial KPIs, as evidenced by Maas and Rosendaal (2016) who concluded that on average, 33% of firms around the world used sustainability KPIs in determining executive pay, which is one of the non-financial KPIs.

However, existing studies in the finance field that relied on performance measures to test theories and make policy recommendations on performance made no reference to either why they have measured performance in a particular manner (Carton & Hofer 2007c) or how firms measure performance in practice. This suggests a disregard of executives' KPIs, which has a potential to flaw the findings of the study. Numerous studies have examined firm performance variables against executive pay to assess the extent of the agency problem in firms. Most of these studies, including Padia and Callaghan (2020); Motepe (2018); Yahya and Ghazali (2018); Iliev and Vitanova (2017); Kim, Yang and Lee (2017); Roode (2016); Hou, Priem and Goranova (2015); Clarkson, Walker and Nicholls (2011) concluded that the agency problem is dominant despite different policies and regulations that emerged over time to constrain it. If FPMs adopted in these studies were divorced from the executives' performance measures used in practice, these conclusions might be compromised (García-Granero et al. 2018; Selvam et al. 2016) especially if the FPMs were also financial in nature. Cho et al. (2019) witnessed that non-financial FPMs weaken the agency problem as they better align pay to performance. This leaves one wondering if researchers are measuring the performance that executives are managing (Richard et al. 2009). Chenhall and Moers (2007) concur that in an ideal situation, independent variables should significantly predict dependent variables, which is likely if FPMs and KPIs are similar.

Therefore, the paper has the following three objectives:

- Investigate the type and nature of FPMs preferred by researchers in their examination of the pay-performance link of Johannesburg Stock Exchange (JSE)-listed firms,

- Investigate the type and nature of KPIs used by the selected JSE-listed firms to evaluate executives' performance,
- Compare FPMs and KPIs to determine the extent of divergence and/or similarity.

The paper makes an empirical contribution to knowledge through the development of a conceptual framework linking financial and non-financial FPMs used by researchers to KPIs employed by firms to measure executives' performance. The framework is supported by the literature. The paper also calls for a consideration of KPIs and particular attention to non-financial indicators to bridge the existing gap between researchers and practice because if the gap is not bridged, research is less likely to solve practical problems. The next section focuses on the literature review, followed by a conceptual framework of FPMs and KPIs, after which the methodological approach of the study is presented. The results are further presented and discussed, and the paper is concluded in the final section.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The concern of poor performance measurement is not new in the management research, for instance, Selvam et al. (2016) challenged the absence of uniformity in defining, selecting, and measuring performance through a literature study, as non-uniformity tends to flaw research integrity (Selvam et al. 2016). The study aimed to develop a coherent approach to measure firm performance and the outcome was a subjective performance model with nine broad measures ranging from financial to non-financial measures. Also, Richard et al. (2009) emphasised the need to consider the research context and the use of strong theoretical grounds to select firm performance measures in research. Carton and Hofer (2007c) supports this as the majority of performance measures are indirectly observable. This is to address the need for multi-dimensionality of performance measures as observed by the authors through a literature-based study, which revealed the neglect of the context under which firms operate. García-Granero, Piedra-Muñoz and Galdeano-Gómez (2018) examined the measurement of performance in relation to the eco-innovation aspect of firm performance through a literature study. Inconsistency in performance measurement was observed, which according to the authors,

compromises the effectiveness of policies that are based on the conclusions of such studies.

Micheli and Mari (2014) argues that neither research nor practice has made adequate progress towards accurately measuring performance, however, according to Bourne et al. (2018), the practice has been more proactive in improving performance measurement than research. In the context of this study, FPMs are measures commonly used by researchers who examine relationships involving executive pay and firm performance. KPIs are indicators used by JSE-listed firms to measure executives' performance and thus determine executive pay. Extant literature on measuring performance is limited, especially in the finance field.

CONCEPTUAL FRAMEWORK

According to the performance-based contracting theory, the contracting parties should set clear and measurable goals that are used as KPIs of the serving party to determine the payment due (Bourne, Melnyk & Bititci 2018; Glas, Henne & Essig 2018). The payment depends on the extent to which the KPIs have been achieved (Ng Irene 2008), which indicates that performance and incentives are equally important in the contract. This kind of contract is normally threatened by agency issues, such as information asymmetry, whereby agents falsely represent their capability to service the contract while they fight to maximise their utility (Selviaridis & Wynstra 2015). The agency theory posits that these could be overcome through monitoring and effectively tying payments to KPIs (Jensen & Meckling 1976). The two theories are somewhat similar as they are grounded on the reliance of KPIs and pay-performance links to appropriately compensate the serving party (executives). The Institute of Directors South Africa (2009, 2016), which provides a monitoring framework through the King Code (Yusoff & Alhaji 2012), also promotes the link of pay to performance and further requires that KPIs represent the triple context of firms, which should include both financial and non-financial KPIs. This indicates that KPIs are central to the assessment of the pay-performance link. Due to this, this paper argues that the selection of FPMs by researchers should be an objective process as depicted in Figure 1.

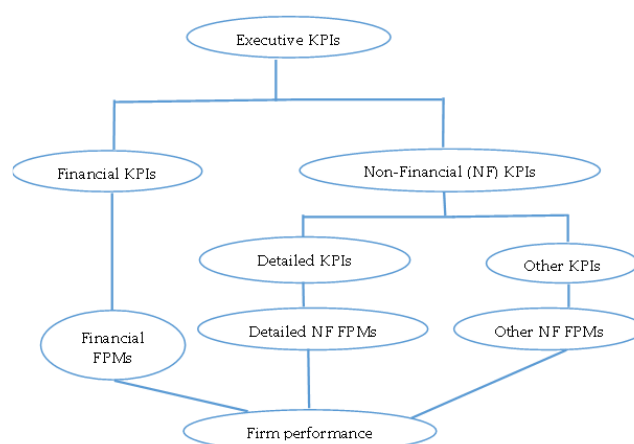


Figure 1: Proposed linkages between FPMs and KPIs

Source: Authors' conceptualisation (2023)

For decades, examining the pay-performance link has been a popular inquiry in the finance field, with most reporting a misaligned pay-to-performance, prevalent agency problem, and ineffective corporate governance. Such research includes but is not limited to Chu, Gupta and Livne (2021); Abudy, Amiram, Rozenbaum and Shust (2020); Yahya and Ghazali (2018); Iliev and Vitanova (2017); Kim, Yang and Lee (2017); Sanchez-Marin, Lozano-Reina, Baixauli-Soler and Lucas-Perez (2017); Kazan (2016); Mas (2016); Roode (2016); Hou, Priem and Goranova (2015); Brunarski, Campbell and Harman (2015); Burns and Minnick (2013) who rarely explained the reasons behind their choice of FPMs except citing previous research. No evidence exists that the adopted FPMs align with the firm's approach to measuring executives' performance. Chenhall and Moers (2007)' emphasises the importance of the flawless choice of variables, which indicates that the appropriateness of the research instrument is at the heart of every research as it relates to its validity (Mohajan 2017). This necessitates investigating whether researchers consider the type and nature of KPIs in their investigation of the pay-performance link.

The findings of this study are important considering the number of years since non-financial measures were recommended for inclusion as KPIs to determine executives' performance. A systematic review of financial and non-financial FPMs and KPIs was conducted and compared with the above conceptual framework through a comparative analysis, as discussed in the next section.

METHODOLOGICAL APPROACH

The study focused on the SA context from 2011 to 2020. Secondary data in FPMs and KPIs were used to answer the research objectives; KPIs were sourced from the annual reports and FPMs from the extant literature. A systematic review and quantitative comparative analysis were used to observe data and draw conclusions in two distinct but interrelated processes. The sampling approach for KPIs and FPMs fits the characteristics of purposive sampling.

SYSTEMATIC REVIEW DATA COLLECTION AND ANALYSIS

The authors adopted and applied the “Cochrane handbook for systematic reviews of interventions” from public health by Cumpston, McKenzie, Welch and Brennan (2022). The handbook requires that the highest level of scientific rigour be employed in a systematic review, conducted in seven steps outlined in Table 1 below.

Table 1: Systematic review data collection and analysis process flow

No	Steps in	Application in FPMs	Application in KPI
1	Identify research objectives	Investigate the type and nature of executive FPMs used by researchers of JSE-listed companies from 2011 to 2020.	Investigate the type and nature of executive KPIs employed by JSE-listed companies from 2011 to 2020
2	Search for studies	A triangulation of searches by the university librarian and own electronic database searches on Web of Science, Scopus, Google Scholar, other databases, and journals with relevant keywords such as firm performance, firm efficiency, firm value, pay-performance link, pay-performance compliance, and pay-performance, for the scope and period of study led to the identification of 263 articles excluding those in financial services sector. Only peer-reviewed literature that assessed performance using JSE-listed firms published between 2011 and 2020 was considered.	KPIs were sourced from the JSE-listed firms' websites since regulations command the firms to disclose this information in their annual reports. The JSE-listed company database for 2020 was used with 358 firms identified from List Corporations.
3	Inclusion and exclusion criteria	Exclusion of articles: • Did not specify performance measures (21), • Did not feature performance measures(98), • Outside the study period (6), • Not in the SA context (110),	Exclusion of firms: • In the financial services sector (125) because of specific governance requirements. • With less than ten years of annual reports (112), • Subsidiaries of other firms (23) to avoid redundancy, • Without KPI disclosure (29),
4	Selected studies/ reports for inclusion based on pre-defined criteria	The final sample of 28 articles was selected based on the inclusion and exclusion criteria.	The final sample of 69 firms for ten years made a total of 690 annual reports evaluated.
5	Extract data from included studies	Excel spreadsheet was employed to identify, extract and capture FPMs used in the study of executives' performance for each article after a pilot study was conducted.	Employed Excel spreadsheet to identify, extract and capture executive KPIs for each firm after a pilot study was conducted.
6	Evaluate the risk of bias of included studies	There was a low risk of bias. Identified and used articles and FPMs were verified by the second author.	There was a low risk of bias. Identified and used firms and KPIs were verified by the second author.
7	Present results and assess the quality of evidence	Based on steps one to six above, tables and figures summarise the results for discussion and recommendation.	

Source: Authors' conceptualization (2023) from Cumpston et al. (2022)

QUANTITATIVE COMPARATIVE ANALYSIS

Quantitative comparative analysis (QCA) is recommended to compliment systematic reviews to

identify features and explain effectiveness or ineffectiveness of implementation or interventions (Kahwati et al., 2016) such as FPMs and KPIs used in research and practice respectively. The QCA approach for this paper is explained in Table 2 below.

Table 2: Quantitative comparative analysis data collection and analysis process flow

No	Steps	Application to study
1	Identify relevant cases and causal conditions	- Twenty-four (24) financial and zero (0) non-financial FPMs used by researchers were extracted from 28 articles over the period 2011 to 2020 using systematic research, hereby referred to as case one. - More than two hundred (200) KPIs consisting of exactly fifty-nine (59) financial and more than one hundred and forty (141) non-financial KPIs were extracted from 69 firms over the period 2011 to 2020 through systematic review, hereby referred to as case two. Some of the firms have an average of ten or more non-financial KPIs. - Comparison of case one and two was conducted using a truth table to identify causal conditions.
2	Construct the truth table and resolve contradictions	- Financial FPMs were mapped against the financial KPIs to develop causality and contradictions. A score of 1 was allocated for each causal conditions and a score of "0" for each contradiction. - The non-financial FPMs and KPIs were also mapped with same indicators as the financial measures.
3	Analyse the truth table	The causal conditions and contradictions scores from the truth table were summed and expressed in percentages to depict the extent to which researchers are measuring financial performance that executives are managing.
4	Evaluate the results	The results of the QCA were evaluated based on the analysis of the truth table and compared with extant literature.

Source: Authors' conceptualization (2023) from Kahwati et al. (2016)

KPIs and FPMs were hand-picked from the annual reports and journal articles respectively and incorporated into an Excel document with the intention to compare them as raw data. This was achieved through systematic review and quantitative comparative research using basic descriptive analysis in the form of percentages. Over a ten-year period, KPIs were collected from the same firms while FPMs were collected from each article that was published once in one of the ten years. This motivated the discussion of the findings to ignore the issue of years. Data that relates to the KPIs was captured in a similar manner with firms captured horizontally while each KPI was captured individually in columns. Only variables that were used as measures of firm performance in the sampled articles were considered; control variables were ignored since they are, by default not the focus of the study. Moderator variables were also ignored since they do not usually focus on measuring performance but on assessing the impact of a specific variable on the relationship of interest.

ETHICAL CONSIDERATION

Ethical clearance was obtained from the ethics committee of the university. The study used secondary data from the JSE-Listed firm's websites and Journal articles. No human or animal was used as part of the study. Raw and analysed data are available upon request.

RESULTS AND DISCUSSION

The study examined if researchers are measuring performance that executives are managing. The conceptual framework in Figure 1 assisted in the examination and comparison of the type and nature of FPMs used by researchers to assess executives' performance against KPIs utilised by firms listed in the JSE given the need for alignment between research and practice using systematic review and comparative analysis. The systematic review results are presented in Table 3 and discussed in the sections that follow. "F" stands for financial, and "NF" stands for non-financial.

Table 3: Summary of KPIs versus FPMs

Summary of KPIs vs FPMs							
KPIs (69 firms)					FPMs (28 articles)		
KPI	69		%		FPM	28	%
Other [Non-financial]	53	NF	77%		Return on equity (ROE)	17	61%
Headline earnings per share (HEPS)	49	F	71%		Return on assets (ROA)	16	57%
Earnings before interest and tax (EBIT)/including depreciation and amortization (EBITDA)	47	F	68%		Tobin's Q	6	21%
Other [Financial (Fin)]	43	F	62%		Earnings per share (EPS)	6	21%
Total shareholder return (TSR)	35	F	51%		Share price (SP)/change in SP	6	21%
Health and safety (HS)	26	NF	38%		EBITDA	6	21%
Broad-based black economic empowerment (BBBEE)	25	NF	36%		Revenue/change in revenue	5	18%
Revenue	22	F	32%		Market value added (MVA)	5	18%
Cash/cash flow (CF)	21	F	30%		Economic value Added (EVA)	5	18%
Return on capital employed (ROCE)	19	F	28%		Headline earnings per share (HEPS)	5	18%
Return on invested capital (ROIC)	17	F	25%		Total shareholder return (TSR)	4	14%
Free cash flow (FCF)	17	F	25%		Total assets (TA)	4	14%
Return on equity (ROE)	17	F	25%		Market capitalisation (MC)	4	14%
		F			Profit after tax /after interest + tax (PAT)	3	11%
Cost control (CC)	17		25%		Net margin (NM)	2	7%
Headline earnings	13	F	19%		Total asset turnover (TAT)	1	4%
Transformation	12	NF	17%		Stock returns (SR)	1	4%
Working capital (WC)	9	F	13%		Leverage	1	4%
Production	9	NF	13%		Interest	1	4%
Profit before tax (PBT)	9	F	13%		Firm size (FS)	1	4%
Return on net assets (RONA)	8	F	12%		Dividends per share (DPS)	1	4%
Market share (MS)	7	NF	10%		Dividend pay-out (DPO)	1	4%
Customer satisfaction (CS)	6	NF	9%		Change in fixed assets (CFA)	1	4%
Gross margin (GM)	5	F	7%		Change in capital employed (CCE)	1	4%
Profit after tax (PAT)	5	F	7%				

Source: Authors' conceptualisation (2023)

FIRM PERFORMANCE MEASURES (FPMs)

The first research objective assessed the type and nature of FPMs employed by researchers of JSE-Listed firms to assess the executive pay-performance link through systematic review of literature. Table 3 above shows that ROE and ROA are the most popular FPMs preferred by researchers as they appeared in 61% and 57% of the selected articles respectively. This is followed by Tobin's Q, EPS, SP and EBITDA which all appeared in 21% of the selected articles. There are numerous FPMs researchers choose from to assess performance, these also appear in Figure 2 below. As evident in the findings, FPMs are all financial in nature, none of the sampled articles attempted to use non-financial FPMs in studies that examined performance as one of the variables in SA. This is despite that it is over a decade since the King Code recommended the use of non-financial measures. Therefore, researchers either consciously neglect the non-financial aspect of executives' performance or they have consistently over-relied on previous research.

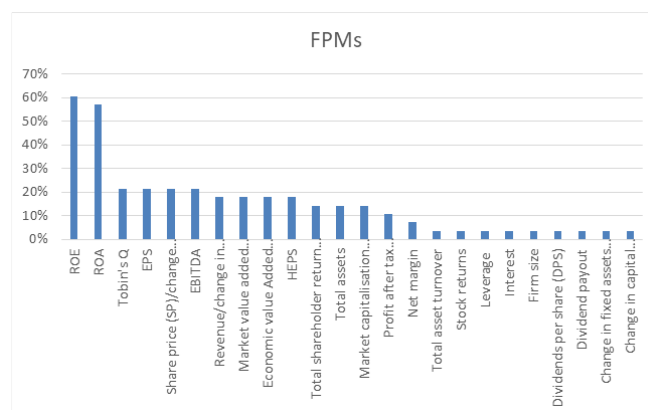


Figure 2: Summarised FPMs from the selected articles

KEY PERFORMANCE INDICATORS (KPIs)

The second research objective investigated the type and nature of KPIs used by JSE-listed firms to evaluate executives' performance through systematic review of annual reports. The collected data shows that a significant number of firms relied on different financial

and numerous non-financial KPIs to measure executives' performance, some of these appear in Table 3 above and Figure 3 below. Table 3 shows that HEPS is the most popular financial KPI, as it appeared in 71% of the selected listed firms. This is followed by EBIT/EBITDA and TSR, which appeared in about 68% and 51% firms respectively. With regards to the non-financial KPIs, health and safety and BBBEE are the most popular NF KPIs among the sample as they are preferred by 38% and 36% of the firms respectively. This is followed by transformation and productivity KPIs at 17% and 13% respectively. Table 3 also indicates that 77% of the sampled firms included non-financial KPIs in measuring executives' performance and these KPIs were numerous and mostly tailor-made, the number of such firms appear in the item other non-financial in the table. Since there were numerous KPIs than could be reflected in Table 3 or Figure 3, only those that were utilised by at least five firms reflect. The rest were combined under the term Other financial or Other non-financial depending on whether they were classified as financial or non-financial KPIs. Financial KPIs are a traditional and previously dominant form of performance measurement, however, the findings indicate that firms are gradually transforming their approach to accommodate the triple aspect of executives' performance. Figure 3 below depicts a graphical presentation of the findings:

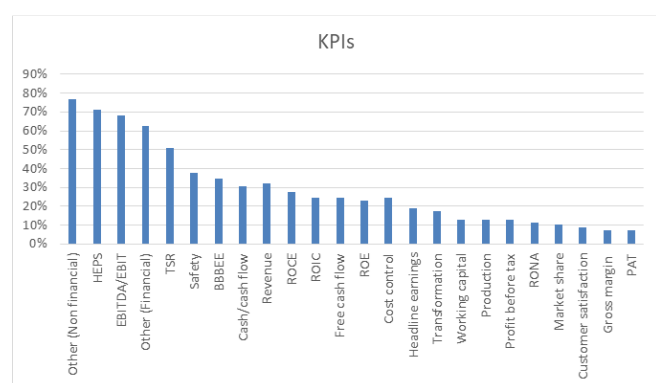


Figure 3: Summarized KPIs of the selected JSE firms

Only 16 of the 69 firms relied purely on financial measures, other firms used a combination of financial and non-financial KPIs. Cho et al. (2019) observed that combining financial and non-financial KPIs produces committed executives whose pay easily aligns to performance. This differs from the argument by Matemane et al. (2022) that firms predominantly rely on financial KPIs to measure executives' performance. Another interesting observation is that the nature of non-financial KPIs is diverse as it includes KPIs that can

easily or directly be measured, e.g., BBBEE rating, productivity levels, customer satisfaction in terms of a number or percentage, etc. and those that seem too detailed for direct measurement, e.g., employee engagement/morale, strategy implementation, ethical business environment, etc.

LINKAGES OF KEY PERFORMANCE INDICATORS AND FIRM PERFORMANCE MEASURES

The third research objective performed a quantitative comparative analysis of financial and non-financial FPMs and KPIs and their link to the conceptual framework. The percentages that were determined through descriptive analyses for both FPMs and KPIs assisted in this comparison, upon which the discussion has been based. The findings indicate that the types of financial FPMs are distinct from the types of financial KPIs for instance, the top five financial KPIs are HEPS, EBITDA, TSR, cash and revenue while the top five financial FPMs are ROE, ROA, Tobin's Q, EPS and SP. The leading financial KPI, i.e., HEPS appears in 77% of the listed firms while it only appeared in 18% of the sampled articles. EBITDA appeared in 68% of the sampled firms while only 21% of the articles used it as an FPM. TSR is being utilised by 51% of the listed firms while 14% of the articles preferred it as a performance measure. Cash and revenue have been adopted by 30% and 32% of the sampled firms respectively, however, none of the sampled articles utilised cash as an FPM while 18% of the articles utilised revenue as an FPM. At the same time, 77% of the sampled firms utilised non-financial KPIs while non-of the sampled articles utilised such FPMs, which indicates that researchers have not yet recognized the broad context of firms' operations. Financial FPMs are more inclined to the agency theory since it promotes pay-performance link. This theory has been the foundation of numerous studies which attempted to link pay to performance in the past. The reliance by researchers only on financial FPMs does not resemble how firms measure executives' performance as firms rely on both financial and non-financial KPIs. A practical example of a non-financial executive KPI can be noted from a case of BP where at some point its CEO pay was based on health and safety measures (BBC News 2016). The preceding event in deciding on this KPI was a health and safety scandal which led to BP creating a provision fund of about \$20 billion and incurring a further \$8 billion in cleaning costs in 2010 (BPP Learning Media 2017). This increases the need for firms to prioritise all their stakeholders in order to

minimise risks that may emerge from neglect (Nigam et al. 2018). If researchers' FPMs in studying such firms remain purely financial, it is less likely that a pay to performance kind of investigation for instance could lead to realistic results.

The conceptual framework in Figure 1 and results of the systematic review presented in Table 3, Figures 2 and 3 above were used to perform a QCA, findings of which appear in Figure 4 below.

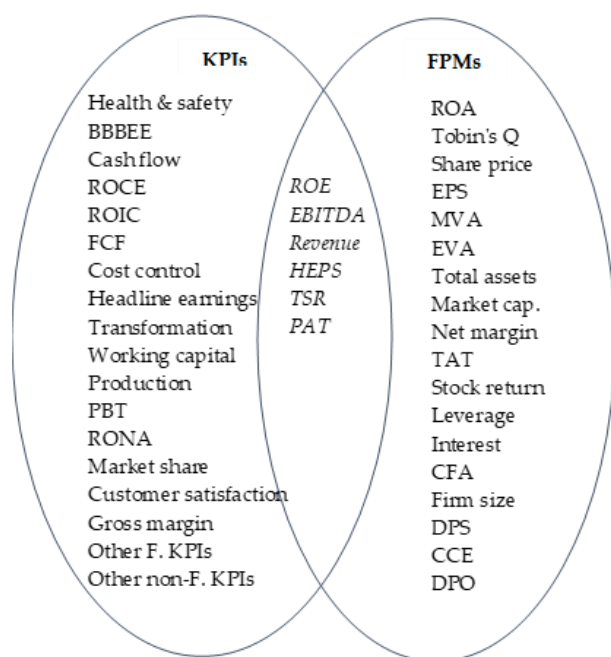


Figure 4: Summary results of the truth table comparing financial KPIs and FPMs

An overlap of about twenty five percent (25%) of FPMs can be observed in Figure 4 above, this involves measures such as FPMs and KPIs on ROE, EBITDA, Revenue, HEPS, TSR and PAT, which is a positive observation as it means that researchers and firms similarly measured executives' performance although to a limited extent. This was based only on Table 3 above. These results did not include the individual financial and non-financial KPIs that were aggregated on other financial or other non-financial, these are those that were utilised by less than five firms between 2011 and 2020, which were about 37 financial and more than one hundred (100) NF KPIs. ROA and Tobin's Q failed to appear as a KPI for JSE-listed firms despite being most popular in the literature. Neglecting KPIs in the selection of FPMs has a potential to skew research conclusions for instance, Padia and Callaghan (2020) who used revenue, Tobin's Q and ROA to assess pay-

performance link post-King III Report, found revenue to have better-predicted executive pay than the other two FPMs. Their highlights are that Tobin's Q and ROA are value-adding measures from which they expected a better prediction power than with revenue, perhaps due to their popularity in the literature. However, Table 3 above indicates that revenue is being utilised by about 32% of the selected JSE-listed firms as an executive KPI while none of the sampled firms indicated ROA and Tobin's Q as one of their executive KPIs. This suggests that revenue should be better able to predict executive pay than the other two FPMs in the SA context.

CONCLUSION

The paper used systematic review and comparative analysis to examine and compare the type and nature of FPMs used by researchers to assess executives' performance against KPIs utilised by firms listed at the JSE given the need for alignment between research and practice. From the findings presented and discussed above, only about 25% of the FPMs that researchers use has been found similar to the firms' KPIs, these are predominantly financial and indicates that researchers are up to 75% less likely to accurately measure performance that executives are managing. Also, it was found that researchers have not yet adopted non-financial FPMs, despite firms using more than 140 non-financial KPIs which are more detailed for direct measurement and unique in type. This suggests that the variables that have been used in research between 2011 and 2020 are incompatible with those that firms use in practice. This speaks to the endogeneity issue which is known to compromise research principles and weakens research results and/or findings. A common observation from the literature is that researchers rarely motivate their choice of FPMs except citing previous research. Perhaps this has contributed to the less attention by researchers to investigate the relevance and/or practicality of the selected FPMs. Research of the agency issues and pay-performance link has mostly relied on the linear version of the agency theory (Sloof & Praag 2007).

IMPLICATIONS AND RECOMMENDATIONS

The implication of the results is that research that features firm performance is likely to be irrelevant or redundant if it continues to be disconnected from what is happening in practice. The other implication is that

policies that are built on such research are likely to be ineffective if the choice of variables by researchers impaired the results and conclusions of the research. If non-financial FPMs are to be accommodated, there is a need to theoretically advance ways in which performance is measured in research (Richard et al. 2009; Carton & Hofer 2007c; Carton & Hofer 2007d). This study calls for a broader theory perspective to accommodate the type and nature of the prevalent KPIs that are used for measurement of executives' performance as the agency theory alone is less likely to appropriately explain the complex nature of firms and the extent to which they are effective in remunerating executives.

CONTRIBUTION AND FUTURE RESEARCH

Contribution to knowledge has come in the form of unveiling the necessity to align research on executives' performance to practice as far as choosing or measuring performance variable is concerned. Limitations of this research include the sample as it only looked at studies in the SA context. The study also did not attempt to investigate why researchers prefer certain performance measures above others. Future research could add to the work of Matemane et al. (2022) in suggesting ways to improve the measurement of performance variable. Research that could look at whether firms consider the literature when designing executive contracts would add value to the research space.

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An evaluation of the going concern status of JSE-listed companies

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Purpose: The study aims to identify a single or group of financial ratios that can unequivocally distinguish between successful and failed (or failing) companies across industries well in advance of any failure. The study will also consider, based on the results of the financial ratio analysis and interpretation, whether the going concern assumption remains a valid underlying principle of financial accounting.

Methodology: Financial ratios applicable elsewhere may not be useful for South African companies due to differences in economic and political conditions, capital availability, and accounting standards. Additionally, there is limited research on the relevance of the going concern assumption. This study categorises JSE-listed companies into three groups: successful, struggling, and failed. Ratio analysis is conducted on the average results of ten companies from each designation for two six-year periods: 1998 to 2003 and 2013 to 2018. These periods were chosen to avoid accounting and economic upheavals.

Findings: Several ratios yield reasonable results for predicting corporate failure, such as . headline EPS, market-to-book ratios, and especially the Springate-model Z-score. The study suggests that the going concern assumption may no longer be an enforceable principle of accounting; instead, the management of a company should elucidate its applicability annually.

Contribution: Identifying the Springate model Z-score as an accurate and timely predictor of corporate failure in a South African context, along with advocating a more rigorous legal obligation for a going concern explanation from the management of companies, may safeguard financial statement users from future financial losses.

KEYWORDS: *company performance; corporate failure prediction; financial ratio analysis; going concern; Springate-model Z-score; warning signs.*

INTRODUCTION

Financial statements are prepared at least annually by South African companies (Brigham, Ehrhardt & Fox, 2019:45). Financial statements of listed companies must be set out in terms of International Financial Reporting Standards (IFRS) (Herz & Pei, 2021:117). The objective of general-purpose financial statements is described by the International Accounting Standards as the provision of information about the financial position, financial performance, and cash flows of an entity that is useful to a wide range of users in making economic decisions. (IAS Plus, 2021; Hepp & Reinstein, 2021:40). To meet that objective, financial statements provide information about an entity's assets, liabilities, equity, income and expenses, including gains and losses, contributions by and distributions to owners, and cash flows (IAS Plus, 2021).

Economic decision-making includes decisions regarding investment in or disinvestment from the shares of a company (Correia, 2019:5-1), the supply of funds through debt instruments or credit to a company (Brigham et al., 2019:70) and whether to enter into a contract with or to purchase from a company (Correia, 2019:5-10). Arguably, most importantly, financial

statement information should allow the management of a company to make decisions to avoid or reverse financial decline (Brigham et al., 2019:377; Altman, 1968:608).

Several studies conducted to ascertain whether financial statements are still important and useful to companies' stakeholders show that users regard the financial accounting information contained therein as a key – and possibly the most important – source of information to support their decision-making (Herz & Pei, 2021:119). Osadchy, Akhmetshin, Bochkareva, Amirova, Gazizyanova and Yumashev (2018:340) write, "In modern conditions, financial statements are the most complete, objective and reliable information base, based on which one can form an opinion on the property and financial position of a company."

However, during the last decade, even before the disastrous effects of COVID-19 became a reality, several notable South African companies and institutions ran into financial trouble. Despite having had access to published financial information, the stakeholders of these companies were often thoroughly surprised by the unfortunate turn of events (Jung & Nanda, 2021). Moreover, several researchers

noted that most failed companies had not received a going concern qualification from their auditors prior to failure (Gutierrez, Krupa, Minutti-Meza & Vulcheva, 2020:1345; Yee, 2018).

Those who lost money as a result of these collapses inevitably question whether there were warning signs that might have allowed them to predict that an entity was in financial trouble (Haarburger, Yasseen, Omarjee & Varachia, 2020:1). These warning signs should ostensibly have been discernible from the entity's published financial statements (Ahmad & Raza, 2016:2). The implementation of the International Integrated Reporting Framework should furthermore have contributed to the quality, comparability and usefulness of financial statements, allowing investors and other stakeholders to make sound and discriminating choices (Nel & Esterhuyse, 2019:34).

As a result of these corporate failures, the practical usefulness of companies' financial statements, especially in terms of failure prediction, is once again being questioned. Therefore, the purpose of the study is to uncover a single or group of financial ratios which may be able, across industries, to distinguish unambiguously between successful and failed (or failing) companies well in advance of failure occurring, and to contemplate – based on the results of the financial ratio analysis and interpretation – whether the going concern assumption is still a valid underlying principle of financial accounting.

LITERATURE REVIEW

Background

There are several examples of mostly unexpected corporate failures in South Africa (IoDSA, 2021). These include the near collapse and subsequent restructuring of Edcon, the curatorship of African Bank and the decimation of Gijima Holdings' market value. Notable liquidations include Masterbond, Regal Treasury Bank and LeisureNet. More recently, the closure and/or collapse of Bakos Brothers, Steinhoff, EOH, Tongaat Hullett, Group 5, Omnia, Aspen, Mediclinic and Brait as well as VBS Bank, Bosasa, Sharemax and Comair have led to economic journalists referring to South Africa as 'uninvestable', a perception exacerbated by the downgrading of South Africa's credit rating by Moody's to junk status (BusinessTech, 2020).

Between 1 January 2021 and 31 December 2021, there were 1 932 reported liquidations in South Africa (BusinessTech, 2022). This statistic for 2021 might seem horrifying, yet it is even more distressing to realise that such a high number represents a decrease from 2020, when 2 035 companies failed.

These collapses cost the South African economy billions of Rand in direct and indirect losses (Ashraf, Felix & Serrasqueiro, 2019:1). Individuals have had much of their wealth destroyed (Jung & Nanda, 2021), jobs have been lost, and tax contributions reduced (BusinessTech, 2022), and international capital markets have lost value through the reduced market values of distressed firms (Jiang & Jones, 2018:1064) and impaired investor and business confidence, leading to less capital availability (Correia, 2019:1-3). Liquidations also have a knock-on effect on the customers and suppliers of the collapsed firms and may even lead to the collapse of large auditing firms (Correia, 2019:1-34).

It is thus essential that the users of financial statements can rely on the financial statements to assess the going concern status of a company, and to have easily usable and understandable measures to do so.

THE PROBLEM WITH 'GOING CONCERN'

Companies' annual financial statements are prepared based on the going concern principle. However, as a defining and underlying assumption, the meaning of 'going concern' was vague and questionable for many years. Sterling (1968:481) wrote: *"The going concern is one of the most important concepts in accounting. Such status would lead one to believe that the concept would be well defined, its necessity as an axiom thoroughly discussed, and its connection to historical cost demonstrated. Anyone with such expectations is due for disappointment"*.

The arguments about the technical meaning of the going concern assumption were resolved in 2013 when The International Federation of Accountants (IFAC, 2013:553) defined the going concern assumption as follows:

"Under the going concern assumption, an entity is viewed as continuing in business for the foreseeable future. General purpose financial statements are prepared on a going concern basis, unless management either intends to liquidate the entity or

to cease operations or has no realistic alternative but to do so.”

The principle gained importance when the onus was placed on the management of an entity to express a view on the liquidity and solvency thereof in the annual financial statements (Visvanathan, 2021:396). However, management has the power to determine the nature of the speculations that are made under the going concern assumption (Musvoto & Gouws, 2011:38), and several researchers have shown that managers may be unrealistically optimistic about the futures of their companies (AASB, 2021).

Thus, the validity of the assumption and its necessity as a principle for accounting are still being questioned (Yu, 1971:37). Arguments against going concern as an underlying principle of accounting focus on the fact that the nonexistence of an item or concept (i.e. the absence of evidence to the contrary) is difficult to prove (Sterling, 1968:494), that many new businesses fail within a year despite having started with the intention of having perpetual life (Fremgen, 1968:650) and that even successful companies may lose their going concern statuses during difficult times (Chen, Lin & Long, 2018:77). Storey (1959:234) noted that legal personality alone could not imply perpetual life when companies are not found to have infinite lives in practice, and Musvoto and Gouws (2011:41) argue that a company should be successful and profitable – not merely solvent and liquid – to be considered a going concern.

Chen *et al.* (2018:77–78) argue that the current going concern definition, which limits the evaluation thereof to one year past the reporting date, lacks intellectual insight: it requires companies to meet short-term obligations rather than to ensure long-term sustainability. During an economic crisis, a profitable company may be deemed a failure due to insufficient cash available. During growth periods, the application of the definition may not be sufficiently conservative as a declining company could in the short-term meet its cash flow needs, e.g., by selling valuable assets, whilst its long-term economic outlook is dismal. Hatting (2012:11) thus recommended that accounting standard boards reconsider the effect that ambiguous and potentially illogical standards may have on the reporting industry.

In 2021, the Australian Accounting Standards Board (AASB, 2021) investigated the application and

disclosures surrounding going concern issues and found that these disclosures were inadequate and inconsistent, especially where the management of a company had deemed a company to be a going concern but were aware of events or conditions that could lead to doubt being cast on their judgements. The AASB also stated that the requirements of ISA 570 were frequently inconsistently and inappropriately interpreted. Consequently, the study called for additional guidance to be provided so that financial statements can be more consistent and comparable.

ASSESSING THE GOING CONCERN STATUS OF COMPANIES

To provide a safeguard for the users of financial statements, the auditors of a company are also now required to express an opinion on the organisation’s status as a going concern and the applicability of the principle in the preparation of the financial statements (Masocha & Weetman, 2005:159). The international standard of auditing 570 (ISA 570) obliges an auditor to ensure that sufficient and appropriate audit evidence is obtained about the appropriateness of management’s use of the going concern principle to conclude that there is no material uncertainty about the entity’s ability to continue as a going concern (IFAC, 2013:554).

An auditor's report should thus play a critical role in warning market participants of impending going concern problems (Yee, 2018; Fischer, Marsh & Brown, 2016:136), and a functional and effective audit profession must be able to flag problematic accounting practices and business activities that expose stakeholders to unnecessary risks or unviable investments before these threats turn into “*damaging debacles*” (Jung & Nanda, 2021).

However, only some accounting failures are preceded by qualified audit reports (Jung & Nanda, 2021). Enron – arguably the most famous accounting scandal – received an unqualified audit opinion in the year prior to its bankruptcy. Following Enron’s collapse, the phrase, “*Where were the auditors?*”, quickly became well-known. In South Africa, one of the most shocking business failures has to be that of the Edcon group, which filed for bankruptcy in 2020. During all of the years of fairly obvious financial problems in the Edcon group, the financial statements were consistently prepared on a going concern basis, and the auditors only included a going concern emphasis of matter

paragraph in the financial statements twice: 2010 and 2016 (Dludla, 2020; Edcon, 2016; Reuters, 2016).

It is little wonder that the public feels betrayed by the independent experts who were paid to protect their interests (Jung & Nanda, 2021). The numerous accounting scandals and corporate failures have resulted in a credibility crisis for the auditing profession and have decreased user confidence in audit reporting on going concern (Brewis, 2021; Sultanoglu, Mugan, Sekerdag & Oran, 2018:623).

Unfortunately, studies indicate that the evaluation of the going concern status of a company is amongst the most complex of audit assignments (Yee, 2018): different sets of auditors arrive at different conclusions about a company's going concern status even when based on the same audit evidence, and audit standards are understood and interpreted differently, which suggests that the going concern assessment involves a great deal of subjective judgement (Geiger, Gold & Wallage, 2019:4). Fischer et al. (2016:141) even go so far as to declare that "going concern disclosures are wildly inaccurate", and Yee (2018:67) advises users of financial statements to consider auditors' going concern opinions "with some doubts".

Consequently, researchers like Visvanathan (2021:396) debate whether going concern disclosures actually provide new, timely and helpful information to the users of financial statements, who should perhaps take more personal responsibility – after all, they have access to more information than just the annual financial statements and auditors' reports of a company, e.g., through newspaper articles and reports from analysts (Eickemeyer & Love, 2016:6-7). We may all then question, as Eickemeyer and Love (2016:6-7) did, "What is the going concern issue's importance in today's information age?".

PROBLEM STATEMENT

The two research questions are:

Question 1: Are there any specific financial ratios that will assist an economic decision-maker in South Africa to identify the warning signs of impending financial disaster timeously?

Question 2: Given the results of the ratio analysis, is it appropriate to continue to accept the going concern

principle as an underlying assumption in financial accounting and reporting?

RESEARCH METHODOLOGY

Research method

Given the problem statement underlying this study, companies listed on the JSE were categorised into three distinct groups: successful, struggling, and failed.

A successful company achieves its ultimate goal, i.e., increasing shareholders' wealth (Marx, De Swardt, Pretorius & Rosslyn-Smith, 2017:12). To select the ten companies from each time frame to be included in the successful group of companies, the Sunday Times Top 100 lists for 2019 and 2004 were consulted (Business Times, 2019; Melaia, Abratt & Bick, 2008:246). Since 2017, the Sunday Times has considered the highest compound growth rate achieved in market capitalisation over five years as the key measure of success; prior to 2017, both the share price growth and dividends paid were considered to determine the growth in shareholders' wealth over a five-year period (Business Times, 2019). To ensure that a single company would not have the ability to unduly influence the average figures used in the analysis, the market capitalisation of a selected company on 30 August 2019 must not have exceeded R999 billion.

A failed company can be described in many different ways (Veganzones & Severin, 2020:208), including being insolvent and/or illiquid (Companies Act 71 of 2008), having a poor interest cover (Platt & Platt, 2002:186), delivering continuous losses (Veganzones & Severin, 2020:208), being unable to meet loan covenants (Appiah, Chizema & Arthur, 2015:473), defaulting on dividends to shareholders (Ashraf *et al.*, 2019:5), becoming involved in court proceedings such as bankruptcy filings (Alasaad & Gök, 2019:975) or delisting from a stock exchange (Appiah *et al.*, 2015:473).

To select the ten companies that had failed during the two time frames, lists from IRESS Expert of all companies that had been delisted were compared to lists from the OpenCorporates website (OpenCorporates, 2022) of South African public companies in provisional liquidation, that have voluntarily liquidated, that are in final liquidation, and that have de-registered. Companies that appeared on both lists were identified as potential candidates for

selection. Internet searches and searches of JSE SENS (Stock Exchange News Service) announcements were then conducted to ascertain why the companies had been delisted. Companies that delisted because they had liquidated as a result of financial distress, been taken over or acquired by another company following financial distress, that had entered into Business Rescue, or that had reached a compromise with its creditors, were selected as failed companies. From this semi-final list, ten companies were randomly selected for each time frame. It was important for this study to consider only those companies that had failed in either 2003 or 2018, or at a maximum of one year past those dates, to ensure that the financial figures used for the averages for the ratio analysis, were specifically for the four to five years prior to the company's failure.

To select the ten companies deemed to be struggling during the two separate time frames, IRESS Expert was used to draw a list of all JSE-listed companies that showed a loss in the 'Profit attributable to ordinary shareholders' line in the Statement of Profit or Loss, for 2003 and 2018 respectively. These companies do not necessarily meet the legal definition for failure, i.e., insolvency or illiquidity, yet, but are not managing to consistently produce profit either, which is a requirement for the long-term survival of a company (Alasaad and Gök, 2019:975).

The average financial results of the selected companies were evaluated over two separate time sets of six years each, i.e., 1998 to 2003 and 2013 to 2018. The goal was to use information (i) prior to the introduction of IFRS in 2003 and the financial crisis of 2008; and (ii) after the 2008 global recession but before the outbreak of the COVID-19 pandemic. As there is generally a progressive deterioration towards a global recession, information for all companies could be compromised by worse-than-average results; thus, the selection of these two-time frames allows the financial ratios applied to this study to yield more reliable results with improved explanatory and predictive ability. Financial information for the selected companies also had to be available for the entire six years under investigation for each data set. The period was set as six years as various studies have found that failure is detectable from approximately five years before liquidation takes place (Yee, 2018) whereas failed companies are virtually indistinguishable from successful companies before that (Philosophov, Batten & Philosophov, 2008:186).

Sixty companies were thus analysed and compared by applying financial ratios and failure prediction models. The average results of the companies were calculated and plotted graphically, and financial ratios were applied to determine whether there were any distinct differences in the results of the selected groups. The study does not attempt to be a statistical analysis of the financial information of these companies; rather, an attempt is made through a qualitative approach to draw meaningful comparisons from the financial analysis results.

Population and sample

The population was the companies that are or were listed on the JSE for the two time periods, 1998 to 2003 and 2013 to 2018. A deliberate attempt was made to avoid selecting too many companies from the same sector of the JSE. The sample size was limited because the JSE has a limited number of listed entities, which has been steadily decreasing (MyBroadband, 2022). A sample of 10 companies in each grouping is considered sufficient to be able to draw general inferences from the data analysis techniques applied (Joy & Tollefson, 1975:725-726).

A matched-pair design for the selection of the 10 companies in each group of companies was not applied. A matched-pair design leads to bias: most matched-pair samples select firms that are matched in terms of size and industry, thus effectively excluding these variables as potential indicators of distress, and most listed companies do not fail in any one specific year Morris (1998:24) – failure is an escalating condition.

RESULTS OF THE ANALYSIS

Introduction

Much research has been done on the potential of financial ratios and discriminant models to accurately predict the likelihood of corporate failure (Veganzones & Severin, 2020:204; Yee, 2018:42; Morris, 1998:23; Altman, 1968:590). Although most researchers have found that ratios do have some predictive power, the most difficult decision for users of financial statements may be which ratios to select, and the weightings to apply to each ratio, to assess the performance of a company, particularly where the goal of the assessment is to distinguish between successful and failed firms (Beaver, Correia & McNichols, 2010:117).

To date there has been little agreement amongst researchers about the most important financial ratios to use (Linares-Mustarós, Coenders & Vives-Mestres, 2018:2; Beaver et al., 2010:113). Helfert (1994:71) cautions analysts, in light of the ease with which analysis may be performed on computers, not to test every available and possible ratio, as this would not necessarily enhance the interpretation of the financial figures. A few select ratios are more likely to yield the information the analyst requires to gain useful insights and to deliver adequate decision support.

For this study, the following ratios previously identified as potentially useful in the analysis of financial failure, were selected:

Solvency ratios

- Total long- and short-term liabilities per annum
- Total assets-to-total liabilities (solvency)
- Long-term interest-bearing debt-to-market capitalisation ratio
- Interest cover

Cash ratios

- Cash balances per annum
- Total repayment period
- Operating cash flows-to-current liabilities

Liquidity ratios

- Acid test
- Net working capital as a percentage of total assets

Profitability ratios

- Headline earnings per share
- Asset turnover
- Return on total assets

Market ratios

- Market-to-book ratio
- Failure prediction ratios
- Altman's Z-score
- Altman's Z''-score for emerging markets
- Springate-model Z-score

Solvency ratios

Solvency ratios measure an entity's ability to meet its long-term commitments.

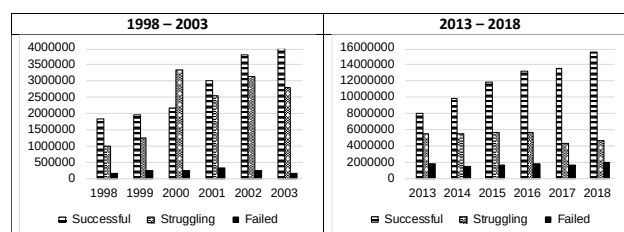


Figure 1: Total long- and short-term liabilities per annum (R'000)

These graphs show that South African companies are not heavily indebted, but that successful companies use more debt financing, which also continuously increases, than unsuccessful companies. This may be due to a particular financing strategy or because larger companies can access cheaper financing options (Skae, Benade, Combrink *et al.*, 2014:249). Increasing and high debt levels are not the reason for financial failure.

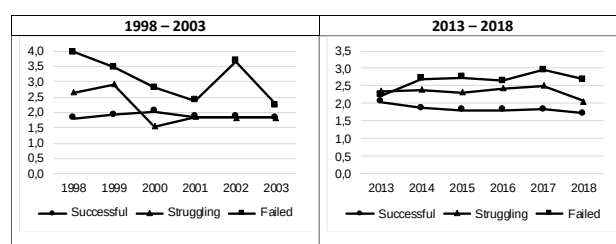


Figure 2: Total assets-to-total liabilities (solvency ratio)

The solvency ratio indicates to what extent a company's assets exceed its total liabilities and is inversely associated with the probability of failure. The medians of the ratios are expected to differ significantly between successful and failed companies, with the median for the failed companies likely to decrease as the failure year approaches.

Bizarrely, this study shows the opposite result. The results for the solvency ratio for the 1998 to 2003 period (hereafter 'first period') are too volatile to draw reasonable inferences. However, the 2013 to 2018 results (hereafter 'second period') are relatively stable: failed companies consistently had lower debt levels than successful or struggling companies. The conventional wisdom that higher degrees of indebtedness correlate with higher financial and failure

risk may not apply to South African companies. The successful companies in both periods under review did consistently comply with the generally accepted 2:1 solvency norm.

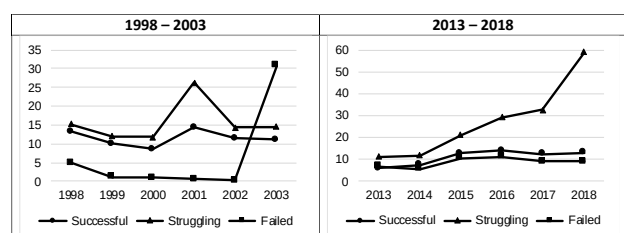


Figure 3: Long-term interest-bearing debt-to-market capitalisation ratio

The debt-to-equity ratio indicates to what extent the equity of the company – based on forward-looking market information – exceeds its total debt. In the first period, companies were seemingly engaged in more risky financing behaviour during the economic boom, perhaps buoyed up by claims that global economic growth had been exceptional and was expected to continue growing (The Economy, 2001).

The financial crisis of 2008 led to a significant reduction in available credit (Brigham *et al.*, 2019:379). Thus, the ratios for the successful and failed companies were far lower and more stable during the second period. However, the trend for struggling companies shows a marked increase over the six-year period, possibly as these companies desperately tried to re-finance themselves to avoid liquidation.

Though this ratio may be useful in predicting when a company may be heading towards financial trouble, it fails to distinguish between successful and failed companies.

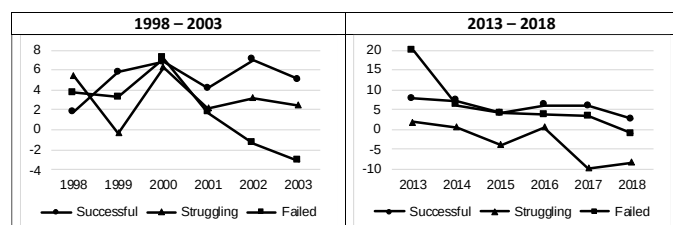


Figure 4: Interest cover

The interest cover indicates how 'safe' interest payments are by considering a company's ability to meet interest charges (Skae *et al.*, 2014:299). A low ratio indicates an increased risk of defaulting on loan obligations (Marx *et al.*, 2017:78).

The interest cover trend lines in both periods meet expectations. Successful companies have higher interest covers, which exceed three times, which is considered ideal (Khude, 2021). The failed and struggling companies have lower interest covers, which in the former's part furthermore decline rapidly as they neared their failure dates. In the first period, the interest cover for the failed companies is negative one year before failure, indicating that these companies could not meet their short-term interest commitments. In the second period, from approximately three years prior to failure, both the failed and struggling companies' interest covers dipped below the interest coverage norm of three.

Based on the results achieved over the two separate periods, it is possible to reason that the interest cover ratio is a reliable predictor of potential financial distress.

Cash ratios

Cash flow ratios often are early indicators of financial instability and thus potential financial distress.

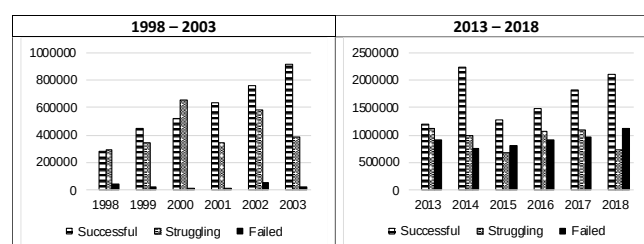


Figure 5: Cash balances per annum (R'000)

Successful companies' cash balances grew continuously and at a fairly reasonable pace throughout both periods. In contrast, the cash balances of the struggling companies were erratic, especially during the second period. Failed companies had comparatively low cash balances and thus limited cash resources. During the first period, the failed companies showed declining cash balances except for a sharp increase in 2002, which may be a result of assets that were sold to meet the obligations of these companies as they entered liquidation. For the second period, the changes in the cash balances are less extreme, but it is interesting to note that the cash balances of the failed companies increased over time (albeit at a very low rate), which is contrary to expectations. An increasing cash balance is, therefore, not necessarily a safeguard against financial losses, and

an analyst should not use cash balances or changes in balances as an absolute measure of potential financial distress.

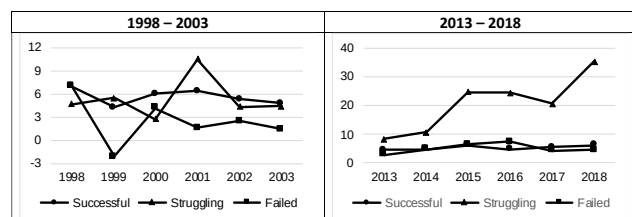


Figure 6: Total repayment period (years)

The total repayment period, which is inversely correlated to the probability of financial distress (Skae *et al.*, 2014:310), determines how long, based on current operations, it would take to settle all of a company's outstanding debt. Several researchers have found this ratio to be a reliable indicator of financial distress (Beaver *et al.*, 2010:119). A four to seven-year repayment term is considered ideal. A shorter period may indicate that a company's capital structure is ineffective, as the company is failing to use sufficient debt to effect positive financial leverage. A term over seven years indicates that it would be difficult for a company to meet its debt obligations.

For the first period, the results hold little predictive value. For the second period, the results for the successful companies are in line with expectations, and their repayment terms consistently fall within the repayment period norm. The results of the struggling companies represent the repayment terms of companies heading towards disaster. Not only do the ratios substantially exceed the four to seven-year norm, but the average ratios also increase drastically as the term progresses. A ratio of 35, as achieved in 2018, means that it would take the companies 35 years to settle their debt obligations. No financier would be willing to wait that long for repayment, and the risk of insolvency is, therefore, astronomical.

However, the failed companies in the second period achieved similar results to the successful companies, and only during 2013 achieved a ratio of less than four. Contrary to the results of previous studies, the total repayment term is, therefore, unable to discriminate effectively between successful and failed companies.

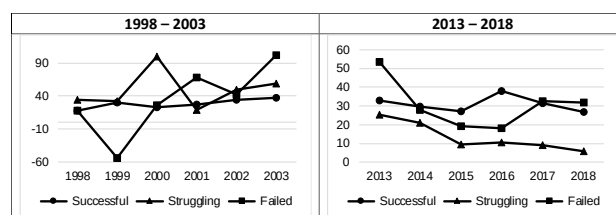


Figure 7: Operating cash flow-to-current liabilities

The operating cash flow-to-current liabilities ratio measures the ability of a firm's cash flow to cover its short-term liabilities (Skae *et al.*, 2014:302).

The results of the first period ratios are widely dispersed, and it would be difficult to build a decision-making rule based on these figures, except if the rule was that stability denotes success: the trend line for successful companies is very stable. However, a ratio of approximately 30% is not particularly comforting, and these companies would only be able to settle some of their short-term liabilities with the cash they generate through their everyday operations.

For the second period, the trend lines of the struggling and failed companies are below the trend line of the successful companies and are also decreasing over time. The sudden increase in the trend line for the failed companies in 2017 is somewhat expected, as the companies' assets were most likely sold as part of a liquidation process. Thus, the trend lines align with expectations, and the ratio has some predictive power.

Liquidity ratios

Liquidity measures the company's ability to settle its short-term liabilities as they become due.

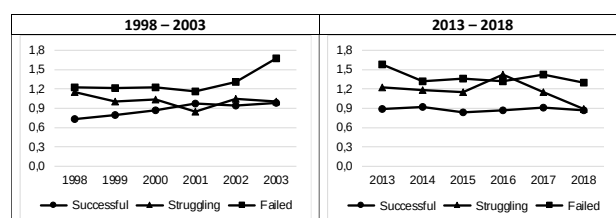


Figure 8: The acid test (or quick ratio) (x:1)

The acid test indicates whether a company's short-term liabilities may be settled with short-term assets that are either cash or that may be converted into cash quickly and without too much loss in value (Brigham *et al.*, 2019:78). Inventory balances, which may include obsolete or damaged stock items, and which are

hardest to convert to cash quickly, are eliminated from the equation (Firer, 2012:51). The norm for the acid test is 1:1 (Correia, 2019:5-16). The ratio is negatively correlated to the potential for financial distress, and therefore a ratio below 1:1, or a decreasing ratio, could be a cause for concern (Hajdu & Virág, 2001:36).

The trend lines are fairly stable and close to the norm of 1:1 over both periods. However, the failed and struggling companies outperform the successful companies: because the same pattern is witnessed across both periods, where the failed companies' acid test ratios exceed the ratios of both the struggling and successful companies, it may be postulated that, in a South African context, the inverse of the acid test should apply when predicting potential financial distress. However, this rather subversive claim would have to be tested more rigorously on a larger sample before reaching a definitive conclusion. We must thus conclude that this ratio also cannot discriminate between successful and failed companies.

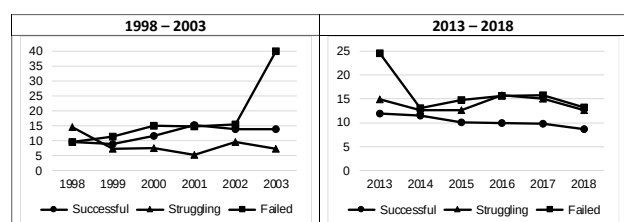


Figure 9: Net working capital as a percentage of total assets (%)

The net working capital to total assets ratio (NWC:TA) measures the percentage of total assets comprising net liquid assets. A low ratio could indicate low liquidity levels and a decline may be indicative of a company experiencing operating losses (Mazouz, Crane & Gambrel, 2012:70). Merwin (1942:99) contends that the NWC:TA ratio provides the most definite indication of ultimate discontinuance, and states that in each industry the ratio's downward movement was sharp and virtually uninterrupted.

The sample for this study was drawn from various industries in South Africa. Nonetheless, the movement in the ratio related to failed companies is not a sharp decline. The trend line for the failed companies across both periods is again mostly higher than that of the struggling and the successful companies. The trend lines for the struggling and the successful companies also trade places between the two respective periods, and consequently the NWC:TA ratio will not be able to

distinguish between successful and failed companies reliably.

Profitability ratios

The profitability ratios consider the return that is generated for ordinary shareholders and management's effectiveness in utilising assets to generate an acceptable return.

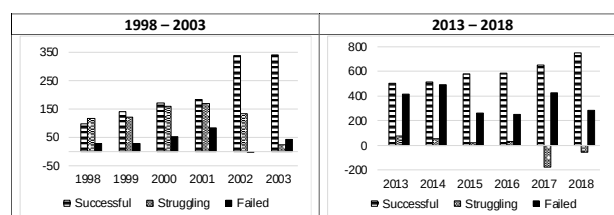


Figure 10: Headline earnings per share (cents)

Earnings per share (EPS) indicate the profit generated for each issued ordinary share. EPS, and any changes to this measure, are often used as indicators of a company's ability to meet its debt obligations (Marx *et al.*, 2017:78). The headline EPS (HEPS) excludes exceptional items such as profits or losses realised with the sale of assets and deliver a better representation of what the core activities of a company operating at its usual capacity level, may generate.

For both the first and second periods, the HEPS of the successful companies increase continuously, if not at a steady pace. The results are also slightly higher than those of the struggling companies in the first period and considerably higher than the results achieved by the struggling companies in the second period, as well as the HEPS delivered by the failed companies in both periods, especially in the last three years of analysis of each respective period. In the last two years of the analysis for both periods, the struggling companies' HEPS decrease rapidly. The HEPS of the failed companies also exhibit a definite decrease of at least two years (first period) and possibly even four years (second period) prior to the company's demise.

Therefore, HEPS is an adequate discriminator between failed and successful companies, and a potentially significant financial ratio for the prediction of business failure, at least two years prior to the demise of an unsuccessful company.

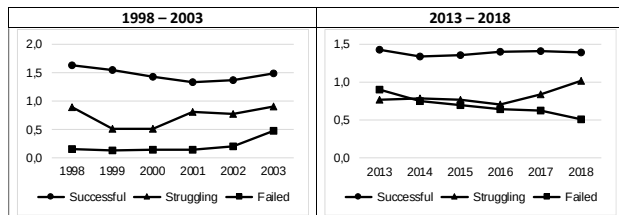


Figure 11: Asset turnover (times)

The asset turnover ratio illustrates the ability of the company's assets to generate revenue. Successful companies should have higher asset turnover ratios than unsuccessful companies (Mazouz *et al.*, 2012:70).

The asset turnover ratio successfully distinguished between successful companies (with a high asset turnover) and failed or struggling companies (with a low asset turnover) across both periods. This ratio, which eliminates the effect of size variances between companies, is a reasonable indicator of management's success at using the company's assets productively and of the likely future success and sustainability of a company. It also discriminated efficiently between successful companies and failed or struggling companies.

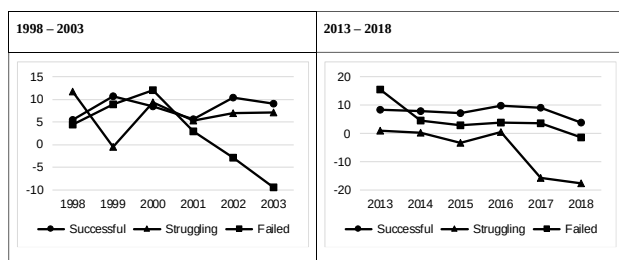


Figure 12: Return on total assets (%)

The return on total assets ratio (ROTA) compares the profit a company generates through its daily operations with the assets employed to deliver the return (Correia, 2019:5-22). Failed firms tend to have low or negative ROTA ratios (Marx *et al.*, 2017:70).

The ROTA holds little predictive value for the first period, but the trend lines in the second period are clearer and in line with expectations. The improvement in the ratio's usefulness may be due to advances in financial accounting standards. In the second period, the successful companies outperformed the failed and struggling companies. Although the returns for all companies decreased in 2018, the rate of decline for the successful companies was much less than those experienced by the failed and struggling companies.

The struggling companies' results are volatile, and the returns become negative after 2016.

Based on the results achieved, the ROTA ratio should be useful for failure prediction across several industries and sizes of companies for at least two to three years prior to a company's demise.

Market ratios

Market ratios analyse the entity's performance from the financial market's perspective.

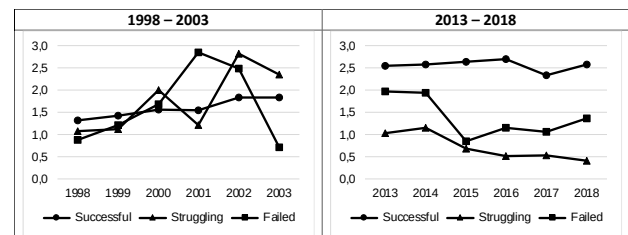


Figure 13: Market-to-book ratio (x:1)

The market-to-book ratio indicates the market's perceptions of the company. The shares of companies that deliver high rates of return, improve profits and increase their market share should sell at higher multiples than those with low rates of return (Brigham *et al.*, 2019:82).

The market-to-book ratios for the first period are incredibly volatile. It is not known whether this is due to an unstable economic market, less reliable accounting standards, or sampling bias.

The results in the second period are less volatile and more in line with expectations and the results of previous studies. The successful companies in all years of the analysis delivered returns above two times the market-to-book value. The struggling companies' results are surprising. Although they could be heading towards financial distress, the expectation would still be that these companies would outperform the failed companies. However, not only are their results worse than the failed companies and worse than the rating of one that Firer (2012:60) noted as the minimum to be achieved not to destroy shareholders' wealth, but the results also worsen over time. The failed companies barely managed to add value to the cost prices of their original investments, with market-to-book ratios close to one. They yielded a slight return for shareholders, but it is far less than successful companies could achieve.

Based on the results, successful companies have far higher market-to-book ratios than unsuccessful companies, and falling market-to-book ratios are indicators of potential financial distress. A ratio of less than one should pose a significant concern for an investor.

FAILURE PREDICTION RATIOS

Failure prediction ratios may indicate that a company is at risk of entering financial distress or becoming illiquid and insolvent.

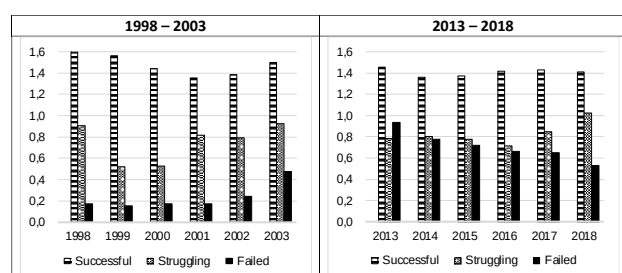


Figure 14: Altman's Z-score

A Z-score of 3.0 or more denotes a company with a low probability of failure, and a score of 1.8 or less indicates a high risk of failure within two years. The area between 1.8 and 3.0 is regarded as a 'zone of uncertainty', where the company is at risk, but eventual failure or non-failure is uncertain (Altman, 1968:594-595).

According to the results of this study, all South African companies are at risk of financial failure. Although one might immediately reason that the Z-score is not accurate in its application to the average ratios of non-matched companies, it perhaps behoves us to contemplate whether the results may not be accurate. In a South African context, where the leadership is changeable, corruption is rife, instability is the norm, and unemployment is *de rigueur*, is it not perhaps true that most companies are constantly at risk of financial failure?

That said, the Z-scores may still be useful for distinguishing between successful and failed companies. It is clear from the analysis that the successful companies achieved noticeably higher Z-scores than the failed and struggling companies. The failed companies had very low Z-scores in the first period and low and declining Z-scores in the second period. The struggling companies again had volatile results, although they tended to outperform the failed

companies, aligning with expectations. Consequently, Altman's Z-score is useful for distinguishing between successful and failed companies, but the results should not be compared to Altman's pre-determined Z-scores.

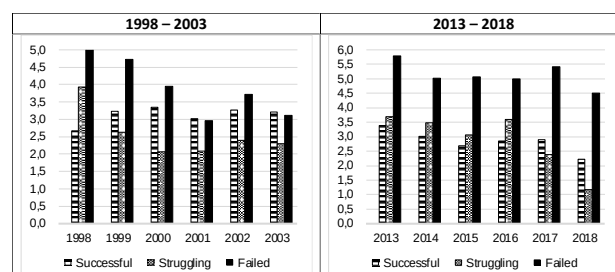


Figure 15: Altman's Z''-score for emerging markets

Altman devised the Z''-model to better fit companies in emerging markets such as South Africa. A Z''-score higher than 2.60 indicates a safe zone where financial failure is unlikely, a Z''-score between 1.10 and 2.60 denotes a grey or danger zone, and a Z''-score less than 1.1 implies a high likelihood of failure (Correia, 2019:5-29).

Unfortunately, the Z''-score in this study – being the inverse of expectations – does not distinguish between successful and failed companies and is unable to identify companies heading towards financial distress.

For the first period, both the successful and failed companies had Z''-scores above the 2.60 threshold, indicating 'safe' investments, with the failed companies vastly outperforming the successful companies. Although the results for the struggling companies in the same period fluctuated considerably, only in 2000 and 2001 did the average Z''-scores decrease to a level less than 2.60, placing the struggling companies in the 'grey' zone during this period. The struggling companies' Z''-scores are less than the Z''-scores of the successful companies, which fits with expectations.

The same holds for the second period, with the failed companies performing the best again, with results far exceeding the 2.60 threshold. The successful companies exhibit more volatile results but are following a decreasing trend, which does not fit the rest of the analysis that found that these companies were performing well and were likely to continue as going concerns well into the future. The struggling companies outperformed the successful companies in the first four years of the analysis too.

Consequently, the Z''-score does not deliver reliable results within a South African context and cannot distinguish between successful and failed companies.

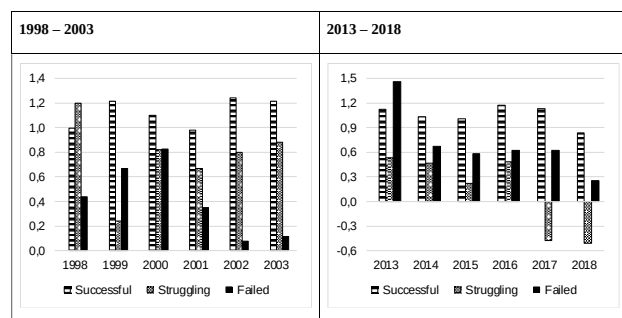


Figure 16: The Springgate-model Z-score

The Springgate-model does not have a grey zone: a score less than 0.862 denotes failure; companies with scores higher than 0.862 are classified as healthy (Yendrawati & Adiwafi, 2020:73).

The Springgate-model correctly classified successful companies as healthy in all six years over both periods and correctly classified the failed companies as unhealthy in 11 of the 12 years, with only the Z-score for 2013 – the first year of the analysis of the second period – not classifying the failed companies correctly. Moreover, the model correctly established a declining trend line for both periods for the failed companies, and showed that the successful companies, although their results may vary per annum, firmly delivered results that outperformed the other companies in nearly every year of the analysis. In terms of the struggling companies, the results are again volatile. However, the Springgate-model still classified the struggling companies correctly as at risk of failure in all years except 1998 and 2003. It is doubtful whether these companies will be able to survive in the long term.

Therefore, the Springgate-model Z-score delivers a convincing and consistent result, which should allow the users of financial statements to distinguish successfully between healthy and failed companies (Ulfah & Moin, 2022:267; Barbuta-Misu & Madaleno, 2020).

CONCLUSION AND RECOMMENDATIONS

The usefulness of financial statements and ratios for failure prediction

In answering the first research question, this study assessed whether any financial ratios could warn companies and their stakeholders of potential financial distress. The Springgate-model Z-score proved remarkably accurate in distinguishing between successful and failed companies and could be used as a stand-alone indicator of a company at risk of failure. This study suggests that it should be disclosed and published as a key financial ratio in the annual financial statements of companies.

The HEPS in the last two to three years prior to failure, the return on assets percentage, the asset turnover ratio, the operational cash flows-to-current liabilities ratio and the market-to-book ratio also had strong discriminatory power. Altman's Z-score model, the interest cover ratio, the annual trend in cash balances and the long-term interest-bearing debt-to-market capitalisation ratio delivered moderately successful results in distinguishing between failed and successful companies or indicating potential financial failure.

Ratios previously touted as excellent predictors of financial failure, found in this study not to be meaningful, include the percentage increase in total liabilities, the total repayment period, the net working capital to total assets ratio, and the Z''-score for emerging markets.

THE CONTINUED RELEVANCE OF THE GOING CONCERN PRINCIPLE

In the current business environment, where the rate of technological change is unprecedented, competition is global, and times are unpredictable and turbulent, it is difficult to justify the belief that any company has perpetual life irrespective of its status as a separate legal entity (Yee, 2018; Eickemeyer & Love, 2016:6). The analysis revealed that Altman's Z-score comprehensively indicated that *all* South African companies are at risk of failure, which assists us in answering the second research question, i.e., that one could argue that the going concern principle no longer applies to companies trading on the JSE.

What could be infinitely more valuable than a going concern assumption is for the management and auditors of a company to unequivocally inform the users of financial statements whether a company can continue for the foreseeable future. Instead of a well-hidden paragraph in an executive officer's report or an emphasis of matter paragraph, there should be a clear,

prominent and comprehensive declaration at the start of all published financial statements explaining the company's going concern status. This would also entail publishing more detailed reports relating to the company's strategies, current problems, definable plans for improvement, supporting cash flow predictions and established performance indicators.

Although it may be argued that such detailed reports would destroy a company's ability to compete effectively, this potential disadvantage should be weighed against the increased accountability of the management and auditors of a company, the assurance such a declaration could afford the users of financial statements, and the advantages of protecting stakeholders from sudden and unexpected financial collapses. Going concern declarations will be far more useful to those investors who are not experienced analysts or financially literate accountants than an underlying accounting principle and will render the application of a going concern principle unnecessary.

LIMITATIONS OF THE STUDY

Companies' annual financial statements may not be reasonable and reliable (Beaver *et al.*, 2010:143). Financial ratios assume that predictions may be made based on trends observed in the past, which in a fast-paced and ever-changing world is unlikely to hold true (Hajdu & Virág, 2001:28–29). The results of the analysis performed in this study may also be sample-specific. This study aimed to eliminate differences in size and industry using a non-matched design: it averaged financial results, but other variables such as staff morale, legislative requirements and political unrest may influence the outcome of future empirical studies (Veganzones & Severin, 2020:217). Also, as financial data had to be available for at least six years, all newly listed companies – which are more likely to fail than established businesses – were excluded from the sample. It would thus be useful in future research to test this study's results on companies with a limited financial history (Balcaen & Ooghe, 2006:75).

RESEARCH OPPORTUNITIES

The Springate-model Z-score could be investigated further on a larger sample size and an individual-company basis. It should also be tested during years when trading conditions are not normal and for companies that did not fall within this study's parameters, e.g., private or recently listed companies. It may be interesting to investigate those ratios (e.g., the acid test ratio) where the results were spectacularly contrary to expectations in more detail, and a qualitative study could be performed to ascertain various stakeholders' understanding of the going concern principle and their assessment of its usefulness as an underlying accounting principle. It may also be interesting to determine which financial ratios, if any, the auditors of South African companies use when assessing a company's going concern and the validity of the management's going concern declarations.

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Revenue and other income: An undefined difference between IAS 18 & IFRS 15

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Purpose: With revenue acknowledged as a pivotal line item in financial statements, this paper aims to highlight gaps in revenue accounting guidance. Specifically, this paper examines the absence of guidance for interest income, dividend income and other form of income that may be perceived as outside the core of an entity's business. This investigation is done through review of key literature predating the release of IFRS15, analysing it in comparison to the current standard.

Methodology: This paper adopts a qualitative, doctrinal and conceptual in approach.

Findings: The primary finding of this paper is that the guidance present in IAS18 was superseded by IFRS15, but not replaced, thereby creating a gap and a broad area open for judgment.

Contribution: This paper contributes to the existing research on the conceptual foundations for statement of performance reporting, and the post-implementation reviews of IFRS15. Additionally, we also propose a new definition for revenue.

KEYWORDS: *dividend income; IAS 18; IFRS 15; interest revenue; other income; revenue.*

INTRODUCTION

Revenue is typically an important line item in the financial statements of a reporting entity. Revenue is the "top line," which is an essential indicator of the entity's level of activity and a driver of the bottom line. Therefore, revenue recognition must be based on clear principles to facilitate useful and comparable financial statements. This paper is conceptual in nature, and reviews specific changes in IFRS that appear to have created a gap in revenue guidance.

Before the release of IFRS 15, the International Financial Reporting Standards (IFRS) guidance for revenue accounting was spread across several different standards, including IAS 11 Construction Contracts, IAS 18 Revenue, and various interpretations. IAS 11 provided guidance on revenue recognition for long-term construction contracts, while IAS 18 addressed the recognition of revenue for the sale of goods and the provision of services.

In 2014, the IASB released IFRS15 Revenue from Contracts with Customers, which superseded all prior revenue guidance (IASB, 2014). The new accounting standard became effective for financial periods beginning on or after 1 January 2018.

The new accounting standard introduced a five-step model to recognise and measure revenue. This new

standard was developed jointly between the London based International Accounting Standards Board (IASB) and the American Financial Accounting Standards Board (FASB) over a period of more than 10 years starting in 2002 to replace several pieces of revenue guidance (Van Mourik & Katsuo, 2018; Kair & Su, 2022). Early post implementation research show that the adoption of the new standard had limited impact on revenue recognised and earning reported by most entities (Napier & Stadler, 2020; Kair & Su, 2022; Onie et al., 2023).

As can be deduced from the different names between the new and the old standards, IFRS15 Revenue from Contract with Customers has a narrower application compared older standards, IAS18 Revenue and IAS11 Construction Contracts. IAS 18 provided guidance on the recognition of revenue from the sale of goods, the rendering of services, and the use of the entities' assets by others to produce goods or services. IAS18 also provided guidance on the accounting treatment for interest, royalties, and dividends.

Judging by the title alone, the new standard does not apply where revenue is earned in the absence of a 'contract', or in the absence of a 'customer' or in the absence of both. These terms are both defined in the new standard.

Specific to this paper, the text of the new standard excludes guidance that was previously in IAS18 for classes of revenue referred to as income from the “use of entities assets by others yielding interest, royalties, and dividends” (IASB, 2001). It is plausible that in some scenarios, interest and royalties may be earned from contracts with customers, which puts them within the scope of IFRS15, however, interest and dividends earned from investments are clearly not earned from contracts with customers. On the main, the definition of revenue itself has not changed, but the removal of this guidance leaves a question of whether these items should still be recognised as revenue or recognised as part of other income.

The aim of this paper is to demonstrate certain gaps created or widened by the new IFRS15 Revenue from Contracts with Customers compared to the old standard. The paper also builds on the works of Barker (2010) and Nobes (2012) who both addressed weaknesses in the definition’s income, expenses, profits and revenue in IFRS prior to the release of the new IFRS15.

The recent changes in the revenue accounting standards are summarised in the background section below. In the section after, an analysis supported by a literature review covers the technical issues that have plagued the standards setters when it comes to defining income and revenue. The penultimate section addresses some of the possible consequence of lack of guidance. Lastly, a conclusion section that includes a discussion of the limitations of the study together with areas for future research.

BACKGROUND AND BRIEF HISTORY

IFRS15 Revenue from Contracts with Customers (the “new standard”) was released in 2014 and became effective for financial years beginning on or after 1 January 2018. The new standard wholly supersedes IAS18 Revenue, IAS11 Construction Contracts and related interpretations (collectively referred to as the “old standards”, or the “old guidance” below).

IAS18 and IAS11 (with slightly different original names) were originally published in 1982 and 1979 respectively (IASB, 2009). IAS18 covered revenue more generally, whilst IAS11 was specifically written for construction contracts. This paper focuses on IAS18, with specific reference certain miscellany of classes of revenue.

In the old standard, revenue is defined as (IASB, 2001:IAS18, para 7, pg: 1244):

“... the gross inflow of economic benefits during the period arising in the course of the ordinary activities of an entity when those inflows result in increases in equity, other than increases relating to contributions from equity participants.”

Nobes (2012) notes that “gross inflow” implies that revenue is calculated without deducting expenses. For example, income from the sale of inventory is not calculated as the difference between consideration received (or receivable) and the cost of inventory given to the customer, but rather the full consideration received for the sale of inventory is recognised as revenue. The rest of the definition simply means that revenue is income from ordinary activities. In fact, the objectives paragraph of the old standard includes the following (IASB, 2001:IAS18, Obj, pg 1243):

“Revenue is income that arises in the course of ordinary activities of an entity and is referred to by a variety of different names including sales, fees, interest, dividends and royalties” (author emphasis).

Thus, even if it were not clear from the definition alone that dividends and interest should be recognised as revenue, the old standard specifically included them and removed any doubt. This includes dividends earned on invested surplus funds, or interest earned by non-financial entities. The way the text of the specific exclusions from the standard is worded implies that there are other items that would meet the definition of revenue but are not accounted for in terms of IAS18. The list of excluded items was made up of items accounted for in terms of other standards, and changes in value of other current assets.

Similar to the old standard, the new standard also defines revenue as “Income arising in the course of an entity’s ordinary activities” (IASB, 2014). However, all the guidance regarding interest and dividends is removed. This leaves the question of whether these items should still be accounted for as revenue or included as part of other income. The definition of revenue is not helpful in this regard. Whilst income is defined as increase in assets, or reduction in liabilities resulting in increases in equity (IASB, 2018), “ordinary activities” are not defined.

One option would be to continue using the old IAS 18 guidance if nothing in the new IFRS landscape precludes these items from being recognised as revenue. However, where guidance is withdrawn as part of the introduction of a new accounting standard, using the withdrawn guidance is not always correct. As an example, this is evident when looking at the guidance for treatment of borrowing costs under IAS11 Construction Contracts compared to IFRS15. On the introduction of IFRS15 Revenue from Contracts with Customers, IAS11 was withdrawn together with the guidance. The old guidance under IAS11 required entities to account for borrowing costs in calculating contract costs. IFRS 15 is silent on the topic of borrowing costs. Subsequent IASB agenda decision has clarified that entities were not allowed to use the old guidance (IFRS Interpretations Committee, 2019). Specifically, whereas IAS11 explicitly included borrowing costs (i.e., IAS23) in the calculation of contract costs, without reference to a qualifying asset, the new agenda decision means contract costs should be calculated without taking into account borrowing costs, because of the lack of a qualifying asset. On this basis, it should not be taken as acceptable that the removal of guidance means that same guidance can continue to be applied.

Therefore, the treatment of income that is not within the scope of IFRS15 or other standards requires analysis and judgement. The section below reviews the technical problems with the wider definition of revenue, covering both the definition of income, and the problematic concept of ordinary activities.

LITERATURE ON INCOME AND REVENUE IN IFRS

Prior to the release of the both the IFRS15 and the new version of the conceptual framework, Barker (2010) analysed the conceptual issues underlying the definition (or sometimes the lack of a definition) of some profit or loss items including profit, expense, and net profit. A follow-up paper by Nobes (2012) expanded on these issues by focusing on the difference between revenue and income. The recent past has seen many research papers commenting on different conceptual issues within and around the income statement including comprehensive income and other comprehensive income (Van Mourik & Katsuo, 2018; Alexander et al., 2019), realisation as a concept, clean surplus in the definition of profit (Van Mourik & Katsuo, 2018). However, no papers have been found expanding

on the revenue implications of Barker and Nobes following the adoption of IFRS15.

Part of the aim of the paper is showing that the gaps identified by Nobes were subsequently widened, instead of being addressed. The Barker and Nobes papers are discussed below, with further notes on the meaning of “ordinary activities”.

BARKER ON THE DEFINITIONS OF INCOME, EXPENSES, AND PROFIT IN IFRS

Barker (2010) demonstrates that the income and expense definition in the conceptual framework is incorrect, and also suggests alternative definitions. The Barker paper was written at the time when a 1989 IASC version of the conceptual framework was in force. At the time, the definition of income was as follows (IASB, 2001) in Barker (2010).

Income is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants.

Expenses are defined in the opposite way with references to depletions, outflows and decreases where income has reference to enhancements, inflows and increases. Barker (2010) notes that these definitions miss-specify income as an increase in assets (i.e., a debit) instead of an increase in equity (i.e., a credit), and make the similar opposite error for expenses. The definition of income as a debit in assets also implies that income cannot be earned in exchange for a service received (i.e., expense).

In addition to income and expenses, Barker (2010) notes that profit is not defined in IFRS. As can be seen under the 2010 version of IAS1, profit does not equal income minus expenses, because some income is recognised outside the profit or loss statement (in “other comprehensive income”). In effect, income less expenses equal total comprehensive income. As pointed out in Nobes (2012) comprehensive income is problematic because it is a net concept incorporating both income and expenses, whilst the name implies that it a more comprehensive way of stating income. In a way, comprehensive income could better be understood as comprehensive “profit”. It is also clear from the Conceptual Framework that the IASB considers net profit (profit or loss) to be the actual

indicator of an entity's financial performance, and not total comprehensive income (IASB, 2018:Conceptual Framework, para 6.85, pg: A82).

Under some accounting standards amounts that were originally recognised as income in prior periods can be reclassified through profit or loss when realised, thus further diluting the meaning of profit because these amounts do not meet the definition of income at this subsequent reclassification period. In summary, the conceptual framework definitions and concepts of income, expenses, and profit are problematic and internally inconsistent.

In 2010, subsequent to the work of Barker, a new Conceptual Framework was released and later updated in 2018 (IASB, 2018). In the new Conceptual Framework, the definitions of income and expenses are changed, but all of the aspects that were criticized by Barker remain in place. Income is still defined as an increase in assets (a debit) resulting in increase in equity, rather than being defined as an increase in equity (a credit) resulting in an increase in assets. Interestingly, IFRS15 includes its' own definition of income which is exactly the same as the definition quoted above from the old Conceptual Framework. This means income, expense and profit as concepts remains weakly defined, convoluted, and inconsistently accounted for under IFRS.

This inconsistency also plays itself out in the application of Share-Based Payments in terms of IFRS2. Under that standard, a dilution in the residual value held by individual shareholders is treated as an expense or an outflow of economic benefits even when there is clearly no reduction in the assets of the company or increase in liabilities. Where an entity issues fresh shares to employees or management, IFRS2 requires an expense to be recognised, against a reserve in equity.

The issue of how income is miss-specified in the standard does not directly affect the identification and treatment of revenue, except to the extent that revenue is defined with reference to a faultily defined income concept, which in turn confounds the definition of revenue.

NOBES ON THE DEFINITIONS OF INCOME AND REVENUE IN IFRS

Nobes (2012) paper was written as a direct response, and further addition to the Barker (2010) paper

discussed above. Nobes (2012) expands on the issues in the income definition as identified by Barker and goes further to address issues with the revenue definition that existed at the time.

With regards to income, Nobes (2012) addresses the inconsistency with which income is calculated. In certain transactions, income is based on a gross concept and the amount received is recognised as income without deducting expenses. However, in some accounting standards income is calculated as the difference between the asset given up and amount received (e.g., profit on sale of IAS16 assets). These distinctions have no foundation in the Conceptual Framework but are part of the IFRS landscape which is meant to be based on the Conceptual Framework.

Nobes (2012) further notes that the issues around income as gross vs a net concept, combined with the fact that incomes are defined as a debit would lead to receipts from debtors being accounted for as income. Alternatively, the same technicalities can result in an argument that where inventory is sold at a loss no income should be recognised.

Once we accept what income is, and how it is calculated, a revenue definition is needed to separate revenue from 'other income'. It is not clear whether all other income is gains or is just income that is not revenue (but with no specific classification or name). The earlier versions of the Conceptual Framework implied that all income is either gains or revenue (IASB, 2010: para 4.29, 31).

The two main elements of the revenue definition are "income" and "ordinary activities". In the old standard revenue is defined as (IASB, 2001:IAS18, para7, 1244):

"... the gross inflow of economic benefits during the period arising in the course of the ordinary activities of an entity when those inflows result in increases in equity, other than increases relating to contributions from equity participants."

"Extraordinary activities" is a term with a history in IFRS literature and was eliminated in 2002 by the IASB (IASB, 2009). The IASB argues that the distinction between ordinary and extraordinary can lead to arbitrary accounting decisions (IASB, 2009). On the Basis for Conclusions in IAS1, ordinary activities are described with reference to how frequently or regularly they occur (IASB, 2009). It is arguable that under this

reasoning, for a large retailer, even the sale of a store can be a regular enough occurrence to be considered ordinary. On the combined basis of all activities of an entity being ordinary, and also the IASB being clear that no activities are extraordinary, Nobes (2012) reasons that all income is from ordinary activities, and therefore all income is revenue. In effect, Nobes (2012) demonstrates that IFRS and the Conceptual Framework does not actually define revenue, beyond stating that it is a subcategory of income.

Further proof of the lack of a revenue definition can be deduced from the 2001 version of the Conceptual Framework. According to that Conceptual Framework income can be split between two categories, namely revenue and gains (IASB, 2001).

The revenue definition from both the earlier version and the current accounting standards “income from arising from ordinary activities” (IASB, 2001; IASB, 2014). However, according to the framework gains could also arise from ordinary activities, which means they are no different to revenue. Therefore, with both revenue and gains being income, and also gains sometimes arising from ordinary activities, the implication is that ‘arising from ordinary activities’ is not a defining or distinguishing feature of revenue as it is also applicable to gains. The figure below is reproduced from Nobes (2012).

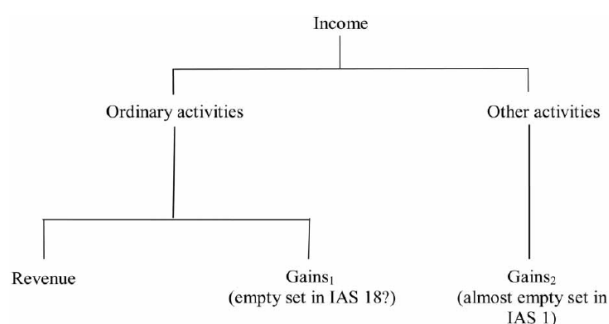


Figure 1: Types of income in the IASB’s framework

On the current version of the Conceptual Framework, “gains” are absent. Borrowing from this earlier version of the Conceptual Framework, it is possible that being income ‘from ordinary activities’ of the business is not the distinguishing feature of revenue from “other” income. Also, with the old wording around gains and revenue being absent from the Conceptual Framework, that does not mean the conclusions above still apply, or don’t apply. This means revenue may or may not be defined separately from income, except to say that any income that is not from ordinary activities

will not qualify as revenue. Therefore, revenue is made up of some of the income arising from ordinary activities. Could this truly be the intention of the IASB?

A SEARCH FOR FURTHER GUIDANCE

An example of income that could be revenue is interest or dividends earned on surplus funds invested by a business who’s ordinary (or primary) activity does not involve making such investments (non-financial entities). As stated above, these items were clearly part of revenue under IAS18. It is the opinion of Nobes (2012) that financial receipts (interest and dividends) by non-financial entities should not be accounted for as revenue. However, Nobes does not provide any reasons for this opinion. Under IFRS15 it is not clear whether these items (interest, dividends) should still be accounted for as revenue. As discussed above, these items meet the definition of income, and also arguably occur in the ordinary course of business. However, as discussed above, there is no stable definition of revenue, and these items may or may not be revenue. Whilst IFRS15 is clear that interest resulting from accounting for the time value of money with a customer should be recognised separately from the revenue from the contract with a customer, this does not mean that the interest should not be accounted for as revenue.

Another source of guidance is the wording on the accounting standards that deal with these items, where available. Some standards refer to these ‘other’ income items as revenue (e.g., interest revenue), whilst others refer to them just as income (e.g., interest income). Without further information, this author will assume that labelling income as revenue in the text of a standard is intentional, and those items necessarily are revenue. However, in line with the above discussion, where a standard simply labels an item just as ‘income’, it cannot be assumed either way that the item is revenue or not revenue.

In IAS34 Interim Financial Reporting, and IAS12 Income Taxes dividends earned are referred to as “dividend revenue”. The words appear once in each of the two standards. This may mean dividends earned are irrefutably revenue in the eyes of the IASB. However, the fact that both these standards were written during the time when IAS18 was in force could mean that the IASB has not yet updated the wording in the two standards. IFRS7 Financial Instruments: Disclosures, and IAS33 Earnings per Share refer to dividends earned

as “dividend income”. This leaves it open to reporting entities to decide if dividend income is revenue or not.

IFRS9 Financial Instruments refers to interest income with regards to interest earned on cash flow hedges. Throughout the rest of IFRS9, interest earned is referred to as interest revenue. Given that the IFRS9 is one of the more recent standards, this could be accepted as proof that at least in reference to the financial assets in IFRS9, interest earned should be accounted for as revenue irrespective of the nature of the business of the reporting entity. IFRS15 also refers to the interest earned on significant financing component of a contract with customer as interest revenue.

What is not clear is how interest arising from certain transactions including leasing arrangements recognised in terms of IFRS 16 should be accounted for. According to IFRS 16 and other standards the interest earned is called interest income. As per the definition of revenue, calling this interest earned interest income does not preclude it from recognition as revenue, because revenue is a subcategory of income. All it does is remove the (limited) certainty provided by the other standards that refer to interest earned as interest revenue.

It is clear from the analysis above, supplemented by the works of Barker (2010) and Nobes (2012), that revenue definition suffers from lack of clarity, or at worst does not exist aside from the definition of income. The definition of income itself incorrectly refers to income as a debit entry rather than the credit that it is, and income is inconsistently measured based on the gross increase in assets or sometimes net increase in assets. It is however reasonably clear that income that meets classification as revenue should be measured on a gross basis.

Revenue is itself defined with reference to income and ordinary activities. The reference to ordinary activities is not helpful for two reasons. Firstly, ordinary activities are not defined, with prior IASB writing strongly suggesting that there are no extraordinary activities, and therefore all business activity must be considered ordinary. Second, and lastly, even if ordinary activities were defined in IFRS or could be defined through other means, ordinary activities are not a sufficient differentiator of revenue from other income because prior IASB writing has shown that gains can also occur

from ordinary activities. Thus, not all income from all ordinary activities should be treated as revenue.

Lastly, the analysis also shows that interest and dividend income, which were specifically treated as revenue under IAS18 are no longer specifically included in revenue under IFRS. This lack of guidance has created a gap that has a potential to result in varied treatment of revenue in practice. The next section briefly deals with the possible consequences of these weaknesses in revenue guidance.

CONSEQUENCES OF THE WEAK REVENUE GUIDANCE

Generally, revenue is an important item in the financial statements of an entity. It stands to reason that consistent and understandable principles are necessary in order to ensure relevant and comparable revenue from entity to entity. With growth in technology and new forms of business models, a lack of clear revenue principles will result in difficulty in producing useful financial information.

Revenue is used in determining reportable operating segments in terms of IFRS 8. Under that standard, revenue is one of the indicators used to test whether a segment of an entity merits additional disclosure to give users of financial statements decision useful information. With an inconsistent revenue definition from entity to entity, some of the key objectives of IFRS 8 might not be met.

The ability to generate revenue specifically, as opposed to just income, is one of the considerations whether an acquired process is a business under IFRS3. Both IFR3 and IFRS8 refer to revenue, and not just revenue from contracts with customers. It is therefore possible that a division of a business could be considered an operating segment if it leases out assets under operating leases within the scope of IFRS16. Even though not accounted for in terms of IFRS15, leasing out assets under IFRS16 could result in income from ordinary activities, which would meet the very open definition of revenue if IFRS. Similarly, revenue is required to be disclosed separately for continuing operations under IFRS5 accounting.

Some accounting standards require disclosure of revenue as part of other disclosure in those standards. IFRS3 requires disclosure of revenue and profit or loss for subsidiaries acquired during the year. It is being emphasized here that the standard doesn't refer to

revenue within the narrow ambit of IFRS15. It is therefore left to the preparers of financial statements to calculate the applicable revenue figures in accordance with their own interpretation of what IFRS says.

As part of some of the steps for Revenue recognition, some transaction can end up being scoped out of IFRS15 for not meeting one of the 5 steps. For example, under step 1, if it cannot prove that the customer has an intention and ability to pay for the good or service they are contracting for, then a “contract from a customer” doesn’t exist in the terms of the standard. Alternatively, where there is lack of clarity regarding the rights and obligations to such contract, IFRS15 might fail to identify a contract that is subject to IFRS15.

In all step 1 (identifying the contract with a customer) has 5 different requirements that if not met, . However, having shown that not all revenue is subject to IFRS15, does a transaction that has failed criteria in IFRS15 necessarily not get recognised as revenue?

OBSERVATION FROM THE ANNUAL REPORTS OF RETAILERS LISTED ON THE JSE

As this is a conceptual paper, empirical testing is not required to demonstrate the issues above. Anecdotal observations are summarised below, to observe how some entities deal with revenue disclosure, beyond IFRS15’s Revenue from Contracts with Customers. The table below summarizes anecdotal observations based on listed retail companies in the financial year immediately preceding the adoption of IFRS15 and the 2- or 3-years following adoption.

Table 1: Effect of IFRS15 adoption on revenue disclosure

Entity	Change in presentation	Change in the notes	Authors notes
Shoprite Holdings	No	Yes	"Other income" was not included in revenue prior to the adoption of IFRS15, but was included after adoption
Pick n Pay	No	No	"other income" is part of revenue before and after IFRS15 adoption
Woolworths	No	No	"other income" is part of revenue before and after IFRS15 adoption

The Pick n Pay Group applied IFRS15 for the first time in the financial year ending 3 March 2019. In the 2019 financial year, Pick n Pay presented a revenue accounting policy note similar to their 2018 note. The disclosure notes included dividend income, finance income, and operating lease income as part of revenue. These items remain part of the revenue accounting policy note for subsequent financial years, including the 2022 financial year, the last available financial report at the time of writing. Within the actual notes, disaggregating revenue, finance income, dividend income, and lease income are listed with their amounts adding to total revenue in 2018 (last year of IAS18) and 2019 (first year of IFRS15). The finance income includes interest on bank balances and trade receivables. This accounting treatment is not in line with Nobes' opinion on non-financial institutions' finance income. In 2022, Pick n Pay’s revenue also includes dividend income from a cell captive. This treatment is applied consistently in subsequent financial years, including 2022, the last available financial year at the time this paper was finalized.

The Pick n Pay treatment of revenue above, and in particular the insignificant change between IAS18 and IFRS15 can also be observed in the financial statements of the Woolworths Group.

In contrast to Pick n Pay and Woolworths above, the Shoprite Group’s accounting policy for revenue only includes sales of merchandise, with all other items like finance income and dividend income being included in “other income”. This is true before and after IFRS15 came into effect. Unlike at Pick n Pay and Woolworths above, there appear to be a change in the financial reporting presentation of Shoprite after 2019, when IFR15 became applicable. Whilst revenue only

comprised sale of merchandise before 2019, with all the other items reported under “other income”, this changed afterwards, with all the items falling under the revenue note. As such, Shoprite Holdings appear to have interpreted revenue as expanding in definition when IFRS15 became effective. In the financial statements from 2019 to 2022, revenue of Shoprite included dividend income, and finance income. Shoprite also disaggregated revenue by product after IFRS15 became effective, whereas there was no revenue note disclosure in the year prior.

CONCLUSION AND LIMITATIONS OF THE PAPER

This paper demonstrates gaps and weaknesses in the definition of revenue under IFRS. This is done by revisiting the work of Barker and Nobes, and also analysing the current text in IFRS against prior versions. We show that income is defined in an inconsistent manner, and the Conceptual Framework is in conflict with the double entry principle as it defines income as a debit in assets, rather than a credit in equity. Further, income is sometimes accepted as a gross concept, whilst in other cases it is a net concept. We accept that revenue most likely refers to income under gross concept, rather than net. An argument can be made that income under a net concept, like fair value adjustment, and profits on sale of non-current assets, can be referred to as gains, and kept away from revenue.

In conclusion, whilst IFRS15 brought about a big change in how revenue is accounted for, some guidance in IAS18 was excluded in IFRS15, with no clarity of that guidance should continue to be applied or not. The removal of this guidance on whether “other income” meets the definition of revenue has the possibility of creating diversity in application of the standard.

By definition, the diversity in practice reduces the usefulness of financial information by violating the comparability qualitative characteristic. In working towards a solid conceptual base for statement of comprehensive income, further research is required on the definitions ascribed to different components of that statement. Empirical research may also be required to understand the extent of diversity in accounting for revenue, specifically focusing on the types of revenue that are accounted for outside IFRS15.

As with other elements of financial performance (e.g., other comprehensive income), the IASB can draft clearer principles. We recommend that a new definition of revenue is conceptualised to clearly differentiate revenue from income that is incidental to the primary revenue earning activities of a business. Flowing from the current and growing research in sustainability reporting, revenue could be defined directly with reference to the value creation process of a business. Revenue can be defined as income from the primary value creation activities of the business. This is but one suggestion. The key is for the IASB to decide what it wants revenue to mean, and clearly express the definition. As things stand, revenue, like comprehensive income, and profit, is not well defined but is prominent in IFRS and in financial statements.

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An analysis of circular economy disclosures and the impact on integrated reporting

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Purpose: This research aims to investigate disclosures by JSE-listed companies related to a circular economy (CE) model by analysing the type of investments in developing and achieving a CE, the quality and nature of disclosures on a CE, and the related impact on the six capitals.

Design/methodology/approach: A content analysis method was used to analyse a sample of integrated reports of JSE-listed companies. Correlation coefficients were employed to evaluate the relationships between the CE disclosures and 21 identified elements. The Kruskal-Wallis and Jonckheere-Terpstra tests were used to evaluate the significant differences among industries when analysing the CE disclosures.

Findings: This paper finds that a significant amount of CE disclosures is located in the value creation and business model sections of the integrated reports, with the quality and type of investments to achieve a CE model tending to differ across companies in different industries. The research revealed that industries that have a higher environmental impact and have extensive physical infrastructure tend to have better quality disclosures on their investments in the six capitals than service-driven industries.

Practical limitations/implications: The impact of global markets on the natural environment has resulted in a rapid depletion of resources. The circular economy (CE) model is a sustainable business model that aims to stay within the limits of the planet and reduce the impact on the environment by decreasing excessive resource use, minimizing waste, and converting end-of-life goods into resources for further use.

Originality/value: This paper contributes to both corporate reporting and the CE concept by evaluating the link between a CE model and integrated reporting and the impact that CE disclosures have on the 6 capitals of a company.

KEYWORDS: *Circular economy (CE); integrated reporting; six capitals; value creation*

INTRODUCTION

The traditional linear economic model that embraces a “take-make-consume” approach is becoming less relevant as non-renewable resources dwindle and become more expensive (Antoniou, 2017; Antikainen and Valkokari, 2016). This has resulted in the concept of Circular Economy (CE) models gaining increasing attention among governments, policymakers, researchers, and companies. The CE model aims to address eco-issues that result in a more sustainable and harmonious society by embracing the 3 R’s Principle which is Reduce, Reuse, and Recycle. The CE is a sustainable business model that aims to stay within the limits of the planet and reduce the impact on the environment by decreasing excessive resource use, minimizing waste, and converting end-of-life goods into resources for further use (Antoniou, 2017). The result of a study conducted by PricewaterhouseCoopers (PWC) in 2012 indicates that:

“The success of companies depends more and more on their ability to create value without depleting resources of any kind - whether natural, social, human, or financial. Stakeholders will increasingly look for information on how companies connect their business strategy with their financial and non-financial performance” (PWC, 2012, p. 5).

In achieving a CE, it is typical for an entity to invest in the six capitals namely, financial capital, manufacturing capital, intellectual capital, human capital, natural capital, and social and relationship capital as set out by the International Integrated Reporting Council’s (IIRC) Integrated Reporting Framework (IIRC, 2021). A balance between the economy, environment, and society is indicative of a CE transition (Nedelea, Mironiuc, Huian, Bîrsan, & Bedrule-Grigoruță, 2018). As the CE is primarily seen as a system or model to integrate sustainability, investments into these six capitals are a means by which organisations can achieve the goals of a CE policy and add value to their stakeholders.

The difference in the application of the CE model and balance of the six capitals across different industries and within industries is considered given the uncertainty on how a CE model can add value to an organisation. Furthermore, the research aims to investigate the quality and nature of investments in the six capitals as part of the integrating reporting process by organisations.

The CE model has gained momentum among scholars and practitioners (Kirchherr, et al., 2017). From a scholarly position, the concept of a CE is still slowly developing, and real literature is only starting to emerge – thus resulting in the need for a deeper analysis of the concept of the CE (Korhonen, et al., 2018). Further to this, there is a lack of frameworks for supporting ‘business model innovations’ in companies in the context of a CE (Antikainen & Valkokari, 2016). Consequently, the purpose of this paper aims to assess the relationship between the nature of CE disclosures and the impact on the six (6) capitals.

The remainder of this paper is set out as follows. Section 2 provides a literature review on the CE and IR, with a brief outline of the 6 capitals of a company. Section 3 sets out the method. Section 4 presents the research findings and results, and Section 5 concludes the study and suggests future areas of research.

LITERATURE REVIEW

The definition of a circular economy

Although the concept of CE has been gaining increasing attention among scholars and practitioners, Lieder and Rashid (2016) point out that there are various possibilities of defining a CE.

The Ellen MacArthur Foundation developed the most respected definition of CE as “an industrial system that is restorative or regenerative by intention and design” (Antoniou, 2017; Ellen MacArthur Foundation, 2013). This entails shifting from using unrenovable energy towards using renewable, from using harmful chemicals to their elimination, and reducing waste by superior design of products, materials, systems, and business models (Lewandowski, 2016). As a result, companies will need to change their business models and strategies in moving towards a CE.

Geissdoerfer et al (2016) conducted a study to help clarify the terms of CE and sustainability. Based on 114 different CE definitions, a CE is defined as “a

regenerative system in which resource input and waste, emission, and energy leakage are minimised by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling” (Geissdoerfer, et al., 2016).

This is achieved as a CE generates ‘slowing-resource loop’ systems and then ‘closed-resource loop’ systems. ‘Slowing-resource loop’ systems refer to extending the useful life of products by designing products for longevity, repair, refurbishment, and remanufacturing for the same user, or through creating additional cycles for other users. ‘Closed-resource loops’ refers to the reuse of materials through recycling (Stewart & Niero, 2017). ‘Closed-resource loop’ systems produce less pollution and will result in high efficiencies for business models which are restorative by nature (Camilleri, 2018).

The transition to a circular economic model

The need for a CE drives the global transition from a traditional linear economy to a CE (Buchmann-Duck & Beazley, 2020). Literature notes several reasons for the movement to a closed-loop economy (Ghența & Matei, 2018). Many of these reasons arise from a shift in the needs of society including the need for environmental protection and long-term sustainable supply chains (Ghența & Matei, 2018). A large driver for the movement to a CE is a paradigm change in society. Neoliberal investors preserve the transition to a CE as a means to increase competition in economic environments through effective resource management (Schröder, Lemille, & Desmond, 2020).

Organisations expect positive benefits from adopting a CE policy to create value such as cost savings, innovation, and the creation of new jobs (Ghența & Matei, 2018). Stoyanova (2019), supports this by stating that there is value in underutilised resources and waste that a CE realises through circularity as opposed to linear production. Furthermore, transitioning to a CE requires a complete change in human activity, production processes, and consumption of activities (Homrich, et al., 2018).

The most emphasized reason is that a transition towards a CE is an innovative solution to achieve sustainable operations. There is an emphasis on the need for sustainability within organisations and economies as the world is facing problems dealing with

poor waste management, underutilisation of resources, and rapid depletion of non – renewable resources (Stankevičienė, Nikanorova, & Çera, 2020). CE is seen as a pathway to sustainable resource use (Hartley, Santen, & Kirchherr, 2020).

Currently, there is uncertainty on how the shift to a CE model can be achieved by organisations as there is no standardised or agreed upon method that can be adopted to guide the shift to a CE (Muradin & Foltynowicz, 2019). There are norms that organisations adopt in guiding this movement. However, one of the most significant barriers to the transition is the lack of global consensus regarding policy adoption on the CE (Muradin & Foltynowicz, 2019). Consequently, the movement to a CE within industries is likely to vary. Different organisations and industries apply the transition to CE based on their interpretation and based on a method that is likely to create value for their stakeholders on their individual value creation paradigm. This is supported by Hopkinson, Angelis, & Zils (2020), which state that the application of CE is largely based on CE business models which organisations adopt in the context of their value creation process.

It is expected that organisations are likely to prioritise investments in some of the six capitals over others as the value creation perceived from capitals may differ depending on the company's business model. As a result, there is an unequal emphasis on the six capitals. There may be a difference in how organisations report on certain capitals which are driven by how the organisation perceives value from the respective capitals.

Muradin and Foltynowicz (2019), further raise that there is no unified method to use as a performance indicator in reviewing the movement to CE. Consequently, the application and type of investments into the six capitals are likely to differ. However, given that, value creation is based on an entity business model (Hopkinson, Angelis, & Zils, 2020), it is expected that organisations that have the same or similar business models will have a similar emphasis on their investments in the six capitals. In other words, these organisations will interpret the transition to a CE in a similar way and report on their investments in the six capitals in a similar nature as a means to add value.

Furthermore, a balance between the economy, environment, and society is indicative of a CE transition

(Nedelea, Mironiuc, Huian, Bîrsan, & Bedrule-Grigoruță, 2018). Therefore, instances, whereby organisations aim to maximise all 6 capitals at the same time, may be indicative of a CE policy in effect.

Other authors disregard the social paradigm shift and value creation process and find the need for CE is driven mainly by economic, environmental, and political needs given the rise in globalisation and technological advancements (Nedelea, Mironiuc, Huian, Bîrsan, & Bedrule-Grigoruță, 2018). In other words, a transition to a CE is not value-adding to organisations but compliance to current market needs in effect. Consequently, there is likely to be a difference in how some organisations create value for their stakeholders by focusing on the economic system they use. The adoption of a CE and related investments into the six capitals are likely to be adopted for reasons other than achieving sustainability. Millar, McLaughlin, and Borger (2019), support this by stating that the relationship between CE and sustainability is not methodically defined or explored. As a result, literature shows inconsistencies in how the CE transition can provide sustainable development for organisations and how the value creation process from a CE is actually achieved.

As a result, organisations that do not prioritise the link between CE and sustainability may not report these investments in the value creation or sustainability section of their reports. The location of these disclosures may be elsewhere because it is not seen as a value creation process despite their business model. The quality of such investments is likely to be lower and less detailed.

In terms of investing in CE, prior studies of JSE-listed companies reveal the following types of implementation and development of CE: financial resources allocated; funding or grants; partnerships with NGOs and research groups, and research and development. It is expected that organisations will use a combination of these methods to drive their transition to CE. However, given that there is a large degree of interpretation of uncertainty on how to transition to the CE, it is likely that companies will have a significant investment in research and development and consultation with third parties and think tanks to aid in the transition to CE.

Integrated reporting

Economic events such as the global financial crisis added to the increasing attention on social and environmental issues. This resulted in stakeholders requesting greater integration of financial and non-financial information. This includes information on companies' financial performances, management, corporate governance, and sustainability record (Vitolla, et al., 2019; Sánchez, et al., 2013). In response, some companies began to publish integrated reports (IRs) to facilitate the decision-taking by different stakeholders (Sánchez, et al., 2013).

The IR framework defines integrated reporting (IR) as:

"A concise communication about how an organisation's strategy, governance, performance, and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term" (IIRC, 2013).

IRs combine the financial and non-financial information in a single report to indicate how the company maximises value by serving the interests of all stakeholders. IRs provide information on the company's strategy, corporate governance, financial performance, and prospects that reflect the economic, social, and environmental contexts in which it operates, to meet the needs of all stakeholders (Atkins & Warren, 2015; IIRC, 2011).

The interest of companies toward CEs has grown in recent years as companies are encouraged to continuously re-examine their operations, management systems, and production processes in order to identify value-added practices (Camilleri, 2018; Prieto-Sandoval et al., 2018). Implementing a CE model provides a company with an opportunity to integrate sustainability into the company's vision as a company's environmental management aims to balance its social, economic, and environmental activities (Garcia-Muina et al., 2018; Smol et al., 2017). New markets, employments opportunities, and cost savings are created by the adoption of a CE business model (Korhonen, et al., 2018; Laubscher & Marinelli, 2014). Mativenga et al (2017) found that cost reduction was the strongest driver and sustainer for the recycling of composites. Furthermore, economic benefits and job opportunities related to the adoption of a CE model approach also act as motivation for companies to implement a CE business model (Nayha, 2019). As a

result, this indicates that companies will disclose CE practices in their IRs as this demonstrates the value created for the company through its impact on the 6 capitals that it utilises. The 6 capitals are financial capital, human capital, intellectual capital, social capital, natural capital, and manufactured capital and are the building blocks for value creation and the success of an organisation (Institute of Directors in Southern Africa, 2016).

The 6 capitals utilized by a company are flexible as they increase, decrease, or transform through the activities performed that enhance, deplete, or modify the capital's value (Ardisa, 2017). The activities are carried out in accordance with the company's business strategy as a company's success depends on its ability to create value without depleting their capitals (PricewaterhouseCoopers, 2012).

JSE-listed companies are obliged to adhere to the King 4 Report (2016) through the JSE listing requirements. In terms of the King 4 Report (2016), companies need to prepare IRs (Solomon & Maroun, 2012) and follow the principles-based IR Framework to do so. 'Principle-based' recognises the differences faced by companies while enabling a sufficient degree of comparability across companies in order to meet the needs of stakeholders (Lee & Yeo, 2016). Consequently, this makes it possible to evaluate the relationship between the nature of CE disclosures and the impact on the 6 capitals of a company in their IRs.

Prior studies on investigating the quality of integrated reporting for JSE-listed companies focus on: disclosure quantification; policy level or action-specific disclosures; historical or forward-looking disclosures; use of graphs for reporting; generic or context-specific disclosures and disclosures that are cross-referenced or hyperlinked to valid sources.

Disclosure quantification consists of qualitative, quantitative, and monetary reporting. Quantitative and monetary disclosures are viewed as high-quality reporting as it suggests that the company has spent financial resources and skills to develop sophisticated and complex systems to measure the investment and related impact. Thus, suggesting that disclosures that are monetary in nature are prioritised and provide high-quality details to stakeholders.

Action specific disclosures are of a higher quality than policy level ones as it suggests a level of engagement

by the company and not a mere reporting compliance activity. Context-specific reporting is high quality as management relates these investments to an identifiable transaction or event and the use of graphs further enhances reporting quality as useful details are provided to users. Forward-looking disclosures are of a higher nature than historical disclosures as it suggests long-term planning by management and ongoing details on the company investments. Disclosures that are cross-referenced or hyperlinked suggest additional or supplementary information to provide more details to users and enhance the quality of reporting.

METHOD

The study is based on a content analysis of the annual integrated reports of 14 public companies listed on the JSE. The 14 companies were chosen by a haphazard sampling method applied to the Top 40 companies listed on the JSE (by market capitalisation). The random sampling method was adopted to address any possible bias to ensure a fair and objective representation of the market was achieved. It also ensured a range of industries was analysed. Furthermore, public companies were used as they have a large public interest and a larger impact on the environment in which they operate.

Content analysis involves “codifying qualitative information in anecdotal and literary form into categories in order to derive quantitative scales of varying levels of complexity”. As this study aims to determine the quality of CE disclosures, a content analysis research approach was adopted. This involved analysing the entire IRs of the population.

An important consideration in developing the research design of content analysis is the selection of coding units. The coding units of this paper are the disclosures contained in companies' IRs. The Kruskal-Wallis (KW) test and Jonckheere-Terpstra (JT) test were used to evaluate the significant differences among industries regarding the nature of CE disclosures and the impact on the 6 capitals.

The small sample size is appropriate as the nature of the data collection was highly qualitative and addressed the disclosures of all six capitals by the organisations. Furthermore, the quality of the reporting was analysed as the aim was to assess the nature and emphasis of the capitals as opposed to extrapolating findings over a population.

At the time of the data collection, the latest annual integrated report for the respective companies was used. This was to ensure the most recent investments in the six capitals that have been reported are analysed and the most recent transition to a CE is addressed. The latest period of review was the 2018 and 2019 financial year ends.

The disclosures were analysed from the integrated report only as it is the primary report available to stakeholders. The related reference to sustainable reports or similar was noted, however, it was not analysed as part of the data collection.

The disclosures on the transition to a CE model was categorised into elements that are associated with a CE policy and these elements were further analysed under the following headings:

- Type of investment into the CE model
- Location of the disclosure
- Nature/quality of the disclosure
- Impact of disclosure on the capitals

Table 1 below outlines the various elements comprising the 4 headings above.

Table 1: Elements for analysis

D1 – development of CE – financial resource
D2 – development of CE – partnerships with NGOs and research groups
D3 – development of CE – research and development
L1 – strategy and risk analysis and business model section
L2 – key performance and value creation section
L3 – director's review of the business section
L4 – social and environmental subsection
L5 – overview of the business section
L6 – corporate governance subsection
L7 – financial statements section
C1 – policy level or action specific
C2 – historic or forward – looking
C3 – generic or context – specific
C4 – cross – references or hyperlinks to valid source
C5 – use of graphs
C6 – quantification
I1 – impact on financial capital
I2 – impact on manufactured capital
I3 – impact on natural capital
I4 – impact on intellectual capital
I5 – impact on social and relationship and human capital

FINDINGS

Overall findings

Figure 1 provides an overview of the location of CE content elements in the integrated reports analysed across the 14 companies.

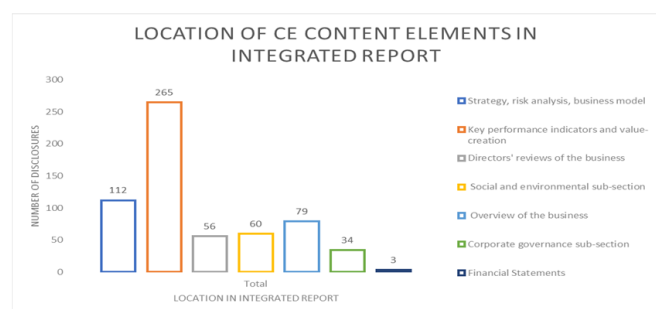


Figure 1: Location of CE disclosures in the IR

The following is noted: of the 478 total disclosures, 265 disclosures are located in the “Key performance indicators and value-creation section” of the IRs. This is followed by 112 disclosures located in the “Strategy, risk analysis, and business model” section. This shows that investments in the CE may be interpreted as a value creation process by organisations (Ranta, Keränen, & Aarikka-Stenroos, 2020). The least amount of CE disclosures are situated in the financial statement section and corporate governance sections. As these sections are primarily compliance-based reporting, it appears that companies tend not to interpret CE transition as a compliance requirement.

Figure 2 (below) demonstrates that there is an unequal impact on the six capitals by CE-related investments made by the companies. The companies analysed prioritise the six capitals differently with most emphasis on financial capital, followed by social and relationship, and human capital. The least prioritised capital is intellectual capital. Companies do not appear to have balanced the six capitals in guiding their shift to a CE model (Muradin & Foltynowicz, 2019).

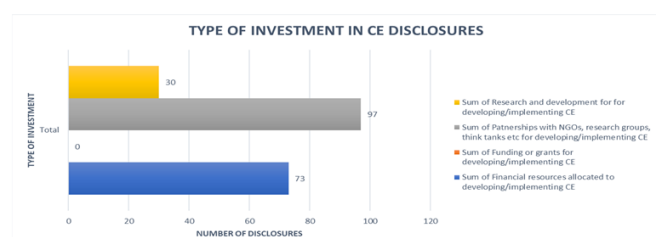


Figure 2: Impact of CE disclosures on the capitals

Figure 3 shows that, of the 14 companies, the majority of these engage with external parties and research groups to aid in the development and transition to a CE model. As CE transition is not well standardised (Muradin & Foltynowicz, 2019), companies need to allocate research to aid in the interpretation of a CE policy that will add value to their business model. Of the 14 companies, none received aid in the form of

grants or external funding to drive the transition to a CE model. The use of financial resources is significant among the companies which show they have expended monetary resources in moving to a CE model.

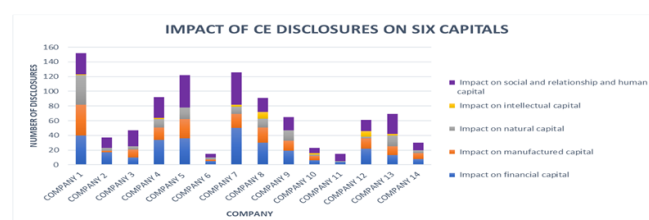


Figure 3: Type of investment in CE disclosures

Table 2 shows the use of partnerships with NGOs and research groups has the highest average at 6.93 across the 14 companies. The average for use of financial/monetary resources is 5.21 which a maximum disclosure of 13 and a minimum of one. This suggests that engagement with external parties to drive to transition to CE is common and companies tend to expend their monetary funds to achieve a CE system.

Table 2: Descriptive statistics on the type of investments

Type of investment	N	Range	Minimum	Maximum	Mean
Development of CE: financial resources	14	12	1	13	5,21
Development of CE: funding and grants	14	0	0	0	0,00
Development of CE: partnerships with NGOs/research groups	14	27	0	27	6,93
Development of CE: research and development	14	6	0	6	2.14

Correlation between elements

A correlation table is presented in Appendix A. This table indicates the following:

In terms of location, there is a moderately strong relationship between total disclosures and: the key performance indicators and value creation ($r = 0.542$, $p < 0.01$) and the social and environmental subsection ($r = 0.442$, $p < 0.05$). This suggests that a large number of total disclosures are concentrated in sections of the report that deal with how the company adds value to its organisation and stakeholders, as well as sections dealing with the impact the company has on the external environment in which it operates.

There is an inverse and weak correlation between total disclosures and the financial statement section ($r = -0.021$, $p > 0.10$). There is also a weak relationship between total disclosures and the corporate governance subsection ($r = 0.398$, $p > 0.10$). This possibly indicates that total disclosures tend to not be concentrated in areas dealing with compliance to regulatory frameworks. CE disclosures tend not to be viewed as a compliance-based action but rather a value creation action.

There is a strong relationship between total disclosures and: impact on financial capital ($r = 0.796$, $p < 0.01$), impact on manufactured capital ($r = 0.804$, $p < 0.01$), and impact on social and relationship and human capital ($r = 0.872$, $p < 0.01$). There is a moderately strong relationship between total disclosures and the impact on natural capital ($r = 0.678$, $p < 0.01$). Lastly, there is a weak relationship between total disclosures and the impact on intellectual capital ($r = 0.258$, $p > 0.10$). The strongest relationship is that of total disclosures and the impact on social and relationship and human capital.

This suggests that companies tend to have more disclosures that impact the integrated aspects of reporting which deal with the impact of an organisation on the social environment in which they operate. Companies tend to disclose more on their human capital, this indicates that the value of their workforce is prioritised over the operating and strategic aspects (manufactured and intellectual capital) of the business. Overall, the correlations show a movement towards integrated thinking through various impacts across the six capitals.

In terms of looking at relationships within the capitals, there is a strong relationship between the impact of financial capital and: manufactured capital ($r = 0.811$, $p < 0.01$) and social and relationships and human capital ($r = 0.722$, $p < 0.01$). This suggests that financial decisions concentrate around how an organisation operates and also deals with the skills of the workforce and the social development of the organisation.

There is a moderately strong relationship between the impact of financial capital and natural capital ($r = 0.528$, $p < 0.01$). This indicates that investments in financial capital and financial decision-making tend to also impact an organisation's investment in natural resources and the natural environment.

There is a moderately strong relationship between the impact on manufactured capital and: natural capital ($r = 0.625$, $p < 0.01$), and social and relationship and human capital ($r = 0.663$, $p < 0.01$). This indicates that when companies make changes in how they operate, these investments tend to also increase the investments in the natural resources they consume. In other words, the investments may be linked to sustainable resource consumption when manufacturing changes are made. Manufacturing decisions tend to also concentrate on the impact they will have on stakeholders and the employees of the company. This suggests that when companies disclose information on changes in their operating activities, they tend to account for how those investments will impact their stakeholders and workforce.

Lastly, there is a moderately strong relationship between the impact of natural capital and social and relationship and human capital ($r = 0.557$, $p < 0.01$). This points out that when companies make investments to enhance the sustainability of the natural resources they consume; they tend to impact the social context in which they operate. This may be indicative of how investments into the six capitals drive the transition to integrated thinking (and integrated reporting) and sustainability.

In terms of the type of investment in the six capitals, there is a moderately strong relationship between a financial resource investment and: financial capital ($r = 0.543$, $p < 0.01$), manufactured capital ($r = 0.480$, $p < 0.05$), and social and relationships and human capital ($r = 0.526$, $p < 0.05$). This suggests that when companies make disclosures on their internal operations or external stakeholders and workforce respectively, they tend to disclose a monetary financial resource to quantify the impact on these capitals.

There is a moderately strong relationship between partnerships with NGO's / research groups and: financial capital ($r = 0.694$, $p < 0.01$), manufactured capital ($r = 0.655$, $p < 0.01$), natural capital ($r = 0.430$, $p < 0.05$) and social and relationships and human capital ($r = 0.563$, $p < 0.01$). This indicates that companies that work intensively with research groups, partnerships, and external parties tend to invest more across the six capitals. This suggests that these companies are aiming towards a CE transition by integrating the six capitals extensively in their strategy, thinking, and reporting and possibly aiming to prioritise each capital accordingly.

Lastly, there is a moderately strong relationship between research and development investments and all the capitals: financial capital ($r=0.505$, $p<0.05$), manufactured capital ($r=0.657$, $p<0.01$), natural capital ($r=0.529$, $p<0.05$), intellectual capital ($r=0.462$, $p<0.05$) and social and relationship and human capital ($r=0.450$, $p<0.05$). This suggests that there is an association between companies that engage in research and development and the six capitals. The strongest relationship is the impact on manufactured capital, this implies that a moderate amount of research and development aims to make changes in how an organisation is managed and operated. The weakest relationship is the impact on social and relationship and human capital. This implies that the least amount of research and development investment is concentrated on an organisation's workforce and social context.

In terms of the quality of disclosures, there is a strong relationship between total disclosures and quantification ($r=0.884$, $p<0.01$). This suggests that total disclosures tend to be more monetary in nature. This indicates that companies have invested resources to develop sophisticated accounting systems to measure the monetary value of their investments in a CE model and enhance the details relating to such investments as opposed to providing low-quality disclosures in their reporting.

It should be noted that there is a weak correlation between total disclosures and disclosures that are cross-referenced or hyperlinked to valid sources ($r=0.339$, $p>0.10$). This points out that total disclosures tend to be concentrated in the primary report available to shareholders instead of supplementary reports to an integrated report. This could suggest that reporting tends to be of a slightly lower quality as there are not often additional details available to users on investments beyond that noted in the primary report.

There is also a strong relationship between total disclosure and generic or context-specific disclosures ($r = 0.922$, $p<0.01$). This indicates that companies tend to relate disclosures to an identifiable transaction or event as opposed to providing vague disclosures. There is a strong relationship between total disclosures and policy level or action-specific ($r=0.928$, $p<0.01$). This suggests that companies tend to undertake their commitments and do not merely report on policies in place without engaging with them.

Overall, this indicates that total disclosures tend to be of a high reporting quality.

There is a strong relationship between quantification and the impact on: financial capital ($r=0.780$, $p<0.01$), manufactured capital ($r=0.833$, $p<0.01$) and social and relationship and human capital ($r=0.789$, $p<0.01$). This suggests that when companies make investments that impact their financial resources, operating or manufacturing processes, and stakeholders at large respectively, these disclosures tend to be more monetary. This points that companies have invested resources to make use of sophisticated methods to measure the impact on these respective capitals to provide high-quality disclosures to users.

This is supported, as there is a strong relationship between generic or context-specific disclosures and the impact on: financial capital ($r=0.840$, $p<0.01$), manufactured capital ($r=0.849$, $p<0.01$), and social and relationship and human capital ($r=0.804$, $p<0.01$). This indicates that companies tend to disclose specified events or transactions that relate to these capitals, suggesting higher-quality reporting of these over the other capitals.

There is a strong relationship between policy level or action-specific disclosures and the impact on: financial capital ($r=0.868$, $p<0.01$), manufactured capital ($r=0.833$, $p<0.01$), and social and relationship and human capital ($r=0.811$, $p<0.01$). This proposes that disclosures that impact the above capitals tend to be more actively engaged within and are not merely disclosed as part of future planning for the company. This suggests that these capitals are prioritised and are of a higher reporting quality.

An analysis of natural capitals indicates that there is a moderately strong relationship between quantification and the impact on natural capital ($r=0.663$, $p<0.01$); there is a moderately strong relationship between generic or context-specific disclosure and natural capital ($r=0.633$, $p<0.01$); there is a moderately strong relationship between policy level or context-specific disclosure and natural capital ($r=0.641$, $p<0.01$). This suggests that investments that impact the natural environment and natural resources consumed by companies tend to be more quantitative than monetary, moderately generic, and fairly engaged with by management. This points that natural capital disclosures are of relatively high quality, but management does tend to limit the quality of their

activities on the environmental impact they have. The quality of natural capital is not as prioritised as that of manufactured, financial, and social, and relationship and human capital.

There is a strong relationship between historical or forward-looking disclosures and the impact on social and relationship and human capital ($r=0.927$, $p<0.01$). This points out that companies tend to engage in long-term investments and engagements with stakeholders at large. As these investments tend to be long-term and ongoing, it suggests that this capital is prioritised over the other capitals.

Lastly, there is a strong relationship between quantification and disclosures which are: policy level or

action-specific ($r=0.912$, $p<0.01$), historical or forward-looking ($r=0.773$, $p<0.01$), and generic or context-specific ($r=0.862$, $p<0.01$). This proposes that disclosures that are action-specific or long-term or context-specific respectively, tend to be more monetary in nature. Companies have invested in sophisticated and well-developed measurement processes to disclose monetary investments on these types of disclosures.

Industry analysis

Next, an analysis across industries will be made. The Kruskal Wallis (H-Stat) and Jonckheere-Terpstra (JT) tests are used to analyse the difference in disclosures across industries.

Table 3: Kruskal Wallis and Jonckheere-Terpstra Tests

INDICATOR	H-STAT (H)	JT-TEST
Total disclosures	4,181	1,314
Development of CE – financial resource	1,734	1,098
Development of CE -partnership with NGOs/ research groups	1,896	-0,022
Development pf CE – research and development	2,27	0,775
Strategy risk analysis and business models section	6,861**	2,588***
Key performance and value creation section	1,235	0,829
Director's reviews of the business section	2,123	1,29
Social and environmental subsection	6,196**	-0,372
Overview of the business section	0,63	-0,756
Corporate governance subsection	5,488*	-1,105
Financial statements section	0,034	0,164
Policy level or action specific	3,4	1,202
Historic or forward – looking	6,358**	1,804*
Generic or context – specific	2,84	1,003
Cross – references or hyperlinks to valid sources	4,798*	2,184**
Use of graphs	6,657**	2,615***
Quantification	3,914	1,515
Impact on financial capital	0,289	0,468
Impact on manufactured capital	4,042	1,16
Impact on natural capital	6,255**	1,005
Impact on intellectual capital	0,437	0,608
Impact on social and relationship and human capital	3,797	0,982

* - significant at 10% level; ** - significant at 5% level; *** - significant at 1% level.

There is a significant difference between disclosures in the strategy, risk analysis, and business model section and industry ($h=6.861$, $p<0.05$). As the risk profile and business model among the mining industry, consumer goods, and financial services industry differs, there is likely to a difference in how these industries invest and transition to a CE model approach based on their business models (Hopkinson, Angelis, & Zils, 2020).

As we move from the mining to consumer goods to the financial service industry, there is a strong upward trend for disclosures in strategy, risk analysis, and business model section ($j=2.588$, $p<0.01$). This suggests that as we move from an industry that is capital intensive, with a high environmental impact and tight legal environment, to a more service-driven, low environmental and legal business model, disclosures on CE are increasingly seen as part of the industry's strategy, risk analysis, and business model.

There is a significant difference between disclosures in the social and environmental subsection and industry ($h=6.196$, $p<0.05$). This suggests that the different industries tend to have different investments that impact the natural and social environment in which they operate.

As we move from mining to consumer goods to financial services, there is a slight downward trend in the disclosures part of the social and environmental subsection ($j=-0.372$, $p>0.10$). This suggests that industries such as mining which has a very high impact on the natural environment, social context, and a large carbon footprint tend to have more disclosures in this subsection than service-driven industries which tend to have a lower impact on the natural environment, social context, and smaller carbon footprint. The nature of the mining operations differs from that of financial services, resulting in this downward trend.

There is a slight downward trend between disclosures in corporate governance subsection and industry ($j=-1.105$, $p>0.10$). This suggests that industries that focus on asset management and have a large impact on the natural and social context in which they operate tend to have a higher level of governance when reporting on investments. Those charged with governance in such industries tend to be held more accountable for the actions of the organisation due to the nature of the mining and energy operations. Those charged with governance in the consumer and service-driven industries tend to have a less onerous responsibility on reporting because the holistic impact of their operations on stakeholders is not as large as that of mining.

There is a significant difference between historical or forward-looking disclosures and industry ($h=6.358$, $p<0.05$). This suggests that the reporting of long-term engagements and events differs across the three industries. There is a slight upward trend between historical or forward-looking disclosures and industry ($j=1.804$, $p<0.10$). This proposes that as we move from a more service-driven industry such as financial services and banking to a resource-intensive and commodity industry, the reporting tends to be more long-term and provides ongoing details through projections. Thus, suggests that the mining and energy industry provides better quality disclosures than banking and other financial services.

There is a strong upward trend between the use of graphs and industry ($j=2.615$, $p<0.01$). This indicates that mining companies tend to invest more resources in graphical models and methods to provide details on their disclosures to users compared to the financial services and consumer goods industries.

There is a significant difference between disclosures that are cross-referenced or hyperlinked to valid sources and industry ($h=4.798$, $p<0.10$). This proposes that the nature of reporting disclosures tends to differ across the three industries. There is a moderately strong upward trend in disclosures that are cross-referenced or hyperlinked and industry ($j=2.184$, $p<0.05$). This suggests that the mining industry tends to have disclosures in their integrated report (primary report available to users) as well as supplementary reports to enhance the level of detail. Whereas the financial and service-related industries tend to have disclosures in their primary reports without much reference for users to supplementary reports for more details. In this instance, the mining industry possibly provides higher quality reporting.

There is a significant difference between the impact on natural capital and industry ($h=6.255$, $p<0.05$). This suggests that different industries tend to impact the natural environment through the consumption of resources differently. There is a slight upward trend between natural capital and industry ($j=1.005$, $p>0.10$). This indicates that as we move to a mining sector that consumes a large amount of non-renewable resources and has a large physical infrastructure for operations from a service industry that does not consume such a large extends of natural resources, the total investments impacting natural capital tends to increase.

There is no significant difference between disclosures in the key performance and value creation section and industry ($h=1.235$, $p>0.10$). This is important to note as this suggests that across the three industries, investments in the six capitals and transition to a CE model tend to be seen as a critical part of the value creation process. This supports the need for the transition to a CE (Ghența & Matei, 2018).

CONCLUSION AND FUTURE AREAS OF RESEARCH

The concept of a CE has been gaining increasing attention among all stakeholders and follows a “low

pollution, low emission, reduction, recycling” approach which aims to preserve resources and the environment and manage sustainable development. Therefore, a CE is a sustainable development strategy that aims to address eco-issues in order to have a more sustainable and coordinated society (Antoniou, 2017).

There is value for both companies and their stakeholders in transitioning from a linear economy to a circular economy. Given, the uncertainty and absence of a standardised system on how to achieve a CE, companies are making the transition through significant investment in research and development. Furthermore, the transition is driven by the company's business model which results in certain disclosures on CE being prioritised over others and of different reporting quality. As integrated reporting is dependent on the integration of the six capitals, companies tend to report on these capitals based on the value they perceive from each and based on their strategy and business model. Consequently, certain capitals are emphasised more through better reporting quality. Instances, whereby organisations aim to prioritise all capitals equally and appropriately and balance the economy and environment through their operations, are indicative of a transition to a CE model.

Across industries, there are significant differences in capitals that are prioritised through the quality and level of integration for reporting investments. Companies that have a higher environmental impact such as the mining industry tend to integrate sustainability in their operations and tend to have high-quality reporting for investments that impact the six capitals. The service-driven industry is also investing in sustainable practices and integrating the six capitals into their operations. This indicates an overall CE transition in effect. The reporting quality of this industry tends to be lower than the mining industry as the service industry does not have a large environmental impact. The location of CE disclosures tends to also differ across these industries. Future research should increase the sample size and investigate more industries such as retail, food, and drinks, etc. Furthermore, the research focused on companies with high market capitalisation only, future research should analyse companies with lower market capitalisation to give a better indication of how JSE-listed entities are driving the transition to a CE.

The research inherently focused on companies that did not prioritise intellectual capital as the business model

of the respective companies did not see significant value in the capital. Consequently, the impact of investments on intellectual capital could not be sufficiently analysed through this research. Companies that operate significantly with patents, copyrights, licenses, or other forms of intellectual capital should be researched in the future to assess how such business models drive the transition to CE and the related implications on their integrated reporting process.

The integrated report, the primary report available to stakeholders, was the only report analysed and references to supplementary reports were noted. However, supplementary reports such as sustainability reports are likely to have more information on how the company integrates the six capitals and drives the transition to a closed-loop economy. Future research should focus on analysing such reports to give a better indication of the quality of a company's reporting and how value creation is achieved.

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APPENDIX A

Table 5: Correlations

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* - significant at 5% level; ** - significant at 1% level.

An exploration of human capital investment and senior student academic performance at a South African university

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Design/Methodology/Approach: The sample comprises senior accounting students' data for the academic period between 2018 and 2022 at the University of the Free State (UFS). The analysis relies on the implementation of the Ordinary Least Squares regression, the Kruskal-Wallis ANOVA, and Dunn's Test for Multiple Comparisons to determine the relationship between selected demographic factors and students' academic performance.

Findings: Findings indicate that the relationship between the National Senior Certificate (NSC) accounting results and students' race, as well as academic performance, is insignificant. Similarly, National Benchmark Test (NBT) scores proved to be insignificant, apart from student cohorts' NBT scores for Academic Literacy and Quantitative Literacy respectively in 2020 and 2021. Gender differences were initially found to be statistically insignificant; however, in the 2021 and 2022 cohorts, male students' academic performance was worse than that of their counterparts. The relationship between the NSC Mathematics results and academic performance remains statistically significant across all years, except for the 2020 and 2021 cohorts. Results indicate that students attempting the module for a second and/or third time outperform their counterparts.

Originality/Contribution: This study contributes to the limited literature on senior student performance in accounting modules at the tertiary level. The results may assist in the evaluation of accountancy programme admission criteria and the development of interventions to improve student academic performance.

KEYWORDS: *academic literacy; academic performance; accounting; demographic factors; senior students; undergraduate programme*

INTRODUCTION

In Rogers and Hammerstein's *The Sound of Music*, Maria advises: "Let's start at the very beginning, a very good place to start" (Lyrics.com, 2021). Following this advice, the purpose of this study is to determine the relationship between literature-informed demographic factors and senior¹ accountancy students' academic performance within a specific subject. The goal is to eliminate deficit thinking, as well as to inform the development of curricula and interventions aimed at improving student academic performance. This study is envisaged to be the first step of a phased research project resulting in possible focused, data-driven curriculum changes and interventions.

South African Higher Education legislation propounded by the Department of Higher Education and Training (DHET) emphasises that:

1. Student enrolment at universities should be increased.
2. Student success and throughput rates should be improved; and

3. The strengthening of teaching and learning methods and interventions must be prioritised (DHET, 2013: 30-32).

In support of this view – that the enhancement of the quality of teaching and learning and improved student success should be prioritised – Parnell, Jones, Wesaw, and Brooks (2018: 25) note that higher education institutions must make "data-informed decisions". Norris and Baer (2013: 25) support this view by stating that data analytics can potentially identify effective teaching and learning practices, such as curriculum development, as well as innovations that can contribute to the future sustainability of higher education. Shackloc (2016: 11) and Wong (2012: 6) both define data analytics as the practice of utilising data to generate understanding that may aid organisations in making fact-based decisions, with improved performance as the primary focus. Shackloc (2016: 11) further elaborates by stating that our ability to conduct analytics of a sophisticated nature has the potential to improve "competitive intelligence", which refers to the collection and analysis of data to make impactful decisions. Chinese philosopher Confucius

¹ Second and final-year undergraduate university students.

says that "[a] man who reviews the old to find out the new is qualified to teach others" (cited in Hofstee, 2006: 2), highlighting the value of analytics and the insights that can be extracted from historical data. Higher education institutions have access to vast amounts of historical data. Therefore, it makes sense that data analytics should be conducted and applied as a tool to identify factors contributing to student academic success, thus improving institutions' competitive intelligence.

The intention to embrace data-driven decision-making pertaining to student performance is guided by the need to move away from making assumptions about our students. Such assumptions include that our students can read and think critically, and that they have the necessary study skills to effectively negotiate the transition to undergraduate and/or postgraduate higher education. However, the reality is that many students who enter higher education institutions are not necessarily prepared to achieve academic success due to the discrepancy between skills acquired during high school and skills required by higher education institutions (Dos Reis, Venter & McGhie, 2019: 167). If a student does not have the necessary skills, it is expected that interventions aimed at the student's first-year experience will fix the gaps in the student's first year of study so that, by the time they move towards their second or third year of study, they have the required skills. This notion is supported by current research by Oosthuizen and Eiselen (2012), De Villiers and Farrington (2017), Matarirano, Panicker, Atoliyah, and Mangisa (2019), Papageorgiou and Carpenter (2019), and Bruwer and Ontong (2020). These researchers' studies focus on identifying factors contributing to university students' academic performance, specifically at the first-year level of study.

Temoso (2023: 206), as well as Williams, Dos Reis, and Yu (2022: 280), highlight the significant increase in dropout- and decrease in graduation rates at South African higher education institutions. These researchers' observations foreground final-year student performance and question whether a shift of focus from first-year students to final-year students is perhaps needed. Seemingly in support of this notion, Crous and Goodchild (2021: 23) emphasise that current studies are characterised by a limited focus on success predictors at postgraduate level; as such, their study focuses on success predictors for postgraduate students in an accounting programme.

Waples and Darayseh (2005:87) report high rates of failure in specific accounting courses. Velasco (2019:157) is more specific and states that Accounting is regarded "as one of the most challenging subjects". It is noted that various subjects in the final year of study can pose a significant stumbling block to graduation, however, historical and current results from the second year and final-year undergraduate university students in the B.Accounting and B.Com Accounting programmes at the UFS, reiterates Velasco's (2019:157) sentiment. Financial Accounting (B.Accounting programme) and Accounting (B.Com Accounting programme) have proven to be the subjects that students struggle with most and consistently achieve the lowest pass rate when compared to other subjects within the noted programmes at the UFS. Therefore, it is fitting that this study investigates the relationship between literature-informed demographic factors that influence the academic performance of second year and final-year undergraduate university students in the B.Accounting and B.Com Accounting programmes, with specific focus on the subject of Accounting. Final-year undergraduate students enrolled for the B.Com Accounting programme are required to register for the Accounting subject EACC3708. Second-year undergraduate students in the B.Accounting programme, are required to register for the Financial Accounting subject EFIN2708. The aforementioned subjects are equivalent subjects with similar content, therefore, for the purpose of this study, reference to the subject "Accounting" includes both "Accounting" (EACC3708) and "Financial Accounting" (EFIN2708).

THEORY AND LITERATURE

Becker's (1964) human capital theory forms the foundation of this study. With this theory, Becker posits that individuals opt to invest in education based on an expectation of increased returns (Becker, 1964). Becker (1964) further explains that human capital can be either *general human capital* and/or *specific human capital*. General human capital is associated with learning that is not context-specific and that can be applied in different environments. In contrast, specific human capital is learning that is only relevant within a specific context.

Returns on education are considered to include, amongst others, economic growth and stability, high-paying employment opportunities, and better lifetime earning potential (Wright, 2015). According to Peterson, Baker, and McGaw (2010), most empirical

studies that focus on human capital investment returns, manifesting as monetary rewards, do not consider individuals' embedded skills and attributes as a form of investment. However, with Becker (1964) emphasising the significant effect of demographic factors on an individual's ability to invest in education, the influence of said factors' influence on human capital investment should perhaps receive more attention. This study employs the theoretical underpinning of Becker's human capital theory by regarding an individual's specific demographic attributes, both innate and acquired, before the commencement of higher education studies (i.e., race, gender, school quintile) as general human capital. The relationship between individuals' investment in general human capital and the return on this investment, manifested as student academic performance, is subsequently explored as the objective of this study.

When considering the previously mentioned assumptions academics make about students in the development of student performance interventions, the matter of deficit thinking needs to be addressed. Deficit thinking "focuses on the inadequacies of students and aims to fix this problem" (Smith, 2021: 369). Similarly, scholars use the terms "deficit perspective" (Gorski, 2011: 152; Pica-Smith & Veloria, 2012: 32) or "deficit discourse" (Lawrence, 2008: 21). Academics' deficit thinking relies on assumptions regarding a student's skills, or rather lack thereof. It is assumed, for example, that all African students come from a disadvantaged background, which perpetuates the "blame the victim orientation", as we assume that a student's background is responsible for their failures or lack of skills (Davis & Museus, 2019: 119).

Psacharopoulos and Partinos (2018) in their 10-year review of human capital theory found yearly private returns of education averaging 9 percent per year. This finding supports the value of education for the individual. In the South African context, advances in the education level are crucial for improving the labour market. It is incumbent on South African Higher Education Institutions to find, and, where possible eliminate, the differences in student success outcomes.

An important antithesis to human capital theory is the signalling/screening theory. The theory holds that in an environment with information asymmetries, actors may rely on signals to evaluate alternatives (Connelly

et al, 2011: 42 - 43). In the job market, recruiters rely on a candidate's certifications to evaluate potential hires, which serves as a proxy for candidate suitability. In our context, it is important to study areas of improvement in the development of Accounting graduates.

To remove any possible influence of deficit thinking in the design and planning of both curricula and student interventions, any decisions need to be informed by learning- and academic analytics. Data should be analysed to identify at-risk senior students and why they are at risk; this identification process should not be led by assumptions regarding who academics think their students are, whether they are at risk, and/or what they are at risk of. Data-informed decision-making, as alluded to by Parnell *et al.* (2018: 2), supports this statement. In an effort to move towards a data-driven decision-making process, this study will focus on literature-informed demographic factors such as (i) race, (ii) gender, (iii) high school quintile, (iv) language of secondary schooling, (v) home language, (vi) results of senior certificate exam in English, Mathematics, and Accounting, and (vii) a South African University Admission Points Score (AP score). This research will explore these demographic factors and student performance at senior university level (second- and third-year students). A brief discussion on the rationale for the selection of the noted demographic factors, the concept of student academic performance, and the selected student cohort follows.

DEMOGRAPHIC FACTORS AND STUDENT ACADEMIC PERFORMANCE

According to Crous and Goodchild (2021: 24), studies on accounting student success prediction focus on both academic and non-academic factors. Academic factors include, amongst others, numerical skills in the form of Grade 12 maths results, language proficiency, and academic performance to date. Examples of non-academic factors are race, gender, age, school attended, personality, and socio-economic background. Jansen and De Villiers (2016: 4) report that certain identified factors, such as race, gender, age and first language, amongst others, seem to have a more prominent influence on academic performance than others.

RACE

Papageorgiou and Callaghan (2020: 205) and Williams *et al.* (2022:293) find that race does not significantly

impact academic performance. However, the differences between throughput rates of African and White students remain a concern for South African tertiary institutions and accountancy departments. This study will explore this demographic factor further to determine whether a link between race and second- and third year students' academic performance exists.

GENDER AND LANGUAGE

Research related to the demographic factors of gender and language renders contradictory results. Baard, Steenkamp, Frick, and Kidd (2010: 121) report that female students are more successful in higher education accounting studies, whilst Jansen and De Villiers (2016: 8) find that males outperform females in three accounting subjects. In contrast, Williams *et al.* (2022:293) report that gender has an insignificant influence rate on the throughput rate of students, if at all.

De Lange, Waldmann and Wyatt (1997: 295), Jackling and Anderson (1998: 65), Roos (2009: 49), as well as Jansen and De Villiers (2016:2) report no significant correlation between students' first language and their academic performance in accounting subjects. Crous and Goodchild (2021:44) also note that language proficiencies are not predictors of success for postgraduate audit studies. However, Van Wyk (2011: 145), Addow Abikar (2013: 59), Tailab (2013: 36), Steenkamp (2014: 283), Swart and Becker (2014: 157) and Oosthuizen and Eiselen (2012: 156) posit that the language factor has significant a bearing on students' academic performance. South Africa is a diverse country with its constitution recognising 11 official languages. At the UFS, and many other South African tertiary institutions, English is recognised as the official medium of instruction. This leads to a situation where students are often taught, at these institutions, in a language other than their mother tongue or schooling language. With attendance at an English-speaking school having been identified as one of the most significant factors in predicting the risk level of first-year accounting students (De Villiers & Farrington, 2017: 291), it is suggested that the language aspect is an area that requires further investigation.

In light of the contradictory findings ranging across several years, this study specifically explores the relationship between the language of secondary schooling, students' home language, gender, and their academic performance.

HIGH SCHOOL QUINTILE

All public schools in South Africa are categorised into five quintiles (groups) based on the level of government funding obtained (Tikley & Mabogoane, 1997: 159). Anecdotal evidence suggests that schools in the higher quintiles are more affluent and therefore able to offer more resources than schools in lower quintiles. Students from higher quintiles are thus expected to perform better in senior-level university accounting subjects than students from lower quintiles (Jansen & De Villiers, 2016: 5). This assumption is supported by results garnered by Jansen and De Villiers (2016: 16); however, Jackling and Anderson (1998: 65) report no significant relationship between student performance in first-year Management Accounting and the quintile of the school type they attended. With the diverse scholastic background of UFS students enrolled in the B.Accounting and B.Com Accounting programmes, this demographic factor may render interesting results and may inform interventions of a more specific nature.

UNIVERSITY ADMISSION REQUIREMENTS

Student admissions to relevant academic programmes at South African universities depend heavily on the AP score. The latter is based on previous scholarly achievement and National Benchmark Test (NBT) results (Papageorgiou, 2017: 215). At the UFS, the admission requirements for the B.Accounting programme, the curriculum of which contains the EFIN2708 subject included in this study are:

- An AP score of 34.
- A final Grade 12 Mathematics mark of at least 60% (achievement level 5); and
- A final Grade 12 English mark of 50% (achievement level 4).

For the BCom Accounting programme, which includes the subject EACC3708 pertinent to this study in its curriculum, the entry requirements include:

- An AP score of 28.
- A final Grade 12 Mathematics mark of at least 50% (achievement level 4); and
- A final grade 12 English mark of 50% (achievement level 4).

Crous and Goodchild (2021: 35) conclude that neither NBT results nor AP scores are predictors of success for postgraduate audit studies. Nonetheless, it is assumed that students who meet the admission requirements will be able to complete the relevant course (Fraser &

Killen, 2003: 261), hence the inclusion of these demographic factors in this study.

The demographic of the Grade 12 Accounting mark is deemed of specific importance in this study. Having completed Accounting as a school subject is not a requirement for either of the two programmes included in this study. However, studies by Baard *et al.* (2010: 137), Papageorgiou (2017: 221), and Steenkamp, Baard and Frick (2009: 125) indicate a significant positive relationship between students who completed Grade 12 Accounting and their academic performance. Williams *et al.* (2022: 280) also report that students who achieved lower than 70% for Mathematics in Grade 12, and who did not take Accounting as a Grade 12 subject, were not able to complete the mainstream accountancy degree within the minimum timeframe.

Several studies, such as the studies alluded to above, explore a wide range of demographic factors related to students' academic success. This allows for the identification of common factors, as well as inconsistencies in findings. Furthermore, this is an indication that the environment in which the study is undertaken is important, and that results within a particular environment may not be generalisable beyond that particular environment (Jansen & De Villiers, 2016: 4). For the purposes of this research, the selected cohort under study is final-year undergraduate students enrolled for the B.Com Accounting programme who are registered for the Accounting subject EACC3708. In addition, second-year undergraduate students in the B.Accounting programme, who are registered for the Financial Accounting subject EFIN2708, are included. The aforementioned subjects are equivalent subjects with similar content. For the purposes of this study, references to the subject "Accounting" therefore encompasses both "Accounting" (EACC3708) and "Financial Accounting" (EFIN2708).

In line with the approach followed by Bruwer and Ontong (2020:17), as well as Crous and Goodchild (2021:26), this study defines student academic success as a student passing a subject on their first attempt with a mark of at least 50%. Student academic performance is defined as a student's final mark for a particular subject in a particular year.

RESEARCH METHODOLOGY

In broad terms, data analytics can be divided into two types of analytics, namely academic analytics and learning analytics. Ifenthaler and Yau (2020: 1962) note that learning analytics is seen to be more specific than academic analytics, as the focus thereof is on the learning process, whilst academic analytics focuses on instructional data analysis. Long and Siemens (2011: 34) illustrate the difference between the two types of analytics as follows:

"...learning analytics is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs. Academic analytics, in contrast, is the application of business intelligence in education and emphasizes analytics at institutional, regional, and international levels (Long & Siemens, 2011: 34).

With student success seen as the primary focus of data analytics in higher education, and authors Farley, Swoboda, Chanvisanuruk, McKinley, Boards and Gilday (2019:608) determining that various factors, including academic performance, contribute to student academic success, these two constructs may be regarded as a holistic unit with the one supporting the other. This follows that the theoretical underpinnings of both learning- and academic analytics will be applied in this study that has student academic performance as the primary focus.

This study follows an exploratory approach using quantitative analysis based on convenience sampling. The sample consists of five cohorts of senior accountancy students at UFS; these students were enrolled in accounting subjects. An Ethics Clearance Certificate was issued by the University's Ethics Committee.

Based on the statistical analysis provided, the researchers aim to study the influence of the previously identified demographic factors on senior student performance. Descriptive statistics are provided along with inferential methods used, including correlation and regression analysis, supplemented by analysis of variance to explore differences in performance between demographic- and academic groups. Where the compared samples are skewed, nonparametric tests are applied. Further, classification analysis may further contribute to

providing insight into performance metrics across the subsets of students.

TARGET POPULATION

A total number of 2 337 unique students were registered for the subjects of interest, EFIN2708 and EACC3708. However, the sample size reduces accordingly based on the availability of the students' NSC results, NBT scores, and their year-on-year academic performance. Some of the differences in the NSC results and NBT scores are attributable to several matters. Firstly, the population includes students who wrote the NSC prior to 2008; this translates to differences in qualifications and achievement levels. Furthermore, some students entered the UFS through a process called Recognition of Prior Learning² (RPL). Lastly, the entrance requirements for qualifications at the UFS have changed over time. In essence, this leads to missing values > 5percent per variable, making the use of imputation methods infeasible.

Similarly, the use of the NBT score has increased at the UFS in recent years but remains an elective. When considering the missing values in the aforementioned datasets, some attrition occurs, resulting in a sample of 55% of the population (1 220 unique students). In this respect, it is important to guard against sampling bias, since an accurate sampling frame cannot be obtained (Stangor, 2015: 115). Consequently, the result of the study is based on outcomes of the sample rather than of the population.

In terms of data pre-processing, all numeric values in the dataset are normalised. In addition, data processing and statistical analysis was conducted in the R Programming Language, version 4.2.2 2022-10-31. The students' academic performance, NBT score for Academic Literacy (AL), Quantitative Literacy (QL), and Mathematics, their NSC results, as well as biographic details were collected from subjects' class lists and Gradebook data for the period of 2018 to 2022. In the context of this study, Gradebook refers to the Enterprise Management System (ERM) utilised by the University. It serves as a data repository for the University's operational datasets, including student marks, across all assessment types and final marks. The numeric variables concerned include the final mark for the accounting subjects, NSC results, NBT variables, the rolling-academic average, and the students' AP scores.

² The latter refers to skills and knowledge acquired through informal learning and is awarded based on assessments administered by the University of the Free State's Centre for Teaching and Learning.

The rolling-academic average comprises all students' University-level results averaged per year. Importantly, the rolling-academic average excludes the semester when the subject concerned was enrolled for. The normalised ($\mu = 0$ & $\sigma = 1$) data assists with transforming the underlying distribution of the numeric variables, making the dataset more compatible with several models in turn (Kuhn & Johnson, 2020: 124). In addition, the categorical variables, race and gender, are encoded as dummy variables. The aim of the aforementioned is to ensure variable compatibility with numerous variables. Further data pre-processing involved sub-setting the data according to respective academic years. This approach further distinguishes outcomes over the five-year period, a crucial aspect for determining whether the predictors of final marks remain the same or vary across the years.

The analysis relies on the implementation of three models, namely Ordinary Least Squares (OLS) regression, Kruskal-Wallis Analysis of Variance (ANOVA), and Dunn's Test for Multiple Comparisons (Post-Hoc Test). Each model attempts to determine the relationship between literature-informed demographic factors and senior university students' academic performance. OLS regression provides an interpretable model of the factors influencing academic performance, while the Kruskal-Wallis ANOVA is used to determine the differences in the students' final marks across academic years. Dunn's Test for Multiple Comparisons serves as a post-hoc analysis of the Kruskal-Wallis analysis of variance.

The following table summarises the OLS regression results across the five years.

Table 1: 2018 to 2022 final marks

Characteristic	2018 Final Marks		2019 Final Marks		2020 Final Marks		2021 Final Marks		2022 Final Marks	
	Beta ¹	SE ²	Beta ¹	SE ²	Beta ¹	SE ²	Beta ¹	SE ²	Beta ¹	SE ²
NSC Result:										
Mathematics	3.4***	1.03	3.0*	1.19	1.3	1.21	-0.31	1.29	2.5*	1.05
Accounting	0.79	0.947	-0.42	1.07	-0.52	1.09	-1.4	1.24	1.8	1.04
AP_score	-0.06	0.192	0.03	0.215	0.18	0.250	0.60*	0.266	0.13	0.238
NBT score:										
AL	1.2	0.909	0.95	1.13	-2.1*	1.02	-1.6	1.27	-0.50	1.11
QL	-1.1	0.956	-0.26	1.22	1.5	1.15	3.3*	1.54	-1.4	1.24
Mathematics	0.08	0.931	-1.3	1.19	-0.11	1.05	-0.85	1.41	-0.88	1.07
Race:										
African	—	—	—	—	—	—	—	—	—	—
Asian	-4.2	8.21	8.9	6.05	7.8	6.63	-7.1	6.12	-13	10.5
Coloured	-8.4	4.65	-2.4	4.61	1.5	4.32	1.1	5.58	-6.3	4.18
White	0.71	4.77	1.9	4.31	4.0	5.10	-3.5	5.14	1.5	4.87
Other					-10	10.5	11	11.2		
Gender:										
Female	—	—	—	—	—	—	—	—	—	—
Male	1.6	1.37	-0.14	1.68	0.00	1.52	-4.3*	1.82	-3.8*	1.75
Enrolment_Count:										
1	—	—	—	—	—	—	—	—	—	—
2	-2.1	1.58	-2.2	1.98	-2.0	1.89	6.4*	2.48	5.9**	1.90
3	-1.5	2.88	4.7	2.43	0.99	2.96	5.6	2.99	8.1*	3.30
4			-0.97	4.57	-5.9	5.53	0.71	7.92	-4.5	6.77
5					-60***	10.7	7.6	7.03	29*	13.8

Rolling academic average	0.83***	0.097	0.75***	0.100	0.62***	0.110	0.94***	0.105	0.88***	0.123
Home Language										
Afrikaans	—	—	—	—	—	—	—	—	—	—
English	4.4	3.61	4.8	3.01	5.3	3.65	-0.90	4.46	0.05	4.06
IsiXhosa	4.2	4.87	2.6	4.82	5.7	5.03	0.97	5.58	-2.5	5.07
IsiZulu	4.0	5.19	0.71	5.03	2.0	5.12	-13*	5.64	-6.1	5.02
Other	-8.2	11.7	4.4	8.15	1.5	11.3	3.2	6.25	-1.2	8.07
Sepedi	3.1	5.88	-2.3	5.50	5.5	5.35	-8.5	5.79	-2.6	5.37
Sesotho	-0.73	4.72	0.86	4.54	0.70	5.01	-3.9	5.21	-4.0	4.76
Home Language										
Setswana	2.4	4.99	1.6	4.79	3.9	5.48	1.3	5.81	-3.3	5.09
Swati	7.2	9.03	-2.6	8.92	7.8	6.31	7.4	12.2	0.68	6.46
Tshivenda	4.9	5.96	0.04	9.34	4.6	7.91	0.80	8.32	4.0	6.09
Xitsonga	-0.98	7.17	3.0	5.82	0.75	6.66	-13	9.03	-1.8	6.54
High School Quintile:										
1	—	—	—	—	—	—	—	—	—	—
2	-4.4	3.85	7.2	5.43	-0.72	6.52	-3.3	5.53	9.8	5.42
3	-5.3	3.54	5.9	3.56	1.2	5.85	4.4	4.52	0.45	3.79
4	-2.7	3.45	5.6	3.56	3.2	5.73	8.4	4.62	0.12	4.25
5	-2.0	3.21	6.2	3.23	3.8	5.58	7.2	4.14	-0.10	3.81
Unknown	-3.8	3.38	7.6*	3.62	2.3	5.60	0.45	4.51	1.8	3.79
No. Obs.	284		237		219		176		301	
R²	0.483		0.369		0.386		0.651		0.355	
Adjusted R²	0.426		0.280		0.285		0.575		0.283	
p-value	<0.001		<0.001		<0.001		<0.001		<0.001	
Statistic	8.51		4.17		3.80		8.65		4.95	

¹*p<0.05; **p<0.01; ***p<0.001²SE = Standard Error

All models are statistically significant and explain a substantial proportion of variances in students' final marks. It is worth noting that model performance ranges from an adjusted R^2 of 0.28 in the 2022 academic year to 0.57 in 2021. As such, while the variables concerned explain a substantial proportion of variance in students' final marks, students' performance varied over time. The model intercept corresponds to "Race" equal to "African" and "Gender" equal to "Female" with the remainder of the numeric variables corresponding to a beta of 0.

In respect of the coefficients, the variable "Home Language" is not statistically significant in any of the models, except with isiZulu in the 2021 model; here, students obtained thirteen percentage points below the mean. On the other hand, the NSC result for Mathematics is statistically significant and positive in respect to the 2018 Final Marks ($p = 0.001$), the 2019 Final Marks ($p = 0.01$), and the 2022 Final Marks ($p = 0.05$) respectively. Interestingly, the NSC result for accounting is statistically insignificant. In relation to the biographic variables, gender and racial differences among the students enrolled in the accounting subjects, though existent, are largely not statistically significant.

Importantly, the student's repeater status, indicated by the variable "Enrolment_Count" is considered in the model. It indicates that students who repeated the subject twice obtained final marks 6.4 ($p = 0.005$) and 5.9 ($p = 0.01$) percentage points in the 2021 Final Marks and 2022 Final Marks, respectively. The rolling-academic average, defined as the cumulative academic average for all semesters proceeding enrolment in the subjects EFIN2708 and EACC3708, is statistically significant and positive ($p = 0.001$) in all the models.

As mentioned above, the differences in the predictive value of the variables vary year on year. In this regard, it is prudent to consider differences between the cohorts of students. Prior to conducting the Kruskal-Wallis ANOVA test, it is important to verify the assumptions of its parametric alternative, the One-way ANOVA (Field, Miles & Field, 2012: 168). Reliance is placed on the Shapiro-Wilk test for normality and on Levene's test for homogeneity.

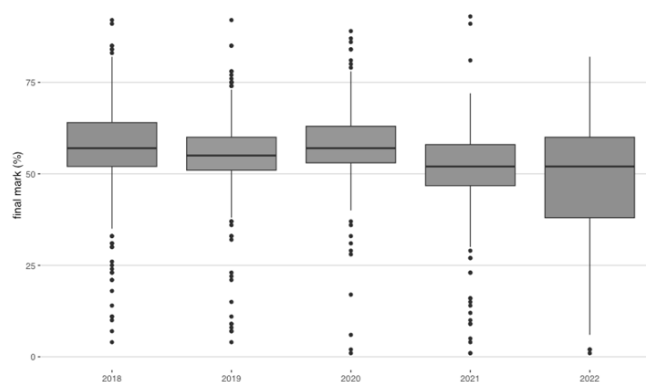


Figure 2: Boxplot of final marks in the accounting subjects across academic years from 2018 to 2022

The percentage of the final marks for the two subjects across all academic years were statistically insignificant. $W=0.911$, $W=0.85$, $W=0.86$, $W=0.97$, and $p < 0.001$, were not normally distributed. The null hypothesis evaluated by Levene's test indicates that variables in different groups are equal (Field, Miles & Field, 2012: 186). The Kruskal-Wallis test indicates statistically significant results among the cohorts ($p.value = 1.36e-23$). The effect size is moderate, detected at $\eta^2[H] = 0.0850$. While the results of the Kruskal-Wallis ANOVA test are sufficient at an overview level, it is necessary to employ a post-hoc test, in this case Dunn's Test, for which results are illustrated in Table 2 below.

Table 3: 2018 to 2022 Dunn test comparison

Post-Hoc: Dunn Test								
variable	group1	group2	n1	n2	Statistic	p	p.adj	p.adj. signif
Final Mark	2018	2019	284	237	-2.9793583	0.0028885	0.0144	*
Final Mark	2018	2020	284	219	0.0445686	0.9644512	1.0000	ns
Final Mark	2018	2021	284	176	-5.7573547	0.0000000	0.0000	****
Final Mark	2018	2022	284	301	-6.9077441	0.0000000	0.0000	****
Final Mark	2019	2020	237	219	2.8393074	0.0045212	0.0144	*
Final Mark	2019	2021	237	176	-2.9163339	0.0035417	0.0144	*
Final Mark	2019	2022	237	301	-3.5617997	0.0003683	0.0022	**
Final Mark	2020	2021	219	176	-5.4954904	0.0000000	0.0000	****
Final Mark	2020	2022	219	301	-6.4790430	0.0000000	0.0000	****
Final Mark	2021	2022	176	301	-0.2015710	0.8402521	1.0000	ns

**** = $p\text{-value} < 0.001$

p.adj: $p\text{-value}$ adjustment method Holm's 1979 progressive step-up procedure.

ns = Not Statistically Significant

The results of the Dunn's Test illustrate the differences in final marks across the academic years. With the exceptions of 2018 – 2020 and 2021 – 2020 pairwise comparison, the results ultimately indicate statistically significant differences in the year-on-year mean performance of students in the accounting subjects.

DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

The analysis focused on a cohort of second- or third year students of accounting. In this respect, the study fills an important gap in existing scholarship. As noted by Rossouw and Brink (2021: 231), academic literature indicates a dearth of studies on post first-year accounting academic performance, as many of these studies focuses on first-year accounting academic performance (Bruwer & Ontong, 2020; Papageorgiou, 2019; Williams *et al.*, 2022). Several questions are raised in relation to the training of future accountants. The main question is whether the determinants of academic performance in the first year persist in subsequent years, whether the NSC results hold the predictive power in later academic years, amongst others.

To answer some of these questions, a wide array of variables is included, such as biographic variables (race, gender and home language), high school quintile, NSC results for Mathematics, English, and Accounting, the AP Score, and the NBT scores for Academic Literacy, Quantitative Literacy, and Mathematics. In addition, students' academic performance at the UFS are considered through the inclusion of their rolling academic average (year-on-year) performance, along with the student's repeater status. To test for year-on-year variation in academic performance, a sample for

each academic year for the period 2018 to 2022 is included.

The results of the OLS models contain several noteworthy observations. The NSC Accounting result is statistically insignificant at explaining academic performance in the sample. The finding is similar to that of Rossouw and Brink (2021: 241), who determined that, despite students completing Accounting at NSC level, it is not a meaningful determinant of academic performance in later years. As highlighted by Papageorgiou and Carpenter (2019: 278), there is a need for more research in respect of the NSC Accounting result prerequisite for accounting degrees in the South African context. Expanding this research can aid in determining the short-term (first year), and long-term value of the NSC Accounting result in these programmes.

In contrast, the NSC Mathematics result remains a statistically significant variable of performance in all years, except in the 2020 and 2021 cohorts. This finding correlates with that of Papageorgiou (2017: 223), who indicates a statistically significant ($p = 0.001$) correlation between the NSC Mathematics result and first-year university accounting marks. More recently, Williams *et al.* (2022: 293) found that students who obtained 70% or more for NSC Mathematics had a higher likelihood of completing their B.Com Accounting qualification successfully.

The NBT scores were largely statistically insignificant for the student samples in this study; however, there are some exceptions. For the 2020 cohort, Academic Literacy was statistically significant and negative ($\beta = -2.13$, $p = 0.038$), and in the 2021 cohort Quantitative Literacy was statistically significant and positive (β

= 3.3, $p=0.033$). Racial differences in academic performance were uniformly statistically insignificant. Conversely, gender differences were initially found to be statistically insignificant. However, in later cohorts (2021 and 2022), males performed worse than their counterparts at -4.3 and -3.8 respectively.

In relation to the Home Language variable, the variable is statistically insignificant in all the models. An important exception exists in this regard: isiZulu-speaking students obtained 13 percentage points lower final marks compared to the mean. The difference is statistically significant and negative ($\beta = -13$, $p = 0.05$).

A variable often not considered in literature is the student's repeater status. It was determined that students re-enrolling for the subject for a second and/or third time tend to outperform their counterparts. These differences in repeater status have become more pronounced in recent years. From the variables considered – NSC results, demographic factors, and NBT scores – it is evident that most variables were poor predictors of the sample's academic performance. Notably, in all cohorts, the students' rolling-academic average is a statistically significant and positive predictor of academic performance.

LIMITATIONS

An important limitation of this study is that only certain demographic factors were considered. Other factors, whether unidentified or not included, could potentially significantly influence student academic success. The selection of the specific factors was based on literature support, accessibility to information, and factors deemed applicable to the environment. Furthermore, the data collected relates to only two specific subjects offered at one specific university; the findings can therefore not be generalised to other subject disciplines, programmes and/or universities. Finally, due to the "missing values" in the datasets analysed, some attrition occurred. Consequently, a sample of 55% of the population was eligible for further analysis, and the results of the study can only be based on outcomes of the sample in place of the population.

FUTURE RESEARCH

This study is envisaged to be the first step of a phased research project resulting in possible focused, data-driven curriculum changes and interventions. The

following phases, with the current study regarded as "Phase One", subject to change, are contemplated:

1. Phase Two: Triangulation of findings from Phase One (i.e., this study) by conducting a standardised reading level assessment and analysing the results by comparison with students' NBT scores and English Academic Literacy for Economic and Management Sciences, UFS, results.
2. Phase Three: Developing and testing of interventions based on findings from Phase Two.
3. Phase Four: Developing and conducting focused, subject-specific reading level assessments, adapted specifically for accounting subjects (taxation and accounting).
4. Phase Five: Developing and testing of interventions based on findings from Phase Four; and
5. Phase Six: Consideration of predictive modelling development for pro-active learning and teaching interventions aimed at specific student cohorts.

Regardless of the Phased approach explained above, additional, in-depth research is required to identify additional, significant factors in student performance, which could include psychological and emotional factors. The variables identified to be significant from this study should be investigated to ensure a deeper understanding of the relationship with students' academic performance. This study includes student data from only the UFS, for a specific period; replication studies at other higher education institutions within a different environment, different student profile and different time frame may identify relationships that can shed light on the understanding of senior student academic performance.

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The use of the Conceptual Framework for Financial Reporting to solve complex accounting problems: A case applied to tertiary students

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Purpose: It is widely perceived that teaching accounting on a conceptual level contributes to effective problem solving and ultimately life-long learning. This framework-based approach is rooted in educational psychologies such as constructivism and Ausubel's Subsumption Theory. An assignment containing complex accounting problems was administered to students at a particular South African university (as a case study) to (1) qualitatively assess whether students have the ability to solve such problems by using only the accounting Conceptual Framework; and (2) determine to what extent their ability is affected by factors identified in the literature.

Design/Methodology/Approach: This study employed an interpretative research design aimed at investigating students' ability to solve complex accounting problems using only concepts underlying the Conceptual Framework. Qualitative data were gathered through a content analysis of student answers, the researcher's field notes and a student reflective questionnaire.

Findings: The results indicated that the ability of students to effectively solve accounting problems using only the Conceptual Framework depended on the complexity of the scenario and the students' familiarity with the problem.

Originality/Contribution: The importance of the study lies in emphasising the necessity for accounting educators to enhance students' conceptual understanding as a mechanism for problem solving in accounting. The study undeniably highlights the considerable emphasis on the importance of the Conceptual Framework in accounting education.

KEYWORDS: *accounting education; Ausubel's subsumption theory; conceptual teaching; constructivism; framework-based; problem solving*

INTRODUCTION

The accounting guidance included in the International Financial Reporting Standards (IFRSs) is often perceived as being extensive and complex (PWC, 2022; Schrodli & Klein, 2012). This perception, coupled with the fact that the accounting guidance changes every so often (Berkman, 2018; IFRS Foundation, 2023), results in accounting students, practitioners and educators regularly facing accounting problems that are complex and onerous to solve. In order to overcome part of the complexity, the authors are exploring whether accounting problems, including complex problems, could also be solved in a less complex manner by referring back to the basic accounting principles included in the Conceptual Framework for Financial Reporting ("CF") (IFRS Foundation, 2018). The solution to the accounting problem should result in a similar answer had the detailed, complex accounting guidance (i.e., the relevant Standard) been consulted. This is supported in the CF as its purpose is to assist in

developing IFRS standards that are based on consistent concepts (IFRS Foundation, 2018).

This approach to solving accounting problems suggests that a detailed understanding of the CF could aid significantly in the application of accounting guidance to an accounting transaction, event or circumstance. Such an approach, being based on learning and applying principles rather than detailed technical knowledge, is rooted in educational psychologies such as constructivism, perennialism and Ausubel's Subsumption Theory (refer to the next section of the paper). This paper should therefore be of interest to accounting academics who can incorporate this approach in the professional education of accountants, as well as government and professional accountancy bodies who aim to promote quality education of accountants. A review of recent literature indicates that there has been very little significant exploration of the ability of accounting students to solve complex accounting problems whilst referring only to the CF.

¹ This paper is partially based on the dissertation of Karen Odendaal (first author), presented for the degree of Master of Commerce in Accountancy at North-West University (Potchefstroom Campus) with promoter and co-author Nico van der Merwe, available at: https://dspace.nwu.ac.za/bitstream/handle/10394/15961/Odendaal_K_2015.pdf?sequence=1&isAllowed=y

However, literature on this topic in other subject areas shows that such an approach certainly has merit (Odendaal & Van der Merwe, 2017). General advantages of this approach are that a detailed knowledge and understanding of the framework aids in adding and organising knowledge to this framework, in addition to equipping individuals with the ability to adapt to change (Barth, 2007; Durillo & Nebro, 2011; Hesketh, 2011; Hines, 1989; Novak, 2010; Ostrom, 2011; Wells, 2013). Some of the major disadvantages are that information could be misinterpreted if detailed guidance and rules are not known and that no approach can ever be as effective as experience (Christensen, 2010; Hines, 1989; Kolodner & Kolodner, 1987; Novak, 2010). In respect of factors that can influence a person's ability to solve accounting problems, three themes emerge from the literature, being experienced, knowledge and group work.

In light of the extensive, complex guidance contained in IFRSs, the problem that gives rise to the current study is that there is not enough emphasis on the use of the CF in solving complex accounting problems. Although there has been a substantial increase in accounting education research in recent years, there has been very little research in the field of learning preferences based on constructivist approaches and scope exists for investigating the perception and views of education in accounting courses (Rodgers, Simons & Gabrielsson, 2016). Hence, the purpose of this study is to administer an assignment containing complex accounting problems to accounting students at a particular South African university (as a case study) and to qualitatively assess (1) whether students have the ability to solve complex accounting problems by using only the CF; as well as (2) to which extent their ability is affected by any of the factors identified in the review of literature.

This study contributes to existing literature by offering insight into framework-based teaching as a basis to direct the way in which accounting education is guided at a tertiary level. Since there appears to be exhaustion of accounting students as a result of "syllabus overload" (De Villiers & Venter; 2010; Lubbe, 2013; Marx & Van der Watt, 2013; Van der Merwe, McChlery & Visser, 2014), this study is important as it proposes an alternative way in which accounting can be taught to enhance conceptual understanding and contribute to life-long learning. Such an approach would also stand students in good stead when entering the profession as they should be better equipped to adapt

to changing circumstances and deal with economic transactions.

EDUCATION THEORY UNDERPINNING A FRAMEWORK-BASED TEACHING APPROACH

The theory of constructivism suggests that learners are not only passive recipients of information, but that they actively create knowledge through experience and by interpreting information given to them. Constructivism is a category of learning theory in which emphasis is placed on prior knowledge and building on this knowledge and experience of the learner (Fosnot & Perry, 1996; Kundi & Nawaz, 2010). Formalisation of this theory is generally attributed to Jean Piaget (Ackermann, 2001; Wadsworth, 1996), who focused on mechanisms by which knowledge is internalised by learners. Piaget (1976) suggested that learners construct new understanding from existing frameworks of knowledge through processes of accommodation and assimilation. This study incorporates Piaget's (1976) description of assimilation where individuals incorporate new experiences into an already existing framework. As this study focuses on gaining an in-depth knowledge and understanding of the CF in accounting, and building on this knowledge through new discussions that constantly refers to this framework, students can constantly assimilate the new knowledge gained with reference to the CF.

The CF-based approach also incorporates aspects of perennialism. Perennialism suggests that understanding the most important aspects or principles of a topic develop a person's knowledge and skills. Detailed facts about the topic can change, but the overall understanding remains constant. Proponents of this approach believe that one should teach the things that one deems to be of everlasting pertinence (Wink, 2005). Therefore, one should teach principles, not facts. In this regard, Ausubel and Paul (2000) also suggested a way to implement cognitive learning through the Subsumption Theory. This theory is built on a similar view as constructivism (and especially assimilation) and is based on the following two principles (Ausubel, 1962):

1. The most general ideas of a subject should be presented first and then progressively differentiated in terms of detail and specificity.
2. Instructional materials should attempt to integrate new material with previously

presented information through comparisons and cross-referencing of new and old ideas.

The study reported on in this paper is based on the following principles:

1. The most general ideas in accounting are presented to students first, i.e., the CF.
2. New material on the specific guidance in each accounting standard is then cross-referenced with the CF to build new knowledge with reference to the existing overarching CF knowledge. As new knowledge is built, horizontal, vertical and cross-links can be made to contribute to meaningful learning.

LITERATURE REVIEW

When solving a specific accounting problem, the first point of reference is usually to refer to a specific accounting standard dealing with the problem. As will be explained later, there is an argument that the same problem can just as effectively be solved by only referring to the CF or the fundamentals of a topic. There is not a vast amount of literature on problem-solving using an overarching framework; however, the researchers have found some interesting works in this area. Applying a framework to solve problems, as well as developing such frameworks, are encountered in various sciences, including the natural, social, formal and applied sciences, but most prevalently in the fields of engineering and information technology (Durillo & Nebro, 2011; Houska, Ferreau & Diehl, 2011; Ostrom, 2011; Xun & Land, 2004). In fact, Frensch and Funke (2014) dedicated an entire book to complex problem solving, different scholarly viewpoints and approaches towards complex problem solving (specifically comparing North American and European views) and a large section devoted to a description of how a theoretical framework on complex problem solving might look like.

Accounting education is often criticised for mainly focussing on technical content being conveyed in a traditional lecture-based setting, and aimed at professional accreditation (Herbert, Rothwell, Glover & Lambert, 2021). There is a lack of research in the field of instructional guidance and its impact on cognitive learning in accounting education (Apostolou, Dorminey, Hassel and Rebele, 2017; Mostyn, 2012; Rodgers *et al.*, 2016; Stanley, 2012; Watty, 2010). Although the field of accounting has a specific CF, it appears, by reviewing the literature, as if no

exploration on solving accounting problems by using the CF has been conducted. Hines (1989) emphasised though that accounting standard-setting boards responsible for producing accounting guidance should focus on CF projects as a means of creating and sustaining a formal knowledge base from which other standards derive. This is supported in the CF as its purpose is to assist in developing IFRS standards that are based on consistent concepts (IFRS Foundation, 2018). More recently, authors such as Hodgdon, Hughes and Street (2011) and Wells (2013) have started to focus on framework-based teaching research, and urges accounting educators to shift their paradigm to teach more conceptually as opposed to emphasising pure technical knowledge. This has led to more publication on the topic in recent years, as evidenced by a book publication by Borgonovo, Friedrich and Wells (2019), named “Competency-based accounting education, training, and certification: An implementation guide”. More recent research also suggests that framework-based teaching provides students with a sound understanding of IFRS (Dong, Bai, Zhang & Zhang, 2019; Velinova-Sokolova, 2020).

In contrast to the earlier discussions, it is ascertained from the literature that utilising a framework to support the development of a conclusion to a problem, is not always the preferred way as it has some limitations. The advantages and disadvantages of using a framework to solve problems are summarised in the tables below.

Table 1: Advantages of a framework-based approach to problem-solving

Advantages	References
It is easier and more manageable to acquire a detailed knowledge of only the overall framework, without having to know the specifics of the additional information.	Hines (1989) Wells (2013)
Once the framework is understood, specifics of additional information can change, and person will be able to adapt.	Durillo and Nebro (2011) Ostrom (2011) Wells (2013)
It contributes to understanding a concept over the long term	Kolodner and Riesbeck (2014)
By using the framework as a point of reference, new knowledge can more easily be organised into categories and new knowledge can be built onto the existing framework	Kolodner and Riesbeck (2014) Novak (2010) Durillo and Nebro (2011) Ostrom (2011) Houska <i>et al.</i> (2011)
This approach contributes to life-long learning in the field	Hesketh (2011) Wells (2013) Novak (2010) Boyce, Williams, Kelly & Yee (2001)

Table 2: Disadvantages of a framework-based approach to problem-solving

Disadvantages	References
In many cases, there appears to be an emanate need for more detail and complex notions in the field of application	Kolodner and Riesbeck (2014) Ostrom (2011)
Without detailed knowledge, there could be misunderstanding and misinterpretation of concepts in the framework	Bromwich, Macve & Sunder (2010) Novak (2010)
The framework itself is often still evolving	Bromwich <i>et al.</i> (2010) Hines (1989) Hoffmann and Detzen (2013)
Framework concepts are sometimes arbitrary and difficult to understand on its own without context	Hines (1989) Christensen (2010)
The success of utilising the framework depends on prior knowledge of students	Xun and Land (2004)
Even though a framework may exist, problem solving is still easier through experience	Kolodner and Kolodner (1987)

Christensen (2010) analysed how CFs in accounting contribute to the quality of corporate reporting and concluded that the role and content of a CF as a set of ground rules, is useful in the regulation of financial reporting. In a review of Christensen's paper, Boyle (2010) indicated that the greatest potential of a CF is the provision of a sound basis for the drafting of accounting standards. As the CF contributes significantly to reporting and is the basis on which all other standards are usually set, it certainly can also contribute significantly to problem solving in accounting.

Since there have been little exploratory studies on the solving of accounting problems using only the CF, this study will explore this area from the perspective of the ability of accounting students to solve a complex accounting problem whilst only referring to the CF. The study will also explore factors that could influence the students' ability to solve the accounting problems, of which the relevant literature is discussed below.

A study by Vernooij (1995) suggests that, although information is available from other disciplines, limited educational research has been conducted on solving accounting problems specifically. Although more recent literature can be found on factors that influence accounting grades in general, much of the literature focuses on demographics such as culture, language, gender and high school attended (Jackson, 2014;

Paisey & Paisey, 2004). Although this study reports on some demographic information, it is not intended to analyse student results by comparing these demographical groupings. Whether the students have English as first language will, however, to some extent be considered with regard to communication apprehension (see next section). Other studies focus on how prior accounting courses, reading financial publications and work experience, as well as motivation, study habits, interventions and attitude can contribute to successful accounting grades in general (Paisey & Paisey, 2004; Yousef, 2011; Yu, 2011). Literature that exclusively focuses on the factors that influence students' ability to solve problems, especially in accounting, is scarce. However, by drawing on the limited literature in this regard, three main themes emerge which could potentially influence the ability of a student to solve a complex accounting problem by referring only to the CF. These are discussed in the paragraphs that follow.

The first theme is defined around the students' lack of experience with such problems using only the framework, together with their related comprehension of the problem and their communication apprehension. In his study, Vernooij (1995) explains that, in problem solving, students prefer to refer to a similar problem they have encountered previously and apply a similar frame of reference. In addition to this, Liraz (2013) mentions that people find solutions to their problems by way of association to similarity. The ability of students to solve a problem effectively could therefore be influenced by their lack of experience in dealing with complex problems of a similar nature. In this regard, students may be unclear on what is required of them, causing them to spend additional time to understand a complex scenario. This theme is associated with the written communication apprehension of students. Accounting education researchers have reported high levels of communication apprehension for accounting students (Arquero, Hassall, Joyce & Donoso, 2007; Hassall, Arquero, Joyce & Gonzalez, 2013; Joyce, Hassall, Montano & Anes, 2006). Moreover, language barriers have been pointed out as a hindrance in complex problem solving. Baldo, Dronkers, Wilkins, Ludy, Raskin and Kim (2005) found a significant correlation between the performance on a task and factors relating to language, such as comprehension. On the other hand, Coetzee, Schmulian and Kotze (2014), in a study on South African students, found that non-English home language does not have a significant effect on

communication apprehension, provided the instruction is received in English. The current study will therefore explore whether familiarity with the problem and the fact that English is not a student's first language have an impact on the student's ability to solve the problem.

The second factor that could influence a students' ability to solve a complex accounting problem is the lack of knowledge of the underlying concepts and principles of the CF. Prior studies indicate that a lack of core knowledge is problematic in accounting courses, as well as in the profession (Brent & Atkisson, 2011; Shuttleworth, 2014). This appeal to defeasibility is also evidenced in general by Liraz (2013) and Medlin (n.d.) who all indicate that a lack of knowledge and understanding has an impact on effective problem solving.

The third factor that will be considered is group work. Several studies suggest that group work on assignments can contribute to greater success and that collaborative learning is an approach that students experience positively (Collett, 2000; De Jager & Bitzer, 2013; Tempone & Martin, 1999). Such an approach, where two or more students learn or attempt to learn together, has been shown to be associated with improved pass rates and as such would enable them to solve complex problems collaboratively (Biggers, Yilmaz & Sweat, 2009; Dillenbourg, 1999). This study provides students with an individual assignment but gains their perception on groupwork afterwards.

BACKGROUND TO RESEARCH APPROACH

Development and administration of the assignment

In this study, third-year accounting students were given a never-before-seen, individual-based assignment where they were presented with complex accounting problems to solve using only concepts underlying the CF. The assignment contained a complex accounting scenario relating to a structured finance deal between a bank and an entity wishing to obtain finance to acquire a property. The bank consequently structured the finance deal through two newly created entities using trusts, shares, debentures, discounting agreements and a lease in order to enable tax savings for both itself and the acquirer of the property.

The assignment was developed with the intention of testing the students' ability to consider only the CF in solving a complex accounting problem. The assignment was developed specifically for this study and was administered immediately after the lecture on the CF. This was a separate exercise in the year of the study and is not a normal part of the students' syllabus on a yearly basis. It was administered to third year accounting students specifically to test their ability to address the complex problems using only their CF knowledge. It was the first assignment for the semester before any formative or summative ordinary written assessments took place (that normally forms part of the teaching activities of the course).

The assignment was based on a real-life scenario from an entity in the financial services industry, however all actual names were replaced by pseudonyms. The benefits of using complex, real-life examples are to encourage learners to think critically, analyse and use learning resources effectively, as well as develop effective communication skills and become life-long learners (Wygall, Stout & Cunning, 2017).

The assignment was developed, assessed and graded by the principal researcher, who was also the lecturer, as well as the main author of this paper. The assignment was reviewed by peer colleagues (financial accounting and non-financial accounting lecturers) to provide feedback on clarity and complexity. Although the development and peer review of the assignment contains the subjective views of the setter and reviewers, it was concluded by more than one party that the scenario contained complex principles and structures, however, the language is understandable. The assignment was graded with reference to a suggested solution that did not contain significant inherent subjectivity or ambiguities. The suggested solution addressed both the technical application of the concepts in the CF and pervasive skills. The fact that the main author was also the lecturer, is a limitation of the study, however this limitation has been mitigated through some application of validation, namely peer review of assignment, students reviewing their grading against the solution, and questionnaires administered by an independent party whilst the main author/lecturer was not present.

Question 1 of the assignment related to a trust investing in debentures and then immediately ceding the right to receive the interest and principal payments of the debentures. The principles tested were whether

an asset and related liability should be recognised or not for the debenture and the subsequent ceding of the interest and principal payments. Question 2 related to a lease of a building for 30 years in return for a series of payments. Ownership of the building passed at the end of the lease term. The principles tested were whether students could determine whether an asset and liability should be recognised or not, by referring only to the CF. Whilst most accounting problems can generally be solved by referring to a specific accounting standard, the same conclusion could also be reached by only referring to the CF.

The students were required to only address certain aspects of the CF, i.e. the objective of financial reporting, the qualitative characteristics and the recognition of elements (definition and recognition criteria) (IFRS Foundation, 2010). In addition to the CF, specific guidance dealing with the issues in the assignment could also be found in the appropriate IFRSs dealing with leases and financial instruments. The IFRS Foundation (2010) recognises that in a limited number of cases there might be a conflict between the CF and a specific IFRS and in these cases, the specific guidance in the appropriate IFRS would be used instead of the CF. The assignment did not require the solving of any aspect of the scenario where the CF is underdeveloped or where the specific accounting guidance is inconsistent with the CF.

Although students had access to the appropriate IFRSs (in addition to the CF) dealing with the issues in this assignment, the students were unfamiliar with the specific accounting guidance included in the appropriate IFRSs governing the transactions. However, their knowledge should have been of such a nature that they should have been able to understand the economics of the transactions clearly.

The student participants

The assignment was administered to the third-year accounting students at a South African university. The CF is emphasised with the students throughout their studies. In the students' third year of study, the CF is comprehensively dealt with during their first lecture of the year, as it forms the overarching construct on which the remainder of the topics throughout the year is based. During the CF lecture, the importance of having a detailed knowledge of the CF was emphasised again. This approach is based on Ausubel's Subsumption Theory where the general concepts of

accounting are presented first, and then new specific knowledge of accounting standards are progressively developed by referring back to the CF. In each subsequent lecture about a specific topic, reference is made back to the CF.

RESEARCH METHODOLOGY AND DESIGN

The method applied in this study is based on an interpretative research design to explore the ability of students to solve complex accounting problems using only the CF. An experimental assignment was administered to third year accounting students and the results of the assignment are analysed as described in the next section. Through an interpretivist approach, this research can create knowledge about framework-based problem solving that cannot objectively be verified using a positivist approach.

The current research study primarily uses qualitative data analysis to analyse the students' ability to solve complex accounting problems using only the CF. Previously researched methods exist to determine a person's problem-solving skills for structured and unstructured questions, such as the Paragraph Completion Test, ACCT instrument and two linguistic measures of Idea Density and Grammatical Complexity (Jones & Davidson, 2007). However, none of these methods fit this study. The purpose of this study is not to assess the student's problem-solving ability on its own, but to simply employ a qualitative exploratory approach to determine their ability to solve a complex accounting problem by using only the CF. This study uses a basic model for assessing students' ability to solve the problem by using the CF on two levels:

1. The assignment was graded by the lecturer/primary researcher, according to a suggested solution which does not contain much inherent uncertainty or any identified ambiguities. The results of the assignment were then analysed to determine pass rates, averages, and qualitative observations.
2. During the grading process, the lecturer performs a content analysis on the assignments to identify whether students principally reached the correct conclusion on the requirements of the assignment in terms of the CF.

The validation of the overall research requires that the analysis of the assignments be combined with other ways of data collection during the process. Qualitative

data analysis (Berg & Lune, 2004; Merriam, 1998) is used to determine the students' response to the assignment and its solution by observing their approach, results, interaction and feedback. The study also draws on field notes kept by the researcher to determine what could have impacted the students' results and ability to solve the problem.

The data collected through the grading process is supplemented by a further research instrument in the form of a reflective questionnaire that was designed on the principles identified during the literature review. The questionnaire was roughly designed based on Polya's (1945) principles in the problem solving process, namely: understand the problem, devise a plan, carry out the plan and reflect. The purpose of the questionnaire was exclusively to gather information to discover data relating to the students' problem-solving process and to determine factors that could have influenced their ability and grades. The questionnaire reflects the students' perceptions on the assignment and problem-solving process, rather than actual benefits and abilities derived. The purpose of the questionnaire was thus not to perform quantitative analysis only, but to compliment the explorative, qualitative nature of this study. The questionnaire mainly dealt with feedback on the assignment and factors related to the ability to solve the complex problem, on a 5-point Likert scale ranging from 1 = Strongly agree to 5 = Strongly disagree. The questionnaire was reviewed by various knowledgeable experts in research design in the accountancy and education fields, to ensure the validity and completeness of the subject matter in relation to each different theme identified during the literature review. Ethical clearance was also obtained from the relevant institution.

The data collected through the grading of the assignments, observations, student feedback and the reflective questionnaire are directly related to the research objectives, which ensure validity. Internal consistency is ensured in that the grading of the assignments is consistent and factual in order to describe the students' ability to solve the problem.

Characteristics of the students

The study was exclusively focused on the students at this particular university as a case study, which reinforces the qualitative, interpretive research design and allows for deep analysis on a smaller scale to

obtain rich data. A total number of 65 students enrolled for the unit at the university where the study was conducted in the year the assignment was administered, whilst 64 students completed the assignment. From the students that completed the assignment, 44 students (68.75%) completed the questionnaire. The researchers believe the major reason for this difference, was due to non-attendance of the lecture on the day the questionnaire was administered as the questionnaire was only handed out in a subsequent lecture.

This study was performed at one university in South Africa as a deep case study, and therefore could be different compared to students enrolled for third year accounting at other universities. The study however may still indicate symptoms present within most accounting courses at universities across the country. Thus, even though the study represents one case study, it has the added value of providing useful insights for other cases as well. The results could also be used as a base for further research. Even though this research is focused on an interpretative paradigm, the research design and the methodology that was applied, aim to make the study replicable and therefore reliable.

RESULTS AND DISCUSSION

This section investigates the ability of students to solve complex accounting problems by only using the CF; and to which extent their ability was affected by any of the factors described in the literature.

Participant profile

The demographic detail of the students that participated in the study and completed the questionnaire are summarised in Figure 1.

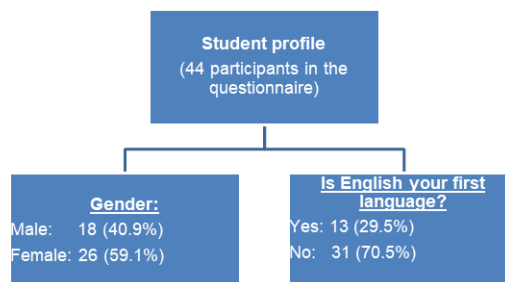


Figure 1: Demographic info on student participants

Students' ability to solve the problems in the assignment using only the CF

In assessing the ability of the students to solve the complex accounting problems by only referring to the CF, the results of the assignment were analysed as follows with regard to the two levels outlined in the methodology section:

Results of assignment

The overall pass rate for the assignment was 72.0% and the average score for the assignment was 57.1%. Students seemed to be mostly indifferent in respect of the difficulty of the assignment. Based on the questionnaire results, 9.1% and 25.0% of students respectively strongly agreed and agreed that the assignment was difficult. Only 4.5% and 20.5% respectively strongly disagreed and disagreed that the assignment was difficult, whilst the remaining 38.6% gave a neutral response on the difficulty of the assignment.

Content analysis to determine the principal correctness of students' attempts

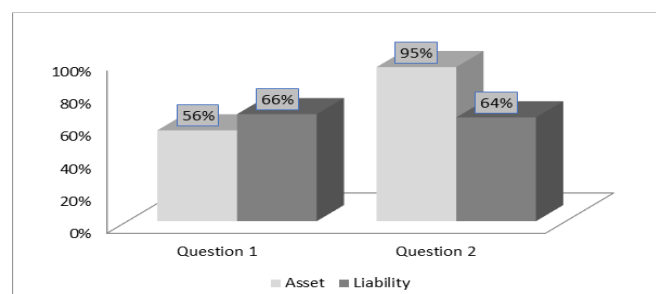


Figure 2: Analysis of results indicating extent of correct answers in principle

Figure 2 indicates to which extent the students had the principles correct as to whether or not an asset and liability should be recognised. Question 1 of the assignment related to a trust investing in debentures and then immediately ceding the right to receive the interest and principal payments of the debentures. Figure 2 indicates that 56% of the students had the principle correct that no asset should have been recognised for question 1, whilst 66% had the principle correct that no liability should be recognised for question 1. Question 2 related to a lease of a building for 30 years in return for a series of payments. Ownership of the building passed at the end of the

lease term. The results for question 2 indicate that 95% of the students understood the principle that an asset had to be recognised for the use of the leased asset, but only 64% realised that a liability had to be recognised for the lease instalments payable.

The students performed better in solving the problem in the scenario relating to the lease, compared to the problem contained in the scenario relating to the complex finance structure. The finance structure scenario simulates a bank providing finance to an entity to acquire a property, but in the process created two newly structured entities in the form of special purpose vehicles in order to obtain a predetermined output. The question related to a trust that invested in debentures, but immediately ceded its right to receive all amounts of principal and interest to the bank. At the stage the assignment was administered, students would reasonably not have been exposed to an analogous scenario, and consequently their performance in this section was inferior.

In the section dealing with the lease, a company obtained the right to use a property for a period of time in return for a series of payments. Ownership of the property passed to the lessee at the end of the lease term. The majority of students concluded correctly that the lessee should recognise an asset. The most likely explanation for this phenomenon is that the economic benefits obtained from the use of an item under a lease is specifically mentioned in the CF as an example of an asset (IFRS Foundation, 2010). In addition to this, a lease of an asset is most often used from the introductory accounting courses as an example of the "substance over form" principle where an asset should be recognised. It is therefore fair to accept that some of the students might have encountered this scenario before in their first or second year of study. The performance in the question of whether the company had to recognise a liability for the lease payments was more mediocre. The requirement to make lease payments is a liability however, this example is not used all that often in prior accounting courses and the researcher thus interprets the lack of experience to a similar scenario as the reason why the results of the liability section was inferior.

With regard to the factors that influenced the students' ability to solve the problems, the three major themes that have been identified from the literature will be applied to the study below.

Lack of experience, comprehension and communication apprehension

From the 44 students that completed the questionnaire, 16 and 18 students respectively (77.3% in total) agreed and strongly agreed that they had to spend additional time on the scenario to understand the structure of the finance deal. However, although a large majority of respondents felt uncomfortable with the difficult scenario, indicating that it was not familiar to them, 53.5% of the respondents were still clear on what was required in the assignment. Hence, it appears as if students were clear on the required but experienced more difficulty with the content of the scenario.

The literature revealed that a lack of experience with a problem could influence the ability to solve the problem (Liraz, 2013; Vernooij, 1995). However, this literature does not specifically refer to financial accounting problems and using only the CF. The current study suggests that unfamiliarity did have an impact on the students' ability to solve the problems. The students would have most likely performed much better had they seen a similar or fairly similar question or scenario before and as Kolodner and Kolodner (1987) indicated, there is no better way to solve a problem than through experience.

With respect to language, the results indicate that 70.5% of students did not have English as their first language, but 100% preferred English as the first language for business use. There is no clear result on whether language comprehension impacted their results, however all these students received their instruction in English. By considering the findings of Coetzee *et al.* (2014) that a home language other than English does not significantly affect apprehension, the authors believe that English comprehension did not have a major impact on the results.

Lack of underlying knowledge of the framework

Based on the students' perception of the knowledge required to complete the assignment, 70.5% of the students acknowledged that understanding is important as the lecture on the CF helped them to complete the assignment. However, Table 3 below analyses the students' responses with respect to their own knowledge, or lack thereof in attempting the assignment.

Table 3: Students' underlying knowledge of the CF

	My knowledge of the CF was sufficient before I attempted the assignment	I needed to study additional literature before I could attempt the assignment
Strongly agree	3 (6.8%)	5 (11.4%)
Agree	16 (36.4%)	18 (40.9%)
Neutral	15 (34.1%)	13 (29.5%)
Disagree	9 (20.4%)	5 (11.4%)
Strongly disagree	1 (2.3%)	3 (6.8%)
Total	44 (100%)	44 (100%)

The majority of students found that the lecture on the CF added value in their attempt at the assignment and hence agrees on the importance of underlying knowledge in solving a problem as also suggested by the literature (Brent & Atkisson, 2011; Liraz, 2013; Shuttleworth, 2014). The students were divided as to whether their knowledge of the CF was sufficient before they could attempt the assignment, although the majority did report that they had to study additional literature before they could attempt the assignment.

Group work

Although an individual assignment was administered, the instrument design gathered student perceptions on group work. With respect to group work, there seems to be varied and segregated opinions from the students. Eleven (25.0%) and 10 (22.7%) students respectively agreed and strongly agreed that they would have preferred to work in a group, whilst only three (6.8%) students were neutral in this matter. Thirteen (29.5%) and 7 (15.9%) students respectively disagreed and strongly disagreed that they would have preferred to work in a group. Although various studies indicate that group work could contribute to better results (Biggers *et al.*, 2009; Collett, 2000; De Jager & Bitzer, 2013; Dillenbourg, 1999; Tempone & Martin, 1999), this study seems to be segregated on the students' preference as to whether they would have preferred to work in a group.

Since there appears to be a varied view on group work, the authors investigated if preference to work in a group was dependent on the students' view of the difficulty of the assignment. Table 4 analyses the students' preference to work in a group based on their experience of whether they found the assignment to

be difficult or not. The preference to work in a group result were recoded that those who responded “strongly agree” and “agree” are seen as students who would have preferred to work in a group. There are 21 students who preferred to work in a group. The students who responded “disagree” and “strongly disagree” are seen as students who would not have preferred to work in a group. There are 20 students who preferred not to work in a group. The three “neutral” students were excluded from the analysis in Table 4 ($n = 44 - 3 = 41$, analysed below for the 21 and 20 students indicated above). These 21 and 20 students were then analysed in how difficult they found the assignment.

Table 4. Students’ preference for group work based on assignment difficulty

	I found the assignment to be difficult	
	<u>Students who prefer to work in a group</u>	<u>Students who prefer not to work in a group</u>
Strongly agree	3 (14.3%)	1 (5.0%)
Agree	7 (33.3%)	2 (10.0%)
Neutral	7 (33.3%)	10 (50.0%)
Disagree	4 (19.1%)	5 (25.0%)
Strongly disagree	0 (0.0%)	2 (10.0%)
Total	21	20

The results indicate that more students preferred to work in a group if they found the assignment to be difficult. Almost 77% (10/13) of the students that agreed and strongly agreed that the assignment was difficult (first two rows in the table above), would have preferred to work in a group. This intuitively appears to make sense, as the collective views of peers and group members could aid in the understanding and comprehension of the assignment. These students might have found the benefits of the group collaboration and multiple inputs more valuable. Students’ ability to solve the problem could therefore be enhanced and it could be an indication that groupwork would aid in the solving of complex problems.

General analysis

A further interesting result is that 86.7% of the students indicated that the assignment emphasised the importance of the CF in considering future accounting problems, with the remaining students being neutral on the matter.

The overall ability of students to solve accounting problems using the CF depends on familiarity of the problem and the complexity thereof. The students’ ability to solve the problems was predominantly influenced by the fact that a large component of the assignment was unfamiliar to them. The assignment intervention as a whole was received positively and the fact that most students (86.7%) grasped the importance of the CF in solving accounting problems, consummate the emphasis that should be placed on conceptual teaching as advocated by Hodgdon *et al.* (2011) and Wells (2013).

Interpreting qualitative observations

The overall pass rate for the assignment was 72.0% and the average for the assignment was 57.14%. The lecturer observed that the following could have contributed to a lower average:

- Poor application of examination technique. This entailed that students discuss the definition of the asset, but either did not apply details of the scenario appropriately to the concepts of an asset; or did not discuss the recognition criteria.
- The students could have lacked proper motivation, enthusiasm and commitment in completing the assignment as the results obtained for the assignment only contributed 10% towards the students’ final mark for the semester.
- Since the lecture on the CF was the first lecture for the semester (and there are always a minimal number of late enrolments), a lower grade could have been as a result of not attending the CF lecture.

The lecturer further observed that the students were positive and enthusiastic about the project and interacted with their fellow students and the lecturer more than usual. Through verbal feedback from the students, the lecturer also observed that the students realised the importance of having a thorough embedded knowledge of the underlying concepts in the CF. This realisation is likely due to the emphasis placed on the CF during the lecture, and repetition of the principles during further lectures, tutorials, the assignment and feedback on the assignment. The real-life scenario of the assignment gave students a feel for a similar scenario that they might face in practice. This in turn might contribute to effective problem solving in future and life-long learning.

From a qualitative perspective, the researcher agrees with the literature regarding the advantages and disadvantages of using a framework in solving problems and finding the optimal balance remains key in this instance. The specific accounting guidance should still to a large extent be used when faced with accounting problems, but the CF can certainly make a large difference in interpreting new and revised accounting standards, problem-solving in circumstances where there are no specific guidance and corroborating the accounting guidance specific to a transaction, circumstance or event.

Teaching implications

It is acknowledged that it is not always possible to solve an accounting problem by only employing the CF. The researcher also acknowledges that in certain instances it might be easier to refer to the specific guidance in a standard to address an accounting problem. However, the CF plays an indispensable role in contributing to accounting standard setting and problem-solving, being the overall construct on which all specific accounting guidance is based. The assignment intervention was undoubtedly experienced by the students as challenging, yet positive. The large focus on the CF also contributed to their understanding of specific accounting treatment of transactions and organised their knowledge with reference to the concepts in the CF. The assignment furthermore placed emphasis on the importance of the CF in considering all specific accounting guidance and also in problem-solving as evidenced by this study. It is therefore suggested that educators place a large emphasis on the CF in their teaching curricula.

CONCLUSION

The objectives of this study were to determine whether students have the ability to solve complex accounting problems by using only the CF; and to which extent their ability was affected by any of the factors identified in the review of the literature. An interpretative analysis was performed in this study and the exploratory nature of the assignment results, and the questionnaire corroborated the findings. The study identified general patterns of problem solving according to a framework-based approach and constructed an overall comprehension of how the CF is important in the teaching and learning process, as well as for the accounting profession.

The results of this study suggest that the ability of students to effectively solve accounting problems by referring only to the CF depended on the complexity of the scenario and the students' familiarity with the problem. The assignment indubitably placed considerable emphasis on the importance of the CF in accounting education. This may be especially useful for educators of accounting students in informing their teaching approach. The literature, enhanced by this study, conveys an important message for accounting educators: A thorough embedded knowledge and understanding of the underlying concepts in the CF is essential since it could contribute to life-long learning and the ability to formulate the appropriate accounting treatment for new events and transactions for which IFRS does not provide guidance (Barth, 2013; Borgonovo *et al.*, 2019; Schipper, 2003; Wells, 2013). This ability is useful when students enter the profession having to deal with voluminous, ever-changing, complex accounting guidance, as it also provides them with the ability to make appropriate judgements and estimates to apply IFRS with rigour and consistency.

Although the study was focused on the interpretation of the results of only one South African university, the results could be of interest to other South African universities, as well as any international university that teaches accounting to undergraduate students. The study also provides a basis for further research at other institutions or for longitudinal studies. Further research could additionally be performed to provide conceptual input to the respective accounting standards boards on areas where the CF is underdeveloped and to assist the IFRS Education Initiative with providing framework-based teaching material (IFRS Foundation, 2013).

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A critical analysis of South African financial literacy education programmes for small and micro-enterprise owners

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Purpose: Small and micro-enterprises play a pivotal role in the South African economy. A lack of owner financial literacy is one of the key contributors towards poor enterprise survival statistics. Concerns have been raised that existing financial literacy education programmes are not achieving the desired outcomes. This study aims to perform a critical analysis of financial literacy education programmes targeted at small and micro-enterprise owners in South Africa.

Methodology: A qualitative, inductive approach was followed, utilising a systematic literature review to gather data. This was complemented by a content analysis. Four key benchmarks were identified and used to conduct the critical analysis, which included a financial literacy needs assessment.

Findings: The findings indicate that none of the programmes address all the financial literacy needs of small and micro-enterprise owners. South African programmes focus on enterprise management skills. The design of the programmes compared to the set criteria is adequate. It was however found that the efficacy of the majority of the programmes was not assessed.

Conclusion: The flaws identified in the programmes signal that the impact of the programmes cannot be established, and prospects for future improvement are limited. The study suggests that a framework guiding stakeholders on how to develop suitable financial literacy programmes is required.

Contribution: This study provides valuable insight to parties wishing to critically analyse their financial literacy offerings, as well as stakeholders aiming to develop financial literacy programmes directed at small and micro-enterprise owners.

KEYWORDS: *financial education; financial literacy education programme; financial literacy need(s); financial literacy; small and micro-enterprise(s); SME(s)*

INTRODUCTION

Small and micro-enterprises are viewed as the foundation of economies around the world, given the vital role they play in the fight against poverty, unemployment, economic regression, and financial instability (Derbyshire & Fouché, 2018; IFAC, 2019; OECD, 2015; Ye & Kulathunga, 2019). Vos *et al.* (2018) and Ye and Kulathunga (2019) suggest that small and micro-enterprises could be the solution to the inequality in wealth distribution. South Africa is regarded as one of the world's most unequal societies with regard to wealth distribution (StatsSA, 2020; World Bank, 2019), with the World Economic Forum (WEF, 2019) scoring the country 63% for inequality (where 100% represents perfect inequality). If small and micro-enterprises are indeed the solution to the social and economic encumbrances the country is experiencing, the sustainable development and growth of these enterprises are crucial.

The survival statistics of small and micro-enterprises paint a grim picture. The failure rate of these enterprises shortly after commencement is staggeringly high (IFAC, 2019; Naradda Gamage *et al.*, 2020). It is reported that at least 40% of all small and micro-enterprises in South Africa do not survive for longer than five years (Bushe, 2019). Several reasons account for the low survival statistics, namely a lack of access to finance, crime and violence, corruption, and unstable utilities supply. However, a lack of financial literacy is reported to be a key factor that encumbers the development, growth and survival of small and micro-enterprises (Bushe, 2019; Derbyshire & Fouché, 2018; Muriithi *et al.*, 2017; USAID, 2009a). Singla and Mallik (2021) assert that small and micro-enterprise owners with low to no levels of financial literacy will not be able to protect their enterprises against failure as they do not understand the unique financial management needs of their enterprises.

Financial literacy is not an instinctive characteristic an individual is born with but can be attained through

financial literacy education (Liu et al., 2023; Lusardi, 2019). Financial literacy education is a powerful tool to empower small and micro-enterprise owners and improve their financial literacy to better operate and manage their enterprise's financial affairs (OECD, 2015; Ye & Kulathunga, 2019).

Unfortunately, the efficacy of existing financial literacy education programmes in South Africa is in question (Banking Association of South Africa (BASA), 2018). Researchers report inconclusive results on whether financial education programmes do in fact improve the financial literacy of small and micro-enterprise owners (Association of Chartered Certified Accountants (ACCA), 2014; BASA, 2018). Concerns have been raised that these programmes fall short in regard to design, complexity level of curriculum, method of delivery, and the measurement of their efficacy (ACCA, 2014; Álvarez-Franco *et al.*, 2017; Drexler *et al.*, 2014; USAID, 2009b; Walstad *et al.*, 2017).

This study performed a critical analysis of South African financial literacy education programmes targeted at small and micro-enterprises. This was achieved by foremost investigating features of appropriate small and micro-enterprise owners' financial literacy education curriculum, design, method of delivery, and evaluation of efficacy. These findings were used as benchmarks to perform a critical analysis of the identified programmes. Empirical evidence was obtained on whether South African financial literacy initiatives are appropriate when benchmarked against the pre-determined criteria. The results could be used for existing programme benefactors to benchmark their initiatives and this research provides valuable insight to policymakers and other institutions or organisations who aim to develop financial education programmes aimed at small and micro-enterprise owners.

LITERATURE REVIEW

Small and micro-enterprises are commonly defined in terms of number of employees (Gonzales *et al.*, 2014). Within a South African context, micro-enterprises are defined as those that employ between zero and five employees, and small enterprises more than five employees but no more than 50 (The South African National Small Business Amendment Act, 2003; South African Department of Small Business Development (DSBD), 2016). There are roughly 554 000 small enterprises and 5 000 000 micro-enterprises in South

Africa (BusinessTech, 2018). Based on the latest statistics from the DSBD (2016) these enterprises account for 47% of the country's workforce and contribute 42% towards the GDP.

No clear definition exists for financial literacy within the context of small and micro-enterprise owners. The review of literature allowed the formulation of the subsequent definition for small and micro-enterprise owner financial literacy.

Small and micro-enterprise owner financial literacy is the knowledge and understanding of financial and related concepts which include general economic terms, enterprise operation terms, terms related to documents and records accounting and bookkeeping related terms, terms related to financial and other reports, and financial management terms; it also comprises four fundamental financial literacy skills, which is literacy, numeracy, communication and decision-making, which enable the application or demonstration of the understanding of financial and related concepts. Furthermore, the demonstration of financial literacy is evident in the awareness of general or economic circumstances, the preparation of documents and statements, the performance of calculations relevant to small and micro-enterprises, financial management, and financial behaviour. Financial literacy is strongly influenced by behavioural biases and the attitude of small and micro-enterprise owners. These include positive attitudes or behaviour that facilitate financial literacy and restrictive attitudes or behaviour that impede rational thinking and that can hinder financial literacy (Australia and New Zealand Banking Group (ANZ), 2015; Derbyshire & Fouché, 2018; Eresia-Eke & Raath, 2013; Fatoki, 2014; Nunoo & Andoh, 2012; Raveendra *et al.*, 2018; Samkin *et al.*, 2014; Sian & Roberts, 2009; Sucuahi, 2013; USAID, 2009b; USAID, 2009a).

Financial literacy education is defined by the Organisation for Economic Co-operation and Development (OECD) and International Network on Financial Education (INFE) as a process that enables individuals to progress their comprehension of concepts relating to finance and financial products with the aim of ultimately equipping individuals with the skills and confidence to execute sound decisions and become more mindful of financial threats and opportunities (OECD, 2015). Past research on the correlation between financial literacy education and improvement of financial literacy yield contradictory

results (Kaiser & Menkoff, 2017; Lusardi *et al.*, 2018; Refera *et al.*, 2016).

Drexler *et al.* (2014) examined the impact that financial education programmes have on the financial literacy of small enterprise owners in the Dominican Republic, a developing country. They found that the financial literacy of enterprise owners did not improve when the financial education programme followed a standard approach to training based on the double-entry bookkeeping system and the rules of managing working capital and making investment decisions. On the other hand, financial literacy levels improved when the financial education programmes were simplified, easy to implement, and based on 'rule-of-thumb' training (Drexler *et al.*, 2014). An example of rules-of-thumb includes teaching participants why it is important to keep personal finances and the finances of the enterprise separate.

Kaiser and Menkoff (2017) analysed 126 studies conducted on the impact of financial education (offered at school, online and individual counselling) on the financial literacy of individuals. The sample included a combination of 24 developing and developed countries. The analysis revealed that financial education is less effective in improving financial literacy in lower-middle-income countries, such as South Africa. The reasons cited for the poor results were that the financial literacy education programmes are not intense enough, not relevant to the target group, and not offered at a time when individuals are motivated to obtain financial literacy, referred to as the 'teachable moment' (Kaiser & Menkoff, 2017).

The OECD (2012) and World Bank (2014) suggest that financial literacy education programmes can be effective only if they are well designed, based on a needs assessment of the target groups, and evaluated to assess their efficacy.

Financial literacy levels of small and micro-enterprise owners in South Africa are low (Singla & Mallik, 2021; Vos *et al.*, 2018). Financial literacy education can be the key to improving these owners' financial literacy (Singla & Mallik, 2021). BASA (2018) has criticised the ineffectiveness of existing South African small and micro-enterprise financial literacy education which is caused by the misalignment between the financial literacy needs of owners, the defined objectives, the way in which the programmes are delivered, and the

level of SME (small and medium enterprise) background knowledge the presenters possess. As mentioned earlier, past research suggests that the misalignment between financial education programmes and financial literacy can be correlated to poor identification of financial literacy needs, complexity of the curriculum content, and inappropriate teachable moments.

The aforementioned challenges necessitate investigation. Therefore, the study explored whether small and micro-enterprise financial literacy education programmes in South Africa are appropriate when compared to the benchmarks established (namely related to appropriate curriculum, design, method of delivery, and evaluation of effectiveness criteria). In addition, small and micro-enterprise financial education programmes widely used internationally were analysed against the same criteria to explore and identify other characteristics of these programmes and any weaknesses or strengths they possess. Since these programmes can also be adopted in South Africa, their strengths could be incorporated into South African programmes. Past research (Drexler *et al.*, 2014; Kaiser & Menkoff, 2017; Refera *et al.*, 2016; Xiao & O'Neill, 2016) suggests that developed countries' financial education programmes are more successful in improving financial literacy.

METHODOLOGY

RESEARCH DESIGN AND PARADIGM

This research followed an exploratory qualitative design and inductive approach. The goal was to, through literature review analysis, construct benchmarks that can be used to critically analyse financial literacy education programmes targeted at small and micro-enterprise owners and to subsequently use these benchmarks to perform a critical analysis of South African programmes. The ontological stance taken in the study was that the curriculum, design, method of delivery, and evaluation of the efficacy of a financial literacy education programme affect the success thereof. Hence, the social constructivist paradigm was adopted for this study as well as the critical theory in lieu of the critical analysis (Bryman *et al.*, 2018; Maree *et al.*, 2016).

LITERATURE REVIEW, CONTENT ANALYSIS, AND DATA ANALYSIS

A literature review was conducted to determine features of appropriate curriculum, design, method of delivery, and evaluation of efficacy that could be used as benchmarks to perform a critical analysis of existing programmes. Results were summarised into the main concepts and a critical analysis was conducted on South African programmes identified (Bryman *et al.*, 2018). These four criteria became focus areas since existing literature implies that current programmes do not yield success due to flaws related to these areas.

To identify the relevant programmes, a process similar to a systematic literature review was adopted. This entailed a comprehensive unbiased search of published literature as well as the world wide web (unpublished) to identify international widely used financial literacy education programmes as well as national programmes offered in South Africa which target small and micro-enterprise owners (Bryman *et al.*, 2018). Only programmes targeted at small and micro-enterprise owners were considered (Maree *et al.*, 2016) in the critical analysis conducted. Search words included:

‘Financial literacy education’; ‘financial education’; ‘international financial education programme(s)’ (throughout; ‘programme’ being the American spelling); ‘SME financial education programmes’; small and micro-enterprise/business financial education programmes’; ‘international SME financial education programmes’; ‘international small and micro-enterprise/business owner financial education programmes’; ‘international financial literacy training’; ‘widely used financial education programmes’; ‘widely used SME financial education programmes’; ‘international financial literacy training for entrepreneurs’; ‘widely used small and micro-enterprise/business owner financial education programmes’; ‘financial education South Africa’; ‘financial literacy education South Africa’; ‘financial literacy training South Africa’; ‘financial literacy programmes South Africa’; ‘financial literacy programmes for SME South Africa’; ‘financial literacy programmes for small and micro-enterprises/businesses South Africa’; and ‘financial literacy training for entrepreneurs South Africa’.

The content of the financial education programmes (study guides, module guides, instructor guides or

modules posted on the respective websites) were obtained from primary websites or, alternatively, content published on the world wide web where no primary website existed. A content analysis subsequently took place. The results were set out in table format in Microsoft Excel using meta-ethnographic synthesis which entailed a comparison of the content amongst the different programmes (Bryman *et al.*, 2018) as well as against the set criteria benchmarks and conclusions were drawn.

Ethical considerations

This research used information that is in the public domain and is neither sensitive nor confidential in nature.

RESULTS AND DISCUSSIONS

FINANCIAL LITERACY EDUCATION PROGRAMME CRITERIA

The four criteria investigated are based on the flaw categories cited as reasons for the failure of financial literacy education initiatives that had been identified earlier. These are curriculum, design, method of delivery, and evaluation of efficacy. The results obtained through the review of the literature reveal the following prominent features under each criterion that became the benchmarks for the critical analysis conducted.

CRITERION: CURRICULUM OR COMPETENCY FRAMEWORK

Mckimm (2007) narrates curriculum as a strategy document that describes what learning needs to take place and which knowledge, competencies and attitudes need to be developed through an educational initiative. The OECD (2005), Dillon (2009) and Lee (2010) suggest that financial literacy education curricula should:

- Address the specific financial literacy needs of the target audience;
- Include numeracy, attitude, and behavioural competencies or skills; and
- Ensure the use and distribution of appropriate materials and actions by those who develop the curriculum and present the programme.

According to the World Bank (2014) and OECD (2015), a crucial feature of financial literacy education programmes for small and micro-enterprises is that

they should be relevant to the owners and based on their holistic financial literacy needs. These financial literacy needs should then be used to formulate the competency framework that becomes a crucial part of the curriculum (OECD, 2005). Hence it is critical to determine the needs of small and micro-enterprise owners.

A detailed review was conducted on available research relating to financial literacy and the financial literacy

needs of small and micro-enterprise owners in South Africa (BASA, 2018; Derbyshire & Fouché, 2018; Eresia-Eke & Raath, 2013; Fatoki, 2014; USAID, 2009b), as well as on similar international research (Mutegi *et al.*, 2015; Nunoo & Andoh, 2012; OECD, 2015; Samkin *et al.*, 2014; Sian & Roberts, 2009; Sucuahi, 2013). This allowed the identification of themes of financial literacy needs of small and micro-enterprise owners (Table 1).

Table 1: Small and micro-enterprise financial literacy needs

Knowledge and understanding of financial concepts, calculations and how to execute	Financial reporting and financial management	Planning and enterprise management
- Knowledge/awareness of financial related terms or concepts - Mathematics/literacy skills and finance education - Financial services/banking knowledge - Taxation knowledge and understanding - Insurance and risk management strategies - Owning/leasing of property - Pricing of products/services - Saving and investment - Use of technology in managing enterprise - Understanding and calculation of interest	- Financial record keeping - Book-keeping/accounting - Financial statement preparation - Monitoring or management of expenses/costs/ finances/cash flow - Financial information analysis - Debt management - Debtor management	- Drafting of business plans - Financial planning for an enterprise - Budgeting and preparing budgets - Sources of finance and how to gain access thereto - Enterprise management skills - Importance of a business bank account - Decision-making skills

Twenty-four themes of financial literacy needs were identified (Table 1). These were categorised into three broader categories, namely 'Knowledge and understanding of concepts, calculations and how to execute' (10) needs, 'Financial reporting and financial management' (7) needs, and 'Planning and enterprise management' (7) needs. The greatest number of needs lie within the first category.

The curriculum of financial literacy education programmes targeted at small and micro-enterprise owners should have the objective of addressing the financial literacy needs included in Table 1. In addition, it should allow the targeted audience to improve their proficiency in working with numbers and performing basic calculations (Bay *et al.*, 2014). Furthermore, the content should be of such a nature that it nurtures the proper attitude and behavioural competencies because a lack of these could result in irrational thinking and improper decision-making (Lee, 2010; OECD, 2005; Raveendra *et al.*, 2018).

Atkinson *et al.* (on behalf of the OECD) (2013) assert that effective financial education programmes should

be able to change behaviour. Lastly, the curriculum should enable the reduction of restrictive attitudes and behavioural biases that include amongst others impulsivity, greed, heuristics, overconfidence and mental accounting (ANZ, 2015; Gigerenzer & Gaissmaier, 2011; Raveendra *et al.*, 2018; Suresh, 2013).

Criterion: design

The design of financial literacy education offerings entails selecting resources that include appropriate content, the communication methods and selecting points in time to present the education (Atkinson, 2017; McKimm, 2007; World Bank, 2014). The design (ACCA, 2014; Atkinson & Messy, 2013; Cho & Honorati, 2014; Lusardi, 2019; World Bank, 2014; USAID, 2009a) of financial literacy education programmes should be structured in accordance with, incorporate, and be grounded in the three broad concepts shown in Table 2.

Table 2: Financial education programme design

Content	Communication method	Life cycle
- Split content into modules and base on module outcomes - Follow a logical process, for example, start with basic concepts and move on to more difficult concepts - Define module outcomes or learning objectives based on the financial literacy needs framework - Cater for a large proportion of the population - Be simplistic in nature - Include practical exercises	- Use of spoken words, consider using videos - Include a written guide – brochures, manuals, workbook, leaflets, digital guide	- Offer over an appropriate length of time – short- or long-term both appropriate - Facilitate a phased roll-out, which should include a follow-up with participants - Include financial education programme evaluation (explored later)

Table 2 provides guidance on the design of content, the communication method, and aspects pertaining to the life cycle of financial education programmes. The content should be split into modules with module outcomes, follow a logical process, and be simplistic in nature. The method of communication should be both verbal and written. In other words, in addition to the oral presentation of the programme, a written document should be distributed to the target market. Lastly, the programme should be offered over a period of time, adopt a phased roll-out approach and have a built-in formal evaluation process.

With regard to length or duration, Cho and Honorati on behalf of the World Bank (2014) suggest that both intensive short programmes and programmes offered over extended periods are appropriate as the number of outcomes of the curriculum would determine the length. According to the OECD (2013), a programme that is offered over several sessions, as opposed to one, holds the benefit of repeated participation and the opportunity for evaluation.

Criterion: method of delivery or delivery channel

Awareness campaigns, workshops, seminars, websites, physical publications, and the media are common modes of delivery of financial literacy education programmes (USAID, 2009a; World Bank, 2014). Manselle (2015) states that the delivery method of financial education programmes should foster interaction, which means that there needs to be face-to-face contact between the programme provider and the target group. USAID (2009a) found that South African SME owners in particular favour financial education programmes that have a physical textbook or guide available, as opposed to being purely web-based.

Web-based programmes are a contemporary option for programme developers. Regarding internet usage (websites and social media) the OECD cautions that issues such as a lack of access to the internet or other resources can create challenges in reaching the target audience (Atkinson & Messy, 2013). Another barrier to reaching the target audience is the geographical location (Atkinson & Messy, 2013). In this regard, the OECD recommends that when a large population is targeted consideration should be given to roadshows, workshops and media campaigns to allow for face-to-face contact (Atkinson & Messy, 2013).

It can therefore be concluded that in terms of method of delivery benchmarks, financial literacy education programmes should at least include a written guide and offer face-to-face interaction with the target audience at some point during roll-out. Making the content available online should be complementary to the face-to-face mode of delivery.

Criterion: financial education programme evaluation

The World Bank (2014) advises that the only way in which the impact of financial education programmes can be determined is through their evaluation. The curriculum or competency framework forms the basis for the design and programme evaluation (McKimm, 2007). Álvarez-Franco *et al.* (2017) assert that the evaluation process is crucial to the modification of a financial education programme to improve its impact. The feedback obtained through evaluation will provide valuable information to assist programme developers in enhancing the programme (Manselle, 2015).

The evaluation of programme efficacy can take place in one of the following forms (Álvarez-Franco *et al.*, 2017; Manselle, 2015; Walstad *et al.*, 2017):

- Comparing measurement of financial knowledge prior to and after the programme – through surveys, interviews, or other appropriate methods;
- Comparing attitudes, beliefs and opinions prior to and after the programme – through surveys, interviews or other appropriate methods;
- Assessing target audience perceptions of the programme – through surveys, interviews or other appropriate methods; and/or
- Assessing whether outcomes have been reached – through built-in formal assessment/test in the programme.

The OECD (2017) emphasises the necessity of extensive research into the effectiveness of financial literacy education programmes. It may be concluded financial literacy education programmes need to be evaluated through a formal process and the measurement tool needs to correlate with the curriculum and content.

Identification financial literacy education programmes

Through their respective research, the International Labour Office (Sibanda & Sibanda on behalf of the ILO, 2016); Financial Services Board (Peyper on behalf of the FSB, 2018) and Bankseta (Vos *et al.* on behalf of Bankseta, 2018) identified 24 financial education programmes widely available in South Africa. Three more programmes specifically targeted at small and micro-enterprise owners were identified from the world-wide-web by the researcher through adopting a process similar to a systematic literature review. Table 3 lists these programmes with their target audiences.

Table 3: Financial education programmes in South Africa

Programme	Targeted Audience						
	C	E	S & M	BC	F	S or FET	Other
International/National Regulators, Government Institutions and Policy Makers							
FSB: Financial education awareness and distinct programmes							
National Credit Regulator: Credit consumer protection							
Bankseta							
BASA: In school teach children to save							
South Africa Insurance Association: Teacher development							
SAICA camps							
The South African Council of Churches							
World Bank IFC: SME Toolkit							
SEDA: Basic Entrepreneurial skills							
NYDA: Business Management training							
ASISA Foundation: Flame Financial Literacy and Micro-Enterprises							
Regional Regulators and Policy Makers							
KZN Financial Literacy Association: High School Competition							
Financial Services Providers (including banks)							
Old Mutual: Fin 360							
Stanlib: Movie on Financial Education							
ABSA: Bubomi							
Standard Bank: Workshops for low-income earners							
FNB: Money smart							
Nedbank: My financial life							
Sanlam							
Hollard							
Educational Institutions							
FET workshops							
Private Institutions							
Train-the-trainer							
Young, unwed mothers' programme							
Mogale City							
Industrial theatre							
Avocado Vision: Money Fo Sho!							
Avocado Vision: Business Fo Sho!							

C=individuals/consumers; E=employees; S & M=small and micro-enterprise owners/entrepreneurs; BC=banking customers; S or FET=school or FET colleges

Of the 27 South African programmes identified (Table 3), 12 are offered by international or national regulators, government institutions and policymakers. A further eight programmes are offered by financial institutions, one more by Further Education and Training (FET) colleges, and six programmes by private institutions. Six programmes are targeted at small and micro-enterprise owners or entrepreneurs. One of these, offered by the KZN Financial Literacy Association, is not available to the greater public in South Africa, but is limited to enterprise owners within the KwaZulu-Natal province. Thirteen programmes are targeted at the general consumer, eight at banking customers and five at employees in general.

The ACCA (2014) identified three financial education training programmes for entrepreneurs widely used internationally. The OECD (2017) affirmed that these three programmes were still the three widely used in their latest research conducted on the matter. Another financial education programme, 'Five skill sets for preparing smallholder farmers to successfully engage with markets', by the Catholic Relief Service (endorsed by USAID, 2012) was identified through the world wide web. However, the content, nature, examples, and assessments are all based within the context of rural farming, hence making the programme too distinct for comparison with the other programmes identified. This programme was therefore excluded from the critical analysis performed. No further programmes were identified. Table 4 summarises the programmes identified.

Table 4: Small and micro-enterprise financial literacy education programmes

International	South African
- Money Smart for Small Business, by US FDIC/SBA	- Money Smart for Small Business SA, by FDIC
- SME Toolkit, by IFC/IBM	- SME Toolkit South Africa, by Business Partners
- EFS/BDS model, by USAID	- Flame Financial Literacy and Micro-Enterprises, by ASISA Foundation
	- Basic Entrepreneurial Skills, by SEDA
	- Business Management training, by NYDA
	- Business Fo Sho!, by Avocado Vision

In conclusion, three relevant international and six South African financial literacy education programmes were identified which are subsequently critically analysed.

CRITICAL ANALYSIS OF SMALL AND MICRO-ENTERPRISE FINANCIAL LITERACY EDUCATION PROGRAMMES

The critical analysis took place against the features of appropriate criteria highlighted as benchmarks earlier in this paper. The comprehensive curriculum content of each of the programmes were documented in Microsoft Excel. A benchmark checklist was subsequently prepared using Microsoft Excel and the content of each of the programmes obtained from the respective websites or the world wide web, analysed and mapped against the benchmarks.

Table 5 presents the findings of an ethnographic synthesis executed which draws a comparison amongst the curricula of the three international and six South African financial literacy education programmes identified (ACCA, 2014; ASISA Foundation, 2019; Avocado Vision, 2020; IBM, 2010; IFC, Date unknown; Institute for State Effectiveness, 2014; NYDA, 2020; SEDA, 2020; OECD, 2017; South Africa Business Partners, 2020; US SBA, 2020). The critical analysis of each of the programmes against the benchmarks follows immediately.

Table 5: Comparison of small and micro-enterprise financial literacy education programme curriculum

Programme	International			National					
	FDIC Money Smart for Small Business US	IFC/IBM SME Toolkit International	OECD EFS/BDS model	FDIC Money Smart for Small Business SA	Business Partners SME Toolkit SA	ASISA Flame Financial Literacy and Micro-Enterprises	SEDA Basic Entrepreneurial Skills	NYDA Business Management Training	Avocado Vision Business Fo Sho!
Curriculum									
Enterprise start-up and financing									
Generating a business idea / business opportunities									
Assessing a business idea and whether it is a good fit for entrepreneur									
Organisational types									
Planning and financial goal setting									
Preparation of a business plan									
Sources of finance / funding options / start-up capital									
Banking services / financial products									
Financial management and reporting practices									
Working capital requirement / funding									
Budgeting and forecasting									
Cash flow management and monitoring expenses / costs / finances									
Granting credit and managing debtors' collections									
Financial recordkeeping									
Bookkeeping / accounting									
Financial statement preparation									
Bank reconciliation									
Analysis of financial information / statements									
Taxation, tax planning									
Tax reporting									
Strong business credit / creditworthiness									
Managing debt									
Stock control									
Calculating break-even									
Investment decisions and measuring return on investment									
Enterprise operations, planning and management									
Risk management and insurance									
Legal aspects of business									
Pricing products / services / costing									
Enterprise operations and management skills									
Time management									
Staff / human resource management									
Competition / market awareness / differentiating enterprise									
International business markets									
Marketing and sales									
Buying / purchasing for your enterprise									
Strategies to increase profit									
Customer service / care									
Going green (environmentally friendly) in your business									
Use of technology in the enterprise									
Facilitating economic participation									
Business resources									
Purchasing or selling enterprises									
Business valuation methods									
Selling an enterprise and succession planning									
Other									
Creating awareness of importance of financial literacy for enterprise owners									
Reinforcing behaviour and positive attitudes									
Explanation / glossary of basic accounting and financial terms									

Results discussion: curriculum analysis

Both the US and South African SME Toolkits are not distinctly targeted at small and micro-enterprise owners, but at SME owners instead (Table 5). All other South African financial literacy education programmes are targeted at micro-enterprises only, except for the NYDA Business Management Training that targets all 'entrepreneurs', which includes small enterprise owners. To determine the number of needs targeted by each programme in the study, the financial literacy needs (Table 1) of small and micro-enterprise owners were used as benchmarks. The curriculum of each programme was mapped against the financial literacy needs identified and frequencies were calculated. The results are displayed in Figures 1 and 2.

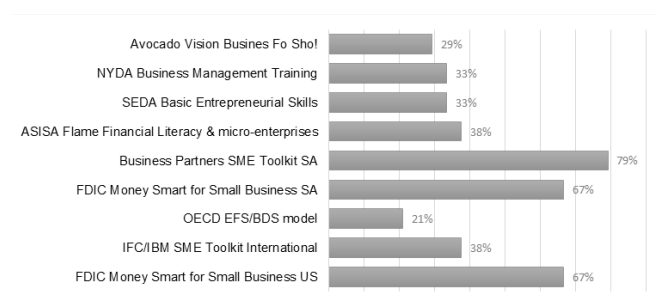


Figure 1: Overall financial literacy needs targeted

The FICD Money Smart for Small Business US and SA adopt the same curriculum (Figure 1). Of the three international programmes, the FICD Money Smart for Small Business US targets the greatest number (67%) of small and micro-enterprise owner financial literacy needs. On the other hand, the OECD EFS/BDS model is quite distinct and targets the least (21%) financial literacy needs.

Within a South African context, the FDIC Money Smart for Small Business and the Business Partner SME Toolkit SA take the lead, 79%, in targeting small and micro-enterprise owner financial literacy needs. The four remaining South African programmes all target a low number of financial literacy needs, ranging between 29% and 38%.

When analysed per the main category of financial literacy needs, the following results were obtained as presented in Figure 2.

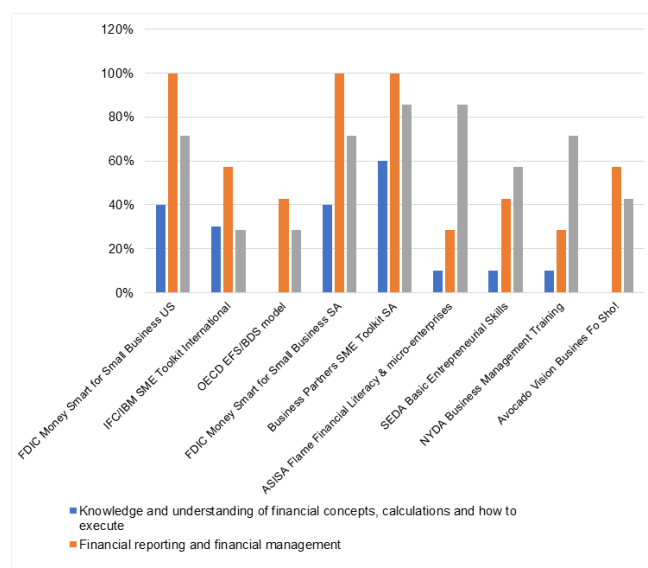


Figure 2: Financial literacy needs targeted per category

On an international level, with regard to 'Knowledge and understanding of financial concepts, calculations and how to execute', the OECD EFS/BDS model targets the least number of needs (0%), due to the fact that this programme focuses more on financial statement preparation, cash flow management, and funding options (Figure 2). Both the FDIC Money Smart for Small Business US and the IFC/IBM SME Toolkit programmes focus on financial reporting and financial management and less on planning and enterprise management.

All the South African financial literacy education programmes, apart from the FDIC Money Smart for Small Business and the SME Toolkit, are aimed at planning and enterprise management and not so much on knowledge and understanding of financial concepts, calculations and how to execute them. The FDIC Money Smart for Small Business and the SME Toolkit both target 100% of the financial literacy needs that have been categorised as 'Financial reporting and financial management'. It appears that the Business Fo Sho! programme is not directed (0%) at addressing financial literacy needs within 'Knowledge and understanding of financial concepts, calculations and how to execute'.

In terms of change in behaviour, it would be necessary to perform a before and after test (World Bank, 2014) or long-term observation of the participants of financial literacy education. For these reasons, the impact of programme curriculum on behaviour could not be analysed in this research.

Results discussion: design analysis

the benchmarks determined (presented in the form of a checklist arrived from Table 2).

Table 6 provides an overview of the designs of the international and South African programmes against

Table 6: Comparison of small and micro-enterprise financial literacy education programme design

Programme	International			National					
	FDIC Money Smart for Small Business US	IFC/IBM SME Toolkit International	OECD EFS/BDS model	FDIC Money Smart for Small Business SA	Business Partners SME Toolkit SA	ASISA Flame Financial Literacy and Micro-Enterprises	SEDA Basic Entrepreneurial Skills	NYDA Business Management Training	Avocado Vision Business Fo Sho!
Design									
Module split?	Yes	Yes	Not available	Yes	No	Yes	Yes	Yes	Yes
Number of modules?	13	7		13	n/a, webpages	4 phases	11	24	4
Module outcomes / Learning objectives defined?	Yes	Yes		Yes	No	Yes	n/a, driven by coaching needs of enterprise	Yes	Yes
Logical process / consecutive order?	No*	No*		No*	No*	Yes	Yes	Yes	Yes
Include practical exercises?	Yes	Unknown		Yes	No, templates	Yes	Yes	Yes	Yes
Cater for large population?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Format?	Web-based	Web-based		Web-based	Web-based	Face-to-face	Face-to-face	Face-to-face	Face-to-face
Written guide?	Yes	Yes		Yes	No	Yes	No	Yes	Yes
Resources	Digital guide and presentations	Digital guide, CD-ROM and templates		Digital guide and presentations	Web-based guide and templates	Printed guide	Notes, templates, YouTube videos	Printed guide	Printed guide
Length / duration?	n/a	n/a		n/a	n/a	24 months	15 months	21 days	3 days
Phased roll-out?	No	No		No	No	Yes	Yes	No	No
Selection process?	No	No		No	No	Yes	Yes	Yes	No
Fee charged	None	None		None	None	None	None	None	Yes

*Trainers or target audience decide order of modules

Regarding length, where n/a is indicated: the content of the programmes can be worked through in the individual's own time, hence no timeframe linked to the programme.

No information on the design of the OECD EFS/BDS model is available in the public domain (Table 6). All the curricula of the international and South African small and micro-enterprise financial literacy education programmes are split into modules, except for the South African SME Toolkit. Although this programme takes the lead in addressing financial literacy needs (Figure 2), it should be noted that the programme follows an approach of creating awareness and informing or providing advice as opposed to interacting with participants.

All international programmes set out in Table 6 are web-based and do not have a set flow or order of modules or timeframe – these are left to the discretion of the target audience and trainers, contrary to the benchmark set out. In contrast, all South African programmes are face-to-face and have a set flow of modules and a specific timeframe, except for the SME Toolkit and Money Smart for Small Business SA. The predominantly face-to-face approach adopted by South African financial literacy programmes makes sense given the concern expressed over access to internet and latest technologies in the country (Atkinson & Messy, 2013; WEF, 2019).

All the programmes also offer a written guide to their target audience, as recommended by USAID (2009a) and Manselle (2015) and the benchmark established, except the South African SME Toolkit and SEDA Basic Entrepreneurial Skills. SEDA adopts a more proactive approach, namely to coach owners at their enterprise premises over a period of 15 months and provide templates to the enterprise owners. Only the ASISA Flame Financial Literacy and Micro-Enterprises and SEDA Basic Entrepreneurial Skills programmes follow up with their target audience (follow a phased roll-out approach).

Participation in the ASISA Flame Financial Literacy and Micro-enterprises, SEDA Basic Entrepreneurial Skills, and NYDA Business Management Training programmes are subject to a strict selection process. All other programmes are offered free of charge (except for Avocado Vision Business Fo Sho!). This might be a relief to already struggling small and micro-enterprise owners who need financial literacy education but cannot afford to pay for it. The OECD states that free financial literacy education programmes, as opposed to paid-for programmes, could be a powerful way to provide tailored financial literacy education to a wider number of micro-, small and medium enterprise

(MSME) owners, even though the institution recognises that this might come with some logistical challenges that government and policymakers would need to address (Atkinson, 2017).

Results discussion: method of delivery analysis

Table 7 compares the method of delivery for the three international and six national South African programmes and shows whether a formal evaluation of the efficacy process and instrument is built into the programme.

Table 7: Comparison of small and micro-enterprise financial literacy education programme delivery method

Programme	International			National					
	FDIC Money Smart for Small Business US	IFC/IBM SME Toolkit International	OECD EFS/BDS model	FDIC Money Smart for Small Business SA	Business Partners SME Toolkit SA	ASISA Flame Financial Literacy and Micro-Enterprises	SEDA Basic Entrepreneurial Skills	NYDA Business Management Training	Avocado Vision Business Fo Sho!
Delivery method(s)/ channel(s)	Website	Website and CD-ROM (posted)		Website	Website	Workshops, coaching, mentoring	Face-to-face, one-on-one coaching	Workshop	Workshop
Formal programme evaluation?	Yes	No		Yes	No	Yes	Yes	No	No
Method of programme evaluation	Pre- and post-test	None		Pre- and post-test	None	Testimonials, pre- and post-knowledge tests	Testimonials, measurement of performance post programme and portfolio of evidence	Pitching session by entrepreneurs	Testimonials
Other	Guide for instructors	Business training curriculum for trainers		Guide for instructors	None	Collaboration with South African Institute of Chartered Accountants (SAICA) and alignment with OECD guidelines and South African Qualifications Authority (SAQA) standards in the pipeline	Facilitated by contracted enterprise development practitioners/trainers	None	Business simulation (practising decision-making) part of programme

All international programmes are offered through their websites, and likewise the South African FDIC Money Smart for Small Business and Business Partners SME Toolkit (Table 7). All other South African programmes are offered either through workshops, coaching or mentoring. The OECD recommends that financial education programme providers should consider face-to-face sessions as a means to improve the effectiveness of their programmes and utilise online sessions as complementary (Atkinson *et al.*, 2013). The majority of the South African programmes are presented face-to-face, which should enhance the effectiveness of the programmes.

Results discussion: evaluation of the efficacy of programme analysis

As seen in Table 7, for international programmes, no information on the evaluation of the SME Toolkit or the OECD EFS/BDS model is available. The FDIC Money Smart for Small Business US has a pre- and post-test built into each of the modules to provide feedback to presenters which is a recommended practice in terms of the benchmarks determined.

Only three of the six South African programmes, namely FDIC Money Smart for Small Business SA, ASISA Flame Financial Literacy and Micro-Enterprises, and

SEDA Basic Entrepreneurial Skills, have formal programme evaluation processes. NYDA Business Management Training and Avocado Vision Business Fo Sho! have informal evaluation processes in place, for example, testimonials. A lack of evaluation of financial literacy education programmes has been singled out as a reason why these programmes do not achieve the desired results of improving financial literacy (Lusardi *et al.*, 2018; Walstad *et al.*, 2017).

Results discussion: other findings

With regard to international programmes, the FDIC Money Smart for Small Business and the IFC/IBM SME Toolkit make their programmes, curricula, modules, and content available to instructors or any individual or organisation who would like to offer financial literacy education to small enterprises or SMEs, free of charge. They also provide guides to train the instructors.

Regarding the South African programmes, SEDA uses coaches or instructors around the country to present the Basic Entrepreneurial Skills programme and train these instructors ahead of the programme. However, these instructors are contracted via a tender process; in other words, the curriculum may not be presented by any individual or organisation from the public that has not been awarded the tender (South African Treasury, 2019).

Although the South African financial literacy education programmes cater to a large population, these programmes are only offered at specific sites across the nine provinces in the country. This could be seen as a restriction of access to the programmes in a country in which the financial literacy of small and micro-enterprise owners is low (Vos *et al.*, 2018; Widiyati *et al.*, 2018).

CONCLUSIONS, RECOMMENDATIONS, AND LIMITATIONS

This research established, through a review of literature, the features of appropriate curriculum, design, method of delivery and assessment of the efficacy of small and micro-enterprise owner financial literacy education programmes. These criteria correlate with the flaws identified in existing literature on financial literacy education programmes. The results became benchmarks used to critically analyse South African programmes. This study found that the South African small and micro-enterprise financial

literacy programmes do not target all the financial literacy needs of small and micro-enterprise owners which was highlighted in criterion one, curriculum. Some programmes are quite distinct and target a specific category of needs. The same can be said about financial literacy education programmes widely available internationally. South African programmes predominantly focus on improving enterprise management-related skills and the least on financial reporting and financial management, knowledge and understanding of financial concepts, and calculations and the execution thereof.

Furthermore, South African programmes predominantly target micro-enterprise owners, whereas international programmes target SMEs. Future financial education programmes should target both small and micro-enterprise owners.

In terms of design, the South African programmes adopt the desired face-to-face method of delivery and are accompanied by printed guides or notes; apart from the SME Toolkit, which uses online webpages. The length or duration (except for the SME Toolkit where this does not apply) of the South African programmes is appropriate, ranging from three days to 24 months. Access to the majority of the South African programmes is restricted since they are offered only at specific sites and a strict selection process applies.

It is recommended that future financial literacy education programmes be more easily accessible to a greater number of small and micro-enterprise owners. To achieve this, the government needs to roll out financial literacy education programmes to a greater audience in South Africa. Due to the logistical issues that might occur with such a roll-out, it is suggested that small and micro-enterprise financial literacy form part of the high school curriculum as either a stand-alone module (subject) at the senior phase level (grade 10 to 12) or incorporated into the business module (subject).

The majority of South African programmes do not have a formal programme evaluation process to assess the efficacy of the programme. To improve existing financial literacy programmes, programme developers ought to be able to evaluate their efforts. This could be achieved by including an evaluation in the construction of the programmes. The aim of such evaluation should be to determine whether a programme has been successful in improving financial literacy levels (and

perhaps even enterprise performance) and to identify areas for future improvement.

South African developers of financial literacy education programmes could learn from international programmes such as the FDIC Money Smart for Small Business US and the IFC/IBM SME Toolkit providers. The curriculum, content, and modules of these programmes are available to any interested party. Consulting these programmes would be useful, especially since the current South African programmes are offered only at specific sites across the country and not all small and micro-enterprise owners therefore have access to them.

With a total of 5 554 000 of small and micro-enterprises in the country, having only six widely available financial literacy education programmes seems inadequate. It is thus recommended that the South African government explore more options through the DSBD to increase access to financial literacy education.

It is worth exploring the development of a holistic financial literacy education framework within a South African context that can be used by stakeholders who wish to develop financial literacy education programmes. This framework should be widely available, for example, on the websites of the South African DSBD, the FSCA, or other relevant institutions.

A limitation of this study includes that it was based on the analysis of data and information that is available in the public domain only. In addition, a main factor identified was that financial education should be able to change behaviour. Since there is interaction between small and micro-enterprise owners and programme presenters in face-to-face workshops, it is assumed that such programmes would have a stronger impact on behaviour than solely web-based programmes. This study was not able to determine whether these small and micro-enterprise financial literacy education programmes do indeed change the behaviour of the target audience. Further research would be needed to determine this in the form of a pre- and post-test or long-term observation of participants after they have received financial literacy education as suggested in this research.

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A board game as a learning intervention to enhance communication skills among postgraduate accountancy students

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Purpose: Universities and professional bodies that accredit their postgraduate programmes in the training of chartered accountants (CAs), demand specific skills, including communication skills, from postgraduate accountancy students to ensure their readiness for the workplace. Current research indicates that communication is one of the top three skills required from accountants in the workplace, however, accountancy programmes sometimes fall short of addressing this skill. The main purpose of this paper was to develop a board game for postgraduate accountancy students that could serve as a learning intervention in accountancy education to enhance students' communication skills.

Methodology: The concept of the popular board game, the 30 Seconds® game, was utilised to develop the Fast-Thinkers Game. At a gamification evening, 91 postgraduate accountancy students played the game. Students' perceptions of the learning intervention were determined afterwards through questionnaires containing both open-ended and close-ended questions.

Findings: The feedback from the students was exceptionally positive. Students felt that the game not only improved their communication skills but also enhanced other pervasive skills, such as critical thinking and teamwork. Most importantly, the game provided students with the opportunity to enjoy the learning process while simultaneously improving essential skills.

Contribution: The positive outcome of this paper indicates that gamification as a learning intervention could be used to enhance communication skills in accountancy subject areas. The practical contribution is that the Fast-Thinkers Game could serve as a tool to develop communication skills among postgraduate accountancy students.

KEYWORDS: 30 Seconds® game; accountancy terminology; accounting education; acumen; communication; game-based learning; gamification.

INTRODUCTION AND LITERATURE REVIEW

The higher education system is under pressure to ensure its graduates are ready for the 21st-century workplace that requires many diverse skills from employees, from purely academic to more pervasive (Kivunja, 2015). On top of this, South African universities involved in the education of chartered accountants (CAs) must also comply with professional bodies' accreditation requirements, such as the South African Institute of Chartered Accountants (SAICA). SAICA developed its CA2025 Competency Framework for CAs and its guidance on the content and assessment of competencies in the academic programme. SAICA's CA2025 Competency Framework is future-focused and was developed to prepare

prospective CAs for the roles they are likely to fill in the future workplace (SAICA, 2021:21-26).

SAICA's CA2025 Competency Framework sets out the competencies an entry-level CA should demonstrate at the completion of their academic, training and professional programmes. At the core of the CA2025 Competency Framework is integrated thinking, and the competencies that should be developed are as follows (see Figure 1):

- Professional values and attitudes;
- Enabling competencies (defined as *acumens*¹), which include communication; and
- Technical competencies.

It comes as no surprise that communication skills are two of the *acumens* required from future CAs (SAICA, 2021:21-26). Against the concept of integrated thinking (see Figure 1), the board game used for this

¹ Communications skills are referred to as *acumens* in the CA2025 Competency Framework (SAICA, 2021:21-26). The word "*acumen*" means "the ability to understand and decide things quickly and well" (Oxford, 2023). Clearly it requires a set of pervasive skills to comprehend a scenario and to make good decisions, promptly. The terms "*pervasive skills*" and "*acumen*" (as referred to in the CA2025 Competency Framework) are

therefore used interchangeably throughout the paper. The reason for this is that SAICA currently refers to "*acumens*", while other academic literature uses "*pervasive skills*".

paper utilised accountancy terminologies (falling under technical competencies) to enhance students' communication skills (falling under enabling competencies).

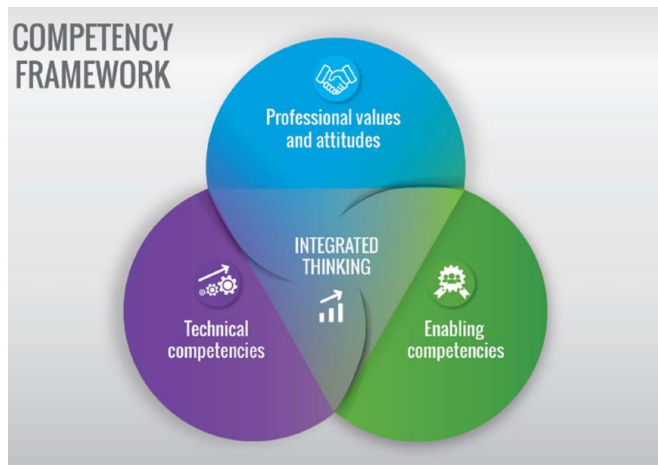


Figure 1: Components of SAICA's competency framework

Source: SAICA, 2021:2

In a paper by Gabric and McFadden (2000) amongst business students and employers in Illinois, United States of America, they found that most students and employers rank verbal communication and listening skills as two of the top three skills needed to obtain a job after graduation. In another paper conducted by Kavanagh and Drennan (2008:283), Australian graduate students listed communication skills as one of the top three skills needed for career success. When asked whether their accountancy degree programmes equipped them with these skills, the students revealed that their programmes did not give these essential skills the necessary attention and prominence as expected (Kavanagh & Drennan, 2008:283-291).

During their formal programme evaluations, students in the postgraduate programme in chartered accountancy at a particular South African university agreed that communication skills are the two competency areas where they most need improvement. Furthermore, these student evaluations were also used to identify the skills development areas to be addressed in this paper (refer to Table 2 of this paper). When communicating, students in accountancy programmes not only have to understand the English language itself, but also the technical terminologies of the subject areas.

A study by Koch and Kriel (2005) that considered the role of language as a contributory factor to academic failure amongst first-year accounting students, revealed that the accounting students who were unsuccessful academically had trouble in conceptualising accounting concepts. Accounting is a meta-language and contains technical terms like “debit” and “credit”, as well as certain terms like “capital” that have different meanings depending on the context (Scarcella, 2003). According to Smith, Carstens and Stainbank (2020), the technical “language of accounting” used in textbooks and classroom lectures can be cognitively demanding for students. Students in the postgraduate accountancy programmes not only need to deal with the “language of accounting” (specifically Financial Accounting) but also with the “languages” of the other three subject areas: Auditing and Corporate Governance; Managerial Accounting and Financial Management; and Taxation. Furthermore, they must be able to integrate these languages in written assessments and will be required to integrate these languages in the workplace one day.

Smith *et al.* (2020) found in their research amongst first-year accounting students at a South African university that students' exposure to positive verbal interaction opportunities in both formal and informal contexts can enhance their language skills and contribute to their academic success. Unfortunately, lecturers in accountancy programmes are experiencing increased stress levels and time pressures as they must lecture both theoretical concepts and develop the required skills during formal lecturing time (De Villiers, 2010; Fouché, 2013). It is evident that accountancy students need verbal interaction opportunities to enhance their communication skills, but formal lectures may not always provide the needed opportunities.

Previous studies have demonstrated that game-based learning could provide these opportunities and can successfully be used in education to address the following outcomes:

- Cognitive outcomes such as improved critical thinking and problem-solving skills (Romero, Usart & Ott, 2015);
- Behavioural outcomes such as improved social and communication skills (Pelser-Carstens & Blignaut, 2018; Vlachopoulos & Makri, 2017; Viviers, 2016; Viviers, Fouché & Reitsma, 2016);
- Effective teamwork (Subhash & Cudney, 2018); and

- Student motivation to learn subject matter (Jordaan, 2018).

Malan and Van Dyk (2021) found that the main benefit of playing educational games was that students enjoyed the game, particularly its collaborative nature and how students learnt from their peers. Pelsers-Carstens and Leendertz (2022) confirmed this element of enjoyment. They also found that games create engagement between students and lecturers and reinforce social and academic relationships. It appears that an educational game that is played as a learning intervention could evoke intense involvement and engagement when played in a social setting (Carenys & Moya, 2016). Lee, Shifflett and Downen (2019) found that active learners are engaged in their learning material and are strongly involved in the learning process. It appears that the benefits of game-based learning, namely teamwork, enjoyment, and engagement, contribute significantly to the learning process.

According to Viviers *et al.* (2016), game-based learning could also be used as a learning tool in accountancy programmes to develop the pervasive skills required by professional bodies. In conclusion, it appears from literature that game-based learning could be used effectively as a learning intervention to address accountancy students' communication skills development. However, as far as the researchers could ascertain, game-based learning, using a board game, has not yet been explored in addressing the communication skills development of postgraduate chartered accountancy students.

The concept of game-based learning includes the use of actual games, such as Monopoly® and 30 Seconds®, to enhance the learning experience of students (Fouché & Visser, 2008; Wiggins, 2016). Although a few studies explored the impact of board games as learning interventions to improve accountancy students' pervasive skills, only one paper used the actual 30 Seconds® board game as a learning intervention. The researchers, Malan and Van Dyk (2021), used two actual board games, Monopoly® and an adapted version of 30 Seconds®, to investigate the perceptions of students regarding the development of pervasive skills within an undergraduate accounting syllabus. Their students perceived that the Monopoly® board game mainly advanced their strategic thinking, critical thinking, and professionalism, whilst the adapted version of the 30 Seconds® game mostly

enhanced teamwork, time management and communication (including listening) skills. Having fun while learning was another benefit of the 30 Seconds® game played by undergraduate accountancy students. The students felt that both games were effective learning interventions (Malan & Van Dyk, 2021).

When considering the findings of the paper by Malan and Van Dyk (2021), an adapted version of 30 Seconds® should be used if the aim is to develop communication skills. The current paper is different as this paper focuses on postgraduate accountancy students as opposed to undergraduate students. Furthermore, the actual 30 Seconds® game as a learning intervention for this research is adapted following a design-based research method (see the methodology section of this paper) to address the communications skills development of postgraduate accountancy students.

The main purpose of this paper is to develop a board game for postgraduate accountancy students that could be used as a learning intervention in accountancy education to address communication skills development. The following two research questions guide this paper:

- How can the actual 30 Seconds® game be adapted as a learning intervention to positively develop the skills needed by postgraduate accountancy students, specifically the communication skills as required by the CA2025 Competency Framework?
- What are the perceptions of postgraduate accountancy students in relation to their skills development after playing the adapted 30 Seconds® game, i.e., the Fast-Thinkers Game?

METHODOLOGY

A research method regularly used for developing educational games is a design-based research method (Bell, Hoadley & Linn, 2013; Kennedy-Clark, 2013). This approach involves iterative phases of designing, implementing, and evaluating the educational game, enhancing the game's value as a learning tool and ensuring that the learning outcomes are met (Anderson & Shattuck, 2012; Tang & Hanneghan, 2014). This method involves both qualitative and quantitative data collection and resonates with the pragmatic philosophy (Anderson & Shattuck, 2012). By applying the paradigm of pragmatism, the researchers used the design-based research method as it was found to be most suited to the first research question (Saunders, Lewis & Thornhill, 2009), namely, adapting

the actual 30 Seconds® game as a learning intervention to positively develop the skills needed by postgraduate accountancy students, specifically the communication skills as required by the CA2025 Competency.

A design-based research method recommended by Pelser-Carstens (2022) is the Design Science Research (DSR) process. Pelser-Carstens (2022) developed the DSR process as a framework to be used to design games for accountancy students that encompass pervasive skill development. When a DSR process is followed to design educational games, the design is conducted in an orderly manner using several phases. Although the phases in the DSR framework suggested by Pelser-Carstens and Leendertz (2022) are designed for games with digital components, the phases could also be used for designing old-school tabletop games such as the Fast-Thinkers Game. Because the DSR process was designed in the same context as the current study, the researchers decided on the DSR process as an appropriate design-based research method for this paper.

According to Reubens (2016), the aim of a DSR process is to construct a new reality for solving problems. The result of a DSR process can be a product, process, technology, tool, method, procedure, or a combination of these to achieve a purpose (Baskerville, Kaul & Storey, 2015). In this paper, the result is the Fast-Thinkers Game, a tool that could be used to enhance communication skills among postgraduate accountancy students.

The phases of the DSR process include identifying the problem, proposing satisfactory solutions as objectives for the game, developing the game mechanics by aligning the game with the objectives of the game, testing the game, an implementation phase and, finally, an evaluation phase (Pelser-Carstens, 2022). Figure 2 illustrates how the DSR process was applied in this paper to design the Fast-Thinkers Game.

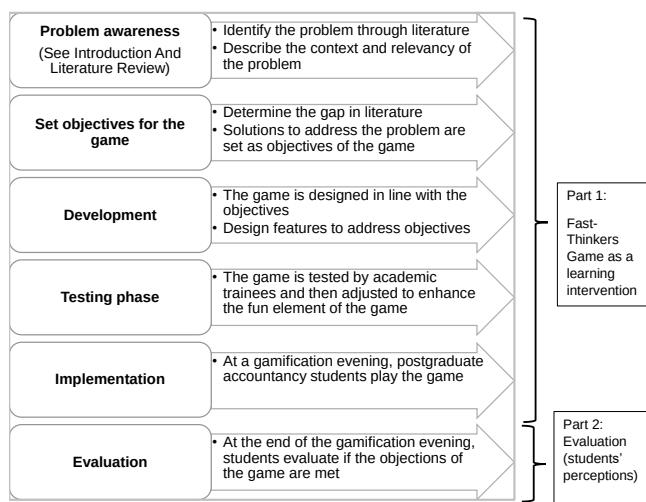


Figure 2: Designing the Fast-Thinkers Game using the DSR process

Source: Authors' Compilation

Part 1 of this paper further explains the use of the DSR process to design and implement the Fast-Thinkers Game as a learning intervention. Part 2 of the paper contains the evaluation results where the students' perceptions of the Fast-Thinkers Game are determined using questionnaires.

The research method applied in Part 2 of the paper is both quantitative, showing trends and relationships, and qualitative, providing in-depth perspectives (Cresswell, 2015). Again, this approach is in line with the realistic and practical outlook of the researchers, i.e., their pragmatic approach, as discussed earlier. By applying the paradigm of pragmatism, the researchers used research methods most suited to answer the second research question (Saunders *et al.*, 2009), namely, the perceptions of postgraduate accountancy students in relation to their skills development after playing the adapted Fast-Thinkers Game.

The research design involves the collection and analysis of both quantitative and qualitative data sets (Creswell & Plano-Clark, 2011). The questionnaire consisted of both open-ended and closed-ended questions, whereby both qualitative and quantitative information were collected. Closed-ended questions were also asked to limit students' responses for more consistency and better comparability of responses. The quantitative data obtained from the questionnaires were analysed using descriptive statistics (IBM SPSS 29). The open-ended questions were included in the questionnaire for deeper insight into the students'

perceptions of the development of pervasive skills through their participation in the Fast-Thinkers Game. Qualitative data were analysed using content analysis, which is a process that allows for multiple themes to develop as the researchers engaged in the data, looking for similarities and differences as well as recurring themes (Nieuwenhuis, 2007).

The questionnaire was developed to determine if the postgraduate students felt that the objectives of the board game were met and to determine the perceptions of postgraduate accountancy students in relation to their skills development after playing the Fast-Thinkers Game. The questions were drawn from the literature to ensure that the instrument displays content validity. The questionnaire comprised two sections. In the first section, students had to evaluate the game's effect on their skills development areas. The perceived development of the identified skills (as set out and discussed in the section of Part 1: The Fast-Thinkers Game as a learning intervention of the paper) was measured on a five-point Likert scale. In addition, the students had to evaluate, also using a five-point Likert scale, if, while playing the Fast-Thinkers Game, they perceived the same benefits of educational games as noted in the literature, i.e., teamwork, engagement and enjoyment (see the introduction and literature review section of this paper). As a final, separate question, they were asked to evaluate (on a five-point Likert scale) whether they think that the Fast-Thinkers Game could be used as a learning intervention to positively develop skills development areas of postgraduate accountancy students in general.

The Likert scale is one of the most widely used scaling methods (Taherdoost, 2019). Tastle, Russell and Wierman (2005) support that the Likert scale measures are commonly used in assessing student performance as well as student perceptions. Several research studies have opposing views of researchers on the optimal scale to use (see Alsowat, 2016; Dawes, 2008; Menold, Wolf & Bogner, 2018). Munshi (2014) is of the opinion that a scale can be tailor-made for the specific needs of a study. The researchers in this study used a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), in accordance with previous studies performed on students' perceptions (see Chyung, Roberts, Swanson & Hankinson, 2017; Dermo, 2009; Diemer, Fernandez & Streepey, 2012; Ginns, Prosser & Barrie, 2007; Mellor & Moore, 2014).

In the second section of the questionnaire, open-ended questions were asked to determine the students' perceptions of what other skills they thought the Fast-Thinkers Game promoted. They were also asked to comment on their experience playing the Fast-Thinkers Game, the component of the game they enjoyed the most, if they would recommend playing the Fast-Thinkers Game to develop skills, as well as any suggestions to improve the Fast-Thinkers Game.

The questionnaire was pilot tested by a group of academic trainees (not the same trainees that assisted in the design of the game or the development of the questionnaire) to test the questionnaire's perceived validity and to ensure that the questions were clear and specific. For qualitative research to be trustworthy, a researcher/s must show that the research adheres to reliability and validity (Lincoln & Guba, 1985). In the present study, the researchers ensured reliability and validity by continuously validating the data collected for potential bias or lack of precision, promoting reliability by referring to different sources, using primary data sources, and providing detailed descriptions of the processes followed. In addition, data saturation had to be reached to confirm validity. Guest, Bunce and Johnson (2006) define the concept of data saturation as the point in time when the collection and analysis of new qualitative data no longer change or change little, and only produces previously discovered data and themes. In this study, the comments of the respondents were analysed until no new data or themes were produced except for previously discovered data and themes.

Ethical clearance was obtained from the Faculty of Economic and Management Science's Ethics Committee to distribute the questionnaire to the students (respondents). Respondents were requested to provide consent before participating in the questionnaire and were informed of their right to withdraw at any time should they wish to do so. The purpose of obtaining the data was explained to the respondents before the questionnaire was administered to them.

Data were collected during the first semester of 2023 during a gamification evening, two months into the academic year. The fact that the skills development of the postgraduate accountancy students may therefore relate mainly to their undergraduate skills is reported as a limitation of this paper. However, the researchers felt it was important to have the learning intervention

early in the academic year, trusting that any enhanced skills would benefit the students throughout their postgraduate year. Data was collected from the postgraduate class involved in accountancy training consisting of the B.Acc.Hons. and PG Dip. in Chartered Accountancy students (postgraduate accountancy students) of the School of Accountancy at a particular South African university. The population consisted of 94 students (the total number of registered postgraduate accountancy students), and the sample was 91 respondents (students that participated in the paper by playing the game and completing a questionnaire).

At the start of the academic year, the 94 registered postgraduate students were divided into ten groups (nine to ten students per group) by the academic staff to enable the students to participate in group activities (such as tutorials, events and functions) during the academic year. Groups had to be diverse, representative of academic achievement, race and gender, similar to the diversity expected at their future places of work. The students participated in the Fast-Thinkers Game using the same groups. In their groups, students would communicate in the English language, which, for the majority of students (89,4%) in the class, is not their home language. The percentage of students using English as their home language was determined using the university's database (the students indicated their home language with enrolment) and is indicated in Table 1. Also indicated in Table 1 is the percentage of first-time students (78,7%) compared to repeat students (21,3%) in the class (the population). Although the data was collected only two months into the academic year, a significant portion of the population who could benefit from the Fast-Thinkers Game were students repeating their postgraduate year.

Table 1: Demographic information of the population

Demographic information	Number (and percentage)	Total number
Home language: English	10 (10,6%)	94
Home language: Other	84 (89,4%)	
First-time postgraduate students	74 (78,7%)	94
Repeat students	20 (21,3%)	

The demographic information in Table 1 is given as background information only. The purpose of the paper was not to draw conclusions on correlations between the various categories of students (based on

gender, race, first-time postgraduate or language) and their perceptions. Detailed demographic information was therefore not gathered through the questionnaire, which also ensured the anonymity of students.

Lecturers ensured that the conducting of the research did not infringe on class time dedicated to academic content coverage. The risk of losing class time was mitigated by scheduling an additional session (i.e., gamification event) for this paper on the year programme. The researchers also understand that there existed a risk that the research may negatively impact the lecturer-student relationship. During the gamification evening, a link was provided to the electronic questionnaires (MS Office Forms), where the responses were electronically captured. Access to the electronic questionnaires opened near the end of the gamification evening and closed at midnight. Students anonymously completed the electronic questionnaire, and all results are only reported on an aggregated basis.

Although the students were not offered any payments, inducements in the form of pizza slices and soft drinks were offered to encourage their involvement in the project. The inducements may have contributed to the high attendance of students during the gamification evening. However, these incentives were not of such a significant nature that it was able to influence the outcome of the paper.

In Part 1 of the paper that follows next, the actual 30 Seconds® game is adapted into the Fast-Thinkers Game, designed to address the communications skills identified by the CA2025 Competency Framework and played by postgraduate accountancy students. In Part 2 of this paper, the board game designed in Part 1 of the paper, the Fast-Thinkers Game, is evaluated by the postgraduate students.

PART 1: THE FAST-THINKERS GAME AS A LEARNING INTERVENTION

The first design phase in the DSR process (Figure 2 above) is to identify an existing problem and to illustrate the relevance of the problem (Pelsers-Carstens, 2022). It is submitted that the problem, the context and the relevance thereof have already been identified and described in the introduction to this paper as the skills development need amongst postgraduate accountancy students at universities in general.

During their formal programme evaluations at the end of their lecturing programme, previous students in the postgraduate programme in chartered accountancy at a particular South African university listed various skills areas that they felt needed attention. Skills areas with the same themes were grouped together by the researchers using content analysis, looking for similarities and differences as well as recurring themes (Nieuwenhuis, 2007). Table 2 sets out the six main groups of skills development areas identified by the postgraduate students at this South African university.

Table 2: Skills development areas as identified by students

Comprehension of subject terminology to understand subject-related and general business vocabulary and to use the appropriate terminology when communicating;
Short-term memory skills to obtain information, understand what is required from them and finish their assessments in time;
Communication skills (how to express oneself clearly, how to structure an answer, and how to construct sentences);
English language skills;
Integration of the four subject “languages”, including the skill to quickly switch between “the subject areas in one’s mind”; and
Time management skills to ensure they read the questions, plan their answers, and complete their written assessments on time.

Source: Authors’ compilation

All four main communication skills (listening, speaking, reading, and writing (Kumar & Lata, 2011)) were listed as development areas by the students. It is evident that most of the skills development areas listed relate either directly or indirectly to communication. The last skill (time management) indirectly relates to communication, as their time management problems are mainly due to a lack of communication skills.

There are very few qualitative studies that consider the language experiences together with the learning experiences of accounting students with EAL

In the second phase of the DSR process, Pelser-Carstens (2022) recommends identifying gaps in literature and knowledge, followed by setting the objectives to solve the problem identified in the first phase. From the literature discussed in the introduction of this paper and as far as the researchers could ascertain, game-based learning, using a board game, has not yet been explored in addressing the communication skills development of postgraduate

chartered accountancy students. Accordingly, the researchers decided through this paper to explore game-based learning to this effect. As part of the second phase of the DSR process, objectives that could offer a solution to the problems identified in the first phase were explored. These objectives must be designed in line with the accountancy curriculum (Pelser-Carstens, 2022).

The six skills development areas identified in Phase 1 were then compared with the accountancy curriculum, namely the CA2025 Competency Framework. It appears that the six skills development needs identified by postgraduate students are also required as relational acumens in the CA2025 Competence Framework. Five of the skills development needs fall under Communication Skills (X1) and one under Self-management (X6) (SAICA, 2021:21).

Table 3: Skills development areas aligned with the CA2025 Competency frameworks

Skills development area	SAICA’s CA2025 Competency Framework
Comprehension of subject terminology	Relational acumen (X1): Understanding the meaning of the concepts/terminology within the subject areas will ensure that students communicate effectively using clear and concise messaging, in a professional manner, appropriate to the audience and situation.
Short-term memory skills	Relational acumen (X1): Students need short-term memory skills to obtain and clarify relevant information when applying effective listening, interviewing and discussion techniques.
Communication skills	Relational acumen (X1): Students need to effectively convey information and ideas to individuals and groups in various situations in a focused way using techniques and skills.
English language skills	Relational acumen (X1): Students need to communicate information appropriately to improve their audience’s processing and digesting of that information.
Integration of subject “languages”	Relational acumen (X1): Students need to prepare written correspondence following due processes considering any legal, ethical, regulatory and business requirements. Also relates to the assessment criteria for level 3 assessment: “Integrating multiple knowledge sources and skills in all areas”.
Time management skills	Relational acumen (X6): Students need to display time management techniques to allocate resources and to develop, organise and prioritise tasks to achieve professional outcomes.

Source: Authors’ compilation

Because the six skills development areas identified by the postgraduate students are in line with the CA2025 Competency Framework, they can be used as objectives when designing the board game. In the third phase of the DSR process, the game must be designed in line with these objectives through revision, analyses, and exploration of current knowledge (Pelser-Carstens, 2022). During this phase, the academic staff members responsible for all four subjects in the School of Accountancy postgraduate class designed the Fast-Thinkers Game to meet the six skills development areas (objectives) identified in the previous phases. The lecturers and academic trainees developed a learning intervention based on the well-known 30 Seconds® board game.

The 30 Seconds® game is a description board game invented in South Africa. It is described as “the quick thinking, fast talking” game in which a player needs to describe five words or concepts to the team without saying the actual words within 30 seconds (SA Promo, 2021). Teams must strive to identify as many of the five words during each turn of 30 Seconds®. Players are called describers (the person describing the words) and identifiers (the persons identifying the words). All players rotate with each turn, and teams progress through the game using a board and placeholder (Ultra Board Games, 2022).

The academic staff mirrored the 30 Seconds® board game cards by choosing 100 terms or concepts from the four core modules of the postgraduate programme, namely Managerial Accounting and

Financial Management (including Strategy and Risk), Financial Accounting (Accounting and External Reporting), Taxation and Auditing (including Governance and Ethics), to appear on the intervention’s board game cards. To address the need for a broader exposure to business acumen, some terms or concepts from economics, business management, and general business were included. As with 30 Seconds®, these terms were printed on a card. Each card contains five terms or concepts from the four subject areas mentioned above, with some general business terms mixed into these subject areas. The accountancy terms are arguably more complex than the general terms or concepts used in the 30 Seconds® board game, but each player is still allowed only 30 seconds to explain the term. The time limit of 30 seconds improves time management, keeps the game ‘alive’ and ensures a quick turnaround between the teams to keep everyone actively involved.

The rules of the Fast-Thinkers Game require that a team member explains the accountancy terms (as indicated above) to the other team members without saying the actual terms (as with the 30 Seconds® board game). The opposing team acted as a referee to ensure that the actual terms and concepts were not used. The playing team advances on a physical game board, moving its placeholder forward by the number of correct terms explained by the team. The team that reaches the finish point block first is also the winning team. Table 4 below briefly explains how the game was designed to address the six skills development areas set as objectives of the game:

Table 4: Design of the Fast-Thinkers Game

Objective: Skills development area	Design features to address the specific skills development areas
Comprehension of subject terminology	Formulating the explanation of the term or concept in a discursive manner (i.e., using words, not numbers, journals, etc.). Understanding of the true meaning of the term or concept within the subject area.
Short-term memory skills	Students must read, comprehend what they have read, and remember the terms or concepts to explain quickly (30 seconds).
Communication skills	Verbal communication requires clearly articulating the term or concept so that others would understand. The terms are explained using alternative terms (not the stated terms on the cards). Listening skills as the other team member must carefully listen to the team member who explains in order to guess the correct term or concept. Also, the explaining team member and the opposing team members must listen carefully to what is guessed by various participating team members, and to listen that they do not use non-allowed terms.
English language skills	Exposure to the terms or concepts would increase the students' vocabulary of the technical terms of the subject area and general business terminology, as they needed to explain them in such a way that others would understand. By describing the term or concept, the general English language is used.
Integration of subject "languages"	Students need to quickly switch between the various subject areas in their minds (perhaps even without realising it) as the next turn may deal with a different subject area, and various general terms or concepts are mixed into the subject cards.
Time management skills	Having a time limit obviously created some stress that students needed to handle. Furthermore, they had to read the words or concepts, decide where to start (prioritise) and try to describe as many terms or concepts within the given time frame as possible.

Source: Authors' compilation

The test phase of the DSR process followed. It is recommended that as the final part of the design phase, the prototype game should be play-tested and then adjusted, if necessary, before its final release (Tang & Hanneghan, 2014). The prototype game was then tested by the 2023 academic trainees (not the same academic trainees involved in the game's design). As a result of the test, "chance" cards, like the "chance" cards in Monopoly®, were added. When arriving at a "chance" block on the physical game board (i.e., a block with a question mark on), the team must draw a "chance" card (indicating to the playing team to either move 1 or 2 blocks forward/back, getting an extra play turn, etc.). The "chance" card added a fun element to the game, which enhanced the enjoyment of the game. After the finalisation of the test phase, the intervention game comprised a game board, four sets of word cards, a set of "chance" cards, placeholders, dice, and a set of rules (see Figure 3).



Figure 3: The Fast-Thinkers Game

The student groups (as indicated in the methodology section of the paper) were then split in half to make participation in the Fast-Thinkers Game easier (i.e., four to five players playing against other members of the same group).



Figure 4: Students playing the Fast-Thinkers Game during the gamification evening (students' faces were made darker to hide their identity)

In the final phase of the DSR process, the Fast-Thinkers Game was evaluated by the postgraduate students. The results of these evaluations are reported in the second part of this paper.

PART 2: EVALUATIONS (STUDENTS' PERCEPTIONS)

Questionnaires (see detail in the methodology section) were used to determine students' perceptions in relation to the Fast-Thinkers Game. The response rate was 96,8% (91 students of the 94 students in the class attended the gamification evening, played the game and responded by completing the questionnaire at the end of the gamification evening) which was considered sufficient for the purposes of this paper. The ranking of the results discussed below was determined by calculating the mean for each of the six skills

development areas, which are also indicated in the tables. The results are ranked in the tables in the sequence from the most positive to least positive responses, as indicated in the "rank" column.

Objectives of the game

The researchers wanted to determine if the respondents perceived that the six skills development areas set as objectives (see Part 1 above) were developed by the Fast-Thinkers Game, and if so, which skill was most developed. The results indicate that they perceived all skills to be developed by the game and that communication skills were the most developed pervasive skill. This was followed by the integration of subject "languages" in second place and time management in third place. On average, 90,3% of the respondents either strongly agreed or agreed, which indicates that students perceived the Fast-Thinkers Game positively developed their skills development areas and, thus, achieved the objectives of the game. On average, only 2,5% of the respondents felt that the game did not improve their skills development areas.

Table 5 summarises the responses from the respondents. It indicates how strongly respondents felt that the Fast-Thinkers Game addressed the six skills development areas. The table indicates the number of respondents for each of the categories of the Likert scale used. The percentage of respondents per category is indicated in brackets. Furthermore, both positive responses (i.e., "strongly agree" and "agree") and both negative responses (i.e., "disagree" and "strongly disagree") were combined and indicated beneath the individual responses per category.

Table 5: Skills developed through the Fast-Thinkers Game

Skill	Strongly agree	Agree	Neither Agree/Disagree	Dis-agree	Strongly disagree	Total responses	Std. Deviation	Mean	Rank
Communication skills	49 (54%)	37 (41%)	4 (4%)	1 (1%)	0 (0%)	91	0.638	4.47	1
	86 (95%)			1 (1%)					
Integration of subject "languages"	48 (53%)	38 (42%)	3 (3%)	2 (2%)	0 (0%)	91	0.671	4.45	2
	86 (95%)			2 (2%)					
Time management	48 (53%)	33 (36%)	7 (8%)	3 (3%)	0 (0%)	91	0.771	4.38	3
	81 (89%)			3 (3%)					
Short-term memory skills	45 (49%)	36 (40%)	6 (7%)	4 (4%)	0 (0%)	91	0.792	4.34	4
	81 (89%)			4 (4%)					
Comprehension of subject terminology	42 (46%)	38 (42%)	7 (8%)	4 (4%)	0 (0%)	91	0.796	4.30	5
	80 (88%)			4 (4%)					
English language skills	34 (38%)	44 (48%)	12 (13%)	1 (1%)	0 (0%)	91	0.712	4.22	6
	78 (86%)			1 (1%)					

Source: Authors' compilation

Benefits of the game

Next, the researchers wanted to determine which of the three benefits of educational games, namely teamwork, enjoyment, and engagement (as discussed

in the literature review section of the paper), were perceived as benefits of the Fast-Thinkers Game. According to the students, the benefits of teamwork, enjoyment, and engagement (in that order) were obtained while playing the Fast-Thinkers Game.

Table 6: Benefits developed through the Fast-Thinkers Game

Benefit	Strongly agree	Agree	Neither Agree/ Disagree	Dis-agree	Strongly disagree	Std. Deviation	Mean	Total responses	Rank
Enjoyment	72 (79%)	19 (21%)	0 (0%)	0 (0%)	0 (0%)	0.409	4.79	91	1
	91 (100%)			0 (0%)					
Teamwork	63 (70%)	24 (26%)	3 (3%)	1 (1%)	0 (0%)	0.606	4.64	91	2
	87 (96%)			1 (1%)					
Engagement	66 (73%)	17 (18%)	7 (8%)	1 (1%)	0 (0%)	0.677	4.63	91	3
	83 (91%)			1 (1%)					

Source: Authors' compilation

When comparing the means of the benefits of teamwork, enjoyment, and engagement with the means of the six skills, respondents indicated that enjoyment and teamwork were the greatest benefits of the Fast-Thinkers Game, even more positively perceived by them than the benefit of enhancing their communication skills.

General evaluation of the game as a learning intervention

In a closed-ended question, respondents were asked to evaluate whether the Fast-Thinkers Game could be used as a learning intervention to positively develop pervasive skills areas. Respondents responded overwhelmingly positively to this question, with 75% that strongly agreed and 23% that agreed (in total 98%). Only one respondent neither agreed nor disagreed, and one respondent disagreed. The responses are summarised in Table 7 below.

Table 7: The Fast-Thinkers Game as a learning intervention to develop skills

Evaluation of the game	Strongly agree	Agree	Neither Agree/ Disagree	Disagree	Strongly disagree	Total responses
The game as a learning invention to develop skills	68 (75%)	21 (23%)	1 (1%)	1 (1%)	0 (0%)	91
	89 (98%)			1 (1%)		

Source: Authors' compilation

In the second section of the questionnaire, open-ended questions were asked. The majority of respondents answered the open-ended questions, thereby providing in-depth insights and a comprehensive understanding of the students' perceptions. It is submitted that focus group interviews were unnecessary, given the richness of the information gathered from the open-ended questions in the questionnaire.

Other pervasive skills promoted by the game

The respondents were first asked what other pervasive skills they perceived the Fast-Thinkers Game

promoted. They felt that critical thinking, creative thinking, communicating with people from different backgrounds, being able to adapt, revision of undergrad work that they had forgotten, dealing with social anxiety, patience, "seeing" things from a different viewpoint and how to deal with losing the game. Five responded that no other pervasive skill was promoted.

How students experienced the game

In the second open-ended question, students were asked to comment on their experience playing the Fast-Thinkers Game. Most responded highly positively,

showing that they enjoyed playing the game. Some of the responses included “a fun way of learning terminology”, “worth the experience, would 100% recommend it”, “it was awesome”, “much more fun than I anticipated”, “fun and beneficial”, “very interesting and exciting” and “a lovely experience”.

A few of the more detailed responses were as follows:

- “The game was such a good initiative, and it helped me a lot as I got to understand other academic terms from my peers’ perspectives.”
- “It was really a fun experience which did help me to get to know my peers a bit better and helped with my learning!”
- “Really enjoyed the competitive side of it!”
- “This was just great! One of the best nights ever and a highlight in my entire university experience!”
- “It was fun but working under pressure was a struggle.”
- “When I play the real 30 second games with my friends, I can’t really explain the words, so I usually get 0 points and they hardly choose me as part of their team, which I understand 😊. But with the Fast-Thinkers Game I felt really smart, like I knew what I was doing. Even the nerves went away, I was not shy. All in all I had fun, and I AM SMART 😊!”

The component of the game enjoyed most

In the third open-ended question, students were asked which component of the game they enjoyed most. Many respondents stated that they enjoyed all the components, while some chose the “chance cards” with their surprise element. Some respondents realised that they were better with the terminology in a specific subject area and enjoyed those subject areas best. Respondents also commented that they enjoyed that some of the subject terminologies were lectured undergraduate, and they could revise the undergraduate terminology while playing the game.

Would students recommend the game?

The majority reacted highly positively to this open-ended question, and the following responses summarised the general feeling:

- “It’s a fun and a different way of learning.”
- “I learned how to explain the core terms in the four modules.”
- “It promotes communication skills and engaging with other peers that you would not normally interact with in a class setting.”

- “It helps prepare us for the future workplace when we have to interact with clients and explain certain concepts to them.”
- “It forces students to think on the spot, and this is what is required when we write our tests and exams.”
- “It teaches one how to bounce back from failure.”
- “Not only do you develop the skills mentioned above, but you also get to make friends with people you would not otherwise engage with.”
- “It made engaging with academic content fun.”
- “It helps with subject comprehension. This is such a rule-based degree. The game allows for some creativity and forces you to think on the spot despite the circumstances.”
- “It’s a learning opportunity as one gets to improve their communication and teamwork skills which are the most important tools in this industry.”

Only one student responded negatively but provided no reason for it.

Recommendations for improving the game

Many students had no suggestions to improve the Fast-Thinkers Game and commented on this last open-ended question that the game was perfect. However, a few suggested that the time limit must be increased to 60 seconds. A few also suggested alternatives to describing the terminology, like acting out the terminology. Some of the students recommended play-offs to determine one overall winner at the end of the evening.

The following recommendations were also suggested:

- “Take away the mystery card as it creates an unfair advantage.”
- “I think this should be done every quarter after test series.”

CONCLUSION

The main purpose of this paper was to develop a board game as a learning intervention to enhance communication skills among postgraduate accountancy students and to report on the students’ perceptions thereof. The tremendous positive response from the postgraduate student group suggests that educational games, specifically the Fast-Thinkers Game, could be used as a tool to develop the communication skills of postgraduate students in accountancy education.

By applying the DSR process (Pelser-Carstens, 2022), the Fast-Thinkers Game was developed in phases, as suggested by the literature. The DSR process is recommended for educators aiming to design a board game as a learning intervention because it ensures a focused process: the problem was contextualised in literature where gaps were identified; the solutions to the problem equal the objectives of the game and are set in line with the students' development area needs and the CA2025 Competency Framework; the game was designed with features to address those objectives; the prototype of the game was test-played and adjusted before its final release; and finally, the Fast-Thinkers Game was released to address the problem for which it was designed. In the final phase of the DSR process, an evaluation was performed to determine if students perceived that the Fast-Thinkers Game developed their communication skills according to its objectives.

The overwhelmingly positive responses from the majority of students confirm that a board game could be used as a learning intervention to enhance communication skills among postgraduate accountancy students. Communication skills, integration of subject languages and time management were perceived as the top three skills developed by playing the Fast-Thinkers Game. When considering the benefits of the game, it was enjoyment, teamwork and engagement that were ranked as the top three benefits of the game. In the end, enjoyment and teamwork were the greatest benefits of the Fast-Thinkers Game, even more positively perceived by the students than the benefit of enhancing their communication skills. This coincides with literature indicating that the benefits of game-based learning, namely, teamwork, enjoyment, and engagement, contribute significantly to the learning process (Carenys & Moya, 2016; Lee, Shifflett & Downen, 2019; Malan & Van Dyk, 2021; Pelser-Carstens & Blignaut, 2018). Furthermore, the findings in this study strongly support literature discussed in the first part of the study: game-based learning could be used as a learning tool in accountancy programmes to develop the pervasive skills required by professional bodies (Pelser-Carstens, 2022; Pelser-Carstens & Blignaut, 2018; Pelser-Carstens & Leendertz, 2022; Viviers, 2016; Viviers *et al.*, 2016; Viviers, Reitsma, & Fouché, 2018). Looking forward, exploring correlations between the postgraduate students' demographic information and their perceptions based on their gamification experience could be areas for future research.

LIMITATIONS

This paper did not explore correlations between students' skills development areas and demographics such as second-language speakers. Furthermore, the implementation and evaluation of the Fast-Thinkers Game were done two months into the academic year, which means that the students' skills development was tested based mainly on undergraduate knowledge. This may limit the results of the paper.

The generalisability of the results may also be limited given the fact that the questionnaire was only administered to postgraduate accountancy students at one specific tertiary institution in South Africa. The development of the communication skills areas was further measured using student perceptions which can be biased and limit objectivity.

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The relationship(s) between internal control activities used, perceived stakeholder reputation and the economic sustainability of South African small, medium and micro enterprises

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Purpose: This study aimed to determine the relationship(s) between the internal control activities used, perceived stakeholder reputation, as well as the overall economic sustainability of South African Small, Medium and Micro Enterprises (SMMEs).

Design/Methodology/Approach: This study employed an empirical, exploratory, and quantitative approach. Survey research was utilised to collect data from 119 purposively and conveniently selected South African SMME owners/managers operating in the fast-moving consumer goods industry, based in the Cape Metropole.

Findings: From the research revealed that the internal control activities used by sampled South African SMMEs mostly demonstrated a statistically significant negative relationship(s) with perceived stakeholder reputation and their respective economic sustainability.

Originality/Contribution: This research provides insight into the importance of internal control activities concerning perceived stakeholder reputation and economic sustainability. Additionally, the study can serve as a foundation for further empirical research on the matter at hand.

KEYWORDS: *internal auditing; internal control activities; internal control systems; SMMEs; South Africa; sustainability.*

INTRODUCTION

In South Africa, Small, Medium, and Micro Enterprises (SMMEs) are formally defined according to the National Small Business Act No. 102 of 1996. This definition reads as follows:

“[A SMME] means a separate and distinct business entity, including co-operative enterprises and non-governmental organizations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy ...” (South Africa, 1996).

Since 1996, the core definition of SMMEs in South Africa remained unchanged, despite the publication of the Small Business Amendment Act No. 26 of 2003 and the Revised Schedule 1 of the National Definition of Small Enterprise in South Africa of 2019. The latter publications did not affect the definition of these business entities, but it affected South African SMMEs size-classification.

Between 1996 and 2018, South African SMMEs were categorised as “micro enterprises”, “very small enterprises”, “small enterprises”, or “medium enterprises” based on: 1) the number of full-time

employees they employed, 2) their total turnover, and 3) their gross asset value (South Africa, 1996; South Africa, 2003). As of 2019, South African SMMEs are categorised as “micro enterprises”, “small enterprises”, or “medium enterprises” based on: 1) the number of full-time employees they employed, and 2) their annual turnover (South Africa, 2019).

Over the span of almost 3 decades, South African SMMEs have added significant socio-economic value to the country; particularly through their contribution to the national Gross Domestic Product (GDP), creating employment opportunities for South African citizens, and creating opportunities for wealth dissemination (Swart, 2011; Ngary, Smit, Bruwer, & Ukpere, 2014). Before the COVID-19 pandemic, 90% of all businesses in South Africa were SMMEs; all of which contributed an estimated 57% to the national GDP while simultaneously employing 61% of the national workforce (Naidoo & Urban, 2010; Rankhumise & Tshabalala, 2011; Bruwer & Coetzee, 2017).

Notwithstanding the above, prior research (Fatoki, 2014; SAICA, 2015) found that South African SMMEs have among the highest failure rates in the world. This view is supported by the following facts (Van Eeden et al. 2003; Biyase, 2009; Bruwer and Van Den Berg, 2017;

Cant and Wiid, 2013; Fatoki and Odeyemi, 2010; Moloj, 2013; Mutezo, 2013; Bruwer et al., 2021):

- 1996-2000: 80% of South African SMMEs failed after being in operation for only three years.
- 2001-2005: 75% of South African SMMEs failed after being in operation for only four years.
- 2006-2010: 75% of South African SMMEs failed after being in operation for only four years.
- 2011-2015: 75% of South African SMMEs failed after being in operation for only four years.
- 2016-2020: 75% of South African SMMEs failed after being in operation for only three years.

From the above, it is evident that the failure rate of South African SMMEs has not improved since 1996. Considering that these business entities operate in a harsh economic environment – serving as a “breeding ground” for risks to realise (Radas & Božić, 2009; Herrington & Kew, 2013; Bruwer, 2016) – it is ostensible that South African SMMEs are adversely affected by realised risks stemming from economic factors¹ (Bruwer, 2010; Cant & Wiid, 2013; Siwangaza, 2013). This is further justified by research which found that South African SMMEs do not have sound internal control (Bruwer, 2016 & Petersen, 2018; Siwangaza, 2013).

The concept of internal control is defined as follows:

“[It is] a process, effected by an entity’s [management] and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting and compliance” (Schandl & Foster, 2019).

One manner in which internal control can be implemented is through using an internal control system (Bruwer, 2016). An internal control system is defined as follows:

“[It is] a meticulous process that comprises ... interrelated elements that should assist in the mitigation of risks, all with the intent to provide reasonable assurance surrounding the attainment of relevant organisational objectives in the foreseeable future” (Bruwer, 2016).

Based on the Sustenance Framework – an internal control framework that was specifically designed for

SMMEs (in a general sense) – a sound system of internal control should comprise of 10 interrelated elements. This framework is depicted in Figure 1 and the foregoing is briefly expanded on afterwards.

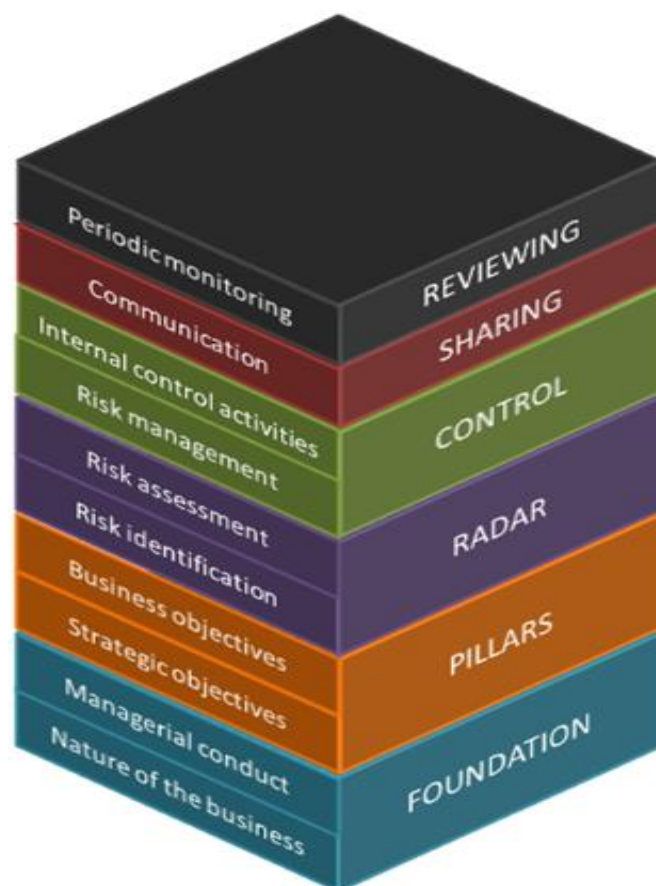


Figure 1: The Sustenance Framework

Source: Bruwer, 2020

Nature of the business: A holistic understanding of the business entity is provided in relation to the industry(ies) of operation, the location(s) of operation, the business hierarchy, operational procedures, markets being served, as well as the size of the business. This forms part of the “Foundation” grouped component.

Managerial conduct: A holistic understanding of the business entity’s management is provided in relation to their core values and the operating style(s). This forms part of the “Foundation” grouped component.

¹ This includes macro-economic factors over which SMMEs have limited control and micro-economic factors over which SMMEs have reasonable control.

Strategic objectives: The business entity's vision, mission and strategic goals are set; all of which are aligned to the "nature of the business" and the "managerial conduct". This forms part of the "Pillars" grouped component.

Business objectives: The business entity's operational objectives, reporting objectives, compliance objectives, economic objectives, social objectives and environmental objectives are set; all of which are aligned to the "strategic objectives". This forms part of the "Pillars" grouped component.

Risk identification: Possible risks which may adversely affect the business entity's attainment of "strategic objectives" and "business objectives" are identified. This forms part of the "Radar" grouped component.

Risk assessment: All risks that were identified under "risk identification" are assessed in terms of their probability of occurring and their potential impact. This forms part of the "Radar" grouped component.

Risk management: All risks that were assessed under "risk assessment" are organised based on how they should best be managed. The four risk management categories are that of "avoiding", "sharing", "mitigating" and "tolerating". This forms part of the "Control" grouped component.

Internal control activities: All risk management approaches, per risk, under "risk management" should be linked to internal control activities to help prevent, detect and correct them. More often than not, internal control activities will fall into five categories, namely that of "document usage and design", "safeguarding of assets", "independent checks", "proper authorisation", and "segregation of duties". This forms part of the "Control" grouped component.

Communication: Once all of the previous interrelated elements are in place, relevant content should be communicated to relevant stakeholders to help them achieve the business entity's objectives in the foreseeable future. Here, relevant stakeholders who may assist the business entity to achieve its objectives should first be identified (e.g. suppliers, investors, managers, key employees, and customers) after which the relevant information to be shared with these stakeholders should be determined. This forms part of the "Sharing" grouped component.

Periodic monitoring: After all of the interrelated elements have been covered, the business entity will have a customised internal control system (blueprint). This blueprint should be reviewed periodically to cater for change (e.g. new management, and the achievement of objectives). Such reviewing should take place at least once every year. This forms part of the "Reviewing" grouped component.

Notwithstanding the above, prior research (Bruwer et al., 2013; Masama, 2017) suggests that South African SMMEs do not generally make use of sound internal control systems. To this end, it is not surprising that research found that the internal control activities of South African SMMEs are inadequate and/or ineffective (Petersen, 2018). Therefore, it appears that South African SMMEs have high failure rates due to limited reasonable assurance surrounding the attainment of relevant objectives; internal control activities evident in South African SMMEs adversely affect their economic sustainability (achievement of economic objectives), as well as their reputation with relevant stakeholders. The relationships between the latter phenomena are however unknown.

Hence, using the above as a basis, the primary objective of this study was to ascertain the relationships that exist between the internal control activities used by South African SMMEs, perceived stakeholder reputation and their economic sustainability. For the remainder of this study, relevant discussions are categorised under the following headings: 1) conceptual framework, 2) research design, methodology and methods, 3) results, 4) discussion, 5) managerial implications and recommendations, and 6) conclusion.

CONCEPTUAL FRAMEWORK

Under this heading, relevant terms are conceptualised within the ambit of this study. The content under this heading is demarcated under the following sub-headings: 1) internal control activities, 2) economic sustainability, and 3) stakeholder reputation.

Internal control activities

Internal control activities are those processes and procedures put in place by management to provide reasonable assurance regarding the achievement of relevant business objectives (McNally, 2013). Being an integral part of an internal control system, internal

control activities need to be both adequate (be good enough) and effective (working as intended) in preventing, detecting and correcting risks (Ejoh & Ejom, 2014). According to Halonen, (2014), internal control activities can be categorised into five groups; each of which is listed and briefly described below (Frazer, 2012):

Document usage and design: This relates to formal processes and/or policies that exist for documenting transactions and/or activities in an effective, adequate and/or efficient manner.

Safeguarding of assets: Measures that are put in place to prevent and/or detect risks that may jeopardise the safety of tangible assets (both current and non-current).

Independent checks: The performing of reviews to inspect transactions and/or documentation, as supported by assertions, to obtain an objective “snapshot” of inter alia; disclosure, accuracy, occurrence, existence, completeness, and validity.

Proper authorisation: This pertains to having only certain points of authority in a business whereby transactions can be authorised and/or tasks can be officially delegated. In core, accountability and responsibility are devolved to the appropriate management level within a business.

Segregation of duties: Different internal stakeholders are assigned to perform transactions, approve transactions and/or record transactions.

As previously mentioned, South African SMMEs make use of inadequate and/or ineffective internal control activities. A primary cause for concern is that internal control activities, which should aid these business entities in their quest towards sustainability, do not always provide reasonable assurance surrounding the attainment of relevant business objectives (Ahmad & Seet, 2009; Valdiserri & Wilson, 2010). This may adversely affect their economic sustainability.

Economic sustainability

The term “sustainability” is highly subjective as it has various meanings in different contexts. Within the ambit of this study however, “sustainability” speaks to the achievement of key objectives in order to remain in operation for the foreseeable future (Alhaddi, 2015). Otherwise put, “sustainability” pertains to how well a

business manages to achieve its economic objectives, social objectives and/or environmental objectives (Masama, 2017). The latter is depicted in Figure 2 below:



Figure 2: The concept of sustainability for this study

Source: ConceptDraw, 2022

Considering the significance of SMMEs to the South African economy, SMMEs’ attainment of economic sustainability cannot be overemphasised (Bruwer & Mason, 2018). These business entities cannot remain in operation without being profitable (having more income than expenses), being solvent (having more assets than liabilities) and being liquid (having sufficient cash on hand) (Lebacqz et al. 2013). For this reason, Environmental, Social and Governance (ESG) objectives were not focused on in this study (Fraser, Quail & Simkins, 2022). One key aspect that impacts directly on economic sustainability is that of stakeholder reputation.

Stakeholders’ reputation

In a business dispensation, stakeholder reputation is of grave significance. This is especially the case for newly established business entities who often suffer from a concept known as “liability of newness” (Barth & Zalkat, 2020; Bruderl & Schussler, 1990) as they do not necessarily “have a sound reputation that precedes them, to enable them to have access to relevant resources and support” (Bruwer et al., 2021). Their lack

of skills, lack of opportunities, lack of experience (track-records) and/or lack of financial resources have an adverse influence on the manner in which they conduct business; their overall economic sustainability (Josefy et al., 2019; Soto-Simeone et al., 2020).

In addition, stakeholder reputation has to do with “stakeholder management” – as embedded in both the King III and King IV Corporate Governance best practices guides (IoD, 2016; Shier, 2010). In these practice guides, it is mentioned that stakeholder reputation is often affected by inter alia stakeholders’ perceptions of a business entity, the manner in which a business entity manages its stakeholders, the transparency and effective communication of a business entity with its stakeholders, and the manner in which a business entity addresses disputes.

RESEARCH DESIGN, METHODOLOGY AND METHODS

This empirical study took on the form of exploratory research as it placed “emphasis on the discovery of ideas and insights” (Churchill, 1995). Although research was conducted on the individual variables identified in the research problem (i.e. internal control activities, economic sustainability and stakeholder relationship), this study was regarded as nascent as a limited amount of research has been conducted on the three variables altogether (Edmondson & McManus, 2007).

Furthermore, this study fell within the positivistic research paradigm and made use of quantitative research. To best achieve the primary objective of this study, survey research was conducted as data were collected “from a sample of individuals through their responses to questions” (Check & Schutt, 2012) via a self-administered (printed) questionnaire. Although all the questionnaires in the self-administered questionnaire formed part of a larger study, a total of 19 questions were applicable to this study:

- Four, close-ended questions.
- Five, multiple choice questions.
- Seven, five-point Likert-scale questions.
- Three, fixed open-ended questions.

Sampled SMMEs were selected by making use of non-probability sampling methods, specifically a mixture of convenience sampling and purposive sampling. The latter was decided as the study did not receive any financial support, no formal databases existed of

operational SMMEs, and the authors wanted to obtain rich data. To this end, every sampled SMME, and relevant respondent, had to adhere to the following delineation criteria before a response was regarded as valid:

The SMME:

- Had to be a sole trader, partnership, close corporation, or private company.
- Had to be a non-franchised business entity.
- Had to employ between 0 and 50 full-time employees.
- Had to be in operation for at least one year.
- Had to physically operate in the Cape Metropole.
- Had to operate in the fast-moving consumer goods (FMCG) industry.

The respondent:

Had to be the owner and/or manager of his/her SMME.

Had to have decision-making authority in his/her SMME.

Had to be the owner and/or manager of his/her SMME for at least one year.

Data were collected from 130 respondents and upon verification, a total of 119 responses were found to be valid (91.54% response rate). Throughout the research study, relevant ethical considerations were taken into account, as supported by the ethical clearance document received from the institution affiliated with the corresponding author (certificate 2015FBREC251). This includes, but is not limited to the safeguarding of physical harm, the anonymity of respondents, and the confidentiality of information, informed consent, and voluntary participation.

RESULTS

First, respondents were asked an array of delineation questions on their demographic information and geographical information; in line with the delineation criteria. A summary of the results is shown in Table 1 below.

Table 1: Summary of answers provided by respondents on delineation questions

Questions	Results
How would you classify the business?	Sole trader: 77.3% Partnership: 9.2% Close corporation: 10.1% Private company: 3.4%
How would you describe the business' selling policy?	Cash sales only: 80.7% Cash and credit sales: 19.3%
Is your business physically operating in the Cape Metropole?	Yes: 100%
Are you franchised?	No: 100%
Does the business operate in the FMCG industry?	Yes: 100%
How many employees does the business employ?	0 - 10 employees: 87.4% 11 - 50 employees: 12.6%
How long has the business been in existence?	Mean: 7.76 years Median: 5 years Mode: 5 years
What is your position in the business?	Owner: 40.3% Manager: 32.8% Owner-manager: 26.9%
How long have you been in this position?	Mean: 6.11 years Median: 5 years Mode: 2 years
Are you a South African citizen?	Yes: 96.6% No: 3.4%
What is your highest qualification?	Lower than Grade 12: 18.5% Grade 12: 48.7% Certificate or equivalent: 13.4% Diploma or equivalent: 11.8% Bachelor's degree or equivalent: 6.7% Honours degree or equivalent: 0.8%
Do you have decision making power in the business?	Yes: 100%

Stemming from the results above, the inference can be made that the average respondent was a South African owner (with decision making power) or of a non-franchised sole trader micro-enterprise that operated in the FMCG industry, in the Cape Metropole, who had 6.11 years' experience and possessed Grade 12 as highest qualification. In addition, the average non-franchised sole trader micro-enterprise relied on cash sales only and existed for an average of 7.76 years.

Following this, respondents were asked to indicate their level of agreement on four statements pertaining to their economic sustainability and three statements

pertaining to their reputation among stakeholders. This was done through means of a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). A summary of the results is shown in Table 2 below.

Table 2: Summary of respondents' agreement on statements surrounding economic sustainability and their reputation among stakeholders

Statement: "The business ..."	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Has more income than expenses	7.6%	11.8%	16.8%	35.3%	28.5%
Has more assets than liabilities	0.0%	19.3%	28.6%	39.5%	12.6%
Has sufficient cash on hand	2.5%	5.0%	21.0%	60.6%	10.9%
Will remain in operation for the foreseeable future	0.0%	1.7%	13.4%	55.5%	29.4%
Has a good reputation among its customers	0.0%	0.0%	0.8%	40.4%	58.8%
Has a good reputation among its competitors	0.0%	0.8%	14.3%	61.4%	23.5%
Has a good reputation among its suppliers	0.0%	0.0%	5.9%	54.6%	39.5%

From the results above, respondents mostly agreed that their SMMEs were profitable (63.8% total agreement), solvent (52.2% total agreement), liquid (71.5% total agreement), and could be regarded as a going concern entity (84.9% total agreement). Moreover, respondents mostly agreed that they had a good reputation among their customers (99.2% total agreement), their competitors (84.9% total agreement), and their suppliers (94.1% total agreement).

Next, respondents were asked to showcase their level of agreement on 41 statements, based on the work of Petersen (2018), pertaining to internal control activities evident in their respective SMMEs. This was done through means of a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). A summary of the results is shown in Table 3 below.

Table 3: Summary of respondents' agreement on statements surrounding internal control activities

Statement: "In the business ..."	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Source documents are used when goods are bought	47.1%	0.8%	1.7%	2.5%	47.9%
Source documents are used when goods are received	43.7%	0.0%	0.0%	3.4%	52.9%
Source documents are used when goods are sold	21.8%	3.4%	5.9%	14.3%	54.6%
Source documents are used when payments are made	36.1%	1.7%	3.4%	10.1%	48.7%
Source documents are used when money is received	33.6%	1.7%	6.7%	10.9%	47.1%
Copies of all relevant source documents used, are kept	31.1%	4.2%	4.2%	9.2%	51.3%
All relevant source documents used are pre-numbered	17.6%	3.4%	14.3%	22.7%	42.0%
Unused source documents are kept safe	25.2%	3.4%	6.7%	18.5%	46.2%
All relevant source documents used have spaces for the date of transaction	16.8%	0.0%	4.2%	14.3%	64.7%
All relevant source documents used have spaces for signatures	26.1%	0.0%	1.7%	10.9%	61.3%
All relevant source documents used are simple to complete	33.6%	0.0%	1.7%	11.8%	52.9%
Only management may authorise transactions	43.7%	0.0%	1.7%	5.9%	48.7%
Employees may authorise transactions based on formal policies and/or procedures	20.2%	1.7%	12.6%	12.6%	52.9%
Employees may authorise transactions with management approval only	34.5%	0.8%	13.4%	8.4%	42.9%
Access controls are evident at entrances to the premises	30.3%	3.4%	9.2%	11.8%	45.3%
Access controls are evident at all doors	18.5%	2.5%	10.1%	12.6%	56.3%
Access controls are evident at tills and/or safes	34.5%	1.7%	6.7%	15.1%	42.0%
Access controls are evident at storage points	25.2%	2.5%	9.2%	6.7%	56.4%
Alarm systems are used	39.5%	4.2%	8.4%	5.0%	42.9%
CCTV (surveillance) cameras are used	37.0%	8.4%	18.5%	5.0%	31.1%
Security guards are used	34.5%	10.1%	24.4%	6.6%	24.4%
Inventory is located and/or stored in a safe location	26.9%	5.9%	5.0%	12.6%	49.6%
Staff is protected on premises (bars, security guards, etc.)	32.7%	0.0%	3.4%	7.6%	56.3%
Backup and disaster recovery measures are in place	21.8%	1.7%	5.9%	22.7%	47.9%
Staff are supervised	30.3%	0.0%	1.6%	11.8%	56.3%
Staff are monitored (e.g. behaviour changes)	28.6%	0.0%	2.5%	13.4%	55.5%
Staff performance reviews are conducted periodically	20.2%	1.6%	3.4%	16.8%	58.0%
Quality checks are performed on goods received	40.3%	1.7%	5.9%	7.6%	44.5%
Quality checks are performed on goods before they are sold	31.1%	0.8%	7.6%	10.9%	49.6%
Surprise cash checks are performed (at tills)	32.8%	1.7%	9.2%	21.0%	35.3%
Surprise cash checks are performed (petty cash)	24.4%	0.8%	8.4%	19.3%	47.1%
Inventory is periodically counted	25.2%	0.8%	3.4%	16.0%	54.6%
Cash is banked daily	14.3%	20.2%	18.5%	15.1%	31.9%
Independent audits are performed periodically	29.4%	2.5%	15.1%	13.5%	39.5%
Internal audits are performed periodically	28.6%	1.6%	15.1%	7.6%	47.1%
The bank account is regularly reconciled by an independent person	23.5%	3.3%	20.2%	14.3%	38.7%
The debtors control account is regularly reconciled by an independent person	27.7%	2.5%	15.1%	17.7%	37.0%
The creditors control account is regularly reconciled by an independent person	25.2%	1.7%	19.3%	19.3%	34.5%
The person authorising transactions does not record or execute them (e.g. the authorising of a delivery)	18.5%	10.1%	21.0%	9.2%	41.2%
The person recording the transactions does not authorise or execute them (e.g. the recording delivery of goods)	21.8%	7.6%	21.8%	11.8%	37.0%
The person executing transactions does not authorise or record it (e.g. the actual delivery of goods)	20.2%	11.8%	21.8%	9.2%	37.0%

Considering the results above, the ten internal control activities that were used most in respondents' SMMs were that of "all relevant source documents used have spaces for the date of the transaction" (79.0% total agreement), "staff performance reviews are conducted periodically" (74.8% total agreement), "all relevant source documents have spaces for signatures" (72.2% total agreement), "inventory is periodically counted" (70.6% total agreement), "backup and disaster

recovery measures are in place" (70.6% total agreement), "staff are monitored" (68.9% total agreement), "source documents are used when goods are sold" (68.9% total agreement), "access controls are evident at all doors" (68.1% total agreement), "staff are supervised" (68.1% total agreement), and "surprise cash checks are performed (petty cash)" (66.4% total agreement). Notwithstanding the foregoing, the six internal control activities were least used by in

respondent's SMMEs were that of: "security guards are used" (31.0% agreement), "CCTV (surveillance) cameras are used" (36.1% agreement), "the person executing transactions does not authorise or record it" (46.2% agreement), "cash is banked daily" (47.0% agreement), "alarm systems are used" (47.9% agreement), and "the person recording the transactions does not authorise or execute them" (48.8% agreement).

Taking into account the number of variables applicable to internal control activities, economic sustainability

and reputation among stakeholders, exploratory axis factoring was performed, as based on the work of Petersen (2018). In doing so, a total of 41 items applicable to internal control activities were reduced to five factors and seven items; four items applicable to economic sustainability were reduced to 1 factor, while the three items of reputation among stakeholders could not be reduced. In Table 4, the factor loadings, Kaiser-Meyer-Olkin (KMO) values and Cronbach Alpha values related to the principal factor analysis are provided.

Table 4: Summary of principal factor analysis performed

Items	Factor loadings	KMO values	Cronbach alpha	Names
Source documents are used when goods are bought	0.826	0.867*	0.853*	DOC
Source documents are used when goods are received	0.717			
Source documents are used when goods are sold	0.629			
Source documents are used when payments are made	0.690			
Source documents are used when money is received	0.710			
Copies of all relevant source documents used, are kept	0.585			
All relevant source documents used are pre-numbered	0.489			
Unused source documents are kept safe	0.544			
All relevant source documents used have spaces for the date of transaction	0.560			
All relevant source documents used have spaces for signatures	0.592			
All relevant source documents used are simple to complete	0.611			
Only management may authorise transactions	0.677	0.574*	0.380	IT1
Employees may authorise transactions based on formal policies and/or procedures	0.630			IT2
Employees may authorise transactions with management approval only	0.697			IT3
Access controls are evident at entrances to the premises	0.647	0.824*	0.800*	SAF
Access controls are evident at all doors	0.620			
Access controls are evident at tills and/or safes	0.667			
Access controls are evident at storage points	0.540			
Alarm systems are used	0.701			
CCTV (surveillance) cameras are used	0.626			
Inventory is located and/or stored in a safe location	0.602			
Staff is protected on premises (bars, security guards, etc.)	0.577			
Backup and disaster recovery measures are in place	0.598			
Security guards are used	N/A	N/A	N/A	IT4
Staff are supervised	0.834	0.596*	0.628*	IND STA
Staff are monitored (e.g. behaviour changes)	0.789			
Staff performance reviews are conducted periodically	0.637			
Quality checks are performed on goods received	0.831	0.484	0.433	IT5
Quality checks are performed on goods before they are sold	0.590			IT6
Inventory is periodically counted	0.616			IT7
Surprise cash checks are performed (at tills)	0.652	0.824*	0.858*	IND OTH
Surprise cash checks are performed (petty cash)	0.758			
Cash is banked daily	0.637			
Independent audits are performed periodically	0.694			
Internal audits are performed periodically	0.649			
The bank account is regularly reconciled by an independent person	0.679			
The debtors control account is regularly reconciled by an independent person	0.789			
The creditors control account is regularly reconciled by an independent person	0.812			

Items	Factor loadings	KMO values	Cronbach alpha	Names
The person authorising transactions does not record or execute them (e.g. the authorising of a delivery)	0.876	0.718*	0.829*	SEG
The person recording the transactions does not authorise or execute them (e.g. the recording delivery of goods)	0.841			
The person executing transactions does not authorise or record it (e.g. the actual delivery of goods)	0.871			
Has more income than expenses	0.809	0.740*	0.703*	ECS
Has more assets than liabilities	0.664			
Has sufficient cash on hand	0.755			
Will remain in operation for the foreseeable future	0.705			
Has a good reputation among customers	0.759	0.467	0.148	IT8
Has a good reputation among competitors	0.203			IT9
Has a good reputation among suppliers	0.817			IT10

* Indicative of adherence to relevant criteria to make up a legitimate factor

For a factor to be recognised, it should have a KMO value that is greater than 0.500, a p-value < 0.001 according to Bartlett's test of sphericity, and a Cronbach alpha > 0.600 (Field, 2009; Cohen, 2010; Hair et al., 2010). All the relevant factors that were

identified adhered to these aforementioned criteria. In essence, the averages of all items, per legitimate factor, were computed accordingly while items that could not be factored, remained unmodified. The five identified factors are described in Table 5 below.

Table 5: Description of the five identified factors

Factor	Description	Measurement
DOC	Internal control activities applicable to document usage and design	It measures the usage of internal control activities related to document usage and design in SMMEs and assumes a value between 1 (strongly disagree) and 5 (strongly agree)
SAF	Internal control activities applicable to safeguarding of assets	It measures the usage of internal control activities related to the safeguarding of assets in SMMEs and assumes a value between 1 (strongly disagree) and 5 (strongly agree)
IND STA	Internal control activities applicable to independent checks surrounding staff	It measures the usage of internal control activities related to independent checks surrounding staff in SMMEs and assumes a value between 1 (strongly disagree) and 5 (strongly agree)
IND OTH	Internal control activities applicable to independent checks surrounding cash, debtors and creditors	It measures the usage of internal control activities related to independent checks surrounding cash, debtors and creditors in SMMEs and assumes a value between 1 (strongly disagree) and 5 (strongly agree)
SEG	Internal control activities applicable to segregation of duties	It measures the usage of internal control activities related to the segregation of duties in SMMEs and assumes a value between 1 (strongly disagree) and 5 (strongly agree)
ECS	Economic sustainability	It measures whether SMMEs are perceived as economically sustainable and assumes a value between 1 (strongly disagree) and 5 (strongly agree)

To better understand the relationships that exist among respondents' perceptions surrounding their SMMEs' economic sustainability, their stakeholder relationships and internal control activities evident in their SMMEs, a two-tailed Pearson correlation was performed. A summary of the results is shown in Table 6. Out of the (16 x 16 - 16) 240 tested relationships, 150 (61.67%) were statistically significant. Out of the 150 statistically significant relationships, the following was evident:

- 6 were positive and strong (β between 0.600 and 0.799); at the 1%-level.
- 24 were positive and moderate (β between 0.400 and 0.599); at the 1% level.

- 80 were positive and weak (β between 0.200 and 0.399); between the 1%-level and the 5%-level.
- 6 were positive and very weak (β between 0.00 and 0.199); at the 5%-level.
- 4 were negative and moderate (β between 0.400 and 0.599); at the 1%-level.
- 28 were negative and weak (β between 0.200 and 0.399); between the 1%-level and the 5%-level.
- 2 were negative and very weak (β between 0.00 and 0.199); at the 5%-level.

Table 6: Two-tailed Pearson correlation performed

		ECS	DOC	SAF	IND STA	IND OTH	SEG	IT1	IT2	IT3	IT4	IT5	IT6	IT7	IT8	IT9	IT10
ECS	Cor.	1	-0.031	-0.034	0.114	.229*	.290**	0.129	0.072	0.122	0.074	-0.019	0.069	0.110	0.011	0.127	-0.070
	Sig.		0.735	0.717	0.218	0.012	0.001	0.163	0.437	0.185	0.423	0.840	0.459	0.236	0.902	0.167	0.448
DOC	Cor.	-0.031	1	.728**	.400**	.497**	.504**	.513**	.265**	.345**	.225*	.313**	0.178	.327**	-.459**	-.210*	-.210*
	Sig.	0.735		0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.014	0.001	0.053	0.000	0.000	0.022	0.022
SAF	Cor.	-0.034	.728**	1	.446**	.631**	.561**	.453**	.250**	.247**	.356**	.414**	.303**	.429**	-.435**	-0.058	-.220*
	Sig.	0.717	0.000		0.000	0.000	0.000	0.000	0.006	0.007	0.000	0.000	0.001	0.000	0.000	0.530	0.016
IND STA	Cor.	0.114	.400**	.446**	1	.327**	.412**	.246**	.265**	.309**	.282**	.186*	.221*	.231*	-.239**	0.089	-0.055
	Sig.	0.218	0.000	0.000		0.000	0.000	0.007	0.004	0.001	0.002	0.043	0.016	0.011	0.009	0.337	0.554
IND OTH	Cor.	.229*	.497**	.631**	.327**	1	.625**	.385**	.306**	.245**	.446**	.338**	.342**	.329**	-.386**	-0.028	-0.156
	Sig.	0.012	0.000	0.000	0.000		0.000	0.000	0.001	0.007	0.000	0.000	0.000	0.000	0.000	0.765	0.091
SEG	Cor.	.290**	.504**	.561**	.412**	.625**	1	.350**	.312**	.346**	.390**	.407**	.320**	.262**	-.312**	0.013	-0.122
	Sig.	0.001	0.000	0.000	0.000	0.000		0.000	0.001	0.000	0.000	0.000	0.000	0.004	0.001	0.885	0.186
IT1	Cor.	0.129	.513**	.453**	.246**	.385**	.350**	1	0.148	.198*	.206*	.202*	.182*	0.130	-.239**	-0.153	-.182*
	Sig.	0.163	0.000	0.000	0.007	0.000	0.000		0.109	0.031	0.024	0.028	0.047	0.160	0.009	0.096	0.048
IT2	Cor.	0.072	.265**	.250**	.265**	.306**	.312**	0.148	1	0.165	.212*	0.080	0.097	0.164	-0.102	0.110	-.216*
	Sig.	0.437	0.004	0.006	0.004	0.001	0.001	0.109		0.072	0.021	0.386	0.293	0.074	0.269	0.235	0.019
IT3	Cor.	0.122	.345**	.247**	.309**	.245**	.346**	.198*	0.165	1	0.127	0.074	.219*	.248**	-.296**	-0.024	-0.014
	Sig.	0.185	0.000	0.007	0.001	0.007	0.000	0.031	0.072		0.170	0.426	0.017	0.007	0.001	0.797	0.878
IT4	Cor.	0.074	.225*	.356**	.282**	.446**	.390**	.206*	.212*	0.127	1	.233*	.276**	.222*	-0.092	-0.133	-0.015
	Sig.	0.423	0.014	0.000	0.002	0.000	0.000	0.024	0.021	0.170		0.011	0.002	0.015	0.320	0.148	0.875
IT5	Cor.	-0.019	.313**	.414**	.186*	.338**	.407**	.202*	0.080	0.074	.233*	1	.281**	.294**	-.273**	-0.073	0.018
	Sig.	0.840	0.001	0.000	0.043	0.000	0.000	0.028	0.386	0.426	0.011		0.002	0.001	0.003	0.431	0.849
IT6	Cor.	0.069	0.178	.303**	.221*	.342**	.320**	.182*	0.097	.219*	.276**	.281**	1	0.022	-.237**	-0.076	-.267**
	Sig.	0.459	0.053	0.001	0.016	0.000	0.000	0.047	0.293	0.017	0.002			0.816	0.009	0.409	0.003
IT7	Cor.	0.110	.327**	.429**	.231*	.329**	.262**	0.130	0.164	.248**	.222*	.294**	0.022	1	-.265**	0.066	0.141
	Sig.	0.236	0.000	0.000	0.011	0.000	0.004	0.160	0.074	0.007	0.015	0.001	0.816		0.004	0.478	0.126
IT8	Cor.	0.011	-.459**	-.435**	-.239**	-.386**	-.312**	-.239**	-0.102	-.296**	-0.092	-.273**	-.237**	-.265**	1	0.046	.277**
	Sig.	0.902	0.000	0.000	0.009	0.000	0.001	0.009	0.269	0.001	0.320	0.003	0.009	0.004		0.619	0.002
IT9	Cor.	0.127	-.210*	-0.058	0.089	-0.028	0.013	-0.153	0.110	-0.024	-0.133	-0.073	-0.076	0.066	0.046	1	-0.114
	Sig.	0.167	0.022	0.530	0.337	0.765	0.885	0.096	0.235	0.797	0.148	0.431	0.409	0.478	0.619		0.219
IT10	Cor.	-0.070	-.210*	-.220*	-0.055	-0.156	-0.122	-.182*	-.216*	-0.014	-0.015	0.018	-.267**	0.141	.277**	-0.114	1
	Sig.	0.448	0.022	0.016	0.554	0.091	0.186	0.048	0.019	0.878	0.875	0.849	0.003	0.126	0.002	0.219	

* Statistically significant at the 0.05-level ** Statistically significant at the 0.01-level

Using the computed Pearson correlations as a foundation, the following inferences can be made:

ECS: When respondents agreed that the ECS of their SMMEs was favourable, they agreed that IND OTH ($\beta = 0.229$) and SEG ($\beta = 0.290$) were used in their SMMEs (and vice versa).

DOC: When respondents agreed that DOC was used in their SMMEs, they agreed that SAF ($\beta = 0.728$), IND STA ($\beta = 0.400$), IND OTH ($\beta = 0.497$), SEG ($\beta = 0.504$), IT1 ($\beta = 0.513$), IT2 ($\beta = 0.265$), IT3 ($\beta = 0.345$), IT4 ($\beta = 0.225$), IT5 ($\beta = 0.313$) and IT7 ($\beta = 0.327$) were used in their SMMEs (and vice versa). In addition, when respondents agreed that DOC was used in their SMMEs, they perceived IT8 ($\beta = -0.459$), IT9 ($\beta = -0.210$), and IT10 ($\beta = -0.210$) in a negative light (and vice versa).

SAF: When respondents agreed that SAF was used in their SMMEs, they agreed that DOC ($\beta = 0.728$), IND STA ($\beta = 0.446$), IND OTH ($\beta = 0.631$), SEG ($\beta = 0.561$), IT1 ($\beta = 0.453$), IT2 ($\beta = 0.250$), IT3 ($\beta = 0.247$), IT4 ($\beta = 0.356$), IT5 ($\beta = 0.414$), IT6 ($\beta = 0.303$), and IT7 ($\beta = 0.429$) were used in their SMMEs (and vice versa). Furthermore, when respondents agreed that SAF was used in their SMMEs, they perceived IT8 ($\beta = -0.435$), and IT10 ($\beta = -0.220$) in a negative light (and vice versa).

IND STA: When respondents agreed that IND STA was used in their SMMEs, they agreed that DOC ($\beta = 0.400$), SAF ($\beta = 0.446$), IND OTH ($\beta = 0.327$), SEG ($\beta = 0.412$), IT1 ($\beta = 0.246$), IT2 ($\beta = 0.265$), IT3 ($\beta = 0.309$), IT4 ($\beta = 0.282$), IT5 ($\beta = 0.186$), IT6 ($\beta = 0.221$), and IT7 ($\beta = 0.231$) were used in their SMMEs (and vice versa). Moreover, when respondents agreed that IND STA was used in their SMMEs, they perceived IT8 ($\beta = -0.239$) in a negative light (and vice versa).

IND OTH: When respondents agreed that IND OTH was used in their SMMEs, they agreed that DOC ($\beta = 0.497$), SAF ($\beta = 0.631$), IND STA ($\beta = 0.327$), SEG ($\beta = 0.625$), IT1 ($\beta = 0.385$), IT2 ($\beta = 0.306$), IT3 ($\beta = 0.245$), IT4 ($\beta = 0.446$), IT5 ($\beta = 0.338$), IT6 ($\beta = 0.342$), and IT7 ($\beta = 0.329$) were used in their SMMEs (and vice versa). Also, when respondents agreed that IND OTH was used in their SMMEs, they viewed their ESC ($\beta = 0.229$) in a favourable light; IT8 ($\beta = -0.386$) in a negative light (and vice versa).

SEG: When respondents agreed that IND OTH was used in their SMMEs, they agreed that DOC ($\beta = 0.504$), SAF ($\beta = 0.561$), IND STA ($\beta = 0.412$), IND OTH ($\beta = 0.625$),

IT1 ($\beta = 0.350$), IT2 ($\beta = 0.312$), IT3 ($\beta = 0.346$), IT4 ($\beta = 0.390$), IT5 ($\beta = 0.407$), IT6 ($\beta = 0.320$) and IT7 ($\beta = 0.262$) were used in their SMMEs (and vice versa). In addition, when respondents agreed that SEG was used in their SMMEs, they viewed their ESC ($\beta = 0.290$) in a favourable light; IT8 ($\beta = -0.312$) in a negative light (and vice versa).

IT1: When respondents agreed that IT1 was used in their SMMEs, they agreed that DOC ($\beta = 0.513$), SAF ($\beta = 0.453$), IND STA ($\beta = 0.246$), IND OTH ($\beta = 0.385$), SEG ($\beta = 0.350$), IT3 ($\beta = 0.198$), IT4 ($\beta = 0.206$), IT5 ($\beta = 0.202$), and IT6 ($\beta = 0.182$) were used in their SMMEs (and vice versa). Furthermore, when respondents agreed that IT1 was used in their SMMEs, they perceived IT8 ($\beta = -0.239$), and IT10 ($\beta = -0.182$) in a negative light.

IT2: When respondents agreed that IT2 was used in their SMMEs, they agreed that DOC, SAF, IND STA, IND OTH, SEG, and IT4 were used in their SMMEs (and vice versa). Moreover, when respondents agreed that IT2 was used in their SMMEs, they perceived IT10 ($\beta = -0.216$) in a negative light.

IT3: When respondents agreed that IT3 was used in their SMMEs, they agreed that DOC ($\beta = 0.345$), SAF ($\beta = 0.247$), IND STA ($\beta = 0.309$), IND OTH ($\beta = 0.245$), SEG ($\beta = 0.346$), IT1 ($\beta = 0.198$), IT6 ($\beta = 0.219$), and IT7 ($\beta = 0.248$) were used in their SMMEs (and vice versa). Also, when respondents agreed that IT3 was used in their SMMEs, they perceived IT8 ($\beta = -0.296$) in a negative light.

IT4: When respondents agreed that IT4 was used in their SMMEs, they agreed that DOC ($\beta = 0.225$), SAF ($\beta = 0.356$), IND STA ($\beta = 0.282$), IND OTH ($\beta = 0.446$), SEG ($\beta = 0.390$), IT1 ($\beta = 0.206$), IT2 ($\beta = 0.212$), IT5 ($\beta = 0.233$), IT6 ($\beta = 0.276$), and IT7 ($\beta = 0.222$) were used in their SMMEs (and vice versa).

IT5: When respondents agreed that IT5 was used in their SMMEs, they agreed that DOC ($\beta = 0.313$), SAF ($\beta = 0.414$), IND STA ($\beta = 0.186$), IND OTH ($\beta = 0.338$), SEG ($\beta = 0.407$), IT1 ($\beta = 0.202$), IT4 ($\beta = 0.233$), IT6 ($\beta = 0.281$), and IT7 ($\beta = 0.294$) were used in their SMMEs (and vice versa). In addition, when respondents agreed that IT5 was used in their SMMEs, they perceived IT8 ($\beta = -0.273$) in a negative light.

IT6: When respondents agreed that IT6 was used in their SMMEs, they agreed that SAF ($\beta = 0.303$), IND STA

($\beta = 0.221$), IND OTH ($\beta = 0.342$), SEG ($\beta = 0.320$), IT1 ($\beta = 0.182$), IT3 ($\beta = 0.219$), IT4 ($\beta = 0.276$), and IT5 ($\beta = 0.281$) were used in their SMMEs (and vice versa). Furthermore, when respondents agreed that IT6 was used in their SMMEs, they perceived T8 ($\beta = -0.237$), and T10 ($\beta = -0.267$) in a negative light.

IT7: When respondents agreed that IT7 was used in their SMMEs, they agreed that DOC ($\beta = 0.327$), SAF ($\beta = 0.429$), IND STA ($\beta = 0.231$), IND OTH ($\beta = 0.329$), SEG ($\beta = 0.262$), IT3 ($\beta = 0.248$), IT4 ($\beta = 0.222$), and IT5 ($\beta = 0.294$) were used in their SMMEs (and vice versa). Moreover, when respondents agreed that IT7 was used in their SMMEs, they perceived IT8 ($\beta = -0.265$) in a negative light.

IT8: When respondents saw IT8 in a positive light, they agreed that DOC ($\beta = -0.459$), SAF ($\beta = -0.435$), IND STA ($\beta = -0.239$), IND OTH ($\beta = -0.386$), SEG ($\beta = -0.312$), IT1 ($\beta = -0.239$), IT3 ($\beta = -0.296$), IT5 ($\beta = -0.273$), IT6 ($\beta = -0.237$), and IT8 ($\beta = -0.265$) were not used in their SMMEs. Also, where respondents saw IT8 in a positive light, they also saw IT10 ($\beta = 0.277$) in a positive light.

IT9: When respondents saw IT9 in a positive light, they agreed that DOC ($\beta = -0.210$), was not used in their SMMEs.

IT10: When respondents saw IT10 in a positive light, they agreed that DOC ($\beta = -0.210$), SAF ($\beta = -0.220$), IT1 ($\beta = -0.182$), IT2 ($\beta = -0.216$), and IT6 ($\beta = -0.267$) were not used in their SMMEs. In addition, where respondents saw IT10 in a positive light, they also saw IT8 ($\beta = 0.277$) in a positive light.

DISCUSSION

From the descriptive statistics, it is evident that respondents made use of certain internal control activities, and had favourable views surrounding their SMMEs economic sustainability and reputation among stakeholders. Although some internal control activities were used more than others, the internal control activities used should ultimately assist these SMMEs to achieve their relevant objectives to remain in operation for the foreseeable future.

When the emphasis is placed on the inferential statistics, the observation is made that IND OTH and SEG had a positive weak statistically significant relationship with ECS (β ranging between 0.229 and 0.290). Otherwise put, when IND OTH and SEG were

used, it had a very weak positive influence on the manner in which respondents viewed their SMMEs' ECS. Moreover, the observation is made that when DOC, SAF, IND STA, IND OTH, SEG, IT1, IT2, IT3, IT5, IT6, and IT7 were used in respondents' SMMEs, it negatively affected how respondents viewed IT8, IT9 and/or IT10. Alternatively stated, when DOC and SAF were used, it had a negative moderate statistically significant relationship with IT8 was viewed (β ranging between -0.459 and -0.435); IND STA, IND OTH, SEG, IT1, IT3, IT5, IT7 and IT7 had a negative weak statistically significant relationship with IT8 (β ranging between -0.386 and -0.239); DOC had a negative weak statistically significant relationship with IT9 ($\beta = -0.210$); DOC, SAF, IT2, and IT6 had a negative weak statistically significant relationship with IT10 (β ranging between -0.267 and -0.210); IT1 had a negative very weak statistically significant relationship with IT10 ($\beta = -0.182$).

Thus, the inference can be made that when SMMEs used internal control activities, it did not greatly contribute to the attainment of ECS in SMMEs (2 out of 12 variables); it negatively affected the manner in which respondents viewed their reputation among customers (10 out of 12 variables); partially negatively affected the manner in which respondents viewed their reputation among suppliers (6 out of 12 variables). Although it is not possible to pinpoint why the latter is the case, it is probable to infer that mentioned internal control activities are not adequately and/or effectively used. This stems from observations where these activities adversely affect the overall internal control of SMMEs; having direct repercussions on how relevant objectives are achieved. Examples of such inadequacies and/or inefficiencies (risks) include, but are not limited to:

Manually completed source documents may: a) take a long time to complete, b) be completed by an illiterate person, c) be forged, d) be wrongly completed, e) not be checked for correctness, and/or f) be issued to the wrong stakeholder.

Safeguarded assets can be guarded by many layers which can: a) adversely affect efficiency, and/or b) scare off customers.

Safeguarded assets can be breached due to inadequacy.

Safeguarded assets can be breached due to ineffectiveness.

Independent checks related to staff are: a) of such a nature that it adversely affects efficiency, and/or b) invasive to staff privacy.

Independent checks related to cash, debtors and creditors may be: a) too lax, and/or b) of such a nature that it adversely affects efficiency.

Independent checks related to inventory may be: a) too lax, and/or b) of such a nature that it adversely affects efficiency.

Segregation of duties may be of such a nature that it adversely affects efficiency.

Authorisation activities may be: a) of such a nature that it adversely affects efficiency, and/or b) of such a nature that it adversely affects economic sustainability.

MANAGERIAL IMPLICATIONS AND RECOMMENDATIONS

For internal control activities to be sound, they should be both adequate and effective. Before the latter can be evident in sampled SMMEs, management should evaluate their respective SMMEs' existing internal control activities to ensure that they:

- Prevent, detect and correct risks
- Assist in the attainment of business objectives
- Assist in the attainment of strategic objectives, which
- Have supporting control environments¹.

The most feasible manner in which the above can be done is through SMME management revising their SMMEs' internal control systems while using specific SMME internal control frameworks; grounded in research (e.g. Risk Architecture Model and the sustenance Framework). Notwithstanding the above, the internal control activities used by SMMEs should always provide reasonable assurance surrounding the prevention, detection and correction of risks which may adversely affect the attainment of relevant objectives.

¹ The control environment is regarded as the foundation of any internal control system. This is encapsulated in the "Foundation" grouped component of the Sustenance Framework.

CONCLUSION

Although South African SMMEs contribute significantly to the national economy, prior research shows that they have among the worst failure rates in the world. The latter dispensation is mainly due to the fact that these business entities are operating in a harsh economic environment, which in turn, increases the opportunity for risks to realise. Despite the fact that South African SMMEs make use of internal control activities to prevent risks and provide reasonable assurance surrounding the attainment of key (economic) objectives in the foreseeable future, research found that the internal control activities used by these business entities do not contribute to the latter.

Taking into account the results in this study, it became apparent that the internal control activities implemented by sampled SMMEs were both inadequate and/or ineffective. This view is justified by the facts that internal control activities used by sampled SMMEs it did not greatly contribute to the attainment of their economic sustainability, it negatively affected the manner in which respondents viewed their reputation among customers; and partially negatively affected the manner in which respondents viewed their reputation among suppliers. Although it is not possible to pinpoint why the latter is the case, it is probable to infer that the internal control activities used by sampled SMMEs will not provide reasonable assurance surrounding their attainment of economic objectives and/or remaining in operation for the foreseeable future. A plausible reason for the latter may be that SMME owners do not recognise the importance and/or the value-adding of internal control activities in their respective business entities. On the other hand, management may perceive the implementation of internal control activities as too costly within their respective business entity and/or place too much trust and/or reliance in their appointed employees.

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Remuneration governance practice disclosure in South African universities

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Purpose: The study examined the existence and extent of remuneration governance practice disclosure by universities in South Africa (SA) in response to a dearth of research on remuneration governance in the sector.

Design/Methodology/Approach: The 2014 Department of Higher Education (DHET) Regulation for Reporting (DRR) and King IV remuneration governance best practice guidelines were employed to develop a measurement checklist. A hybrid of dichotomous and polychotomous content analysis was used to extract data from the annual reports and related information disclosure for all 26 universities over three years. Descriptive and T-test statistics were utilised to summarise, present results, as well as to compare the mean performance for universities.

Findings: The level of accountability for remuneration governance practice disclosure by universities is relatively low. The remuneration committee and disclosure received the highest score, while the content of the remuneration policy scored the lowest. The mean score for universities' remuneration governance practice disclosure under the DRR is better and not equal to that of King IV.

Contribution: The results provide patterns of remuneration governance practice for benchmarking and the checklist can be employed as a self-assessment tool. It may also be used by regulators to enforce stronger monitoring and evaluation. The King IV remuneration governance practice disclosure may prompt the reform of the 2014 DRR by the regulator. The findings contribute to empirical, policy, theoretical, and practical knowledge in this field.

KEYWORDS: 2014 DHET regulation for reporting; annual report disclosure; King IV code on corporate governance; public accountability; remuneration governance; universities.

INTRODUCTION

The study examined the existence and extent of remuneration governance practice disclosure by universities in South Africa (SA) in response to a dearth of research on remuneration governance in the sector. There is increasing demand for sound governance and accountability by universities driven by rapid changes in competition, commercialisation, managerialism, and regulation (Ntim, 2018; Ntim, Soobaroyen, & Broad, 2017; RSA, 2017). Remuneration governance is a fundamental principle of the King Code on corporate governance, given the considerable impact executives have on value creation for organisations (van Zyl & Mans-Kemp, 2022a; Deloitte, 2016).

Remuneration governance guidelines were introduced in the first King Code and later amended in subsequent issues of the King Code (IoDSA, 1994; 2002; 2009 & 2016); followed by various regulations for reporting by universities in SA (RSA, 2003, 2007 & 2014). Remuneration governance has recently received increased attention from various stakeholders in SA, given the growing executive – employee wage gap and the poor executive pay-performance link (van Zyl & Mans-Kemp, 2022b; Viviers, Mans-Kemp, Kallis &

McKenzie, 2019; Kirsten & Du Toit, 2018; Madlela & Cassim, 2017). The King IV report on corporate governance contains principles and more detailed recommendations on remuneration than its King III predecessor. For example, the King IV report recommends that organisations should explicitly disclose a remuneration background statement, remuneration policy, and remuneration implementation report to enhance their accountability (IoDSA, 2016).

Extant SA literature on remuneration governance has been limited to the private sector, such as van Zyl and Mans-Kemp, (2022a) on stakeholder view of remuneration governance, Padia, Naik and Callaghan (2020); Bezuidenhout and Bussin, (2020), Kirsten and Du Toit, (2018); and Bussin and Ncube, (2017) on pay-performance link. Meanwhile, Steenkamp, Dippenaar, Fourie and Franken, (2019); and Mans-Kemp and Viviers, (2018) focused on pay components. The SA extant literature on corporate governance disclosure in universities consists of studies by Marx (2007), Barac, Marx, and Moloi (2011), Barac and Marx (2012), PWC (2014), Moloi (2016a, 2016b), Crous (2017), Ambe, (2018), Sityata, Botha and Dubihlela (2021) and Moodly and Skae (2022). These studies examined the

effectiveness of corporate governance practices and integrated reporting by SA universities using unweighted, modified unweighted content analysis and surveys of registrars. Marx (2007) and Moloi (2016a, 2016b) both used unweighted content analysis; the first author found that councils appear to follow King II and could benefit from improved governance disclosure, while the latter author found less than 50% of the recommended disclosure of governance and risk information in university annual reports (Marx, 2007; Moloi, 2016a).

Specifically, Barac, Marx, and Moloi (2011); Ambe, (2018); Sityata, Botha and Dubihlela, (2021) used modified binary content analysis and found strong support for compliance to sound corporate governance practices of universities with room for improvement (Barac *et al.*, 2011). Governance information disclosure was gauged to be moderately satisfied with 40% to 60% compliance (Ambe, 2018), and 80% of the sampled universities disclosed most of their risk management practices with identified areas for improvement (Sityat *et al.*, 2021). The results of Sityata *et al.*, (2021) are higher than the other studies cited probably because they examined only a subset of corporate governance disclosure. Another study by Barac and Marx (2012) examined the registrar's views on corporate governance effectiveness and value-added in universities using surveys and interviews and found strong support for adherence to sound corporate governance practices with room for improvement. PWC (2014), on the other hand, evaluated the trends in annual reporting by SA universities using a qualitative document review and concluded that much could be done to improve the quality of reporting and called for the development of a measurement index for annual disclosure by universities. Finally, Crous (2017), assessed corporate governance compliance in SA Universities using a binary framework and evidenced that application and compliance with corporate governance principles and practice are lacking in detail and need improvement.

None of the above studies specifically evaluated the implementation of the guidelines on remuneration governance practices articulated in the 2014 DHET regulation for reporting and the King IV code on corporate governance within universities in SA. Accordingly, there is a dearth of research examining the existence and extent to which universities engage with, and disclose, existing good remuneration governance practices toward enhancing public

accountability. The paper responded to this gap in the research. The study investigated remuneration governance practice disclosures with respect to the requirements of the 2014 DHET regulation for reporting by South African universities and the remuneration governance guidelines of the King IV Code for the financial years 2017 to 2021.

The study not only evaluated the existence but also the quality of remuneration governance practice when compared to extant literature. It further provides a combined self-assessment checklist on remuneration governance practice and a framework for assessing the public accountability quality of remuneration governance disclosures that may be useful to both universities and researchers. The results from the analysis of the King IV remuneration governance practice disclosures may also incite the reform of the 2014 regulation by the regulator. In addition, the findings make practical contributions to the body of knowledge.

The next section is made up of the legislative and theoretical foundations. Section three is focused on methods and the results are presented and discussed in section four. The conclusion forms the last section of the paper.

LEGISLATIVE AND THEORETICAL FOUNDATION

The legislative and theoretical foundation of the paper consists of the 2014 Regulation for Reporting, the King Code on corporate governance, and public accountability, discussed below.

The 2014 DHET regulation for reporting

The foundation of public accountability by public Higher Education Institutions (HEIs) is the 1997 Higher Education Act (No 101 of 1997). The Act in Section 41 requires Councils of HEIs to maintain and submit a report (including annual reports) to the Department of Higher Education and Training (DHET). The Act further provides for the establishment of regulations for reporting by HEIs in section 69. In compliance with Section 69 of the Act, DHET has published three regulations for reporting in 2003, 2007, and 2014 to promote public accountability by HEIs (RSA, 1997, 2003, 2007, 2014). Provisions contained in the 2014 DHET regulations for reporting are based on the King III

Code on corporate governance, while the previous regulations were based on the King II Code.

The 2014 DHET regulations for reporting require each University to have a remuneration or equivalent committee (REMCO) which should present a remuneration report depicting the University's remuneration philosophy and how it has been implemented. The regulations further call for the disclosure of the university's remuneration policies and the strategic objectives for remuneration that it seeks to achieve and the extent to which these have been attained. The remuneration report should also explain the policy on base pay, the use of average salary and appropriate benchmarks employed, and the justification for above-median pay (RSA, 2014). The regulation also requires the REMCO's terms of reference to include matters relating to general staff policies, remuneration, bonuses, executive remuneration, service contracts and medical aid, retirement funds, and Council and committee members fees (RSA, 2014). In addition, universities are to make disclosure of performance parameters on bonuses and evaluation methods employed for its determination as well as explain and justify any material payments that may be considered *ex gratia* in nature. Finally, the regulation expects the executive remuneration and comparative figures (including those paid to councillors) as approved by REMCO to be reflected as a note to the annual financial statements (RSA, 2014).

Using the disclosures called for by the 2014 DHET Regulation, this paper developed a disclosure measurement checklist (see Appendix A and B) and applied this to investigate the existence and extent of compliance with, and disclosure of, remuneration governance practice for a five-year period from 2017 to 2021.

King IV code on corporate governance

The King IV Code on corporate governance was issued in 2016 and became operational on 1 April 2017 to offer governance guidance to organisations. The King IV Code was in response to developments locally and around the globe, including a heightened stakeholder focus on remuneration (van Zyl & Mans-Kemp, 2022b). The approach of King IV is stakeholder inclusive as directors are expected to balance the needs and interests of diverse stakeholders. King IV further enhanced attention to executive employee pay-gap,

especially relevant within the South African context, requiring executive remuneration to be fair and responsible within the overall employee pay context (IoDSA, 2016).

King IV is flexible as it allows the governing body to consider whether it will be appropriate for the organisation to establish a remuneration committee (REMCO) or add the responsibility to another committee (IoDSA, 2016). A minimum of three members are recommended for REMCO and all members of REMCO are to be non-executive members with a majority being independent non-executive members. The King IV Code further recommends that REMCO should be chaired by an independent non-executive director and that the chair of the governing body may not also chair the REMCO (IoDSA, 2016). In addition to the REMCO, King IV recommends that a remuneration policy be in place and that the remuneration report should contain a background statement, an overview of the remuneration policy, and an implementation report (IoDSA, 2016).

Grounded on the preceding discussion, this paper examined the existence and extent of compliance with and disclosure of the remuneration governance practices contained in the King IV Code on corporate governance by South African universities for a five-year period from 2017 to 2021.

Public accountability

Various legislative provisions such as the Higher Education Act of 1997, the 2014 Regulation for reporting by universities, and the King IV Code on corporate governance re-affirms the need for public accountability by organisations through sound remuneration governance practices and disclosure (RSA, 1997; RSA, 2014; IoDSA, 2016). Extant literature indicates that universities' annual reports provide stakeholders with a comprehensive understanding of institutional goals, and financial and non-financial performance, making them an effective tool for public accountability (Coy *et al.*, 2001; Ambe, 2018, 2019). An annual report, therefore, is an instrument for internal and external accountability and serves as a vehicle for public accountability because of its importance.

Grounded on public accountability discussed above, Abu Al-Ajeen (2020:12) suggested the following accountability disclosure index, which was adopted, modified, and used in this study: Accountability

Disclosure Index (ADI j) = Number of items disclosed/
Maximum number of items x 100%.

METHODOLOGICAL APPROACH

Research is strengthened with a clear research audit trail of the methodological and analytical decisions within the research cycle (Skinner, Nelson, Chin & Land, 2015). The research audit trail for this study is discussed in this section.

Population and sample

The study encompasses all twenty-six public universities in SA that were in operation during the period 2017 to 2021. Data was collected and analysed over five consecutive financial years, from 2017 to 2021, for each of these twenty-six-universities' annual reports – making a total of one hundred and twenty-nine (129) university-published annual reports and related remuneration disclosures (such as publicly available remuneration policies). One university's annual report was not available and was therefore excluded from the analysis. The annual reports were either sourced from the university websites or obtained from the regulator.

Content analysis data collection

The study employed directed qualitative content analysis, the dominant text analysis approach used by accounting researchers to assess narrative documents such as annual reports (Assarroudi *et al* 2018; Tregidga, Milne & Lehman, 2012). Content analysis delivers a condensed and broad explanation of a phenomenon through a valid and replicable systematic drawing of inferences from documents (Drisko & Maschi, 2016; Vourvachis & Woodward, 2015). The methodology used in social science research to analyse textual data involved a systematic identification of data characteristics, which led to the establishment of data inferences (Merkel-Davies *et al.*, 2011). The study quantifies the level and quality of remuneration governance practice disclosure in annual reports by using magnitude coding with arithmetic values for statistical analysis, where larger numerical values portray higher disclosure levels in terms of extent and quality (Unerman, 2000). Magnitude codes might constitute numbers to indicate the weight, importance, intensity, or frequency (Saldaña, 2021).

A two-phase content analysis approach was employed to benefit from both unweighted (dichotomous) and weighted (polychotomous) coding to examine the existence and extent of remuneration governance practice compliance (Chikutuma, 2019; Greene, Caracelli & Graham, 1989). In phase one, compliance to sound remuneration governance practice was assessed using a binary magnitude coding of 1 if the university reported on the specific remuneration governance practice and 0 if the university did not mention anything about the practice. The assessment was conducted on the university's remuneration policy, and the annual, integrated or remuneration reports in line with extant literature such as Hadi *et al.*, (2018); Cabedo *et al.*, (2018); Abu Bakar and Sale, (2016) and Frias-Aceituno, Rodríguez-Ariza, and García-Sánchez, (2014).

Annexures A and B contain the measurement checklist with four categories, including remuneration committee, remuneration policy, remuneration report, and remuneration disclosure-related items. The four categories had twenty-eight and forty-three measurement items for the DHET Regulation requirements and King IV Code of Governance recommended practices respectively. The remuneration governance practice index (RGPI) was calculated using the framework suggested by Abu Al-Ajeen, (2020) and Abu Bakar, (2016) as follows:

$RGPI = \frac{\text{number of items complied with or adhered to}}{\text{maximum number of items}} \times 100$

$RGPIj = \frac{\sum_{i=0}^n X_{ij}}{M_i} \times 100$

M_i

where:

RGPIj: Index of each university j; N: total number of items; Xij; (1) if the "i" the item for university "j" is disclosed (0) is not disclosed; Mi; the maximum number of item disclosures is possible for a university for the dichotomous or unweighted content analysis.

The study also employed a six-scale weighted content analysis magnitude coding in phase two, depicted in Table 1 below has been used as a working guide that was used to operationalise the research instrument in Annexure E.

Table 1: Polychotomous content analysis scoring

Score	Description
0	The university's annual report does not disclose any element of the remuneration governance indicator measurement item.
1	Minimal disclosure - incidentally discloses an element of the remuneration governance indicator measurement item.
2	Limited disclosure - disclosure of more than one aspect of the remuneration governance indicator measurement item.
3	Adequate disclosure - discloses more than two aspects of the remuneration governance indicator measurement item.
4	Sufficient disclosure - discloses most aspects of the remuneration governance indicator measurement item.
5	More than sufficient disclosure - discloses all aspects of the remuneration governance indicator measurement item.

The same evaluation framework employed for the unweighted content analysis was used for the polychotomous or weighted content analysis. The six-scale evaluation was used in phase two to assess not only the existence of remuneration governance indicators but also the extent or quality of remuneration governance practice by universities (Saldaña, 2021). Annexures C and D contain the weighted or polychotomous measurement checklist used for data extraction. Annexures E1 and E2 were used to operationalise the polychotomous or weighted content analysis.

Data analysis

The content analysis results were summarised, and the RGPI was calculated for each category of remuneration governance for each financial year and in total. The results are presented using descriptive statistics and graphs (Rashid, 2021, Stratopoulos & Kennedy, 2018).

Validity and reliability

Extant literature certifies construct validity using research instruments from previous studies, and data extraction tools for this paper were developed drawing on prior studies (Abu Al-Ajeen, 2020; Ambe, 2018; Crous, 2017; Abu Bakar, 2016). The paper used a pilot study for interrater reliability with two independent coders to establish the appropriateness of operationalising the research instrument, extraction and coding of data used for this study. A Cronbach Alpha result of 82% was calculated to evaluate the internal consistency and reliability of the operationalisation of coding in the polychotomous

content analysis in line with extant literature and the norm of 70%. The pilot study enabled the refinement of the data extraction tool and the operationalisation of the polychotomous content analysis (Abu Al-Ajeen, 2020; Hassan & Marston, 2019; Abu Bakar, 2016).

Ethical consideration

Ethical clearance was obtained from the ethics committee of the university. The study used secondary data from university websites and the DHET. No human or animal was used as part of the study. Raw and analysed data are available upon request.

RESULTS AND DISCUSSION

The paper examined the existence and extent of public accountability of SA universities based on King IV remuneration governance practice recommendations as well as the 2014 DHET regulation requirements. The results presented and discussed below commence with the remuneration practice disclosure based on the 2014 DHET Regulation for Reporting, followed by results based on the King IV recommendations. Finally, a combined checklist of the two-remuneration governance practice disclosure is presented, accompanied by a discussion of the results.

Disclosure of remuneration governance practices required by the 2014 DHET regulation

The research examined the existence and extent of compliance with, and disclosure of, remuneration governance practice as required by the 2014 DHET Regulation for Reporting by universities using unweighted (dichotomous) and weighted (polychotomous) content analysis. The results of the analysis using the 2014 DHET Regulation for Reporting are reflected in Figures 1 to 3 and Table 2 below. Figure 1 depicts an average unweighted remuneration governance practice disclosure level of 42% over the five-year period from 2017 to 2021. The remuneration committee-related category has the highest RGPI score followed by the remuneration governance category, the remuneration report category, and finally, the remuneration policy. Figure 2 depicts the 2021 financial year as having the highest RGPI score, with the lowest being for the 2019 year.

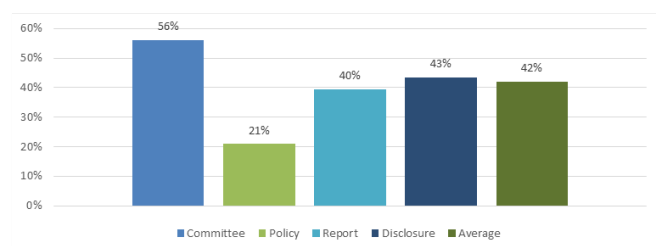


Figure 1: Universities dichotomous remuneration governance practice based on the 2014 DHET regulations for reporting per category and total for five years, 2017 to 2021

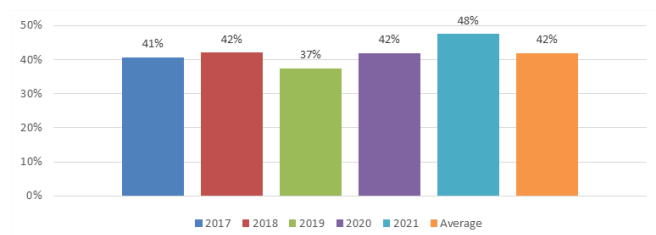


Figure 2: Universities dichotomous remuneration governance practice based on the 2014 DHET regulations for reporting by year, 2017 to 2021.

Figure 3 depicting the polychotomous 2014 DHET results on remuneration governance practice, shows an average of 39%, with 2017 being the best performing year, with the lowest RGPI score being 2020.

The distribution of the dichotomous RGPI results (summarised in Table 2) varies widely, ranging from a minimum of 0%, an average of 42%, and a maximum of 89%. Despite the gap between the minimum and maximum scores, a standard deviation of 0.235 indicates that most universities' RGPI scores are clustered around the mean of 42%. The polychotomous RGPI results (see Table 2) range from a minimum of 0%, an average of 39%, a maximum of 93%, and a standard deviation of 0.23.

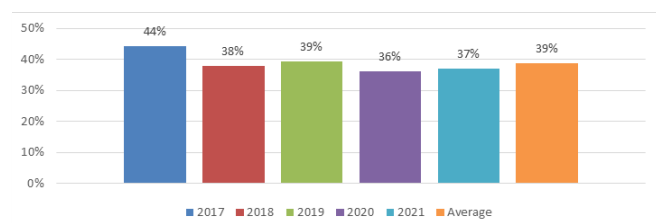


Figure 3: Universities polychotomous remuneration governance practice based on the 2014 DHET regulations for reporting by year, 2017 to 2021

Table 2: Descriptive statistics of universities remuneration governance practice based on 2014 DHET regulation for reporting

Description	2014 DHET Dichotomous	2014 DHET Polychotomous
Mean	0,42	0,39
Standard Error	0,02	0,02
Median	0,46	0,4
Mode	0,5	0
Standard Deviation	0,24	0,23
Variance	0,05	0,05
Kurtosis	-0,50	-0,53
Skewness	0,03	-0,05
Minimum	0	0
Maximum	0,893	0,93
Sum	54,11	50,17
Count	129	129

Disclosure of remuneration governance practice as recommended by King IV

This study also investigated the existence and extent of the application and disclosure of remuneration governance practice contained in the King IV Code on corporate governance by South African universities. The level of remuneration governance practice disclosure by universities based on King IV recommendation is summarised in Figures 4 to 6 and Table 3. Figure 4 depicts an average unweighted disclosure level of 30% over the five-year period 2017 to 2021 for the remuneration governance practices recommended by King IV. The remuneration disclosure category has the highest RGPI score, followed by the remuneration committee category, the remuneration policy category, and finally, the remuneration report category. Figure 5 indicates that the 2021 financial year had the highest level of application of King IV remuneration governance practices while the lowest was 2017 – based on the unweighted remuneration governance practice content analysis of universities.

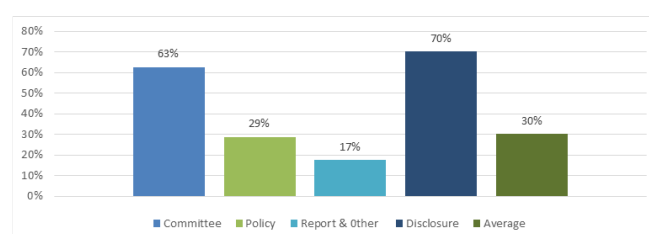


Figure 4: Universities dichotomous remuneration governance practice-based King IV per category and total for five years, 2017 to 2021

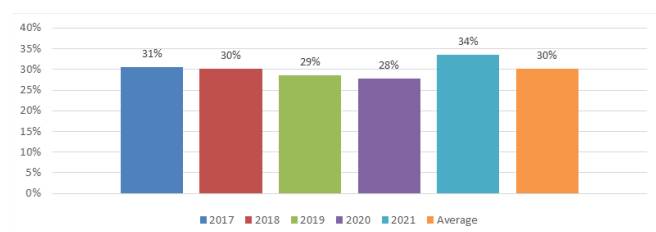


Figure 5: Universities dichotomous remuneration governance practice based King IV by year, 2017 to 2021.

Figure 6, reflecting the results of the polychotomous King IV content analysis, indicates an average score of 21%, with 2017 and 2018 being the best-performing and 2019 and 2020 scoring the lowest. The distribution in Table 3 varies widely, ranging from a minimum of 0%, an average of 30%, and a maximum of 67% for the dichotomous results. Despite the gap between the minimum and maximum scores, a standard deviation of 0.18 indicates that most HEI scores were clustered around the mean of 30%. The same pattern is depicted by the polychotomous results with a minimum of 0, a mean of 21%, maximum of 80% with a standard deviation of 0.15.

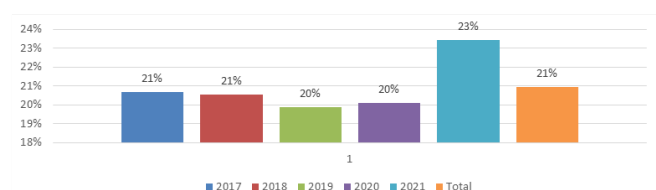


Figure 6: Universities polychotomous remuneration governance practice based King IV per year, 2017 to 2021

Table 3: Descriptive statistics of universities remuneration governance practice based on King IV code

Description	King IV Dichotomous	King IV Polychotomous
Mean	0,30	0,21
Standard Error	0,02	0,01
Median	0,33	0,19
Mode	0,33	0,19
Standard Deviation	0,18	0,15
Sample Variance	0,03	0,02
Kurtosis	0,79	2,28
Skewness	-0,00	1,24
Range	0,67	0,8
Minimum	0	0
Maximum	0,67	0,80
Count	129	129

Combined universities' compliance with the 2014 DHET regulation with their application of King IV remuneration governance practices.

Based on the data reflected in Figures 1 to 4, the mean score for the remuneration governance practice is 42% in terms of the 2014 DHET Regulation for Reporting compared to the mean score of 30% using the King IV recommendations. This difference may be because the remuneration governance provisions of the 2014 regulation are drawn from the King III Code and it constitutes mandatory disclosure whereas the application of King IV recommendations remains voluntary. The results confirm a limitation of the regulation that is redundant from a governance perspective given that King IV became effective on 1 April 2017. Accordingly, there is an urgent need for the revision of the Regulation to align with the current remuneration governance practices of King IV to enhance public accountability.

Given the disparities in the application of the requirements of the regulation for reporting and the recommendations of the King IV Code, there is a need for a combined remuneration governance disclosure guide (in the interim pending a review of the regulation) that combines the requirements of the regulation and King IV recommendations. Such a disclosure guide is presented in Table 4 below. The combined checklist consists of four categories and sixty-one measurement items developed from annexures A to D and can be operationalised to assess the quality of disclosure using annexure E as a guide.

Table 4: Combined DHET regulation - King IV practices measurement checklist

Remuneration committee-related		Check
#	Measurement Items	
1.1	Remuneration oversight is allocated to a dedicated committee to assist Council on remuneration matters	✓
1.2	Disclosure is provided of the composition of the remuneration committee	✓
1.3	Most members of the RC are not executives of the university	✓
1.4	RC's terms of reference (TOR) appear in the annual report	✓
1.5	TOR gives authority to RC over general staff policies	✓
1.6	TOR gives authority to RC over remuneration and its prerequisites	✓
1.7	TOR gives authority to RC over bonuses	✓
1.8	TOR gives authority to RC over executive remuneration	✓
1.9	TOR gives authority to RC over the council's remuneration and fees	✓
1.10	TOR gives authority to RC over service contracts	✓
1.11	TOR gives authority to RC over retirement funds & post-retirement funds	✓
Remuneration policy-related		
2.1	A remuneration policy (RP) exists in a university	✓
2.2	The university's remuneration philosophy has been explained	✓
2.3	The RP has stated objectives in a financial year	✓
2.4	The RP mentions the importance of either fair, responsible, and/or transparent remuneration	✓
2.5	The RP has as its objective to attract, reward, and retain human capital	✓
2.6	The RP promotes the achievement of strategic objectives within the HEI's risk appetite	✓
2.7	The RP aims to promote positive outcomes	✓
2.8	The RP aims to promote an ethical culture and responsible corporate citizenship	✓
2.9	Remuneration policy includes a framework for executive service contracts	✓
2.10	The RP determines fair executive remuneration considering employees' remuneration	✓
2.11	The RP indicates the importance of incorporating economic, social, and environmental performance measures in determining remuneration	✓
2.12	The RP indicates the importance of all the capital when determining remuneration	✓
2.13	Remuneration policy deals with base pay	✓
2.14	The remuneration policy highlights the types of cash benefits	✓
2.15	The remuneration policy highlights the types of non-cash benefits	✓
2.16	The remuneration policy differentiates between long-term and short-term benefits	✓
2.17	The remuneration policy specifies the benefits due on termination of employment	✓
2.18	The remuneration policy specifies the benefits to Council and Council committee members	✓
2.19	The HEI demonstrates how Council oversees the implementation and execution of the RP	✓
Remuneration paid-related		
3.1	Disclosure of executive gross remuneration	✓
3.2	Executive remuneration reflects all the elements of executive pay	✓
3.3	Comparatives provided on executive remuneration	✓
3.4	Performance parameters/indicators for bonuses have been explained	✓
3.5	The method of evaluation of performance and determination of bonuses is disclosed	✓
3.6	Disclosure of fees paid to Council and Council committee members	✓
3.7	Comparatives provided on Council and Council committee members	✓
3.8	Disclosure of remuneration has been approved by the RC	✓
Remuneration report-related		
4.1	The HEI provides a remuneration report	✓
4.2	The background of the remuneration report includes internal and external factors that influenced remuneration	✓
4.3	The background of the remuneration report indicates whether there were major changes to the remuneration policy	✓
4.4	The background of the remuneration report highlights the key focus areas and/or key decisions taken by the remuneration committee	✓
4.5	The background of the remuneration report indicates whether remuneration consultants were used and if yes, whether the remuneration committee believes that they were independent and objective	✓
4.6	The background of the remuneration report indicates whether the remuneration committee believes that the remuneration policy has achieved its objectives	✓
4.7	The background of the remuneration report indicates the future remuneration focus	✓
4.8	The Overview of remuneration policy (ORP) highlights remuneration elements and/or design principles of executive remuneration in detail and summary for other employees	✓
4.9	The ORP indicates the performance measures used to assess strategic objectives and positive outcomes	✓
4.10	The ORP includes the weighting of performance measures used to determine the remuneration	✓
4.11	The ORP includes the time over which performance measures apply	✓
4.12	The ORP indicates how transparency and fairness of executive remuneration have been addressed in the context of the overall employee remuneration	✓
4.13	The ORP indicates whether remuneration benchmarks were used or not and if yes, their justification	✓
4.14	The ORP indicates the basis for Council and Council committee members' fees	✓
4.15	The ORP includes a link to the remuneration policy for public access	✓
4.16	The implementation report (IR) reflects the total remuneration per executive member	✓
4.17	The remuneration elements in the IR add up to the total remuneration per executive member	✓
4.18	The IR includes the estimated value in case the performance targets were met	✓
4.19	The IR includes the actual performance against the set variable targets of executives	✓
4.20	The IR includes whether there was a termination of the executive's employment and if yes, benefits given and the reasons thereof	✓
4.21	The IR indicates the extent to which the HEI has complied with the remuneration policy	✓
4.22	The remuneration report should include ex gratia or honorarium payments if any	✓
4.23	A declaration of whether there are salaries paid above the median, if yes, a justification must be provided	✓

DISCUSSION

Accountability and the disclosure level of universities based on remuneration governance requirements issued by DHET in 2014 indicate RGPI unweighted and weighted scores of 42% and 39%, respectively, over the five-year period from 2017 to 2021. Conversely, the extent of application of the King IV recommendations scores depicts average unweighted and weighted RGPI levels of 30% and 21%, respectively. The scores for the 2014 DHET Regulation requirements are better than those for the King IV recommendations, indicating the urgent need for the regulator to update its requirements in line with King IV (the current 2014 DHET regulations were based on King III Code, which contain less detailed recommendations on remuneration governance). These results are consistent to those of Moloi, (2016), who found that less than 50% of the recommended disclosure of governance and risk information in universities' annual reports and partly contradicts the findings of Marx, (2007); Barac, Marx and Moloi, (2011); Ambe, (2018); Sityata, Botha and Dubihlela, (2021) which found strong support for and compliance with sound corporate governance practices by universities. Marx, (2007), indicates that councils appear to follow King II and could benefit from improved governance disclosure, while Ambe, (2018) found moderately satisfactory governance information disclosure, which ranged between 40% to 60%. Furthermore, Sityata et al., (2021) found 80% of sampled universities to have disclosed most of their risk management practices.

The findings of the study further contradict Barac and Marx, (2012), who examined the registrar's views on corporate governance effectiveness and value-added of SA universities using surveys and interviews and found strong support for and compliance to sound corporate governance practices at universities, with room for improvement. The results confirm the findings of Crous (2017), who assessed corporate governance in SA universities using a binary framework and concluded that universities' application and compliance with corporate governance principles and practice need more detail and require improvement.

Whereas the remuneration governance practices reported by universities achieve greater compliance with the 2014 DHET Regulation than application of the King IV recommendations, the universities' application of King IV practices related to remuneration disclosure (70%) and the remuneration committee (62%) are

better than those of the 2014 DHET Regulation, where compliance in respect of the remuneration disclosure and remuneration committee related categories are 43% and 58%, respectively. The implication of the findings is limited compliance which may result from a lack of monitoring and evaluation by the regulator, especially since the Regulations have been in operation for more than seven years (since the year 2015). In the same vein, King IV has existed since 2016, requiring the urgent revision of the Regulation, which is still based on King III.

CONCLUSION

The study is in response to a dearth of research on remuneration governance in the South African university sector. It assessed the existence and extent of university public accountability on remuneration governance practice disclosure by examining the presence and quality of remuneration governance practice disclosures based on the 2014 DHET Regulation and the King IV Code recommendations. Empirically, this is the first study to look holistically at remuneration governance practices within the SA Higher Education setting. The study is also the first to have used both unweighted and weighted content analysis and assessed not only the existence, but the quality of disclosure compared to prior studies that used only unweighted and modified unweighted content analysis, thus making a methodological contribution.

The results indicate relatively low compliance with, and application of, the 2014 regulation and King IV Code in respect of remuneration governance practices over the five-year period 2017 to 2021. The 2014 Regulation results were, however, better than those for King IV. Moreover, the results align with extant literature on the disclosure of governance and risk information in university annual reports and the application and compliance with corporate governance principles and practice.

The findings of the study hold several implications. From a policy perspective, the study calls for the regulator to urgently revise the Regulation for Reporting by Universities in alignment with King IV especially given that the current regulation is based on King III Code and has been in operation since 2015, whereas King IV was implemented in April 2017. Secondly, monitoring and evaluation systems should be developed and implemented to enhance

universities' accountability in respect of remuneration governance practices.

The study further developed a tool and measured the quality of remuneration governance practice compared to extant literature. It therefore provides a combined self-assessment checklist on remuneration governance practice and a framework for assessing the public accountability quality of remuneration governance disclosures. The findings also make practical contributions to the body of knowledge.

The paper was limited to analysing published publicly-available university documents. Future studies may benefit from a survey of university perspectives as there may be aspects of remuneration governance practices not made publicly available, for example, a university's remuneration policy. Future studies may also benefit from investigating the determinants of remuneration governance and the link between executive remuneration and university performance. Given the growing executive/employee wage gap in SA, future studies may benefit from investigating and making recommendations on how universities can reduce and manage pay multiple.

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The data analysed during the current study are publicly available in SA universities' annual reports on their websites, the university, or DHET.

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ANNEXURES

Annexure A: Unweighted Measurement Checklist

Based on 2014 DHET's Regulations for Reporting (Pg 21-22) Practices

No	REMUNERATION-COMMITTEE		
1	A remuneration committee (RC) or a responsible team exists to assist Council on remuneration matters	0	1
2	Most members of the RC are not executives of the university	0	
3	RC's terms of reference (TOR) appear in the annual report	0	1
4	TOR give authority to RC over general staff policies	0	1
5	TOR give authority to RC over remuneration and its prerequisites	0	1
6	TOR give authority to RC over bonuses	0	1
7	TOR give authority to RC over executive remuneration	0	1
8	TOR give authority to RC over council's remuneration and fees	0	1
9	TOR give authority to RC over service contracts	0	1
10	TOR give authority to RC over retirement funds & post-retirement funds	0	1
	REMUNERATION PHILOSOPHY / POLICY		
11	The university's remuneration philosophy has been explained	0	1
12	The implementation of the remuneration philosophy has been explained	0	1
13	A remuneration policy exists in the university	0	1
14	Remuneration policy deals with base pay	0	1
15	Remuneration policy include the use of benchmarks	0	1
16	Remuneration policy include framework for executive service contracts including period of the contract	0	1
17	Remuneration policy include notice conditions for executive service termination.	0	1
	REMUNERATION REPORT		
18	Remuneration report appears in the annual integrated report or standalone	0	1
19	Remuneration report should include ex gratia or honorarium payments if any	0	1
20	A declaration of whether there are salaries paid above median, if yes, a justification must be provided	0	1
	DISCLOSURES OF REMUNERATION PAID		
21	Executive's gross remuneration has been disclosed	0	1
22	Executive's remuneration reflects all the elements of executive pay	0	1
23	Council member's gross remuneration has been disclosed	0	1
24	Council committee's gross remuneration has been disclosed	0	1
25	Performance parameters/indicators for bonuses have been explained	0	1
26	Method of evaluation of performance and determination of bonuses is disclosed	0	1
27	Disclosure of remuneration include comparative figures	0	1
28	Disclosure of remuneration has been approved by the RC	0	1

Annexure B: King IV Practices Unweighted Measurement Checklist

Remuneration Committee-related				
1	Remuneration oversight is allocated to a dedicated committee	#26	0	1
2	Disclosure is provided of the composition of the remuneration committee	#26	0	1
Remuneration Policy-related				0
3	A remuneration policy (RP) exists in a university	#27	0	1
4	The RP has stated objectives in a financial year	#27	0	1
5	The RP mentions the importance of either fair, responsible and/or transparent remuneration	#27	0	1
6	The RP has as objective to attract, reward and retain human capital	#28	0	1
7	The RP aims to promote the achievements of strategic objectives within the HEI's risk appetite	#28	0	1
8	The RP aims to promote positive outcomes	#28	0	1
9	The RP aims to promote an ethical culture and responsible corporate citizenship	#28	0	1
10	The remuneration policy includes the need to determine fair executive remuneration considering ordinary employees' remuneration	#29	0	1
11	The remuneration policy indicates the importance of incorporating economic, social and environmental performance measures in determining remuneration	#29	0	1
12	The remuneration policy indicates the importance of incorporating all the capitals the firm uses when determining remuneration	#29	0	1
13	The remuneration policy highlights the types of cash benefits	#30	0	1
14	The remuneration policy highlights the types of non-cash benefits	#30	0	1
15	The remuneration policy differentiates between long-term and short-term benefits	#30	0	1
16	The remuneration policy specifies the benefits due on termination of employment	#30	0	1
17	The remuneration policy specifies the benefits to Council and Council committee members	#30	0	1

18	The HEI demonstrates how Council oversees the implementation and execution of the RP	#31	0	1
Remuneration Disclosure-related				
19	Disclosure of executive remuneration	#30	0	1
20	Comparatives provided on executive remuneration	#30	0	1
21	Disclosure of fees paid to Council and Council committee members	#30	0	1
22	Comparatives provided on Council and Council committee members	#30	0	1
Remuneration Report-related				
23	The HEI provides a remuneration report	#32	0	1
24	The background of the remuneration report includes internal and external factors that influenced remuneration	#33	0	1
25	The background of the remuneration report indicates whether there were major changes to the remuneration policy	#33	0	1
26	The background of the remuneration report highlights the key focus areas and/or key decisions taken by the remuneration committee	#33	0	1
27	The background of the remuneration report indicates whether remuneration consultants were used and if yes, whether the remuneration committee believes that they were independent and objective	#33	0	1
28	The background of the remuneration report indicates whether the remuneration committee believes that the remuneration policy has achieved its objectives	#33	0	1
29	The background of the remuneration report indicates the future remuneration focus	#33	0	1
30	The Overview of remuneration policy (ORP) highlights remuneration elements and/or design principles of executive remuneration in details and summary for other employees	#34	0	1
31	The ORP indicates the performance measures used to assess strategic objectives and positive outcomes	#34	0	1
32	The ORP includes the weighting of performance measures used to determine remuneration	#34	0	1
33	The ORP includes the time over which performance measures apply	#34	0	1
34	The ORP indicates how transparency and fairness of executive remuneration has been addressed in the context of the overall employee remuneration	#34	0	1
35	The ORP indicates whether remuneration benchmarks were used or not and if yes, their justification	#34	0	1
36	The ORP indicates the basis for Council and Council committee members' fees	#34	0	1
37	The ORP includes a link to the remuneration policy for public access	#34	0	1
38	The implementation report (IR) reflects a total remuneration per executive member	#35	0	1
39	The remuneration elements in the IR add up to the total remuneration per executive member	#35	0	1
40	The IR includes the estimated value in case the performance targets were met	#35	0	1
41	The IR includes the actual performance of each executive member against the set variable targets	#35	0	1
42	The IR includes whether there was a termination of executive's employment and if yes, benefits given and the reasons thereof	#35	0	1
43	The IR indicates the extent to which the HEI has complied with the remuneration policy	#35	0	1

Annexure C: Polychotomous 2014 DHET Remuneration Governance Assessment Checklist

No	Measurement Items	Assessment					
1	The extent to which the remuneration policy (RP) is comprehensive	0	1	2	3	4	5
2	The extent to which responsibilities of the remuneration committee (RC) are indicated	0	1	2	3	4	5
3	The extent to which the TOR of the RC are explained in the annual report	0	1	2	3	4	5
4	The extent to which executive's remuneration has been disclosed	0	1	2	3	4	5
5	The extent to which council member's and council committee's remuneration has been disclosed	0	1	2	3	4	5
6	The extent to which remuneration disclosure include other necessary information	0	1	2	3	4	5

Annexure D: King IV Remuneration Governance Practice Checklist

#	Explanation of the allocation and assessment
0	The PHEI's annual report does not disclose any element of the remuneration governance indicator measurement item
1	Minimal disclosure - incidentally disclose an element of the remuneration governance indicator measurement item
2	Limited disclosure - disclosure of more than one aspect of the remuneration governance indicator measurement item
3	Adequate disclosure - disclose more than two aspects of the remuneration governance indicator measurement item
4	Sufficient disclosure - disclose most aspects of the remuneration governance indicator measurement item
5	More than sufficient disclosure - disclose all aspects of the remuneration governance indicator measurement item

Polychotomous King IV Remuneration Governance Assessment Checklist

No	Measurement Items	Assessment					
1	The extent to which the governing body (Council) assumes responsibility for the governance of remuneration	0	1	2	3	4	5
2	The extent to which the ToR of the REMCO is comprehensive	0	1	2	3	4	5
3	The extent of the RG processes	0	1	2	3	4	5
4	The extent to which Council ensure compliance and adherence with legislation	0	1	2	3	4	5
5	The extent to which the objectives of the remuneration policy (RP) are comprehensive	0	1	2	3	4	5
6	The extent to which RP articulates and give effect to the HEI direction	0	1	2	3	4	5
7	The extent to which the RP covers the required policy objectives	0	1	2	3	4	5
8	The extent to which the RP provides guidelines for implementation	0	1	2	3	4	5
9	The extent to which REMCO reviews and assesses the appropriateness of the fixed-to-variable remuneration mix	0	1	2	3	4	5
10	The extent to which REMCO ensures the design of variable remuneration schemes and setting of associated targets do not encourage behaviour contrary to the HEI risk management approach or lead to risky behaviour	0	1	2	3	4	5
11	The extent to which the RP addresses university wide remuneration	0	1	2	3	4	5
12	The extent of the elements of remuneration offered by the HEI and mix are set out in the RP	0	1	2	3	4	5
13	The extent to which the HEI Council oversees the implementation and execution of the RP	0	1	2	3	4	5
14	The extent to which the background statement (BS) to the remuneration report is detailed	0	1	2	3	4	5
15	The extent to which the overview of the remuneration policy (ORP) is detailed	0	1	2	3	4	5
16	The extent to which the implementation report (IR) reflects executive's remuneration elements	0	1	2	3	4	5
17	The extent to which the implementation report (IR) reflects separate disclosure on termination of employment and compliance or deviation from RP	0	1	2	3	4	5
18	The extent to which executive's remuneration has been disclosed	0	1	2	3	4	5
19	The extent to which council member's and council committee's remuneration has been disclosed	0	1	2	3	4	5

University:		Year:	
Annexure E1: WEIGHTED INDEX based on 2014 DHET regulation			
No	REF	ASSESSMENT (BASED ON OPERATIONALISATION)	OPERATIONALISATION
1	Pg 22	0=No RP 1=Minimal coverage of necessary aspects (=1 point / Pt) 2=Limited coverage of necessary aspects (=2 or 3 points / Pts) 3=Average coverage of necessary aspects (=4 or 5 points) 4=Good coverage of necessary aspects (=6 or 7 points) 5=Sufficient coverage of necessary aspects (=8 or 9 points)	1=Remuneration policy (RP) is included in the annual report 1=Objectives (strategic and/or otherwise) of the RP are stated in the annual report 1=RP includes the nature of remuneration being paid (base pay, variable, retainer fee, etc) 1=RP explains the conditions for ex gratia or honorarium payments if any 1=RP indicates performance parameters/indicators for remuneration 1= RP includes performance evaluation methods / KPI weights for executive's bonuses 1=RP includes a period of service for executives' contracts 1=RP specifies a notice period for the termination of executives service 1=RP includes the use of benchmarks
2	Pg 22	0=No remuneration committee 1=Minimal detail of the RC's responsibilities (=1 point) 2=Limited detail of the RC's responsibilities (=2 or 3 points) 3=Average detail of the RC's responsibilities (=4 or 5 points) 4= Good detail of the RC's responsibilities (=6 to 8 points) 5= Sufficient detail of RC's responsibilities (=9 or 10 points)	1=A RC or a responsible team exists 1=TORs of the RC are included in the annual report 1=TOR gives authority to RC over general staff policies 1=TOR gives authority to RC over remuneration and its prerequisites 1=TOR gives authority to RC over bonuses 1=TOR gives authority to RC over executive remuneration 1=TOR give authority to RC over council's remunerations and/or fees 1=TOR give authority to RC over executives service contracts 1=TOR give authority to RC over retirement & post retirement funds
3	Pg 22	0= None of the TORs are explained in the annual report 1=Minimal explanation of the TORs in the annual reports (=1 Pts) 2=Limited explanation of the TORs in the annual reports (=2 Pts) 3= Average explanation of the TORs in the annual reports (=3 Pts) 4= Good explanation of the TORs in the annual reports (=4 Pts) 5=Sufficient explanation of the TORs in the annual reports (=5 Pts)	1 = What constitutes general staff policies or its meaning thereof has been explained in the TORs 1=Nature and/or type of remuneration is explained in the TORs 1=The nature and/or basis of issuing bonuses has been explained in the TORs 1=What constitutes remuneration prerequisites or its meaning thereof has been explained in the TORs 1= The nature and/type of retirement and/or post-retirement benefits have been explained in the TORs
4	Pg 22	0=No disclosure of executive's remuneration 1=Minimal disclosure of executive's remuneration(=1 point) 2=Limited disclosure of executive's remuneration (=2 points) 3=Average disclosure of executive's remuneration (=3 or 4 points) 4=Good disclosure of executive's remuneration (=5 or 6 points) 5=Sufficient disclosure of executive's remuneration (=7 points)	1=Executive's base pay has been disclosed 1=Executive's type of fringe benefits (e.g. pension, car, housing allowance) have been disclosed 1=Executive's amount of fringe benefits have been disclosed 1=Executive's type of bonuses (e.g. 13th cheque, discretionary bonus, etc) have been disclosed 1=Executive's amounts of bonuses have been disclosed 1=Executive's gross remuneration has been disclosed 1=Comparative figures on executive's total pay have been disclosed
5	Pg 22	0=No disclosure of council member's/committee's remuneration 1=Minimal disclosure of remuneration(=1 point) 2=Limited disclosure of remuneration (=2 points) 3=Average disclosure of remuneration (=3 points) 4=Good disclosure of remuneration (=4 or 5 points) 5=Sufficient disclosure of remuneration (=6 points)	1=The type/nature of council member's remuneration has been disclosed 1=The amount of council member's remuneration has been disclosed 1=Comparative figures on council members' fees have been disclosed 1=The type/nature of council committee member's remuneration has been disclosed 1=Council committee's gross remuneration has been disclosed 1=Comparative figures on council committee's fees have been disclosed
6	Pg 22	0 = No additional information has been included in the report 1=Minimal disclosure of other information (=1 point) 2=Limited disclosure of other information (=2 points) 3=Average disclosure of other information (=3 or 4 points) 4=Good disclosure of other information (=4 or 5 points) 5=Sufficient disclosure of other information (=6 or 7 points)	1=Declaration on the use of average salary exists 1=An justification of whether salaries paid are above median 1=Remuneration note has been included in the annual financial statements 1=Remuneration disclosure has been approved by the RC 1=An indication of whether there were deviations from the remuneration policy 1 = The university's remuneration philosophy has been explained 1 = The implementation of the remuneration philosophy has been explained

University:		Year:	
Appendix E2: WEIGHTED INDEX based King IV remuneration governance			
No	REF	ASSESSMENT (BASED ON OPERATIONALISATION)	OPERATIONALISATION
1	Practice # 26	0=No evidence of council owning RG 1=Minimal evidence of council owning RG (=2 points form operationalisation) 2=Limited evidence of council owning RG (= 3 points form operationalisation) 3= Average evidence of council owning RG (=4 or 5 points form operationalisation) 4=Good evidence of council owning RGs (=5 to 6 points from operationalisation)	1= Existence of Council remuneration committee (RC) or similar responsible remuneration matters 1= RC has at least three members 1= RC consist of mostly independent members with executives attending only by invitation and operate according to its ToR 1= The VC and other executives are not members of RC 1= The chairperson of RCs not the chairperson of Council 1= Non RC members who are Council members attend RC with the consent of the chair 1= A formal process exist for the evaluation of the performance of RC
		5=Sufficient evidence of council owning RG (≥7 points form operationalisation)	
2	Practice # 26	0=No ToR of RC 1=Minimal ToR of RC (=2 points) 2=Limited ToR of RC(= 3 points) 3=Average ToR of RC coverage (=4 or 5 points) 4=Good ToR of RC coverage (=6 points) 5=Sufficient ToR of RC coverage (≥7 points)	1= The composition of RC is disclosed 1= Process and criteria for the appointment of RC members 1= RC overall roles and responsibilities (functions) are disclosed 1= REMCO delegation of authority and responsibility 1= Tenure of RC members 1= Reporting requirement of RC to Council 1= Meeting procedures of RC 1=Arrangement for the evaluation of RC's performance
3	Practice # 26	0=No evidence of RP process 1=Minimal evidence of RP process (≥1 point) 2=Limited evidence of RP process (≥2 points) 3=Average evidence of RP process (≥3 points) 4=Good evidence of RP process (≥4 to 5 points) 5=Sufficient evidence of RP process (≥6 points)	1= Remuneration strategy is approved by RC and Council 1= Remuneration policy is approved by RC and Council 1= Disclosure or evidence that remuneration policy is reviewed yearly to ensure continued relevance 1= The RP covers all remuneration matters 1= RP contains the remuneration philosophy of setting remuneration on an organisational wide basis 1= Evidence of regular monitoring of remuneration practices
4	Practice # 26	0=No evidence or statement of compliance with RG 1=Minimal evidence or statement of compliance with RG (≥1 point) 2=Limited evidence or statement of compliance with RG (≥2 points) 3=Average evidence or statement of compliance with RG (≥3 points) 4=Good evidence or statement of compliance with RG (≥4 to 5 points) 5=Sufficient evidence or statement of compliance with RG(≥6 points)	1= Evidence or statement on the compliance & adherence with the Basic Conditions of Employment Act and other remuneration legislation 1= Evidence or statement of compliance & adherence with HE Act (e.g. to keep records and report on governance of HEI inclusive of RG) 1= Evidence or statement of compliance & adherence with DHET's Regulation on Reporting 1= Evidence or statement of compliance & adherence with King Code on remuneration governance 1= Evidence or statement of compliance & adherence with Labour Relations Act 1= Evidence or statement of compliance & adherence the principle of equal pay for equal work
5	Practice # 27	0=No objectives of the RP 1=Minimal coverage of RP's objectives (≥1 point) 2=Limited coverage of RP's objectives (≥2 point) 3=Average coverage of RP's objectives (≥3 points) 4=Good coverage of RP's objectives (≥4 to 5 points) 5=Sufficient coverage of RP's objectives (≥6 points)	1=Remuneration policy (RP) is included in the annual report 1=The policy mentions the importance of either fair, responsible and/or transparent remuneration 1=The RP's objectives have been stated 1=The RP indicates the importance of considering ordinary employee's pay when determining executive remuneration 1=The RP indicates the importance of the triple context performance measures for executive remuneration 1=The RP indicates the importance of considering all the capitals a university uses when determining executive remuneration
6	Practice # 27	0=No evidence 1=Minimal evidence (≥1 point) 2=Limited evidence (≥2 points) 3=Average evidence (≥3 points) 4=Good evidence (≥4 to 5 points) 5=Sufficient evidence (≥6 points)	1= RP provides direction on fairness of fixed remuneration 1= RP provides direction on fairness of variable remuneration 1= RP provides direction on responsible fixed remuneration 1= RP provides direction on responsible variable remuneration 1= RP provides direction on ensuring that fixed remuneration is transparent 1= RP provides direction on ensuring variable remuneration is transparent
7	Practice # 28	0=No objectives of the RP 1=Minimal coverage of RP's objectives (≥2 points) 2=Limited coverage of RP's objectives (≥3 points) 3=Average coverage of RP's objectives (≥4 or 5 points) 4=Good coverage of RP's objectives (≥5 to 7 points) 5=Sufficient coverage of RP's objectives (≥8 points)	1= Attract human capital 1= Motivate human capital 1= Reward human capital 1= Retain human capital 1= Promote achievement of strategic objectives 1=Promote positive outcomes 1=Promote ethical cultures 1= Promote responsible corporate citizenship

University:		Year:		
Appendix E2: WEIGHTED INDEX based King IV remuneration governance				
No		REF	ASSESSMENT	OPERATIONALISATION
8	The extent to which the RP provides guidelines for implementation	Practice # 28	0=No evidence or statement implementation 1=Minimal evidence or statement on implementation (=1 point) 2=Limited evidence or statement on implementation(=2 points) 3=Average evidence or statement on implementation (=3 points) 4=Good evidence or statement on implementation (=4 to 5 points) 5=Sufficient evidence or statement on implementation(=6 points)	1= Guidelines on the reward strategy 1= Design and management of reward plans and processes 1= RP philosophy and intent is captured in remuneration strategy 1= Link between remuneration strategy and RP 1= Financial consideration 1= Other implementation provisions
9	The extent to which the REMCO review and assess the appropriateness of the fixed-to-variable remuneration mix	Practice # 28	0=No evidence of assessment 1=Minimal evidence of assessment (=1 point) 2=Limited evidence of assessment (=2 points) 3=Average evidence of assessment (=3 points) 4=Good evidence of assessment (=4 points) 5=Sufficient evidence of assessment (=5 points)	1= Assessment of REMCO that RP serves the remuneration strategy 1= Assessment of REMCO that RP serves the HEIs operational needs and objectives 1=Assessment of REMCO that the HEI remuneration is competitive 1= Assessment of REMCO that the HEI remuneration is sustainable 1= Assessment of REMCO that serves the achievements of HEIs strategic objectives and positive outcomes
10	The extent to which REMCO ensures the design of variable pay schemes and setting of associated targets do not encourage	Practice # 28	0=No evidence of assessment 1=Minimal evidence of assessment (=1 points) 2=Limited evidence of assessment (2 points) 3=Average evidence of assessment (=3 points) 4=Good evidence of assessment (=4 points) 5=Sufficient evidence of assessment (=5 points)	1= Evidence of regular annual awards 1=Evidence of appropriate, multiple performance conditions 1=Evidence of gatekeepers and modifiers 1= Evidence of incentive malus provisions in the RP 1= Evidence of clawback provisions in the RP
11	The extent to which the RP addresses university wide remuneration	Practice # 29	0=No university wide consideration 1=Minimal consideration (= 3, 4 or 5 points) 2=Limited consideration (= 6, 7 or 8 points) 3=Average consideration (= 9, 10 or 11 points) 4=Good consideration = 12 or 13 points) 5=Sufficient consideration (≥14 points)	1=Arrangments towards ensuring that remuneration of executive management is fair in the context of overall employee remuneration 1=Arrangments towards ensuring that remuneration of executive management is responsible in the context of overall employee remuneration 1= The use of performance measures that supports positive outcome from an economic context 1= The use of performance measures that supports positive outcome from a social context 1= The use of performance measures that supports positive outcome from an environmental context 1= The consideration of the use and effects of financial capital 1= The consideration of the use and effects of manufactured or equivalent capital 1= The consideration of the use and effects of intellectual capital 1= The consideration of the use and effects of human capital 1= The consideration of the use and effects of social & relationship capital 1= The consideration of the use and effects of natural capital 1= The consideration of the use and effects of natural or equivalent capital 1= Voting of Council on RP and implementation report 1= Statement on how fairness of executive remuneration practices in relation to all employees
12	The extent of the elements of remuneration offered by the HEI and mx set out in the RP	Practice # 30	0=No coverage of elements of the Remuneration 1=Minimal coverage of elements of the Remuneration (=1 point) 2=Limited coverage of elements of the Remuneration (=2 points) 3=Average coverage of elements of the Remuneration(=3 points) 4=Good coverage of elements of the Remuneration (=4 or 5 points) 5=Sufficient coverage of elements of the Remuneration (=6 points)	1= Base salary, including financial and non-financial benefits 1= Variable remuneration , including short (bonuses) and long-term (promotion) incentives 1= Payment on termination of employment 1= Sign-on, retention and restrain payments 1= Commission and allowances 1= Fees of Council and Council committee members
13	The extent to which the HEI Council oversees the implementation and execution of the RP	Practice # 31	0=No demonstration 1=Minimal demonstration (=2 points) 2=Limited demonstration (=3 points) 3=Average demonstration (= 4 or 5 points) 4=Good demonstration (= 6 or 7 points) 5=Sufficient demonstration (≥8 points)	1= Demonstration of REMCO's systematic agenda to review the remuneration strategy and policy 1= Oversee implementation of the RP over an annual cycle 1= Demonstration of formal annual feedback to the Council on the RP implmentation 1= Statement of compliance with the RP 1= Evidence of RAMCO's annual review if the HEI remuneration is appropriate and competitive 1= Evidence of RAMCO's annual review if Cost relating to the administration and benefits schemes are justified 1= Evidence of RAMCO's annual review if The benefit schemes meets the needs of employees and are fair towards all employees 1= Evidence of RAMCO's annual review if The benefit offered to executives are similarly offered to employees and justification if not

University:		Year:	
Appendix E2: WEIGHTED INDEX based King IV remuneration governance			
14	The extent to which the background statement (BS) to the remuneration report is detailed	Practice # 33 0=No BS is provided 1=Minimal detail in the BS (=1 point) 2=Limited detail in the BS (=2 or 3 points) 3=Average detail in the BS =4 or 5 points) 4= Good detail in the BS (=6 to 7 points) 5= Sufficient detail in the BS (≥8 points)	1=BS is available 1=BS includes internal factors that influenced executive remuneration 1=BS includes external (macro-economic) factors that influenced executive remuneration 1=BS indicates whether there were major changes to the RP 1=BS highlights key focus areas or decisions taken by the remuneration committee 1=BS indicates whether consultants were used and if yes, whether they were perceived as objective 1=BS indicates whether the remuneration committee believes that RP has achieved its objectives 1=BS indicates future remuneration focus
15	The extent to which the overview of the remuneration policy (ORP) is detailed	Practice # 34 0=No ORP policy is provided 1=Minimal details have been provided in the ORP (=1 or 2 points) 2=Limited details have been provided in the ORP (=3, 4 or 5 points) 3=Average details have been provided in the ORP (=6 to 8 points) 4= Good amount of details have been provided in the ORP (=9 to 11 points) 5= Sufficient detail of RC's responsibilities (=12 to 14 points)	1=ORP highlights executive remuneration elements in details and in summary for other employees 1= Design principles informing remuneration arrangements of executive management 1= Design principles informing remuneration arrangements of other employees 1=ORP includes obligations on termination of employment 1=ORP indicates performance measures used to assess strategic objectives 1=ORP includes weightings of performance measures used to determine executive remuneration 1=ORP includes time over which performance measures apply 1= Illustration of potential consequences on the total remuneration for executive management in total of applying remuneration policy under min, on-target & Max performance outcomes 1=ORP indicates how fairness of executive remuneration has been addressed considering employee's remuneration 1= Explanation on how RP addresses responsible remuneration for executive management in the context of overall employee remuneration 1=ORP indicates whether benchmarks were used if yes, their justification 1= Details of obligations in executive employment contracts which could give rise to payments on termination of employment 1= Basis for setting fees for Council and Council committee members 1=A link for public access to full RP is included
16	The extent to which the implementation report (IR) reflects executive's remuneration elements	Practice # 34 0= IR does not include executive's remuneration elements 1=Minimal information on executive's remuneration elements (=1 or 2 points) 2=Limited information on executive's remuneration elements (=3 or 4 points) 3= Average information on executive's remuneration elements (=5 or 6 points) 4= Good information on executive's remuneration elements (=7 or 8 points) 5=Sufficient information on executive's remuneration elements (=9 or 10 points)	1=IR reflects the total remuneration of the VC and other executives 1= Awards made under variable remuneration incentive schemes are reflected 1= Account of performance against pre-determined objectives or targets for VC and each member of executive management (if applicable) 1= IR provides comparatives for the remuneration of the VC and other executives 1=Elements of remuneration add up to the total executive remuneration (of VC and other executives) 1=IR includes targets for variable remuneration 1=IR includes the estimated value in case performance targets were not met 1=IR includes the actual performance of each executive member against set variable targets 1=IR indicates whether there was a termination of executive's contract and if yes, reasons and benefits paid 1=IR indicates the extent to which the university has complied with the RP
17	The extent to which the implementation report (IR) reflect separate disclosure on termination of employment and	Practice # 34 0=No coverage 1=Minimal coverage (=1 point) 2=Limited coverage (=2 points) 3=Average coverage (=3 points) 4=Good coverage (=4 points) 5=Sufficient coverage (points4 points)	1= Disclosure of payment made towards termination of employment 1= Disclosure of reasons for the payment made towards termination of employment 1= Statement on the compliance with the remuneration policy 1= Statement on reasons for deviation from the remuneration policy, if applicable
18	The extent to which executive's remuneration has been disclosed	Practice # 34 0=No disclosure of executive's remuneration 1=Minimal disclosure of executive's remuneration(=1 points) 2=Limited disclosure of executive's remuneration (=2 or 3 points) 3=Average disclosure of executive's remuneration (=4 points) 4=Good disclosure of executive's remuneration (=5 or 6 points) 5=Sufficient disclosure of executive's remuneration (=7 points)	1=Executive's base pay has been disclosed 1=Executive's type of fringe benefits (e.g. pension, car, housing allowance) have been disclosed 1=Executive's amount of fringe benefits have been disclosed 1=Executive's type of bonuses (e.g. 13th cheque, discretionary bonus, etc) have been disclosed 1=Executive's amounts of bonuses have been disclosed 1=Executive's total remuneration has been disclosed 1=Comparative figures on executive's total pay have been disclosed
19	The extent to which council member's and council committee's remuneration has been disclosed	Practice # 34 0=No disclosure of council member's/committee's remuneration 1=Minimal disclosure of remuneration(=1 point) 2=Limited disclosure of remuneration (=2 points) 3=Average disclosure of remuneration (=3 points) 4=Good disclosure of remuneration (=4 points) 5=Sufficient disclosure of remuneration (>4 points)	1= Description provided of the nature of the remuneration for council members 1= Description provided of the nature of the remuneration for council committee members 1=The amount of council member's remuneration has been disclosed 1=The amount of council committee's remuneration has been disclosed 1=Comparative figures on council members' fees have been disclosed 1=Comparative figures on council committee's fees have been disclosed

Critical review on identity and professional identity: Implications for accountants and auditors

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Purpose: This paper reviews studies from more mature disciplines, including psychology, sociology, medicine and teaching, to identify concepts and processes linked to identity and professional identity. Identity, especially professional identity, plays an important role in the development of professionalism in the accounting field. However, it remains an under-researched area within the broader accountancy discipline.

Methodology: This study employed a critical review process to identify key concepts linked to identity and professional identity. A critical review goes beyond describing a phenomenon, it analyses the literature to identify the key concepts needed to inform the development of a conceptual framework and to guide further research.

Findings: Psychosocial factors reveal the inner sense of being as a key individual identity differentiator, while social-relational aspects link the internal identity to society. Thus, identity has several layers, from ego to relational and social identity, enabling the identification of sameness and uniqueness. Professional identity is internal, subjective, and unstable, evolving over a professional career to align with the criteria of the professional group.

Practical implications: Understanding the underlying concepts necessary for developing a professional identity is a necessary guide for the purposeful development of a professional identity for aspiring and existing professionals. A strong professional identity can help strengthen the reputation of accounting and auditing professionals especially in the wake of recent financial and state capture scandals.

KEYWORDS: *normative role; social and ethics committee; systematic literature review*

INTRODUCTION

Recent scandals including VBS Bank, Steinhoff, and Tongaat Hulett rocked South Africa and led to legitimate questions such as: Where were the auditors? (Buthelezi, 2019). Such scandals impair public trust (Chambers & Odar, 2015). In addition, professional firms can haemorrhage clients when the firm has been tainted by corruption scandals, losing its credibility and eroding its legitimacy (Marriage, 2018). This study critically reviews theories on identity and professional identity to guide accountants and auditors to purposefully develop a strong professional identity to facilitate the rendering of credible professional services.

In the accounting literature, contextual regulators (e.g., formal standards) and inner elements (e.g., moral courage and identification) are identified as counter measures in respect of reputational risk (Bamber & Iyer, 2002; Khelil *et al.*, 2016; Burt & Libby, 2021). Identity reflects an inner connection to different social positions and acts as an internal regulatory mechanism (Bamber & Iyer, 2002; Warren & Alzola, 2009; Bauer, 2015; Houdek, 2017). This guides behaviours and choices in line with the meaning and value attached to

a particular role or position (Tajfel & Turner, 1986). For accounting professionals, their identification with the profession, organisation or client led to divergent behaviour and choice in their daily practice (Bauer, 2015; Iyer, Jones III & Raghunandan, 2018). For example, auditors with stronger client identity are more likely to agree to clients' preferred accounting treatment, while auditors with salient professional identity are more independent (Bauer, 2015).

Professional identity is the extent to which actors perceive themselves as professional (Beijaard *et al.*, 2004). It reflects peoples' attachment to their profession and forms the root of self-management in professional activities (Kosmala & Herrbach, 2006). As the role of accountants and auditors evolved (Brouard *et al.*, 2017), the competition between a focus on making money (commercial logic) and focusing on quality practices (professional logic), became stronger (Tomo, 2022). However, where commercial logic overrides professional logic, breaches in ethics are more likely to occur, such as recent scandals relating to VBS Bank, Steinhoff, and Tongaat Hulett. A strong professional identity can bolster the professional logic, thus reinforcing the importance of understanding

identity in the domain of accounting and auditing (Iyer *et al.*, 2018; Burt & Libby, 2021).

Since identity and professional identity are central concepts in understanding people's behaviour in their professional activity, prior researchers have called for more research on the identity of accountants and auditors to better understand the phenomenon (Yu, Kim & Restubog, 2015; Loscher, Löhlein & Lenz, 2021). This study addresses the gap in identity research in accountancy (Parker & Warren, 2017; Parker & Johnson, 2017). By using a critical review of identity and professional identity theories discussed in other disciplines (e.g., psychology, social psychology and social science), the study considers the implications for promoting a distinctive and coherent professional identity for accountants or auditors. Reviewing these typical theories enables researchers to identify common features of identity and typical mechanisms through which identity and professional identity is developed. Thus, enabling us to move towards a clearer articulation of the professional identity of accountants and auditors.

Common assumptions of identity

Identity is normally structured as the question--who is who, and involves "knowing who we are, knowing who others are, others knowing who they are, others knowing who we are, and so on" (Jenkins, 2014:5). Identity is thus a multi-faceted concept and capturing its complicated nature is difficult. Researchers have discussed identity extensively and are yet to find a definition that satisfies everyone (Fitzgerald, 2020). Erikson (1968) describes identity as a subjective sense of selfsameness and continuity according to space and time. Besides sameness and continuity, there are three other characteristics of identity: (1) The formation of identity involves an interplay between the psychological and the social; hence the process is psychosocial. (2) It can never "be 'established' as an 'achievement'", as it evolves during the whole life span; (3) It is multi-dimensional, and includes ego identity, personal identity and social identity (Erikson, 1968:24; 1994).

To understand identity as an individual attribute, the psychosocial nature is key. The 'psycho' aspect of the concept refers to one's inner sense of being, which is also covered under the concept self. The term 'social', on the other hand is the key point to differentiate identity and self (Hammack, 2015). Owens (2006)

suggests that the social-relational nature of identity is the main difference: The self represents mainly the interior psychological experience of individuals, but identity links this interior world to society. McAdams (2013) describes identity as the tool to present the self to the exterior world. Stemming from the psychosocial nature, there are three assumptions shared among the concepts of contemporary identity: Identity as contextual and relational; identity as internal and subjective; identity as unstable and multiple. Each of these will be discussed in turn.

Identity as contextual and relational

What people think and say is always in context (Hall, 2015). Identity is one's sense of coherence and continuity in a particular context (Erikson, 1968:19) as "society shapes self which shapes social behaviour" (Mead, 1934 in Stryker and Burke, 2000). Hence, identity as a sub-self is inevitably embedded in a distinct social context, namely the identity of being accountants and auditors.

Context can be defined as the landscapes in which one lives and works, past and present (Clandinin, Downey & Huber, 2009). People immerse themselves in multi-levels of contexts, from macro to micro, from larger society, institutional factors, group affinity, to family and human (e.g., race & gender) elements (Jenkins, 2014). Also, identity is dependent on multifaceted contexts, capturing historical, cultural, political, and structural aspects (Galliher, McLean & Syed, 2017). A given context always includes a set of norms, which are expected to be upheld by the participants, such as code of ethics and standards. In the accounting and auditing profession, a failure to uphold professional norms can lead to sanctions by the profession (SAICA, 2023).

Among contextual factors, relationships are especially important (Sluss & Ashforth, 2007). People inevitably have connection to others when they live in the world. Identity emerges not only from an individual's experience, but also from other's reaction to them (Gee, 2000, Stryker, 2008). Central to this recognition is one's location within systems of role relationships (Thoits, 1983) which provide ways for people to participate in social networks, facilitating a meaningful identity (Stryker & Burke, 2000). Conversely, identity can shape relations (e.g., one chooses to enter this organisation but not another one) (Stryker, 2008) and contexts (e.g., the categorisation of society) (McLean &

Syed, 2015), hence identity is developed in interaction with contexts and relations.

Identity as internal and subjective

The subjective and internal aspect of identity, namely one's own perception and understanding of sameness and difference, is a basic identity concept. The interior dimension of identity, or ego identity, is the core of one's mental health (Erikson, 1968). Identity is "the consciousness of personal sameness" (James, Burkhardt, Bowers & Skrupskelis, 1890:331), prizing cognition and reflection mechanisms for the emergence thereof.

In one's private world of interior thought, identity connects closely to the concept of the self. Although earlier statements often use identity and self interchangeably (McLean & Syed, 2015), some researchers do distinguish these two concepts (Owens, 2006; Côté & Levine, 2014; McLean & Syed, 2015). This study adopts the argument of McLean and Syed (2015), that identity is the link of one's private thinking (self) to the exterior world. When focusing on this assumption, identity also connects closely to other psychological mechanisms of a person, such as memory, cognition, consciousness, reflection, self-efficacy, emotion, etc. (Côté & Levine, 2014), reinforcing its subjective nature.

Identity as unstable and multiple

When identity is shaped externally by contexts and relationships and internally by psychological mechanisms, it necessarily becomes unstable and multiple (Thoits, 1983). Identity shifts from moment to moment, because the context changes regularly and people's understanding evolves during growing up (Ramarajan, 2014). It is also multiple as one always simultaneously occupies several social positions, such as gender, age, ethnicity, occupation, nationality and organisation (Schwartz *et al.*, 2011). When people introduce themselves, they can present themselves in line with any of their multiple identities (Robinson-Wood, 2016).

These multiple dimensions of identity, or multiple identities are analysed in different structures. Depending on the unit of analysis, identity can be individual, group-related or collective (Snow, 2001). Identity consists of several levels, including ego identity, relational identity and social identity (Côté &

Levine, 1987). The most popular classification of multiple identities is based on three-levels of individual identity (Brewer & Gardner, 1996): (1) personal identity, contains one's self-chosen or ascribed commitments, personal characteristics, and beliefs about oneself; (2) relational identity, contains social roles and positions in relation to significant others; (3) social identity, contains one's membership in social groups and categories, and the material artifacts (e.g., geographical space, bank account, cars, clothes) in relation to which one lives. Depending on the context, one could consider cultural identity, ethnic identity, organisational identity, professional identity to reflect the multiple contexts in which a person operates (Galliher *et al.*, 2017). When viewing identity as multiple, researchers focus on topics such as relationships among several identities, identity tensions and conflicts, one's prominent identity among multiple identities, and consequences and antecedents of multiple identities (Saayman & Crafford, 2011; Kang & Bodenhausen, 2015; Robinson-Wood, 2016).

Implications for accounting and auditing professions

The three common assumptions of identity provide basic standpoints on studying identities of accountants and auditors in future. Firstly, the identities of different professionals in the broader accounting profession vary based on the contextual and relational nature of identity. When defining the criteria of being professional, it is crucial to consider the effect of specific contexts and relationships. Also, the subjective nature of identity provides a psychological mechanism to explain behaviours of accountants and auditors. The root reason for obeying codes of ethics can be traced to their inner perceptions and can be managed through their memory, cognition, emotion etc. The third element, namely identity as multiple and unstable, is mostly valuable for the broader accounting profession, as accountants and auditors always occupy multiple identities in their daily practice, such as client identity, professional identity and organisational identity. These identities may lead to conflicted behaviours and then compromise the quality of service. Therefore, future researchers should explore which identity is most important for accounting professionals, and how these professionals deal with the complex relationships among multiple identities to deliver a high-quality service.

IDENTITY DEVELOPMENT

Since identity evolves and changes during a whole lifetime, identity development becomes a primary focus of research. Embedded with this development are two central components, content, and process. Content is the 'what of identity' or 'what identity looks like', and refers to issues, concerns, topics, and meanings that people consider when they think about who they are (Yip, Seaton & Sellers, 2006:1506; McLean, Syed & Shucard, 2016a:356). It not only shows the invisible feeling, but also implies "the situations, circumstance, and domains, namely the context in which identities develop" (McLean *et al.*, 2016a:356). Process refers to the "how" people develop an identity, namely the activities in which individuals engage to "consider those contents that are potentially relevant to their identities" (McLean *et al.*, 2016a:356). In this section, the study firstly reviews the existing findings on content of identity, then the process is discussed.

Content of identity

The content of identity refers to the qualitative meaning of identity and the significance thereof to one person (Yip *et al.*, 2006). Defining the content of identity is open to challenge, as identity is contingent on context (Galliher *et al.*, 2017). Different authors have responded to the challenge by providing different classifications. McLean, Syed, Yoder and Greenhoot (2016b) classify prior content of identity studies into two kinds: ideological (occupation, values, religion, politics) and interpersonal (family, friends, dating, gender roles, recreation). Based on the multi-levels of identity, Galliher *et al.* (2017) propose a framework of identity content in context, listing four interrelated levels of content: (1) culture, capturing macro historical and cultural factors; (2) social roles, pertaining to relationships and social roles in contexts; (3) domains, representing "the various life spaces that individuals feel are central to who they are", for accounting and auditing profession, this is the core criteria that make accounting and auditing profession distinct; (4) everyday experiences, focusing on the micro daily facts, feelings and thoughts of each individual. This framework offers an applicable choice for analysing a specific identity for example professional identity, as it considers both multi-layers of identity content and the specific context, and for this reason, will be adopted in this study. For broader accounting profession, this framework also provides insights on designing measurement scales of professionalism.

The process of identity development

The process of identity development includes the formation, evolution, and maintenance of identity. Research in identity has alternatively privileged the public world of shared meanings (the social aspect), or the private world of interior thinking (psycho aspect), as manifested in the fields of sociology and psychology (McLean & Syed, 2015). The next section reviews and compares these divergent pathways in foundational theories of identity development.

Identity development in meaning-making

Psychological approaches deal with identity development as a matter of sense-making. They focus on the internal structures (psychological mechanisms) of identity, through which one interprets and makes sense of life experiences (Kroger, 2006). Approaches here hold in common the change of internal mechanisms of identity over time following the traditions of developmental psychology, exploring topics such as identity formation during the transition to adulthood and the processes of self-maintenance (Côté & Levine, 2014). Most classic theories on this linearity link to identity crisis and identity status theory.

Erikson's epigenetic model of psychosocial development comprises the root of this theory. According to the degree of embeddedness in the self and context, Erikson organises identity into three levels: ego identity which represents the awareness of ego synthesising methods and the continuity of personal characters; personal identity which resides at the intersection of self and context, containing beliefs or behaviours that one exhibits to distinguish oneself; and social identity which refers to "an inner solidarity with a group's ideals and identity" (Erikson, 1994:110; Schwartz, 2001:10). Geographical and historical aspects of self, such as languages, country of origin, and ethics are covered under the heading of group identity (Schwartz, 2001). Erikson's model of identity development then builds on these three-levels of identity.

On the way to seek psychological health, the identities of each individual should cohere, and when they do not, an identity crisis becomes evident (Côté & Levine, 2014). This situation is also called 'identity confusion', the opposite of which is identity synthesis, which refers

to the successful “reworking of childhood identifications into a larger, self-determined set of self-identified ideals” (Schwartz, 2001:9-10). The actions of a person with a synthesised identity are temporally-spatially consistent and anticipated. The identity stages of anyone, at any time, lie between one polar of identity confusion and the other polar of identity synthesis. Erikson identifies the optimal point of the identity development axis as “near to the midpoint but slightly closer to identity synthesis” (Schwartz, 2001:9). It is notable that though identity crisis is overt in late adolescence, the formation of identity continues across the life span (Erikson, 1994).

Based on Erikson’s ideas of ego identity, Marica further explores continuity in occupation and ideology. When young people become adults, they need to choose among several alternatives of jobs and beliefs, and then make commitments to the chosen alternative (Marcia, 1967). Identity status describes the individual styles of coping with identity crisis and commitment. Marcia (1966) identifies four kinds of identity statuses: (1) identity achievement, which refers to people who have experienced identity crisis and show high commitment to occupations and beliefs; (2) moratorium, during which people are engaged in a crisis period with commitments vague; (3) foreclosure, during which people experience no crisis yet have firm commitments; (4) identity diffusion, which refers to people who lack both crisis period and commitment.

The identity status paradigm offers a useful measurement of identity development enabling empirical research. Some critics argue that identity status narrows Erikson’s concept of identity by ignoring the role of social aspects (Côté & Levine, 1987). However, categorising identity status varies among cultures, leading to the problem of cross-cultural validity. Thus, researchers on identity may focus too much on measurement at the cost of theoretical richness (McLean & Syed, 2015).

Identity development in interactions

Theories that privilege the role of society and relationships are primarily studied through sociological approaches. Mead’s concepts and assumptions of social self-theory set the foundations for this approach. Symbolic interactionism and social identity theory are currently popular.

Mead (1934) is one of the earliest academics who privileges the sociological assumptions of identity. For him, the self is not given at birth, instead it arises through networks of social relationship (Mead & Schubert, 1934; Stryker & Burke, 2000). The full development of the self is firstly based on others’ attitudes directly toward it, then people develop a self by understanding and reflecting upon all attitudes around them, including others’ attitudes towards another person, attitudes toward all individuals and group activities (Mead & Schubert, 1934). This implies that the self is both the subject and object of the development. Moreover, in Mead’s theory, social interactions, psycho aspects of self-consciousness and reflection are all highlighted (Stryker, 2008).

Symbolic interactionism emphasises the role of social interactions in identity development (Serpe & Stryker, 2011). To define identities of different actors, people use socially meaningful categories or social positions such as occupation, gender, ethnicity and so forth (Simon, 2008). As one occupies multiple social positions or roles simultaneously, he or she needs to make decisive choices across the identity development spectrum (Serpe & Stryker, 2011). Peoples’ behaviours are normally consistent with the expectations attached to their most salient identity, the importance of which can be increased when the learned meaning and actual meaning are matched (Stryker & Burke, 2000). While there are different schools of symbolic interactionism (Serpe & Stryker, 2011), the focus on social aspect of identity remains unchanged.

Social identity theory (SIT) is one of the most popular identity theories. Tajfel and Turner (1979) initially develop SIT as a lens to analyse ingroup bias and intergroup behaviour (Huddy, 2001). Social identity in SIT refers to the “aspects of an individual’s self-image that derive from the social categories to which he perceives himself as belonging” (Tajfel & Turner, 1986:16). The identity-achieving process is embedded in processes of social categorisation and social comparison (Hammack, 2015). Within the former process, people categorise objects, experiences, other people and themselves into specific categories (e.g., gender, occupation, ethnicity). They meanwhile identify the similarities between themselves and ingroup members and differences between themselves and outgroup others, and then produce self-perception and self-description in terms of ingroup and intergroup relations (Abrams & Hogg, 2006). The latter process - social comparison, is automatically motivated by

people's pursuit of self-esteem. Through this process, people learn about themselves and obtain confidence in the unity of their beliefs (Abrams & Hogg, 2006). When a social identity is unsatisfactory, individuals will strive either to leave their existing group and join a more positively distinct group and/or to make their existing group more positively distinct (Tajfel & Turner, 1986).

In comparison to other social psychological approaches of identity (e.g., Mead, Goffman), SIT focuses on the group in the individual, where typically the focus is on the individual in a group (Abrams & Hogg, 2006). In other words, the arguments in SIT pay more attention to the social function of identity (e.g., how individuals' perception of group assignment influences collective action and behaviour) (Hornsey, 2008), but are less linked to "identity cognition-how people make meaning of group affiliation" (McLean & Syed, 2015:16).

Comparison between two approaches

Key comparisons between psychological and sociological approaches are listed in Table 1. Though significant differences exist, it does not mean they are isolated, rather both the psychological aspect and social aspect of identity are considered in each approach (Côté & Levine, 2014). In the accounting field, identity issues always connect to the validity of social functions (e.g., Stack & Malsch, 2022; Tomo, 2022), thus most accounting literatures have adopted sociological approaches. However, the inner thinking world of individual actors also needs to be examined. Future studies should use various qualitative methods to study the inner mechanisms of the psyche and special attention should be paid to accounting students and novices in the process of professional identity development.

Table 1: Comparisons between two identity approaches

Comparisons	Psychological approaches	Sociological approaches
The locus aspect of identity	The subjective and interior aspect	The contextual and relational aspect
Key mechanism in identity development	Cognitive mechanism, including consciousness, cognition, and reflection (Hammack, 2015)	Contextual fluctuations (Schwartz <i>et al.</i> , 2011)
Bases of identity stages	Significant episodes across life span, such as childhood and adolescence (Côté & Levine, 2014)	No clear stage categorisation, the development continues across whole life course.
Typical identities	Ego identity, personal identity	Gender identity, ethnic identity, professional identity, organisational identity and other collective identities
Classic theories	Erikson's identity crisis and identity status	Mead's self theory, symbolic interactionism, and social identity theory

Collective identity as extended

The unit of analysis of all above is individual, however identity is not only a personal attribute, but it is also used as a group or social label (Brewer & Gardner, 1996). The essence of collective identity, or social identity (Ashmore *et al.*, 2004) resides in a shared sense of 'we-ness' anchored in actual or imagined shared attributes and experiences among people who comprise the collective and are distinct to one or more sets of others (Snow, 2001). While every person constructs his or her own unique identity through personal experience and self-narratives, when persons immerse themselves in groups, there emerges an expression of communal storytelling that implies a shared meaning of 'what are we' (Bayerl, Horton & Jacobs, 2018). For example, the shared experience and attributes among employees of one company (Ashmore, Deaux & McLaughlin-Volpe, 2004), or professional member's shared understanding of the professional mission, ethics and goals (Goto, 2021).

However, the concept of 'collective identity' has more than one meaning. Existing studies on collective identity explain this concept in two ways: the characteristics of collectiveness and the individual member's sense of being part of the collective. The former encompasses groups' symbols, beliefs, values, verbal styles, clothing and so on, involving more than one individual's shared sense-making (Polletta & Jasper, 2001; Klandermans, 2014). It is mainly studied

from a sociological perspective, to explain the motivation of collective action, and the logics of groups' strategic choices when facing social movements (Melucci, 1995; Polletta & Jasper, 2001; Klandermans, 2014; Khazraee & Novak, 2018). Sometimes collective identity may be constructed by outsiders (Polletta & Jasper, 2001), for example, the identity of 'generation X'. The latter emphasises personal subjective identification to one or more groups (Ashmore *et al.*, 2004).

Other differences between these two collective identities are listed in Table 2.

Table 2: Differences between two collective identities

Differences	Individual's Collective identity	Group's Collective identity
Characteristic of whom	Individuals	Groups
Focused question	Who am I as a member of specific categories?	Who are we as a collective group?
Essence	One's sense of self relevant to some categories	Members' shared sense of 'we-ness'
Purpose	To situate one in social space	To situate groups in broader organisations, even society
Expression	Self-attributed characteristics, ideology and narrative (Ashmore <i>et al.</i> , 2004)	Group symbols, including beliefs, values, missions and so on. Shared experience and attributes among members.
Frame of reference	Interpersonal comparison	Intergroup comparison
Examples of topics	What is the salient collective identity of one person? How does one deal with the conflicts among several collective identities?	What motivates collective action? How does collective identity affect the choice-making during social movements? How do institutional structure evolve?

Implications for accounting and auditing professions

Identity is used as both an individual perception and group label.

The content of identity implicates the criteria of being professional in accounting and auditing professions, which includes both subjective standards of professionalism, and self-perceptions in specific context. As the quantitative study trend is popular, the framework of identity content provides an applicable tool to design scales or questionnaires when studying

professional criteria on 'what make accounting or auditing profession unique'.

The process of identity implicates basic theories and frameworks that explain the development of professions and individual professionals. Both psychological approach and sociological approaches can help explain the reason for developmental trends, development variations and other issues. Depending on their research design, researchers can select any of these theories to emphasise the role of psychological or social aspects in development or combine both perspectives to build a comprehensive framework.

PROFESSIONAL IDENTITY AND PROFESSIONAL IDENTITY DEVELOPMENT

Professional identity is a conceptual combination of 'professional' and 'identity', referring to a sense of 'being professional' (Kosmala & Herrbach, 2006). Firstly, professional identity is a sub-identity (Beijaard *et al.*, 2004), aligning with the common assumptions of identity. Professional identity is situated in specific contexts and relations. For example, the requirements to 'be a professional accountant' vary among countries (Ott, 2022). Also, the distinct relationships between accountants and stakeholders in several contexts influence the content and process of professional identity (Stack & Malsch, 2022). Professional identity is internal and subjective. One consolidates this sense through past experience and present practice (Rodrigues & Mogarro, 2019), a student and experienced staff understand the profession on different levels. Thus, professional identity is unstable and evolves during one's professional life (Best & Williams, 2019). Moreover, it has multiple levels: professional identity not only contains an individual's sense of being professional, but also contains the criteria to categorise a professional group (Wackerhausen, 2009; Fitzgerald, 2020).

The concept of 'professional' mainly implies the objective aspects of 'professional identity'. Being professional means, the person possesses required expertise or knowledge of a profession (knowledge-based) (Evetts, 2014); complies with the activities, services and behaviours of one profession (behaviour-based), or follows procedures and rules of one profession (rule-based) (Anderson-Gough, Grey & Robson, 2002; Pratt, Rockmann & Kaufmann, 2006). Besides, professionals also refer to the active agents

who carry out highly critical occupational functions (Pratt *et al.*, 2006).

Existing literature on professional identity can be traced to three categories of studies: the conceptual discussion of professional identity, content of professional identity, and process of professional identity.

Conceptual discussion of professional identity

Related studies sometimes use different terms to have the same meaning, which causes misunderstandings that complicate research and confuse novice practitioners (Fitzgerald, 2020). Making concepts clear is also a foundation of theory development (Ohlen, 1998). Therefore, explorations on the conceptual map of professional identity becomes one of the most popular topics in studies.

Table 3 lists several most cited articles.

Table 3: Most cited¹ articles on conceptual map of professional identity

References	Year	Major	Related concepts
Fitzgerald. Professional identity: A concept analysis. In Nursing Forum.	2020	Health Related	1. professional 2. professionalism 3. professional socialisation
Hoeve, Jansen & Roodbol. The nursing profession: Public image, self-concept and professional identity. A discussion paper.	2014	Nursing	1. public image 2. professional self-concept
Johnson, Cowin, Wilson & Young. Professional identity and nursing: contemporary theoretical developments and future research challenges.	2012	Nursing	1. professional self-concept 2. professional roles 3. professional image 4. professional commitment 5. professionalism

In Table 4 the professional identity on both micro level and macro level are discussed. For individuals, professional identity is a kind of social identity; for groups or collectives, it is a label to include members and exclude others. Related concepts can be categorised into two main types: one is linked to the concept of 'identity', which is distinct from related psychological terms, including professional self-concept, image, commitment etc.; the other is

connected to 'professional', discussing related terms in the sociology of professions, including professionals, professionalism and professionalisation.

Table 4: Related concepts in professional identity studies

Term	Concept	Relationships to 'professional identity'
Professional identity (occupational/career identity)	One's perceptions of being professional (Johnson, Cowin, Wilson & Young, 2012; Brouard <i>et al.</i> , 2017). People's shared sense of 'being professional' (Hanna, Oostdam, Severiens & Zijlstra, 2020).	--
Professional self-concept	How we think and feel about ourselves as a social, physical and cognitive person in professional contexts (Johnson <i>et al.</i> , 2012; Ten Hoeve, Jansen & Roodbol, 2014).	The inner aspect of professional identity (Ten Hoeve <i>et al.</i> , 2014).
Professional image	Others' perceptions of status, beliefs, attributes, roles and information of one profession to distinguish it (Ten Hoeve <i>et al.</i> , 2014; Brouard <i>et al.</i> , 2017).	The external and relational aspect of professional identity.
Professional roles	Conceptions of appropriate goals and activities for specific professions and professionals (Goretzki, Strauss & Weber, 2013).	The external and relational aspect of professional identity. Enacting the professional role leads to the emergence of professional identity (Chreim, Williams & Hinings, 2007).
Professional commitment	A psychological link between a person and his or her profession that is based on an affective reaction to that profession (Lee, Carswell & Allen, 2000).	Indicators of professional identity (Canrinus, Helms-Lorenz, Beijgaard, Buitink & Hofman, 2011).
Professionals	Active agent who carries out highly critical occupational function (Pratt <i>et al.</i> , 2006; Hamilton, 2013).	Holders of professional identity.

¹ This study used the software *Publish or Perish* as the tool to find studies that cited most per year in *Google Scholar*.

Professionalism	The demonstration of the observable behaviours expected of a professional (Cruess, Cruess, Boudreau, Snell & Steinert, 2014).	Professionalism as a pathway to develop professional identity (Cruess <i>et al.</i> , 2014; Ageiz, Elshrief & Bakeer, 2021).
Professional socialisation	The process by which persons acquire the knowledge, skills, and dispositions that make them more or less able members of their professions (Hall, 1987).	The individual level of professional identity development
Professionalisation	The multi-level process to move toward correspondence with the professional model (Hall, 1968; Ashcraft, Muhr, Rennstam & Sullivan, 2012).	The individual and collective level of professional identity development

Content of professional identity

The second theme is the content of professional identity, especially how to measure professional identity. Depending on the multi-dimensional content framework of Galliher *et al.* (2017), professional identity content covers both objective standards of being professional and subjective. The objective standards are primarily reflected on contents of professional roles and occupational ideology, which are shared between individuals and collective groups. The subjective recognition is embedded in cultural background and daily life experience, which for individuals is everyday professional life while on the collective level is the historical development of the profession.

Existing literatures measure the professional identity differently. For professional roles and occupational ideology, researchers link the measurement to criteria of a profession or professionalism, which is frequently measured quantitatively (Matthews, Bialocerkowski & Molineux, 2019). For the other two elements, qualitative methods are adopted, including content, concept, narrative or discourse, reflective writings, and diaries based on interviews or focus groups (Kalet, Buckvar-Keltz, Harnik, Monson, Hubbard, Crowe, Song & Yingling, 2017; Fitzgerald, 2020). To capture the macro cultural factors of professional identity, content analysis of prior literatures or official documents are also used (Ohlen, 1998; Barbour & Lammers, 2015; Matthews *et al.*, 2019).

Process of professional identity

The process of professional identity development (PID) refers to the formation, evolution and reformation of professional identity contents. On an individual level, research focuses on how professional identity develops across one's professional life (Best & Williams, 2019; Mao, Lu, Lin & He, 2021). When considering the profession as collective, the main topic is how professions come to realise themselves in history (Snow, 2001; Parker & Johnson, 2017). In addition to mainstream identity theories, when analysing the theoretical foundation of PID, sociological theories of professions, such as 'professional socialisation theory' and 'professionalisation theory', are frequently adopted.

Professional socialisation and PID

Professional socialisation is the process through which one learns to be a functioning member of a profession, participates in the professional community's work, and develops one's own sense of professional identity (Anderson-Gough, Grey & Robson, 2000; Jarvis-Selinger, Pratt & Regehr, 2012). This definition implies the interrelations among micro PID, learning processes, and the professional community emphasising educational context and community of practice.

The assumption underlying PID is that people start to learn the demands of a job before commencement, which is also described as the anticipatory socialisation process (Murray & Male, 2005). Students internalise shared knowledge, skills, values and norms of a particular profession, moving to seeing themselves as members of the profession and the profession as important and valuable (Trede, Macklin & Bridges, 2012; Mao *et al.*, 2021). Therefore, a sense of professional identity should be the outcome of anticipatory socialisation in higher education. Past research explores the PID process through formal and informal education (Cruess *et al.*, 2014; Tracey & Hutchinson, 2018), or even continued education throughout an entire career (Rodrigues & Mogarro, 2019). The key implication is the relationship between the learning and PID.

Professionalisation and PID

Professionalisation is a dynamic process for an occupational group as it moves towards monopoly rights over certain types of work and ascendancy over others, namely being recognised as being professional (Abbott & Meerabeau, 1998). Thus, highlighting PID as inter-related to process. Some researchers treat this process as strategic collective professional identity work (Ashcraft *et al.*, 2012; Reed, 2018). Some describe professionalisation as a background to the individual process of professional identity development (Wright, 2008; Gough & Neary, 2020). Thus, when one occupational group meets the criteria of a profession to produce the sense of professional identity, the change of criteria during professionalisation influences PID, linking these two processes.

Collective PID is studied using professionalisation theory (see Table 5²). Challenges and processes of PID vary among professions. For classic specialised professions (e.g., medicine, law, accounting), researchers normally focus on challenges arising from dramatic changes in society, for example, de-

professionalisation, including managerialism and commercialism, as popular topics (Wright, 2008; Healy, 2009); another theme is PID in global and indigenous professionalisation, including similarities and distinctiveness for one profession's characteristics across countries (Ghattas, Soobaroyen & Marnet, 2021; O'Regan & Killian, 2021). Semi-professions or emergent professions (e.g., career development, public relations), do not fully achieve the criteria of profession, resulting in studies primarily selecting some features of a profession as the basic discourse in professionalisation and then explore 'how a professional identity emerges from this partial professionalisation'.

Besides these differences, existing literature favours historical analysis of professional domains according to social structures and institutions (Reed, 2018). The former emphasises the development of social cultural content in social movements (Healy, 2009; Ghattas *et al.*, 2021). The latter covers periods before as well as after the development of professional associations, working sites, and other regulatory institutions (Carnegie & Edwards, 2001; Cooper & Robson, 2006).

Table 5: Articles on professionalisation and collective PID

Authors	Title	Years	Profession	Country	Main topic	Methods
Ghattas, Soobaroyen & Marnet	Charting the development of the Egyptian accounting profession (1946–2016): an analysis of the State-Profession dynamics	2021	Accounting	Egypt	(a) How did successive Egyptian governments draw upon the legal provision to (re)direct the development of the accounting profession? (b) How did the various political economy regimes affect interactions between the State and the accounting profession in Egypt?	Documentary analysis and interviews
O'Regan & Killian	Beyond professional closure: Uncovering the hidden history of plain accountants	2021	Accounting	Irish	How could accountants thrive without pursuing strategies of closure and exclusion?	Documentary analysis and census data analysis
Gough & Neary	The career development profession: professionalisation, professionalism, and professional identity	2020	Career Development	Multiple	Without a formal regulatory bargain, how do career development profession achieve a partial professionalisation and hold on a professional identity?	Documentary analysis
Reed	Professionalizing corporate professions: Professionalization as identity project	2018	Public Relations	British	How does public relation as a profession with high status but traditional professionalism absent professionalise in UK?	Documentary analysis and interviews
Parker & Johnson	The development of internal auditing as a profession in the U.S. during the twentieth century	2017	Internal Auditing	America	How internal auditors have historically seen themselves bears on how they function as integral parts of internal control in U.S.?	Documentary analysis

² Selecting by cites per year and relevance in Google Scholar.

Implications for accounting and auditing professions

Professional identity implicates the state of being professional, which is essential for accountants or auditors to deliver high-credibility service. In prior accounting and auditing research, some aspects of professional identity have already been studied widely, such as professional role and professionalism. Theories of professional identity provide another comprehensive way to analyse professional behaviours, activities and historical development which takes inner mechanisms in account. Also, when future researchers adopt professional identity as a theoretical perspective, related prior literatures cannot be ignored though they do not show the term 'professional identity'.

CONCLUSION AND IMPLICATIONS

Identity issues in accounting and auditing fields are still under researched, especially from a theoretical perspective. As identity influences the motivations and behaviours of accountants and auditors, both academia and practitioners need to pay more attention to identities and the development of professional identities. This study addresses the gap by critically reviewing identity studies from other disciplines, separately reporting on the three major themes of identity and professional identity: the concept, content and process. This study also provides a theoretical perspective for future research to understand and explain professional work of accountants and auditors.

Table 6: Potential research questions

Theme	Potential research questions
Identity and identity development	• What identities influence the behaviours and activities of accountants or auditors? • Which identity is most salient for accountants and auditors? • Why variation in practices of accountants and auditors exist? • How accountants and auditors manage their multiple identities in their daily practice?

Professional identity content and development	• How to measure professional identity of accountants and auditors? • What identity attributes make the accounting or auditing profession unique? • How to bolster the collective professional identity of the accounting or auditing profession? • How to bolster the professional identity of individual professionals in broader accounting disciplines? • What influences the development of professional identity?

Besides, this study lists some potential research opportunities related to professional identity in a broader accounting discipline (Table 6). When adopting identity and professional identity theories, future accounting research should consider their rationality and validity in the specific research design. For the concept, researchers need to understand the common features of identity in general discipline and appropriately adopt related terms, such as identity, self-concept, role in their future study. For the content, the four-levels framework of identity content provides a way to examine 'what makes accounting or auditing professions unique'. Also, detailed measurement models or scales which are important in quantitative accounting studies can be explored based on this. Meanwhile, for the process of identity, future studies can select different mechanisms depending on the analysis levels (individual or collective), focused aspect (cognitive mechanism or context), and research design.

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The role of the social and ethics committee

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Purpose: The purpose of this study is to unpack the role of the Social and Ethics Committee (S&EC), by considering the normative requirements of the legislation, regulation and research articles.

Research design and methodology: The study utilised a systematic literature review to complement legislative and regulatory guidance in order to unpack the role of the S&EC. Additionally, areas for future research have been identified.

Findings: The study revealed limited research on the S&EC within the legal field. Areas for future research include assessing the impact of the S&EC non-financial capitals, especially the social capital of companies. There is also a need for more governance and business focused research on the S&EC. The current uncertainty regarding whether the S&EC is a board or statutory committee with different rights and responsibilities hampers a clear normative role description for the S&EC.

Practical implications: The study unpacks the role of the S&EC in a manner that can be valuable to members of S&ECs, enabling them to reflect on and improve their current practices. It can also serve as a guide for S&EC members to develop a clear purpose and transparent terms or references for the committee, thereby improving clarity and transparency.

KEYWORDS: *normative role; social and ethics committee; systematic literature review*

INTRODUCTION

South Africa has been marred by corporate financial scandals, from the Steinhoff scandal, which wiped R150 billion off the company's market capitalisation in a week (Crotty, 2017), to Tongaat Hulett, where seven executives were charged with a R3.5-billion fraud (Senekal de Wet, 2022). Generally, the aftermath of such scandals leads to more intense media and regulatory scrutiny of the roles and accountability of external auditors (Bloomberg, 2019), executive directors (Essop, 2017), and even audit committees (Buthelezi, 2022). But the role of the Social and Ethics Committee (S&EC), does not usually come in for scrutiny.

Unfortunately, the existence of S&ECs did not prevent or detect notorious scandals such as Steinhoff or Tongaat-Hulett. This could mean that the S&EC is seen as a necessary compliance mechanism. A committee that is less important than the other standing board committees such as the audit, remuneration and nomination committees (Deloitte, 2014). Token compliance would be difficult to identify as the S&EC focuses on the more intangible capitals that is difficult and costly to verify (Mavlanova, Benbunan-Fich & Koufaris, 2012).

The lack of adverse attention or calls for better, more ethical accountability on the part of the S&EC after financial scandals is a surprise as ethics is a better fraud prevention measure than internal control (Puspasari & Suwardi, 2016). On the business and governance side, the Institute of Directors South Africa and The Ethics Institute conducted three annual surveys of S&ECs to obtain improved insight into the nature, composition, and effectiveness of S&ECs and the challenges they face in 2020, 2021 and 2022 (Ou-Yang, Vorster, Rossouw, Vandayar & Dixon, 2022; Rossouw, Konstantinopoulos, Vorster, Ou-Yang, Dixon & Vandayar, 2021; Vorster, Konstantinopoulos, Rossouw, Vandayar & Dixon, 2020). Interestingly, the surveys found that 11% in 2020, reduced to only 1% in 2022, of the respondents positioned the role of the S&EC with the audit committee sphere (Ou-Yang *et al.*, 2022; Vorster *et al.*, 2020). The reason for this perceived link could be that the criteria on public interest scores for a company to appoint an S&EC are the same as those for the appointment of an audit committee (South Africa, 2011).

The S&EC is a uniquely South African statutory committee required by section 72(4) of the Companies Act 71 of 2008 (Companies Act) (South Africa, 2008). More detail on the mandate, membership and functions of the S&EC is provided in the Companies Act

Regulations (Regulations) issued in 2011 (South Africa, 2011). The S&EC as a statutory structure is unique to South Africa although the governance mandate, which is linked to a social and ethics mandate, is universal (Vorster *et al.*, 2020). Regulation 43(5) requires the S&EC *inter alia* to monitor and report on the company's activities by considering legal requirements and codes with regard to the social and economic development of the company (South Africa, 2011).

In 2016 recommendations by the King IV report on corporate governance in South Africa (King IV), published by the Institute of Directors Southern Africa (IoDSA), extended the legal mandate of the S&EC, recommending that all entities appoint an S&EC (IoDSA, 2016). Thus, King IV's recommendations on especially the ethics role of the S&EC indicate a move beyond compliance to value creation (IoDSA, 2016). Nevertheless, Vorster *et al.* (2020) found that some organisations still find it difficult to merge the statutory and governance role of the S&EC (Vorster *et al.*, 2020). This highlights the need for clarity and more research. This study aims to unpack the role of the S&EC using a systematic literature review (SLR).

Existing literature points out a paradox by positioning the S&EC either as a board committee (with a fiduciary role) or a separate company committee (with S&EC-linked legal responsibilities), using legal arguments (Mahhumane & Cassim, 2021; Stoop, 2013). Burman (2020) notes that the "legislation does not fully flesh out the role" of the S&EC, especially not regarding responsibilities for ethical management in the company. The possible gaps or uncertainties in the literature and between the literature and practice can lead to areas of future research.

An SLR followed a systematic process of reviewing the literature and attempted to collect literature that meets the "eligibility criteria to answer a specific question" (Liberati, Altman, Tetzlaff, Mulrow, Gøtzsche, Ioannidis, Clarke, Devereaux, Kleijnen & Moher, 2009:e2). The research question that the SLR focuses on in this paper is: What is the role of the S&EC? The study followed a shortened version of the preferred reporting items for systematic reviews and meta-analyses (PRISMA) process (PRISMA, 2021). Thus, using a systematic process that could be replicated and result in the reliable identification of valid literature (PRISMA, 2021).

The SLR found that the published research on the S&EC was carried out only in the legal field. Some paradoxical legal arguments have been partially addressed by two recent drafts of the Companies Act Amendment Bill (Bill) (2018 and 2021) as proposed by the Department of Trade Industry and Competition (DTIC, 2021). Additional business-focused research on the S&EC is still needed, as there are only three surveys on the S&EC (Ou-Yang *et al.*, 2022; Rossouw *et al.*, 2021; Vorster *et al.*, 2020) that follow a more governance, business-focused research approach. Further empirical research could also focus on assessing the impact of the S&EC on non-financial capitals over time.

The remainder of this paper is structured as follows. The next section provides a narrative overview of the legislative and governance requirements of the S&EC, to help identify the committees' normative roles. Thereafter the research method is described, followed by a discussion on how research positions the roles of the S&EC. The paper ends with a conclusion that summarise the role of the S&EC and highlights areas for future research.

NORMATIVE LEGISLATIVE AND GOVERNANCE ROLES OF THE S&EC

Normative research unpacks the prescriptive nature of an aspect under study (Christiani, 2016). Using a normative view enables the study to focus on the prescriptive elements linked to the role of the S&EC, starting with the prescriptions of legislation and regulations. The Companies Act makes provision in Section 72(4) for the Minister to "prescribe that a company or a category of companies must have a social and ethics committee" in the regulations, "if it is desirable in the public interest" (South Africa, 2008). As one of the purposes of a company is to achieve economic and social benefits (South Africa, 2008: Section 7(d)), the requirement to establish an S&EC could be a mechanism to push the social agenda (Kloppers, 2013). Although the Act does not prescribe the role of the committee, it does highlight aspects the S&EC is entitled to, as summarised in Table 1 below.

Table 1: S&EC entitlements

Section 72(8) (South Africa, 2008)	
(a) & (b)	To require “any information or explanation necessary for the performance of the committee's functions” from directors, prescribed officers, or employees
(c)	To “attend any general shareholders meeting”
(d)	To “receive all notices of and other communication relating to any shareholders meeting”
(e)	To “be heard at any shareholders meeting” regarding “any part of the business of the meeting that concerns the committee's functions”
Section 72(9) (South Africa, 2008)	
The “company must pay all the expenses reasonably incurred by its social and ethics committee, including, if the social and ethics committee considers it appropriate, the costs or the fees of any consultant or specialist engaged by the social and ethics committee in the performance of its functions”	

The above entitlements give the S&EC a level of accessibility in the performance of its duties that is reminiscent of the access granted to auditors, while requiring the company to foot the bill. However, the S&EC does not automatically have the power to appoint such consultants. The right to report to the shareholders at the general meeting can be an opportunity to get shareholder input into the committee's roles, to ensure clarity. Nonetheless, having legislative entitlements without a clear role is one of the challenges the committee faces.

The Regulations include more detail. To begin with Regulation 43 describes the categories of companies that must appoint S&ECs (South Africa, 2011). These include all listed and state-owned companies and any “other company that has in any two of the previous five years, scored above 500 points” on their public interest score (measured using Regulation 26 (2)) (South Africa, 2011). The use of a public interest score is in line with the requirement applicable to the appointment of external auditors for companies with high public interest scores.

However, Section 72 positions the S&EC as a board committee, while the appointment of external auditors falls under Chapter 3 which deals with the enhanced accountability and transparency requirements (South Africa, 2008). This could mean that the role of the S&EC as a board committee includes enhancing transparency and accountability in companies in which the public could have an interest. The public interest stakeholders include employees, the third-party liability of the company, and turnover that could represent

customers and holders of the company's securities, using a more stakeholder-centred view. A stakeholder view could possibly require the committee to consider the constituents or stakeholders that make up the public interest score given their business interest in the company (Esser & Delport, 2017a; Esser & Delport, 2017b). Kloppers (2013) recommends that the S&EC identify stakeholders with a legitimate business interest for engagement.

Regulation 43 requires the company to appoint the S&EC (South Africa, 2011), possibly questioning the status of the S&EC as a board committee arguing it should be viewed as a company committee. The rights and obligations of the members of the S&EC, as a company committee, would accordingly be focused on the requirements of the Companies Act and Regulations in assessing their performance against their role.

Regarding the composition of the S&EC, Regulation 43 states that the S&EC “must comprise not less than three directors or prescribed officers of the company” (South Africa, 2011), which is similar to the number of directors on the audit committee (South Africa, 2008). However, S&ECs are only required to have one director who is not involved in the day-to-day management (non-executive) of “the company's business, and must not have been so involved within the previous three financial years” (South Africa, 2008). Kloppers (2013) explains that one non-executive director could enhance transparency and counter any superficial conduct or token compliance management of the committee's business. However, Rhode and Packel (2014) warn that tokenism is a risk with the appointment of just one person, as the other members would have the majority votes and this could negate any positive intent.

In contrast, the audit committee members must all be non-executive and must meet the independence requirements of the Act, giving the committee the necessary decision-making powers (South Africa, 2008). King IV extended the Act's requirements for S&ECs by recommending that the majority of the directors on the S&EC should be non-executive directors, and continuing to allow executive directors as members (IoDSA, 2016), thereby reducing the risk of tokenism. The high level of permissible executive directors could suggest that the committee plays an operational role that needs the input of executive directors.

To guide the monitoring and reporting role of the S&EC, Regulation 43(5) requires the following from the S&EC, as summarised in Table 2 below:

Table 2: Functions of the S&EC

<i>Monitoring role:</i>
Monitor the company's activities, taking into consideration the relevant legislation and codes of best practice regarding the following:
Social and economic development
The company's goals and purposes linked to:
• United Nations Global Compact 10 principles • Organisation for Economic Co-operation and Development recommendations on corruption • Employment Equity Act • Broad-based Black Economic Empowerment Act
Good corporate citizenship, including:
• Promotion of equality, prevention of unfair discrimination and reduction of corruption • Contribution to development of related communities • Record of sponsorship, donations and charitable giving
The environment, health and public safety
Consumer relationships
Labour and employment including:
• Standing on the International Labour Organization Protocol on decent work and working conditions • Employment relationships and educational development of employees
<i>Reporting role</i>
To draw matters within the S&EC mandate to the attention of the Board
To report through a member to the shareholders at the company's annual general meeting on matters within its mandate

It is clear from the above that the S&EC has a monitoring and reporting role. As it is already the responsibility of the audit committee to report on economic or financial matters, it is expected that the S&EC will focus largely on social matters in its reporting (Kloppers, 2013). As the aspects to be monitored and reported on is explicit there is a risk that the committee can apply a tick box approach to compliance, risking following a token compliance approach (Van Vuuren, 2020). The focus on compliance with non-financial matters might be the reason why no accountability calls are levelled against the S&EC after financial scandals, despite the social and ethical issues inherent in those scandals.

Principle 5 in King IV positions the S&EC as a board committee where the board is responsible for overseeing the S&EC report (IoDSA, 2016). Board oversight is expected to help ensure that legal requirements are complied with and that issued reports meet the "legitimate and reasonable

information need of all material stakeholders" (IoDSA, 2016). Board oversight over the workings of the S&EC could position the committee at a more operational level, like the risk committee. In addition, the focus of King IV on the information needs of stakeholders suggests that even though the S&EC is entitled to report to the shareholders at a general meeting, the report must accommodate the information needs of other stakeholders (IoDSA, 2016).

The primary focus of the S&EC is that of protecting stakeholders' interests through their monitoring and reporting roles as articulated in the Regulations (Esser & Delport, 2017a; Esser & Delport, 2017b; South Africa, 2011). In effect, the S&EC should serve as the moral conscience of the company ensuring that the company as a metaphysical entity upholds and practices responsible citizenship (Delloite, 2014:3).

One way in which stakeholders can evaluate whether their interests are protected is through credible, frequent, and reliable communication on S&EC matters. Although there are no mandatory requirements for the S&EC to report externally on its activities, it is customary for an S&EC report to be included in the Integrated Report as part of either the governance report or the director's report. As the Bill recommends that the S&EC are annually appointed by the shareholders and report to the shareholders (DTIC, 2021), such reports could form a basis for future research on the reported role of the S&EC.

RESEARCH METHODOLOGY

Although a literature review is a key component of any research and often the starting point for empirical research, various literature review methods are standalone research methods (Grant & Booth, 2009). One such method is an SLR (Mohamed Shaffril, Samsuddin & Abu Samah, 2021). The value of an SLR is that it is a systematic process that can be used to derive insights from the collective body of research evidence (Schweizer & Nair, 2017). It is also a popular method of identifying areas for future research (Billore, Anisimova & Vrontis, 2023; Collins, Dennehy, Conboy & Mikalef, 2021; Hazaea, Zhu, Al-Matari, Senan, Khatib & Ullah, 2021).

An advantage of an SLR is that the systematic process results in an objective search of the literature that can be replicated as the goal of an SLR is to find every study published (Schweizer & Nair, 2017). Detailed guidance

on how to perform an SLR is provided on PRISMA in a manner that results in detailed documentation of the search process (PRISMA, 2021). For the sake of brevity, this study gives an abbreviated account of the search process, which is possible as there is limited research on the S&EC. The steps followed are summarised in Table 3.

Table 3: Steps in an SLR

No	Step	Objective
1	Research question	Express the research question clearly
2	Search criteria	Search for terms and exclusion criteria
3	Literature search	Conduct the search
4	Inclusion criteria	Define inclusion criteria and update exclusion criteria
5	Analysis of information	Analyse the results
6	Presentation of information	Write up the results

Source: Adapted from Schweizer and Nair (2017) and Xiao and Watson (2019)

Step 1 – Research question

The central research question for this study is: What is the role of the S&EC?

Step 2 – Search criteria

The search terms: “social and ethics committee” OR “social & ethics committee”, are directly linked to the research question. This search started with Sabinet given the South African nature of the S&EC. In Sabinet the study searched for the search terms in the key word field, as searches only in the title field was not an option. The next search focused on HeinOnline (a database that mainly focuses on legal studies) searching for the search terms in the title field. Lastly the key terms were searched in the title field in Google Scholar. A title field search helped to ensure the results included research that focused on S&ECs, thus the fact that the S&EC was included in the article title was the key inclusion criteria. The last search used Google Scholar to ensure no important research was missed. To ensure that the search focused on quality research,

articles published in professional magazines or blogs were excluded as well as articles pre- or re-published in other databases like SSRN.

Step 3 – Conducting the search

The search terms guided the search process and focused on identifying research that focused on the S&EC by looking for reference to the S&EC in the title of the study. The search results are reconciled in Table 4 below.

Table 4: Search results reconciliation

Database	Total search results	Duplicates	Other exclusions	Remaining articles
Sabinet	81	-	70+4	7
Hein Online	12	10	-	2
Google Scholar	25	8+2+1	1+4+2+2+4	1
Total				10

Searching the title field was not possible in Sabinet and the search used the key word field. The search produced a relatively larger number of identified sources. Their titles were reviewed to highlight articles that focused on S&ECs. The total number of articles initially identified was 81, and 70 were excluded as they did not focus on the S&EC. A further four magazine articles were excluded leaving seven research articles. For HeinOnline the keywords were searched in the title field, resulting in 12 articles, minus 10 articles that were duplicated on the Hein database and Sabinet, adding two articles.

Google Scholar was used to search for the key terms in the title and identified 25 sources. Eight articles were duplicates from sources identified in Sabinet and HeinOnline. Other exclusions were one blog post, four magazine articles, two textbooks, two duplicates of sources found in Google Scholar, one conference paper that duplicated a published paper, two professional publications, and four dissertations. This left one additional article, making 10 articles in total. The extracted articles are listed in Table 5 below.

Table 5 SLR article results

Author (year)	Database	Title	Journal
Botha (2016)	Hein	Evaluating the social and ethics committee: Is labour the missing link (1)	Journal of Contemporary Roman-Dutch Law
Botha (2017)	Hein	Evaluating the social and ethics committee: Is labour the missing link (2)	Journal of Contemporary Roman-Dutch Law
De Lange (2015)	Sabinet	The social and ethics committee in terms of the 2008 Companies Act: Some observations regarding the exemptions and the role of the Companies Tribunal	South African Mercantile Law Journal
Esser and Delport (2017a)	Sabinet	The protection of stakeholders: The South African social and ethics committee and the United Kingdom's enlightened shareholder value approach: Part 1	De Jure Law Journal
Esser and Delport (2017b)	Sabinet	The protection of stakeholders: The South African social and ethics committee and the United Kingdom's enlightened shareholder value approach: Part 2	De Jure Law Journal
Havenga (2015)	Google Scholar	Aantekeninge: The social and ethics committee in South African company law	Journal of Contemporary Roman-Dutch Law
Kloppers (2013)	Sabinet	Driving corporate social responsibility (CSR) through the Companies Act: an overview of the role of the social and ethics committee	Potchefstroom Electronic Law Journal
Mahumane and Cassim (2021)	Sabinet	A critical analysis of the amendments proposed to the social and ethics committee by the Companies Amendment Bill, 2018	South African Mercantile Law Journal
Nanyemba and Maphiri (2022)	Sabinet	The social and ethics committee and the protection of non-shareholder constituencies: Teething problems or no teeth at all?	Stellenbosch Law Review
Stoop (2013)	Sabinet	Towards greener companies - sustainability and the social and ethics committee.	Stellenbosch Law Review

Step 4 – Inclusion criteria

This SLR includes all published research articles in which the research focuses sufficiently on the search term S&EC in the title. Only research published in peer-reviewed journal articles is included as the journals apply a quality control process via peer reviews. As this study focuses on the role of the S&EC one key aspect is excluded, namely the process and criteria for requesting to be exempted from appointing an S&EC. Professional research on the S&EC is excluded as magazine articles generally have little research to support the views. Textbooks are excluded as the goal of a textbook is commonly to focus on teaching, while dissertations are excluded as any published research from the same authors meets the inclusion criteria.

Step 5 - Analysis of information

The study uses a qualitative synthesis that identified three roles of the S&EC that is linked to the research question and are unpacked in the results section. A qualitative synthesis could contribute to the literature through interpreting and explaining the phenomenon studied (Rousseau, Manning & Denyer, 2008). All the articles were published in law journals, using mainly critical reviews and legal arguments as the research method. This legal view can be a limitation in the study as the results could be biased to the

detriment of a governance business centred view, suggesting areas for future research. The lack of empirical research that could have highlighted a gap between the normative role of the S&EC as stipulated in legislation and regulations and practiced is also a limitation in this study.

With the ongoing debate on the Bill coupled with the societal challenges in South Africa that range from the State capture scandal to financial scandals and the social and ethical nature of the disruption of Covid-19, an uptake in research on the S&EC was expected. However, as shown in Figure 1 there was not such an uptake.

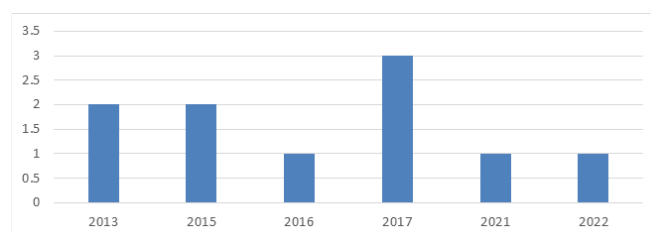
**Figure 1: Research articles published per year**

Figure 2 shows the number of articles published per journal with the *Journal of Contemporary Roman-Dutch Law* leading with three articles and the *Potchefstroom Electronic Law Journal* lagging behind with one article. It seems that the more accessible

open-access nature of the *Potchefstroom Electronic Law Journal* has not eroded the popularity of journals that are not open-access. This could be because legal practitioners subscribe to databases to keep up to date with the changes in legal requirements and case law.

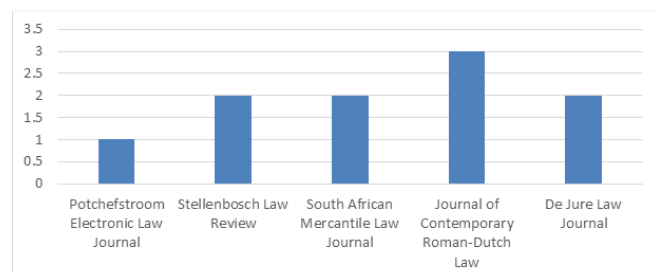


Figure 2: Number of research articles published per journal

Interestingly two instances of follow-up articles show that the authors engaged in the research over a longer period. A two-part article is uncommon in the governance business environment. However, as change is constant, working on a follow-up article could be insightful. The governance business environment prefers empirical research, whereas the legal environment follows a totally different path. Learning from different disciplines can lead to the re-examination of previous beliefs and produce richer, more productive research.

Step 6 – Presentation of information

The final presentation of the results of the qualitative synthesis of the research articles on the role of the S&EC, are written up using a critical review format. The study identified three main roles that are unpacked in the result discussion.

RESULTS

The results of the qualitative synthesis identified five themes in total. These include when or who should appoint a S&EC, grounds to apply for a waiver against the appointment of a S&EC, the responsibility or fiduciary role, the oversight or operational role and the reporting role. As the research question centred on identifying the normative role of the S&EC, only the results linked to the normative role of the S&EC are discussed. Thus, below the responsibility or fiduciary role of the S&EC, the oversight or operational role, and the reporting role of the S&EC are discussed in more detail.

Responsibility or fiduciary role

Although the compliance areas that fall under the S&EC are explicit in the regulations, the unclear position of the S&EC as either a board committee or a statutory/company committee hampers the establishment of a clear role (Mahhumane & Cassim, 2021; Stoop, 2013). If the S&EC is a statutory committee appointed by the company (shareholders), it would be a separate organ of the company so that in essence it would add a tier to the board (Botha, 2016). The distinction between a statutory or board committee seems trivial, but if the S&EC is a board committee, it would be bound by the fiduciary role of the board of directors (Nanyemba & Maphiri, 2022). The directors' role requires board members to act in the best interest of a company, which is interpreted as in the best long-term interest of the shareholders, and this could have an impact on other stakeholder engagements (Botha, 2016). In contrast, a statutory committee appointed by the shareholders is not bound by the fiduciary duty of directors in that role. In addition, the S&EC are expected to consider a more stakeholder centric view (Esser & Delport, 2017a).

In contrast, the Bill recommends that the S&EC be appointed by the shareholders at the annual general meeting (AGM) (DTIC, 2021). This would position the S&EC as a statutory committee similar to the audit committee, which is appointed by the shareholders (South Africa, 2008). The latter arrangement would also limit the powers of the S&EC to specific legislative and regulatory requirements (Mahhumane & Cassim, 2021). The board would not be allowed to delegate powers and authority to the S&EC because their powers and authority would be prescribed by legislation (Botha, 2016). Power relations between the board and the S&EC are therefore a factor. If the S&EC is a board committee, the board can delegate matters to it. However, despite the right of the S&EC to obtain answers, it is unclear whether the board would have to comply with instructions received from the S&EC (Botha, 2016).

It is possible that as the establishment of an S&EC is required in Section 72, which deals with board committees, it can also be viewed as a board committee (South Africa, 2008). Section 76(1)(b) stipulates that members of board committees are subject to the same duties as directors and have the same liabilities (Section 77(1)(b)) (South Africa, 2008). Mahhumane and Cassim (2021) state that the specific

closed list of responsibilities in the regulation suggests that the S&EC is a board committee. However, King IV suggests that the S&EC's role is that of "oversight and reporting on organisational ethics, responsible corporate citizenship, sustainable development and stakeholder relationship" with the committee moving beyond compliance towards value creation (IoDSA, 2016:29). King IV also notes that the board can delegate other responsibilities to the S&EC (IoDSA, 2016).

Regrettably, the position of the S&EC is unclear, and this could have an influence on its role. This could be overcome if clear terms of reference are established for the committee, approved by the board, and disclosed to the shareholders.

The oversight or operational role

An oversight role is typically attributed to the board and especially independent board committees like the audit committee (Deloitte, 2014). Botha (2017) explains that oversight over the board is reminiscent of the supervisory board structures used in other jurisdictions. However, the monitoring reference in Regulation 43 seems to position the S&EC on a more operational level especially as two out of three members can be executive directors (South Africa, 2011). Especially the inclusion of executive directors fuelled speculation that the S&EC can be an operational committee (Rossouw, 2018; Stoop, 2013). In contrast King IV recommends that the majority of the members of the S&EC should not be involved in the day-to-day management, suggesting that the committee needs to focus on oversight (IoDSA, 2016). The Bill requires the majority of the members of the S&EC not to be involved in the day-to-day management of the company, which could mean that its role resembles an oversight role in line with King IV.

The reporting role

The Regulations allow the S&EC to report to the shareholders, but this is not compulsory (South Africa, 2011). The Bill changes the reporting option of the S&EC to a requirement to report annually to the shareholders at the AGM (DTIC, 2021). This is also linked to the appointment of the S&EC at the AGM. In addition, the shareholders vote on the S&EC report and the committee is required to engage with dissenting shareholders on matters that they voted against (DTIC,

2021). The proposed changes do seem to add clarity to the reporting and stakeholder engagement role of the S&EC. This is in line with the JSE listing requirements and King IV to report transparently (Esser & Delport, 2017a; IoDSA, 2016; JSE, 2022). The reporting requirement to the shareholders also seems to shift some responsibility regarding the S&EC from the board onto the shareholders; suggesting a powershift (Esser & Delport, 2017b).

The social and ethics focus of the S&EC can help the company develop sustainable practices in a manner that will be seen as responsible and help to establish the legitimacy of the company by signalling the focus of the company on economic and social goals.

CONCLUSION

The purpose of this study is to unpack the role of the S&EC, by considering the normative requirements of the legislation, regulations and research articles. To accomplish this purpose the study reviews the legislative and regulatory requirements that positioned the S&EC as a compliance committee. However, there have been areas of uncertainty that complicated the formation of a clear normative role of the S&EC.

Firstly, it is unclear whether the S&EC is a board committee, a statutory committee, or both. The legal position influences the powers of the committee as well as whether the liability and fiduciary duties of directors apply to the committee. Secondly the requirement of having only one non-executive director on the S&EC has led to confusion, questioning whether the committee is an operational monitoring committee or a strategic oversight committee. Lastly the proposed changes to the Bill could provide more clarity as it positions the S&EC as an independent, more oversight focused committee, with a reporting requirement to the shareholders at the AGM. The S&EC would also be appointed by the shareholders at the AGM, positioning the S&EC as a company statutory committee.

All previous research on the S&EC has been conducted in the legal field, there is a need for research using a more governance and business focused perspective, for a more balanced view. Future research could assess the compliance of the S&EC with the regulations, or the effectiveness of the committee in relation to non-financial capitals, especially social capital. Currently the S&EC is an under researched area. The S&EC is a field that offers various future research opportunities,

especially outside of the legal field. In addition, there is a need for empirical research that can assess effectiveness or the impact of the S&EC on non-financial capitals, especially social capital, over time. Empirical research on the role of the S&EC could be valuable to members of the S&EC to improve their current practices, the committees' purpose, and its terms of reference.

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A literature review of a commercial forensic investigation process of white-collar crime

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Purpose: The purpose of this literature review is to outline the process of a commercial forensic investigation of white-collar crimes.

Design/Methodology/Approach: A structured literature review was conducted on the elements of a commercial forensic investigation. A need was identified to develop such a process as there is very limited literature available specifically on the process of commercial forensic investigations. Relevant international and national best practices were studied and used as a basis for developing the proposed process for conducting commercial forensic investigations.

Findings: Based on the literature, a gap was identified, and a process for forensic investigations was proposed. The study highlights the elements that should be present when instituting a commercial forensic investigation.

Originality/Contribution: The study has significant implications for the management of commercial forensic investigation practices. The improved quality of such investigations could also result in the successful prosecution of white-collar crimes.

KEYWORDS: *commercial forensic investigation process; commercial forensic investigation; commercial forensic investigator; commercial forensic practitioner; white collar crime investigations; white collar crime.*

INTRODUCTION

“The wolf of wall street” is a phrase often used to describe a white-collar criminal (Holmes, Lippman & Grimmer, 2021:515). White-collar crimes are not necessarily dependent on threats of physical force or violence, but is characterised by deceit, concealment, or a breach of trust as per the Federal Bureau of Investigation (FBI) (FBI, 2022a). These crimes are synonymous with a broad spectrum of fraud committed by business and government professionals (FBI, 2022a). The rationalisation of these crimes is financially related to securing a personal or business advantage (FBI, 2022a).

The FBI reported in 2021 that 5 000 out of 100 000 white-collar perpetrators are arrested annually, while only 3% are prosecuted (Sivin, Miller & Roche, 2022). The FBI also estimated that the cost of white-collar crime amounts to \$300 billion compared to blue-collar crime, such as street crime, at \$16 billion (Sivin *et al.*, 2022). In addition, white-collar crime includes a variety of financial crimes such as corporate fraud, bribery, tax fraud, financial statement fraud, embezzlement and money laundering (Pirie, Latella, Gates & Sakamoto, 2020:7-11). Cybercrimes like phishing, which is a form of identity theft, are one of the fastest growing white-collar crimes globally (Cassim, 2015:83).

The most expensive and common form of financial crime is fraud that is committed by employees within an organisation (ACFE, 2022b:6). Financial crimes are committed by an individual or group of individuals who steal money or other property that belongs to someone else for financial or professional gain (Dow Jones, 2022). Well-known financial crime scandals where investors were defrauded for financial gain are WorldCom, the Lehman brothers and, more recently, Steinhoff (Van Graan, 2018:7).

Another white-collar criminal and insider trader, Martha Stewart, profited \$230 000 when she sold all her shares held in a biotech company, one day before the experimental cancer drug was going to be denied food and drug administration approval (Liu & Miller, 2019:601). Employees of Wells Fargo, a banking and financial service provider, opened millions of unauthorised bank and credit card accounts on behalf of their customers to achieve unrealistic sales targets and receive bonuses (Witman, 2018:132). Customers were fraudulently charged with account fees and Wells Fargo paid \$185 million fines and were expected to refund \$5 million to affected customers (King University, 2016).

Investment broker Bernie Madoff's ponzi scheme, which is considered the largest ponzi scheme in American history, defrauded thousands of investors for

20 years of more than \$20 billion (Ortner, 2019:1). Madoff was found guilty of securities fraud and money laundering and was sentenced to 150 years in prison (Ortner, 2019:2). These scandals also highlighted the inability of accounting and audit firms to uncover fraud (Van Graan, 2018:7). The scandals resulted in law enforcement forensic investigations and shareholder lawsuits, which require forensic accounting skills and competencies (Enobi, 2015). As a result, the role of commercial forensic investigators has increased significantly and led to an expansion of the forensic accounting profession (Van Graan, 2018:7).

The purpose of this literature review is to outline the process of a commercial forensic investigation of white-collar crimes. This was achieved by conducting a summary of four forensic investigative processes. Of all the articles reviewed for purposes of this section of the literature review, the four articles included in the summary, were the only articles that referred to a forensic investigation process to some extent. A search on the University of Pretoria's online library e-resource databases were conducted with the focus on EBSCOhost, ScienceDirect, ProQuest, and Emerald. These databases were chosen because they are prominent multidisciplinary databases with journals that publish articles on forensic investigations related to white-collar crimes.

Sources that were consulted for this literature review were law reports relevant to forensic investigations, publications in academic journals and internet sources. Further searches were also conducted on the Southern African Legal Information Institute (SAFLII) to access published legal acts and information. Finally, a search for theses and dissertations completed at South African universities on forensic accountancy was performed and these provided an additional source of relevant articles. Although the focus was on articles published during the preceding five years, where relevant, articles dating further back were considered.

LITERATURE REVIEW

The role of the commercial forensic investigator

Investigations are methodological and rooted in a planned and organised approach to determine facts concerning specific events for a particular purpose (Black & Fennelly, 2020:11). There are several types of investigations, such as, terrorism investigations,

counterintelligence investigations, organised crime investigations, digital investigations and forensic investigations (FBI, 2022b). Although the overarching purpose of investigations is similar, a unique approach is required when organisations conduct commercial forensic investigations (Van Graan, 2018:7). For this reason, forensic investigators play a pivotal role in the execution of forensic investigations (Van Graan, 2018:7).

Furthermore, the terms forensic investigator and forensic investigations are part of our cultural identity that can be found in the news, films and on television (Turvey & Crowder, 2017). The profession of forensic accounting expects from forensic investigators to investigate the root cause of fraud referred to them, just as a forensic physician is required to establish the cause of a victim's death (Senan & Swalih, 2019:112).

The articles reviewed for this literature review had different interpretations of commercial forensic practitioners, also referred to as forensic accountants (Senan & Swalih, 2019:110). A number of experts globally attempted to define the role of a commercial forensic practitioner (Senan & Swalih, 2019:110). Table 6 provides a summary of the definitions.

Table 1: Defining commercial forensic practitioner

No.	Definition	Author
1.	"Forensic accounting is the use of professional accounting skills in matters involving potential or actual civil or criminal litigation ... forensic accounting is actually litigation support involving accounting."	ACFE (2020a:3.3.104)
2.	"Forensic accounting services generally involve the application of specialized knowledge and investigative skills possessed by [certified public accountants] to collect, analyze, and evaluate evidential matter and to interpret and communicate findings in the courtroom, boardroom, or other legal or administrative venue."	AICPA (2022)

No.	Definition	Author
3.	"Commercial forensic practitioners have the mandate to gather evidence, interrogate and examine the financial evidence, develop computer applications that help in analysing and presenting the evidence, putting forward all the findings in the form of reports, exhibits and documents, and finally taking part in civil actions or litigation as an expert witness, and testifying to the court and presenting all the evidence obtained through documentation or visual aids."	Bredenkamp (2015:vi)
4.	"commercial forensic practitioners collect, analyse, scrutinise and present data, facts, information and evidence in an objective and impartial way, allowing clients, employers and society to prevent, detect and respond to economic crime and related irregularities."	ICFP (2022:3)
5.	"South African forensic accountant should be an individual who possesses sufficient legal, accounting, auditing, investigative and interviewing skills to perform investigations in a commercial environment, perform agreed-upon procedures, provide litigation support, act as expert witness, and provide accounting and auditing skills to specific business scenarios."	Van Romburgh (2008:32)
6.	"commercial forensic practitioners are concerned with the development of detailed factual information, derived from both documentary evidence and testimonial evidence, about the who, what, when, where, how and why related to a suspected or known impropriety... the commercial forensic practitioner recommends and implements corrective actions."	Zimbelman and Albrecht in Nortje & Bredenkamp, (2020:591)

In considering the available definitions of a commercial forensic practitioner based on articles reviewed for this literature upgrade review, a new definition is proposed for the role of a commercial forensic practitioner:

A commercial forensic practitioner is an individual that acquires and maintains adequate accounting, auditing and legal proficiency to independently and objectively obtain and analyse relevant evidence of a crime or wrongdoing, by documenting, reporting and providing expert testimony of factual information identified for litigation purposes and support.

White-collar crimes or wrongdoings

Corporate scandals shifted the focus of external auditing – the expression of opinions of financial statements – to the prevention and detection of white-collar crimes or wrongdoings (Sharma, Yadav, Purba, Sharma, Kumar & Mehta, 2022:4465; McIntyre, Van Graan, Van Romburgh & Van Zyl, 2014:125).

White-collar crime is often organised based on the differences detected between the perpetrators rather than the difference between victims, namely: (1) organisational crime – crime committed to achieve an organisation's objectives, (2) occupational crime – crime committed by an employee in his occupational capacity for personal financial gain (Clark, 2013:2). Greed often inspires employees to commit fraud, however, not all greedy employees act on their greedy impulses (Kühn & Nieman, 2017:3). Additionally, corporate psychopathic tendencies of employees are a real possibility, as these employees lack empathy and remorse when their employer's weaknesses are exploited for personal gain (Kets de Vries, 2021:10). Criminologists relied on neurological studies, specifically the functioning of the amygdala – the part of the brain that controls fight or flight responses and where empathy and emotions are processed (Kets de Vries, 2021:11). Results indicated that psychopaths have an undersized amygdala weakened abilities to evaluate rewards. By implication, white-collar criminals can therefore in some instances be bred and born (Kets de Vries, 2021:11).

RESEARCH METHODOLOGY

A structured literature review was conducted. The selected databases utilised for this review were EBSCOhost, ScienceDirect, ProQuest, and Emerald. These databases were chosen because they are prominent multidisciplinary databases with journals that publish articles on forensic investigations related to white-collar crimes.

The search function on the respective databases was used for this study, and the following specific keywords were utilised: 'forensic' OR 'white collar crime' AND 'forensic investigation process' in the abstracts of published articles, and 'commercial forensic investigation' OR 'white collar crime investigation' in subject terms. Searches were performed in May 2022 and 38 articles, excluding duplicates, were identified for analysis. This was performed by applying specific

inclusion criteria such as the exclusive use of peer-reviewed research articles from 2018 to 2022, written in English, with a focus on forensic investigations of white-collar crime. Other electronic documents like fraud examiner's manuals and website information were used and limited to the period 2012 – 2022.

After the abovementioned inclusion criteria had been applied, the preliminary search results were limited to the relevance, availability and full-text options of each article. An article was considered relevant if its content was considered applicable to the forensic investigation of white-collar crime. For example, articles involving forensic investigations of corpses, any involvement of children and psychiatric investigations were excluded.

In terms of availability, only articles of which the full content could be accessed were included in the final search results. If an identified article could not be accessed by applying the following steps, the article was regarded as unavailable:

- Perform a search on the relevant database (EBSCOhost, ScienceDirect, ProQuest, and Emerald);
- Perform a search on Google Scholar; and
- Perform a general search on Google.

Table 1 illustrates the process that was followed to obtain 38 relevant articles for purposes of this review:

Table 2: Article search results

Database	Results based on keywords (N=)	Limited to years 2018 to 2022 (N=)	Limited to English Language (N=)	Limited to peer-reviewed articles (N=)	Limited to relevance and availability (N=)	Total relevant articles (N=)
EBSCOhost	377	53	48	26	5	5
ScienceDirect	1425	554	554	105	12	12
ProQuest	389	154	151	93	14	14
Emerald	240	119	119	79	7	7

A commercial forensic investigation process

The next section of this literature upgrade review illustrates a summary that was conducted between four forensic investigation processes.

Table 7 provides a summary of the primary phases of a commercial forensic investigation: initiation,

evaluation, goal-setting, planning, execution, prosecution, reporting and reflection. The summary indicated that the forensic investigative process by Bezuidenhout (2020:42) proved to be the most detailed forensic investigative process when compared to the other three processes. The remaining three forensic investigative processes included in some instances secondary processes associated with the primary phases.

Table 3: Summary of four forensic investigation processes

Investigation phase	1.	2.	3.	4.
	Forensic investigation process	Forensic investigation process	Forensic investigation process	Forensic investigation process
	Source: Bredenkamp (2015:39)	Source: Bezuidenhout (2020:42)	Source: Hoffman (2015:7-15)	Source: Silverstone and Sheetz (2012:112-121)
Initiation phase				
Act of predication		✓		✓
Dealing with the source of information		✓		✓
Conflict of interest	✓	✓		
Evaluation phase				
Case evaluation stage		✓		✓
Engagement mandate		✓		
Hypothesis		✓		
Solvability factors				✓
Goal-setting phase				
Customer expectation		✓		✓
Investigation objectives		✓		✓
Investigative plan	✓	✓	✓	
Immediate objectives		✓		✓
Evidence-handling plan		✓		
Financial planning		✓		✓
Personnel planning		✓		✓
Technology planning		✓		✓
Execution phase				
Preparation		✓		
Witness and suspect identification		✓		
Obtain documentary evidence	✓	✓	✓	✓
Document management	✓	✓	✓	
Request and obtain court orders		✓		
Reporting phase	✓	✓	✓	✓
Litigation phase				
Investigative interviewing		✓	✓	✓
Trial procedures and prosecution		✓		✓
Expert testimony		✓		
Reflection phase	✓	✓	✓	

Source: Author developed

Initiation phase

The initiation phase involves meeting the client to understand the requirements of the engagement (Bezuidenhout, 2020:44). The relationship with the client is then reviewed to identify possible conflicts of interest and other concerns that may negatively affect the investigation or give rise to bias (Bezuidenhout, 2020:44). For example, if an entity was previously mandated by a client who is now under investigation, a potential conflict of interest issue arises (Bezuidenhout, 2020:44). Another example of conflict of interest from a government perspective is when a public official acts or fails to act in a matter in which

they have an interest, or an individual or organisation who stands in a relationship with them, has a vested interest (Toapanta, Nazareno, Tingo, Mendoza, Orizaga & Mafla, 2018:3). To address conflict of interest issues within business relationships, the Chinese wall model was developed (Rama, Flowerday & Boucher, 2012:1).

The Chinese wall model serves as a “conceptual wall [that] is constructed to prevent the leak of insider information ... [which] is similar to that of a personal firewall in a computerized environment” (Rama *et al.*, 2012:1). As a result, the Chinese wall model limits the distribution of confidential information to unauthorised individuals in any given situation (Akkuzu

& Aziz, 2018:2). In the case of *Prince Jefri Bolkiah v KPMG*, 1999 (2) AC 222, the court found that (1) when an accountant is acting as a fiduciary, he is not allowed to act for two clients with conflicting interests without the necessary consent, and (2) where the consent has not been obtained, the firm is required to implement a Chinese wall to physically separate the various departments representing the two clients.

Evaluation phase

Decisions taken during the first few hours and days after the discovery of an allegation have a significant impact on the outcome of an investigation (Bezuidenhout, 2020:45). Initial prediction often stems from whistleblowing hotlines or accounting clues that ensure valid reasons for launching an investigation (Bredenkamp, 2015:45). Investigators are then expected to conduct an assessment of the information and evidence available to determine if the facts warrant an investigation (Bredenkamp, 2015:45). Predication is “the totality of circumstances that would lead a reasonable, professionally trained, and prudent individual to believe that a fraud has occurred, is occurring, and/or will occur” (ACFE, 2022a:3.105). Investigations are led by the act of predication and investigation activities beyond predication is without sufficient foundation and are regarded as punitive (IACRC, 2022). Once predication is established, it is essential for the investigation team to determine the course of action, which could either be of civil or criminal in nature (Bredenkamp, 2015:45).

Generally, legal counsel advises an investigation team on the course of action to be taken during an investigation – either civil or criminal proceedings – once predication has been established (Bezuidenhout, 2020:46). Primary statutes that govern white-collar offences and common law offences such as fraud in South Africa, is the Prevention and Combatting of Corrupt Activities Act (12/2004) (hereafter referred to as PRECCA), the Financial Intelligence Centre Act (38/2001) (hereafter referred to as FICA), and the Prevention of Organised Crime Act (121/1998) (hereafter referred to as POCA) (RSA 2004; RSA 2001; RSA 1998).

PRECCA, *inter alia*, provides for general corruption offences, specific corruption offences, and offences for parties that act as an accessory to corruption and attempting or conspiring to commit an offence (RSA, 2004). The Financial Intelligence Centre (FIC) prevents

white-collar crime and combat money laundering and terrorist financing activities (RSA, 2001). On the other hand, POCA, *inter alia*, creates statutory offences that originate from organised crime activities, such as racketeering and money laundering, and offences related to the proceeds of unlawful activities (RSA, 1998). However, it is worth highlighting that not all allegations result in an offense; in some instances, an internal investigation is sufficient – based on non-compliance concerns with organisational policies and procedures (Bezuidenhout, 2020:47).

Once legal counsel has advised on the direction of the investigation, investigators start to think like fraudsters to develop a fraud theory (ACFE, 2022a:3.107). This enables them to keep an open mind that is free from individual ethical standards (Ruotolo & Larimore, 2020:24). In addition, a fraud theory includes an analysis of current information, the development of a hypothesis, testing the hypothesis theory, redefining the theory, and drawing conclusions at the end (ACFE, 2022a:3.107). The fraud hypothesis is driven by the fraud triangle that provides guidance as to why individuals commit fraud (Ruotolo & Larimore, 2020:24).

The fraud triangle theory supports investigators’ hypothesis of fraud by indicating that the following elements motivate fraudsters: (1) perceived pressure – sudden financial crises or shortfall, living beyond one’s need or pure greed; (2) perceived opportunity – a perception of poor internal controls or supervision in an organisation that would allow fraud to remain undetected; (3) rationalisation – the fraudster justifies his own misconduct before committing the fraudulent act (Cressey in Abdulrahman, 2019:14). The fraud diamond theory considers incentive, opportunity and rationalisation as vital elements in the commission of fraud, but concludes that fraud is unlikely to happen without the fourth element, which is capability (Sujeewa, Yajid, Khatibi, Azam & Dharmaratne, 2018:55). Capability refers to the skills and abilities of the fraudster to recognise opportunities to execute fraud (Christian, Basri & Arafah, 2019:75). Despite the fraud triangle elements, white-collar crime such as fraud is a common law offence and requires the following elements to be present to prove its commission: (1) occurrence of actual or potential prejudice, (2) act of misrepresentation, (3) unlawfulness, (4) and intention (Dunstan-Smith, Ripley-Evans, Harrison & Noriega, 2019).

In addition to the fraud triangle, investigators also consult the fraud scale because fraud is difficult to predict; no reliable profile of fraudsters exists (Vousinas, 2019:374). The fraud scale also recommends both pressure and opportunity, but replaces rationalisation with personal integrity (Vousinas, 2019:374). Personal integrity is linked to an individual's personal ethical conduct (Bassey, 2018:80). White-collar crime and other unethical behaviour are often the result of a person's lack of personal integrity (Bassey, 2018:81). The fraud scale theory is more applicable to financial statement fraud when sources of pressure are more noticeable (Putra, 2019:163).

After the development of a fraud theory, investigators establish possible locations of the evidence and the relevant evidence required to prove intent of the fraud (ACFE, 2022a:3.107). This allows investigators to revise the existing fraud theory and to start connecting individuals to the evidence (ACFE, 2022a:3.107).

A documented and approved engagement letter is another essential component to an investigation's evaluation phase, as it serves as a client mandate that governs the execution of an investigation (ACFE, 2022a:3.124). The engagement letter is preferential for three reasons (ACFE, 2022a:3.124). Firstly, it maximises an investigator's protection in the event of any client disputes and serves as a tool to resolve engagement terms and conditions much easier (Crumbley & Seago, 2021:473). Secondly, it aids in managing client expectations and clearly specifies an investigator's authorisations and responsibilities (Crumbley & Seago, 2021:473). Engagement letters also include information regarding the client's identification details, the scope of work, timeframe of the work, specific deliverable items, payment and fee structures, communication methods with the client, jurisdiction and limitation of liability outlined in an indemnity clause (ACFE, 2022a:3.125). Thirdly, the engagement letter indicates members of the investigation and makes reference to the type of investigation (i.e. preliminary or full investigation), the time required to testify in court that results in additional fees, the compliance structure of the entity, and establishing whether other firms are mandated in the investigation (Bezuidenhout, 2020:46).

The investigation team then determines the solvability factors to assess the probability that a more extensive investigation may yield promising results and prioritise accordingly (Motsepe, 2019:64). Solvability factors are

"information about a crime that can provide a basis for determining who committed that crime; a "lead" in the search for the perpetrator of an offense" (Lashley, 2014:3). Solvability factors include identified witnesses to the crime, the identification of the suspect(s), location of the suspect(s), property with identifiable characteristics, a valid *modus operandi*, relevant and substantial physical evidence, and a belief that the crime may be solved with reasonable added investigative efforts (ACFE, 2022a:3.136).

Goal-setting phase

After the solvability of the case is determined, the investigator outlines measurable goals of an investigation to manage customer expectations (ACFE, 2022a:3.136). In addition, an investigator is likely to consider obtainable and acceptable outcomes during the goal-setting process that are communicated to the customer (Silverstone & Sheetz, 2012:117). This includes considering the given circumstances surrounding the allegation and the current state of technology and the law (Silverstone & Sheetz, 2012:117). The goal of an investigation is not merely to establish the facts of what happened, but to ensure appropriate punishment for the perpetrators and to recover stolen property (Bezuidenhout, 2020:215).

In instances of fraud allegations, it is in the best interest of the company if management responds quickly (ACFE, 2022a:3.138). A quick response could prevent litigation, excessive penalties, or enforcement actions by the government (ACFE, 2022a:3.138). Five immediate actions to be taken by management are activating the fraud response team; engaging with legal counsel or insurance providers if it is beneficial to the investigation; preserving documents or other evidence; identifying who should be informed, and conducting and documenting an initial response (CFTC, 2022). The investigation response team may include, but is not limited to, accountants, internal and external auditors, lawyers, information technologists, and a commercial forensic practitioner to manage the team to allow for the required skills and competence necessary to adequately conduct the mandate (Silverstone & Sheetz, 2012:119).

Planning phase

The purpose of an investigation plan is to ensure it addresses every relevant concern thus far identified in

the investigation (Silverstone & Sheetz, 2012:117). Such a plan specifies the direction of the investigation and outlines smaller milestones, timeframes, and resources required to ensure the team stays on track and focuses on priority concerns (Silverstone & Sheetz, 2012:119). The components of an investigation can often be organised according to one of four methods. The first method is chronological, which implies that an investigation is managed according to time and completed milestones (ACFE, 2020:3.142). The second method is by functional area, when an investigation is organised in terms of the type of activities to be conducted under each functional area (ACFE, 2020:3.142). The third method is by team members, which involves dividing investigation tasks by each member's expertise and specialist area (ACFE, 2020:3.142). The last and fourth method is hierarchical, when team members' responsibilities are assigned from significant to minor tasks based on pre-determined lines of authority (ACFE, 2020:3.142).

An investigation plan addresses three significant objectives, namely, to maintain focus, encourage growth, and promote adaptability (Bezuidenhout, 2020:58). A strong focus prevents duplication of investigation efforts and oversight of leads that could negatively affect the investigation outcomes (Bezuidenhout, 2020:58). "Financial crime investigations are living, breathing entities ...they will grow and attach themselves to every case" (Bredenkamp, 2015:62). Well-developed investigation plans are able to recognise these concerns with financial crimes and have to be managed to prevent damaging effects on the investigation (Bredenkamp, 2015:62). Since financial crime investigations change over time, good investigative plans are able to adapt accordingly (ACFE, 2022a:3.142). Also, the flow of information and the management of enormous amounts of evidence are better controlled (ACFE, 2022a:3.142).

Financial planning also forms part of planning an investigation as it helps to spend available funds sparingly (Bezuidenhout, 2020:63). However, when the available budget is too limited, it compromises the scope of an investigation and the extent to which investigation techniques are employed (Bezuidenhout, 2020:63). Furthermore, staff planning is required to identify the right persons inside an organisation early on (ACFE, 2022a:3.143).

Execution phase

Investigations are approached from two perspectives: (1) proving that white-collar crime occurred, or (2) proving that white-collar crime did not occur (ACFE, 2022a:3.105). When an investigator's objective is to prove that white-collar crime has occurred, the investigator seeks to prove that white-collar has not happened; to prove that white-collar crime has not occurred, the objective is to prove that fraud has, in fact, occurred (Oxenham, Currie & Van der Merwe, 2021:4). Both sides of the crime are investigated because the onus from a legal perspective is to prove that a crime "preclude[s] any explanation other than guilt" (ACFE, 2022a:2.106).

Another approach to follow during an investigation is for investigators to always consider the "worst case scenario" (Bezuidenhout, 2020:64). The first step has the most impact when there is an element of surprise (Bezuidenhout, 2020:64). This implies that investigators caught the suspects in the act through monitoring and interception techniques, for example (UNODC, 2021). However, investigators are bound by section 4(1) of the Regulation of Interception of Communications and Provision of Communication-related Information Act (70/2002) (hereafter referred to as RICA), *inter alia*, that states "Any person, other than a law enforcement officer, may intercept any communication if he or she is a party to the communication, unless such communication is intercepted by such person for the purposes of committing an offence." In addition, "an employee may legally intercept or record any communication with his employer, manager, direct supervisor, HR manager or other person in a position of authority at the workplace if the employee is a party to the communication" (CDH, 2020:6-7).

Investigative interviews are strategically performed by investigators (Jay, 2020). It is essential, for example, for investigators to personalise an interview to create rapport with the interviewees (Ordway, 2018). In addition, investigators are required to plan for how and if they are going to use confidential information that is divulged once the trust of the interviewees has been obtained (Ordway, 2018). Investigative biases, on the other hand, is considered to limit the negative impact it may have on the investigation (Jay, 2020).

Another strategic technique is to keep co-perpetrators apart to limit collaboration between witnesses or

suspects (Bezuidenhout, 2020:64). The usual order of investigative interviews commences with neutral third-party witnesses who are the least familiar with the case, moving to those who are more knowledgeable (ACFE, 2022a:3.106). When interviews are conducted with parties who are possibly involved, it also progresses from least complicity to most complicity (ACFE, 2022a:3.107). Finally, the primary suspects are interviewed (ACFE, 2022a:3.107).

Investigative interviewing techniques used by investigators vary from the PEACE (planning, engage, account, closure, evaluation) model, cognitive interviewing, kinesic interviewing, the Reid technique, and person-centred interviewing (Van Graan, 2018:48). Table 2 illustrates the differences between the various investigative interviewing techniques.

Table 7: Investigative interviewing techniques

Type of investigative interview technique	Brief description of the investigative interview technique
PEACE model	P – Planning and preparation: this phase requires the investigator to be well informed of the facts of the case before performing an interview. E – Engage and explain: this phase establishes the interactive relationship and rapport with the interviewee and the person is informed of his/her rights. A – Account, clarify and challenge: allow the interviewee to provide his/her side of the story, explore any inconsistencies, and challenge the interviewee with the evidence. C – Closure: this phase concludes the interview. E – Evaluation: this phase continues throughout the interview and is used to reflect on the outcome of the interview.
Cognitive interviewing	This interview approach refers to memory, perception, attention, speech and psychological activities. Communication and social practices that are relevant during eyewitness interviews are also taken into account.
Kinesic interviewing	A technique used to observe and assess an interviewee's words and body movements, which could indicate potential deception when answers are provided during an interview.

The Reid technique	A technique used when a suspect's guilt is deemed definite and reasonably certain. It interrupts the suspect's denials and interviewers provide false evidence which is followed by sympathy and understanding of the immoral act. The technique also breaks down a suspect's resistance and encourages a confession.
Person-centred interviewing	This interview approach is based on human psychology and is used when accurate or reliable information is required from suspects. The interviewer establishes congruency and unconditional positive regard with the interviewee, allowing verbal and non-verbal behaviours to confirm each other perfectly.

Source: Van Graan, 2018:52-123

The execution phase further requires from investigators to obtain and preserve evidence to prove or disprove the facts of a case (ACFE, 2020:3.1002). An unbiased and independent investigator is required to obtain all relevant evidence, whether it is beneficial or even unfavourable to the client (Bredenkamp, 2015:75). Evidence can be obtained in many forms, for example, "documents, spoken recollections, data of various sorts, and physical objects" (ACFE, 2020:3.1002). Relevant documentary evidence includes bank documentation, deeds office documentation, companies and intellectual property commission documents, wire transfer records, reports from the FIC to detect illegal activity and flow of funds (Bezuidenhout, 2020:66).

Evidence obtained during investigations is subjected to chain of custody procedures to preserve the integrity of evidence (Bredenkamp, 2015:81). This includes the originality, possession and disposition of evidence (Bredenkamp, 2015:81). Simply put, the term "chain of custody" refers to a record of all individuals who handled the evidence and accessed its storage location at any given point in an investigation (CSRC, 2015). It is essential to handle evidence with the necessary care to prevent damages that could render the evidence inadmissible in court (ACFE, 2020:3.824). Subsequently, evidence is gathered legally to ensure that the quality of evidence can convince an honest and reasonable person that the person in question, such as a suspect, is guilty (ACFE, 2020:3.824).

White-collar crime often involves the use of smartphones and laptops, which is an indication that digital forensic experts are needed in an investigation to uncover material on the devices (Silverstone & Sheetz, 2012:121). Digital forensic experts help to locate and safeguard data adequately until it can be analysed (ACFE, 2022a:3.132). Digital evidence is also accepted by courts, given that the digital records comply with the authentication standards as hard copy evidence (Stoykova, 2021:1). Digital forensics is “the process of uncovering and interpreting electronic data for use in a court of law” (Zargari, 2022:46). Digital investigation, on the other hand, refers to “investigations that involve relevant digital data processed or stored by digital devices – devices that process data in the forms of numbers (digits)” (ACFE, 2020:3.801).

It is best to keep digital investigations and digital forensics separate, since combining the two may impair the independence of the forensic examination (ACFE, 2020:3.801). It is worth noting that, in most instances, digital and documentary evidence is only obtainable from suspects through a search warrant issued by a court (Stoykova, 2021:1). The reason for this is that the evidence is protected by its location, persons or institutions (ACFE, 2022a:3.974). Additionally, section 35(5) of the Bill of Rights in the Constitution of South Africa (RSA, 1996), *inter alia*, states that “evidence obtained in a manner that violates any right in the Bill of Rights must be excluded if the admission of that evidence would render the trial unfair or otherwise be detrimental to the administration of justice”.

The execution phase is also characterised by adequate quality control to allow for a proper trial of the work that is performed, which is documented and safeguarded in a control file (Bredenkamp, 2015:75). Investigations at this point are continuously monitored to ensure that the investigation is executed timely in relation to the agreed-upon deadlines with the client (ACFE, 2020:3.136).

Report-writing phase

Thorough investigations have little benefit if it is not supported by effective forensic reports (ACFE, 2022a:3.1001). Malebana (2020:29) agrees that “forensic report writing is a complex process that requires careful and meticulous attention in order to provide a report of good quality”. Reports are drafted

by an investigator to discuss as evidence in court when called as a technical and expert witness (Nasir, Khan, Khan & Ullah, 2018:113).

Investigators typically compile one of two types of forensic reports: a fraud examination report or an expert report (Oyedokun, 2016:9). The purpose of a fraud examination report is to convey the results of the investigation by using clear and simple language (Oyedokun, 2016:9). The audience of such report varies from management, attorneys, defendants, judges and the public (Oyedokun, 2016:9). In turn, the purpose of an expert report “is to inform the parties, the judge, and the jury (if applicable) about the expert’s opinion of the case, as well as the expert’s credibility for commenting on such issues” (ACFE, 2020:3.1001). An expert witness is often included in testimonial evidence procedures when general witnesses are not able to provide technical opinions while testifying (ACFE, 2020:3.1001).

Litigation phase

When fraud is detected and reported, the investigators, management and legal counsel need to establish if the case have to be disclosed to law enforcement for litigation purposes (ACFE, 2020:1035). Litigation often results in prosecution, which refers to “a legal proceeding in which a person accused of a criminal offence is tried in a court by the State-appointed public prosecutor or a representative of government” (Nkashe, 2015:7). Several reasons exist for an organisation to seek litigation support (DOJ, 2022). Firstly, punishing the perpetrator may prevent other employees from committing similar offences (DOJ, 2022). Secondly, criminal charges initiated against an employee may help an entity to recover the losses and damages suffered from the white-collar crime (DOJ, 2022).

If a prosecution is pursued, forensic investigators are often invited during trial proceedings to testify about the findings of the investigation (Nkashe, 2015:7). Additionally, investigators are then required to explain to a court how evidence was obtained and to provide an interpretation to the court in instances of technical matters (Bredenkamp, 2015:95).

However, law enforcement is often reluctant to prosecute white-collar criminals (Fukurai, 2020:398). These investigations are time-consuming, expensive and labour-intensive because a high standard of proof

is required for conviction (ACFE, 2020:3.1036). Despite the resistance from law enforcement to proceed with prosecution, investigators are able to enhance their chances of prosecution in the following instances: if a legal and binding admission of guilt is obtained, they offer assistance to government agencies, and frequent follow-up conversations are held with the investigation lead to ensure the case is not ignored (ACFE, 2020:3.1037).

Furthermore, during the litigation phase of an investigation, suspects are arrested and witnesses are subpoenaed to testify in court to rebut the version of facts offered by the accused (Bezuidenhout, 2020:75). This stage is also used by legal counsel to recover the victim's losses or damages suffered, particularly in organised crime, through an asset forfeiture unit (NPA, 2022). An asset forfeiture unit is employed to "identify, seize and ultimately forfeit, through both criminal and civil procedures, any assets – tangible property, real property, or cash – and return those assets to victims of the offense that gave rise to the forfeiture through the remission and restoration process" (DOJ, 2022).

Investigators are required to prepare properly for any form of testimony in court to ensure an easily audible, clear and concise testimony (Silverstone & Sheetz, 2012:64). Pre-trial preparation includes familiarising himself with all case material and avoid conversations with any other witnesses, judges and other members of the court (Nkashe, 2015:65). The investigator's demeanour is important when he/she takes the witness stand (Nkashe, 2015:65). Remaining calm and confident when answering questions during cross-examination is important, as the investigator has to appear professional at all times (Bredenkamp, 2015:94).

Reflection phase

When investigations are completed, investigators take the time to celebrate a successful prosecution and reflect on matters that contribute to that achievement (Hoffman, 2015:12). In the contrary, investigators also reflect on a case when a prosecution failed, to determine the aspects that could have been conducted differently (Bezuidenhout, 2020:76). Potential missteps during an investigation include confronting suspects at the wrong time, not properly documenting observations and interactions, and discussing the case with others (Hoffman, 2015:14).

CONCLUSION

The purpose of this literature review is to outline the process of a commercial forensic investigation of white-collar crimes. The phases of a commercial forensic investigation were discussed. These processes include case initiation, evaluation, goal-setting, planning, execution, prosecution, reporting and reflection. The initiation phase of a forensic investigation is based on an act of predication and the way investigators deal with information about the allegation. In addition, an investigator's independence is evaluated to determine if the acceptance of the engagement creates any conflict of interest concerns.

The evaluation phase of an investigation requires an investigator to evaluate the case facts, which forms the basis for the client engagement mandate. Furthermore, investigators develop a fraud hypothesis to understand the circumstances of what led to the white-collar crime. During this phase, investigators also identify solvability factors of the case to establish if a more detailed investigation may yield better results. The goal-setting phase allows the investigator to address customer expectations and formally agree to the investigation objectives. During this phase, obtainable and acceptable outcomes of the investigations are recognised.

The planning phase of the investigation involves the compilation of an investigative plan, setting immediate objectives and implementing a chain of custody process for handling evidence. In addition, investigators consider the impact of the investigation from a financial, personnel and technology perspective. The execution phase requires an investigator to decide about the first steps to be taken in the investigation. Witnesses and suspects are identified and the process of evidence collection started. Chain of custody processes are maintained for all documentary and digital evidence. At this stage of the investigation, the applications for the necessary court orders are submitted.

Prior to the litigation phase, investigators compile a forensic report to reflect the facts of the case in the form of an expert or fraud examination report. In the litigation phase, investigative interviewing is now prime consideration and trial proceedings commence. Investigators' involvement during this stage is to testify in court along with the necessary expert testimonies that is deemed necessary. The final phase is when

investigators reflect whether or not the investigation had a favourable outcome.

The literature included in this paper is limited to academic journals, conference papers and other electronic sources written in English.

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Developing a cost allocation system for a potato packing facility: An elaborated action design approach

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Purpose: Organisations burdened with substantial overhead costs may benefit from employing a more sophisticated activity-based costing (ABC) system. Such a system refines cost allocation to enhance cost management and decision making. The aim of this study was to develop a customised ABC system for allocating costs to seed, table, and scrap potatoes for the case study entity - a potato packing facility in South Africa.

Design/Methodology: Guided by systems theory as the conceptual framework, this paper applied an interpretive/pragmatic research philosophy. An elaborated action design research (eADR) approach guided the empirical study. Two distinct sequential iterative cycles were employed for the diagnosis and the design stages. Each cycle involved elaborated interventions encompassing problem formulation, artefact creation, evaluation, reflection, and learning.

Findings: The researchers identified deficiencies in the current cost allocation system of the case study entity. Consequently, they developed a customised cost allocation system for the packing facility, potentially enhancing the accuracy of cost allocation for the three distinct products of the case study entity: seed, table, and scrap potatoes.

Originality/contribution: This study contributes to systems theory by delineating the nature of the physical potato packing process, and elucidating the interaction of components in the physical system and the cost allocation system. Its value lies in the potential transferability of the findings. The process used to develop a new, customised cost allocation system could be replicated to address similar business problems faced by companies. This study serves as an exemplar for future research, where researchers can incorporate elements of this study and utilise them into their own work.

KEYWORDS: *activity-based costing; cost allocation; elaborated action design research; packing; potatoes; systems theory*

INTRODUCTION

Organisations with substantial amounts of overhead costs may benefit from using a more sophisticated activity-based costing (ABC) system, which refines cost allocation to improve cost management and decision making (Gosselin & Journeault, 2022:19). Within cost accounting, three prominent cost allocation systems are found: Traditional costing (TC); activity-based costing (ABC) (Johnson & Kaplan, 1987); and time-driven activity-based costing (TD-ABC) (Kaplan & Anderson, 2003). The level of sophistication amongst them may differ, so the selection of a particular system should be done very carefully (Drury, 2023:117).

This study focused on feasibility when an ABC allocation system for a case study entity (Facility A), a potato packing plant in South Africa was developed. Facility A does not have a sufficient costing system to allocate, monitor and control its significant overhead costs properly. An elaborated action design research (eADR) approach guided the empirical study when this business problem was addressed. We applied two distinct sequential iterative cycles for the diagnosis and

the design stages, elaborated by interventions of problem formulation, artefact creation, evaluation, reflection, and learning (Mullarkey & Hevner, 2019:9; Ward, Middelberg & Buys, 2021:94). Systems theory proved to be applicable to the study's conceptual framework. A significant factor that guides the implementation of this theory in empirical studies is that an entity is viewed as a unit rather than separate parts (Stewart, 1996:25). Kessler (2013:816) explains that systems theory is all about describing a broad "set of principles that would apply to a wide range of phenomena ...". In the context of this study, two separate systems were investigated as a unit, (i) the physical packing process, and how well the (ii) cost allocation system reflects that process.

Fresh horticultural products have short postharvest life. Good postharvest processes are, therefore, essential to ensure that the required quality arrives at consumers (Ait-Oubahou, Brecht & Yahia, 2019:311; Mahajan, Caleb, Gil & Izumi, 2017:7). Regattieri and Santarelli (2013:183) state that it is highly advisable to use a packing facility instead of field packing, as this would get a satisfactory product to the market. Field

packing has advantages when compared to a packing facility, such as low infrastructure costs, lower possibility of introducing contaminants to the facility, and reduced handling. However, a packing facility provides other benefits, such as washing, sorting, and grading (Toussaint & Vigneault, 2006:3).

A handful of studies investigated the costing and cost management methods in *potato production* (on the farm), such as Filipe, Martins and Pedro (2018); Gautam, Ghimire, Poudel, Shrestha and Subedi (2019); and Zangeneh, Omid and Akram (2011). However, more research should focus on *packing* facilities in this regard. Studies, such as Ait-Oubahou *et al.* (2019) and Yaptenco and Esguerra (2012), investigated the packing process, but their studies focused on quality control rather than costing systems. To the best of our knowledge, a research gap exists in examples of the process followed to design a costing system in packaging facilities. This knowledge gap should be filled because packing facilities have several cost drivers and significant overheads that must be allocated accurately. The process followed to develop a customised costing system is crucial as accurate product costing information assists in management decision making, improves resource planning and eliminates (or reduces) waste (Wegmann, 2009).

The motivation to choose Facility A is because it does not have a sufficient costing system to allocate, monitor and control its significant overhead costs properly. The facility's managing director expressed a significant need for a reduction in postharvest losses, and a decrease in packaging and handling costs at the facility. Currently, the facility allocates costs by making use of a single allocation base (hectares), which is typical to TC (Horngren, Datar & Rajan, 2015:176; Maluleke, 2019:23). Within the facility's packing process, their three products of seed, table, and scrap potatoes share the first set of activities, namely transporting from the land, sorting, and washing (only the table and scrap potatoes go through the washing process). All three types of potatoes make use of resources (activities) in the packing facility, but not equally — the current single allocation-based costing system ignores the extent of resources (activities) used by each type of product. Consequently, the purpose of this study was to develop a more sophisticated ABC system for Facility A to allocate costs to all three of the potato types.

Four objectives were set to enable the above-mentioned purpose, namely: (i) to understand the physical packaging process; (ii) to understand the current cost allocation system of how costs in the packaging facility are connected to activities; (iii) to determine whether the management was satisfied with the current costing system's level of sophistication, and (iv) whether the suggested more sophisticated ABC system would improve budgeting, cost control, cost management, and decision making. A thematic analysis is used to argue these four objectives in an eADR approach.

The organisation in this paper is as follows: The following section explains the background, including the theoretical framework to conceptualise the study. The literature review contains three sections: The packing process, cost allocation systems, and the sophistication levels of costing systems. This is followed by the research design that explains the methodological selections and the design of the empirical study. The empirical study presents the eADR approach to the diagnostic and design stages to develop a cost allocation system for Facility A. A discussion follows, and the paper concludes with a final section.

BACKGROUND AND THEORETICAL FRAMEWORK

The case study entity

Facility A is supplied by 280 hectares of potato land, gathering almost 17 000 tonnes per year. The potato division of the farm employs more than 20 permanent labourers and approximately 130 seasonal labourers. The land yields three potato types: Potato seed, table potatoes, and scrap. The primary aim is to optimise potato seed, as these achieve the highest prices. The potatoes disqualified as seed potatoes are sold as table potatoes. The scrap (mainly damaged potatoes) is sold to local low-end markets.

The need for accurate cost allocation in Facility A

A pre-investigation at Facility A revealed that all costs are allocated by making use of the available hectares of land. It implies that all costs are treated as indirect (overhead) costs. Costs are, therefore, not split into direct traceable cost, and indirect costs that are allocated to cost objects.

Literature indicates that accurate cost allocation is essential for many reasons: (i) pricing decisions; (ii) product profitability and production decisions; (iii) calculation of profit and valuation of inventories in financial statements; (iv) cost control; and (v) cost management (cost reduction) (Drury, 2023; Horngren *et al.*, 2015; Ngcobo, Middelberg & Oberholzer, 2019). However, (i) and (ii) are not relevant to Facility A. Pricing decisions are not crucial, as Facility A is a price-taker and have to accept the price that customers are willing to pay. A product's accurate cost price is, therefore, meaningless to use as a basis to determine the selling price — selling prices are fixed. Facility A does not have any control about the product mix yielded from a harvest. However, an accurate cost price for each type of product could be helpful to calculate an accurate profit for each product. Unfortunately, this information is useless, as management could not decide, for example, to 'produce' more of the profitable types and less of the unprofitable types — the product yield mix is fixed.

The conceptual framework for investigating Facility A

In order to suggest an appropriate costing system for Facility A, the study made use of systems theory as the theoretical framework. Theories provide explanations of phenomena (Kankam, 2019:85), which mirror the knowledge gathered through an inductive or deductive analysis (Kivunja, 2018:45). A systems theory approach enables a holistic investigation of phenomena by acknowledging that a decent understanding of a system could only be reached by studying the entirety of the system — including the human element and interactions — rather than implementing reductionism (Teece, 2018:360). According to Teece (2017:40), systems theory does not neglect the investigation of the separate elements that form a unit.

In this study, the researchers investigated two systems within Facility A: (i) the physical system of the flow and packing of potatoes; and its (ii) cost allocation system, which attaches costs to cost objectives. Systems theory allows a holistic view of these systems as a unit, and not as separate parts. The importance of a theoretical framework in this research is highlighted by the two pillars that this theory is based on, namely social systems and processes.

Social systems

Hutchins (1996) affirms that due to differing perspectives, individual viewpoints are not attached to the purpose of a system, as social systems do not have a singular purpose and are complicated. EduPristine (2017) confirms this notion by stating that the purpose of a costing system may differ when asking a cost accountant and a chief executive officer why such a system should be present in an entity. While the former may be convinced that it is crucial for decision making and control, the latter may believe that it is simply a useful tool for budgeting.

Process

To fully comprehend a system as a unit, the purpose of and the manner in which it works should first be understood — establishing the second factor in which systems theory is rooted. According to Hutchins (1996), systems theory should be broken down into four parts, namely:

- To describe the nature of the system.
- To explain how the components interact.
- To determine whether the system is effective.
- To evaluate the degree in which the system could be operated in real life.

The above-mentioned explanation clarifies the relevancy of systems theory in the process of developing a customised cost allocation system for Facility A.

LITERATURE REVIEW

Packing process

Yaptenco and Esguerra (2012:1) describe a packing facility (plant) as a designated place where horticultural produce is prepared to satisfy the requirements of a target market. As each packing facility is unique, several authors described the process more or less in a similar way, for example Brueckner, Florkowski, Prussia and Shewfelt (2014:545); Mahajan *et al.* (2017:9); Novatec (2019); and Yaptenco and Esguerra (2012:7). The main activities described by these researchers start with the harvesting of the produce on the land, followed by transporting the produce to the packing facility. Activities at the packing facility usually include cooling, washing, drying, sorting, packing, and storage.

In order to enable the researchers to evaluate the current costing system of Facility A, it was essential to understand the physical packaging process of potatoes. The work of Van der Linde (2011), Maluleke (2019), Ngcobo *et al.* (2019), and Viljoen (2018) all underline the need to understand the physical production process, including the physical flow and activities before an existing costing system could be evaluated and refined. The first theme that, therefore, justified an investigation was as follows:

Theme 1: Gain an understanding of the physical packaging process.

Cost allocation systems

Cost accounting measures, analyses, and reports on financial and non-financial information for the purpose of management accounting and financial accounting (Hornigren *et al.*, 2015:26). As already mentioned, cost accounting consists of three prominent cost allocation systems: TC, ABC, and TD-ABC. TC uses a single cost driver, such as labour or machine hours, to allocate overheads by simply spreading the costs smoothly over all the units produced (Swanepoel, 2022:145). Popesko (2009:35) found that the simplicity of this system was preferred for many years — especially when mass production took place. However, a simplistic system often results in inaccurate information when multi-products are produced — not all products consume resources equally that could lead to high-volume products being over-costed, while low-volume products are being under-costed in the production process (Correia, Hilton, Langfield-Smith & Thorne, 2008:356; Swanepoel, 2022:145).

In this case study, the three products consumed noticeably different amounts of labour and machine time — emphasising the notion that only one cost driver could not be used to spread the overheads amongst the products. Swanepoel (2022:145) states that ABC divides costs into cost pools according to their various cost drivers by maintaining that all costs are variable in the long run. These costs are then allocated to activities by way of resource consumption, and activities are subsequently allocated to cost drivers — keeping in mind that resources are not consumed equally, and costs should also not be allocated in an equal manner (Correia *et al.*, 2008:359). 'Unequal' allocation allows ABC to be accurate, but also leaves

room for the implementation of cost management. Finally, with TD-ABC the focus is on fast processing times, and uses a time-based driver — as opposed to 'traditional' ABC, which uses numerous cost drivers (Kaplan & Anderson, 2003).

The work of Holtzhausen (2021); Maluleke (2019); Ngcobo *et al.* (2019); Van der Linde (2011); and Viljoen (2018) all underline the benefits of implementing ABC as a substitute for TC. To enable the researchers to evaluate the current cost allocation system of Facility A, and to suggest refinements to the system, we needed to know how costs are connected to the physical activities in the packing process. The second theme was identified as follows:

Theme 2: To understand the current cost allocation system of how costs are connected to activities in the packaging facility.

Level of sophistication of the costing system

A costing system should not be an example of the expression "penny wise, but pound foolish", where the effort is considerable to allocate small amounts very accurately to a cost object (e.g., a product, a department, an activity), but massive amounts are allocated inaccurately. Drury (2023:118) explains that a simplistic costing system is inexpensive to operate, but could result in inaccurate cost allocations that lead to poor management decisions. Nevertheless, Drury mentions that ABC systems tend to be more sophisticated than TC systems. To enable the researchers to consider suggestions to refine the current costing system, they first needed to know whether the management of Facility A was satisfied with its system's current level of sophistication, and if a more sophisticated system was indeed needed. The third theme to investigate was as follows:

Theme 3: Determine whether management is satisfied with the current costing system's level of sophistication.

If determined that a more sophisticated costing system is required, another theme needed to be addressed: The benefits management believes would be gained with improvements. The fourth theme was, therefore, identified as follows:

Theme 4: Determine whether a more sophisticated ABC system would improve budgeting, cost control, cost management, and decision making.

The four identified themes summarise the literature review, and highlights a comprehensive understanding of the physical packing process, and how well this process is connected to the cost allocation system.

RESEARCH DESIGN

Research methodology

We employed and adapted Wilson's (2014) honeycomb. Table 1 indicates that the researchers selected two research paradigms. Firstly, interpretivism was applied to gather knowledge through participation in order to present new theories and recommendations (De Villiers, 2015:32). Secondly, pragmatism is based on problem solving in the real world and is suitable for social research in a business context — irrespective of the approach followed in research: Qualitative, quantitative, or mixed methods (Morgan, 2014:1046).

Table 1: Research methodology

Steps	Selection	Clarification
Research philosophy Paradigmatic selection	Epistemology - Interpretivism - Pragmatism	- Subjective and value bound - Aimed at the practical meaning
	Ontology Subjective	Complex with multiple realities; Employees interviewed influential to the outcome
	Axiology Biased	The researchers' observations and views are influential
Research methodology - Research approach - Research strategy - Methodological design	- Inductive reasoning - Qualitative - eADR / case study	- Interpret findings in the context of systems theory / create artefacts - Collect data from observation and interviews - eADR focuses on creating artefacts within iterative cycles; Results only applicable to the case study entity
Method (data collection)	Primary data	Observation of the facility and semi-structured interviews
Data analysis	A content analysis of data gathered from observations and interviews	An analysis of field notes, audio recordings, and transcribing of interviews. Analysis by colour coding of preselected themes

Source: Wilson (2014); Oberholzer & Buys (2023); Ward et al. (2021)

The research methodology section contains three elements. As mentioned above, the (i) research approach of inductive reasoning, and the (ii) research strategy in which qualitative data are used align with an interpretive paradigm. The (iii) methodological design focuses on an exploratory case study, as the researchers were unsure about the extent and complexity of the research problem at hand, and it was imperative to understand how cost allocation was (and should be) done in the potato packing facility. An eADR approach was, therefore, employed that makes use of iterative intervention cycles to solve this business problem. In this regard, Goldkuhl (2011:93) mentions that pragmatism may be a suitable paradigm choice, because pragmatism was found as an appropriate home for design research.

Two data collection methods were used. Firstly, the primary researcher observed the packaging process while visiting the facility, and made field notes. Secondly, semi-structured face-to-face interviews were conducted that led to a qualitative analysis of the interview transcripts. The interviews were conducted with the three most knowledgeable and appropriate persons employed at Facility A: The managing director, the head of accounting, and the general manager. The same open-ended questions were asked separately to all three of the interviewees. The open-ended questions are linked to the themes, as described in the previous section. The interviews were audio recorded, transcribed, coded, and analysed. The responses were cross-referenced, and portrayed as follows:

- Interviewee 1 = [1]
- Interviewee 2 = [2]
- Interviewee 3 = [3]

The order in which the interviews were conducted was entirely random. The data collected during the observation of Facility A and the interviews completed the iterative intervention circles in the eADR approach.

The researchers applied several actions to ensure credibility. The primary researcher made field notes during his observation of the physical packing process. These observations were later discussed during the interviews, and information was confirmed by the three interviewees. Data were collected from knowledgeable participants. During their one-to-one interviews, the participants answered the same questions to make the verification of data collection possible. Reliability and construct validity of the case study evidence were enhanced by conducting interviews with more than one person at different management levels. Field notes, interviews, case study documents and narratives were orderly organised. A chain of evidence was maintained to allow an external observer to follow the evidence step by step, in any direction (from conclusion back to research question, or from questions to conclusion).

Action design research (ADR)

ADR is a method that prescribes, invents, builds, evaluates, and improves an artefact. Furthermore, it combines theory and the continual implementation of the artefact in a business environment by stakeholders (Sein, Henfridsson, Purao, Rossi & Lindgren, 2011:38). Hevner, March, Park and Ram (2004) are of the opinion that a four-stage model for the ADR process comprises the following:

- Diagnosis stage
- Design stage
- Implementation stage
- Evolution stage

Sein *et al.* (2011:40) posit that the first two pillars on which ADR is built are inspired by practice and theory ingrained. The identified research problem was inspired by Facility A (practice), and ingrained in systems theory and cost allocation systems.

Mullarkey and Hevner (2019:7) believe that in cases where the specific research problem is unclear, it is critical to commence with the research by forming an

apprehension of the realm of the problem at hand through an eADR approach. In the above-mentioned four-stage process (diagnosis, design, implementation, and evaluation), each stage is in unity with a repetition of the intervention cycle of eADR. Each stage supports multiple iterations, as indicated in Figure 1: Problem formulation (P); artefact creation (A); evaluation (E); reflection (R), and formalisation of learning (L) — known as the PAERL cycle (Mullarkey & Hevner, 2019:12).

Below is an illustration of the four stages provided:

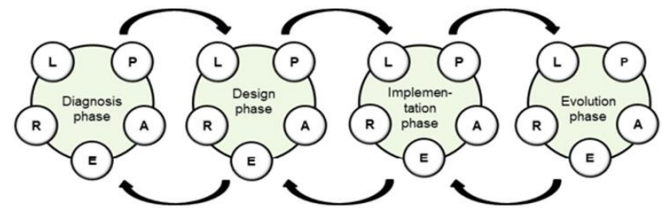


Figure 1: The four eADR stages (phases) with iterations

Source: Ward *et al.*, 2021:11

This exploratory study focused on the diagnosis stage and design stage of the eADR process. In contrast, the implementation and evaluation stages of eADR did not form part of the research study. The problem had already been identified, but details were yet to be sought. The researchers applied eADR to understand the problem at the diagnosis stage comprehensively. Two diagnosis iteration cycles were completed, an Alpha-stage and a Beta-stage. For the diagnosis stage, observation and interviews were used. Then the researchers moved to the design stage: The intention was to design a customised cost allocation system for the potato packing facility. eADR and systems theory were used as guidance to create a more relevant and refined cost allocation system for the potato packing facility. Figure 2 depicts a visual presentation of the Alpha-stage and Beta-stage diagnosis iteration cycle and design stage:

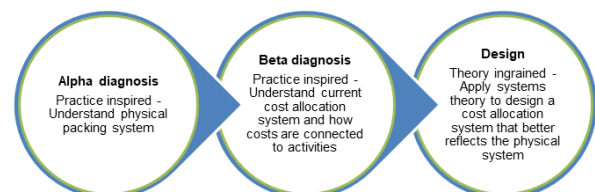


Figure 2: Diagnosis and design stages

Source: Own research

EMPIRICAL STUDY

Two subsequent diagnosis stages (Alpha and Beta) were completed to address Themes 1 to 3. The researchers progressed through both these stages with the guidance of the PAERL intervention cycle. Theme 4 was addressed in the design stage.

Diagnosis: Alpha-stage

The Alpha-stage focused on theme 1 to understand the physical packaging process.

One: Problem formulation

The managing director of Facility A highlighted a significant need to address post-harvest losses and a decrease in packaging and handling costs. Furthermore, the level of sophistication of the current costing system was also questioned. The facility also needed proper cost management and assistance in this area.

In response to the above-mentioned needs, the researchers aimed to create an artefact as a basis for further improvement. The artefact needed to explain the current physical flow of potatoes — from harvesting to the point where the potatoes are transported to customers. The first action was, therefore, to visit Facility A to obtain first-hand knowledge about the physical process. After the observation stage, interviews were conducted with three key management members to identify problems that were not necessarily visible to the researchers during observation.

Two: Artefact creation

Facility A permitted the primary researcher to visit the facility to understand the physical process of the packaging of potatoes.

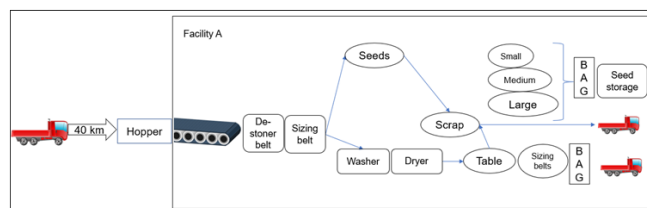


Figure 3: Layout of Facility A and physical flow of produce

Source: Own research

Figure 3 illustrates how potatoes are moved through the process — from harvesting to the point of transportation to customers. Once potatoes are removed from the soil, they move over a de-stoner belt where excess soil, stones, and sticks are removed from the potatoes on their way to trucks or tractors. While the potatoes move over this belt, labourers also remove large stones and sticks, which cannot fall through the gaps of the belt. When the vehicles are fully loaded, the distance to the packing facility is approximately 40 kilometres. When reaching the packing facility, the potatoes are unloaded into a hopper, which feeds the load to the packing process. A conveyor belt moves the potatoes to the packaging line, where they again move over a de-stoner belt where excess soil, stones, and sticks fall through the belt or removed by manual labourers. All of the potatoes go through a joint process up to this point.

From here, the process splits into two parts where the potatoes are classified as either (i) seeds or (ii) table potatoes (if not scrap). Classification is done by moving the potatoes over a sizing belt, where the smallest units fall through and move to the seed division of the packing facility.

The selected seed potatoes go over another de-stoning belt, and then over three sizing belts where the potatoes are split into three categories of seed potatoes: Small, medium, or large. If potatoes do not fall through one of the sizing belts, they fall back on the conveyor belt and returns to the second de-stoning process. If potatoes successfully fall through one of the three sizes, they flow over a conveyor belt into a 25 kg hessian bag. Bags with the smallest seeds contain 400 seed potatoes, the following size contains 280 potato seeds, and the largest holds 220 seeds. When potatoes are deformed or have bruises, manual labourers remove and place them on a conveyor belt that returns them to the second de-stoning belt. Bags are sealed, loaded on wooden pallets, and transported with a

forklift to the seed storage division of the facility. They stay in storage for two to three months until the potatoes are transported to farmers.

When potatoes do not fall through the sizing belt to be classified as potato seed or returned after not being classified into one of the three seed categories; they are moved to the washing section of the process, and they become table potatoes (if not scrap). Table potatoes go through the dryer, followed by another round of sizing belts. This time, five sizes are tested: Small, small-medium, medium, medium-large, and large. During this stage of the process, some of the potatoes fall off the production line when a large batch of potatoes comes through. These potatoes end up on the ground, while some lie in the excess water of the washing machine or dry out on the concrete — these potatoes are not returned to the process, and form part of the scrap potato category.

As soon as potatoes are classified according to size, they are separated according to their specific size on a conveyor belt. The conveyor belt split into three lanes with paper bags on both sides and at the end of each lane. When most of the batch flowing through are perfect potatoes, the two outside lanes are packaged as first grade. The remaining potatoes flow straight through on the middle lane and are packaged as second grade. Manual labourers assist in sorting the potatoes into the three different lanes. The above-mentioned process described above is used for every size of table potato. When a bag is full, it is shifted to the stitching machine by a manual labourer, where another labourer takes the bag and stitches the open end closed. An empty one replaces the stitched bag on the conveyor belt. Stitched bags are placed on a conveyor belt and moved to another location where a labourer removes and packs them on wooden pallets according to size. Once a wooden pallet is full, a forklift loads it onto a truck to be transported to the market.

Light motor vehicles on the farm are used to transport scrap potatoes to the local market. Scrap potatoes are mainly deformed and bruised potatoes, or damaged during harvesting and the packing process. Scrap potatoes do not need sorting according to grades, as is the case with table potatoes. However, scrap potatoes need ample work, as they are handpicked. Manual labourers are responsible for cutting off the bad parts of scrap potatoes.

Three: Evaluation

All of the potatoes go through the same process up to a specific point: After the seed, table, and scrap potatoes are split, they go through different processes by utilising different resources. It is, therefore, implied that the facility needs a costing system to allocate costs (i) to all three of the product types; and (ii) at different allocation bases, as the potatoes do not consume resources equally.

Four: Reflection

All three of the interviewees were asked to address theme 1 to explain the flow of activities and processes in Facility A. The purpose of the interviews was to confirm whether the primary researcher understood the process correctly, as observed during the plant observation. The interviewees agreed that the three potato types consume resources differently, which implied that packaging costs should also be applied differently to the three products.

Five: Learning

The primary researcher understood the physical flow of potatoes and the activities centred around the three main products. However, there was still a significant need for a reduction in post-harvest losses, and a decrease in packaging and handling costs. What was learnt from the Alpha-stage was that the current costing system is not suitable for revealing accurate cost information, which is needed to generate accurate management information to enable effective cost management and cost reduction.

Beta-stage

The Beta-stage reports on the current cost allocation system. This is split into theme 2 and theme 3: The current cost allocation system of how cost pools are connected to the activities in the packaging facility; and to determine whether management is satisfied with the level of sophistication of the costing system.

One: Problem formulation

The accuracy and the level of sophistication of the current costing system were questioned. How accurate was the allocation of costs, and how accurate should it be? The Beta-stage diagnosed, therefore, the current

costing system's ability or inability to reveal appropriate costing information.

Two: Artefact creation

With regard to theme 2, it was clear from the interviews that electricity, fuel, and labour were Facility A's most significant expenses. Nevertheless, the allocation of costs to cost objects was questioned, as [1] declared: "All of the costs are added for the year ... seed and table sales are split ... but their costs are in aggregate" From this interview, it was clear that costs are not allocated separately to table, seed, and scrap potatoes.

Interviewee [3] confirmed that costs are mainly allocated per bag *and* hectare: ... "OK, labour is difficult to divide between seed and table potatoes, so what I do is I take the labour and direct it per bag, so I do not split it between table and seed potatoes ... you can make an allocation, but currently, we do not. I take the total labour cost at the end of the season and divide it by the number of bags packaged ... I also divide the total electricity cost between the bags packaged ..."

Figure 4 illustrates an artefact of the total costs (from harvesting to the point of departure) that are allocated to (i) hectares of land; and (ii) bags of seed and table potatoes. It is, therefore, implied that scrap potatoes are viewed by Facility A as a by-product with no value.

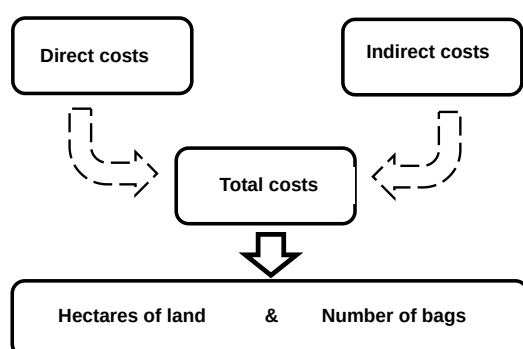


Figure 4: Current cost allocation system

Source: Own research

Three: Evaluation

Costs are currently allocated by hectare *and* per bag (seed and table potatoes). The total revenue and costs are divided by the hectares of land. Management then

determines how profitable, on average, each hectare of land is. Therefore, comparisons could be made between different years.

However, the issue at hand was that seed and table potatoes use resources differently, as explained by [3] "... but the seed needs less sorting, if the seed is good quality, it basically just flows into the bag ... a good table potato doesn't just flow into a bag, there is a lot more sorting and removing of bad potatoes ...". At the moment, costs are allocated equally between bags of seed and table potatoes. The first critique was, therefore, that seed and table potatoes are not accurately costed — costs should not be allocated equally between bags of seed and bags of table potatoes. This is known as the "spread like peanut butter costing approach" (Horngren *et al.*, 2015:173). In addition, scrap potatoes are not regarded as a main product, their income needs to be addressed and treated as a by-product, according to existing methods (Horngren *et al.*, 2015:669).

Four: Reflection

The interviewees all agreed that a more sophisticated costing system would be beneficial. This viewpoint is covered by theme 3 with regard to the level of sophistication of the costing system. The interviewees responded as follows:

[1] "Yes, a customised costing system will be beneficial ... Not too complex, but more accurate towards activities undertaken."

[2] "... I think we should allocate costs in more detail ... I feel we miss out on accurate information ... The level of complexity will, however, lead to an increased administrative burden which should be weighed against each other in order to determine if the increased complexity is worth it."

[3] "Yes, I think we can consider a more accurate costing system. The thing is that it increases the administrative burden, and it will not change our operations. It will however help you to make decisions, because you have accurate costs in front of you ..."

The opinions of all three of the interviewees support literature. Drury (2023:120) explains that a costing system must maintain a balance between "cost and benefit", for example, a highly sophisticated system

that yields accurate information would be costly — does the additional cost support the accuracy?

Five: Learning

The verbal responses obtained during the interviews allowed the researchers to gain a comprehensive understanding of Facility A's processes, activities, and systems. Although time may be a significant driver at Facility A, a vast range of cost drivers exists that cannot be measured in terms of time. The possibility of a pure TD-ABC system implemented as a costing system at Facility A was, therefore, ruled out. The current traditional costing approach proved to be insufficient, due to the range of cost pools, cost drivers, and cost hierarchies that came to light during the interviews. An ABC system was, therefore, suggested to be implemented at Facility A. Furthermore, Facility A generally tries to be as productive as possible. They try to save costs where possible, but no formal monitoring, analyses, or control exists (presumably due to a lack of sufficient information).

Design Stage

The design-stage produced an artefact to illustrate a more sophisticated ABC system, and to determine whether a sophisticated costing system actually improved budgeting, monitoring (and control), and decision making.

One: Problem formulation

A new ABC system needed to be designed for Facility A. This idea was comprehensively supported by the interviewees when discussing the level of sophistication of their current system. In this stage, the planning for a new system was completed, and planning focused on the cost pools and how to allocate these costs to all three of the products.

Two: Artefact creation

Identifying cost pools

An ABC system was the proposed method chosen to be implemented, due to the identified cost pools and, more importantly, the unequal consumption of resources (cost pools) by seed, table, and scrap potatoes.

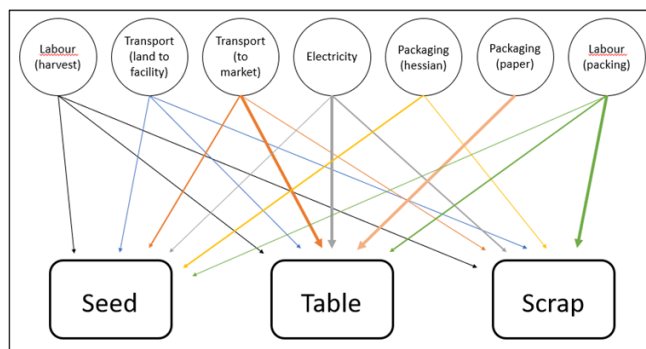


Figure 5: Proposed activity-based costing system

Source: Own research

Figure 5 divides the main expenses of Facility A into seven cost pools, based on the observations made and confirmed in the three interviews.

Labour costs should be divided into two cost pools: (i) harvest, and (ii) packing. The second split that should be made is in transportation costs: A division is needed between transportation from the land where the potatoes are harvested to the facility, and transportation from the facility to the market. The allocation of costs is diligently discussed in the following few paragraphs.

Allocation of costs included in cost pools

Another artefact was created to refine cost allocation further, as explained in Figure 6:

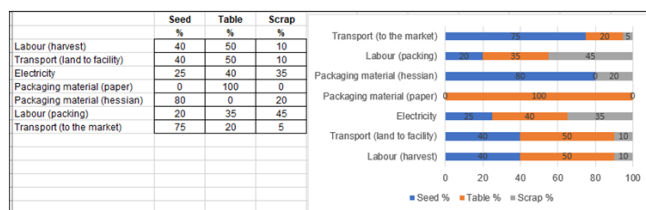


Figure 6: Proportional allocation of cost pools

Source: Own research

Figure 6 explains how cost allocation could be refined for the three products. Scrap potatoes are treated in this illustration as a main product. The alternative is to treat scrap potatoes as a by-product, depending on whether their potential income is significant. If scrap potatoes are classified as a by-product, scrap could be treated according to the sales method or the production method: Its sales income is treated as a

separate income or reduced to the joint costs of seed and table potatoes.

Note that Figure 6 merely *aims to illustrate* the allocation of costs pools via a cost driver to the three different products. Allocation percentages are not precise. These percentages should be refined when this suggested ABC system is implemented, as explained in the third iteration cycle of the eADR approach:

Labour (harvest): The labour costs incurred on the land when removing the potatoes from the soil; removing the sticks and stones; and the drivers who transport the potatoes to the facility itself could not be specifically allocated to a specific product, as a joint process was shared up to this stage. This cost pool, therefore, split the costs according to the weight of a typical load of potatoes. The illustration allocation in Figure 6 is valid when a typical load yields a 40:50:10 weight ratio for seed, table, and scrap potatoes.

Transport (land to facility): More accurate records of the fuel consumed should be kept by splitting the light motor vehicles that transport the scrap potatoes to the local market from the trucks and tractors that transport the harvested potatoes from the land to the facility. Record should be kept of the fuel that the light motor vehicles use on the farm to transport scrap potatoes to the local market. The balance of the fuel consumed could be allocated to transportation from the land to the facility, based on one of the above-mentioned approaches with regard to joint costs of harvest labour. The illustration of transport (land to the facility) in Figure 6 is valid when a typical load yields a 40:50:10 weight ratio for seed, table, and scrap potatoes.

Electricity: The allocation suggested a distribution of electricity within the packing facility, based mainly on the number of conveyor belts. Only three conveyor belts are used for the seed potatoes, while the table and scrap potatoes share five conveyor belts. However, table and scrap potatoes could not simply share the remaining portion of electricity consumption, because table potatoes require mechanical packaging, stitching, and the use of a different conveyor belt to distribute the stitched bags to the wooden pallets for dispatching. As illustrated in Figure 6, the researchers gauge the electricity use to be 25:40:35 for seed, table, and scrap potatoes. Opinions of the employees of Facility A together with time and motion studies could refine these percentages.

Packaging material (paper): The branded paper bags and stitching chords are solely consumed by table potatoes, enabling easy allocation (tracing) for this identified cost pool.

Packaging material (hessian): The hessian bags used for the packaging of either seed potatoes or scrap potatoes, should be divided between these two products, based on the number of bags used by each product, which is easily determinable. For illustrative purposes only, the researchers gauged this to be an 80:20 split between seed and scrap potatoes, respectively.

Labour (packing): The labour cost allocations in the packing facility could be split between seed, table, and scrap potatoes, based on a head count. The labour cost at the conveyor belts where the table and scrap potatoes are split should be equally divided. The labourers responsible for stitching the bags that contain table potatoes and packing them onto pallets should, however, be entirely allocated to table potatoes, whereas the labourers responsible for cutting off the bad parts of the scrap potatoes and putting them into hessian bags should be allocated to the scrap potatoes in its entirety. For illustration purposes, the proportional allocation was estimated at 20:35:45 for seed potatoes, table potatoes, and scrap potatoes.

Transport (to the market): The transportation costs to various fresh produce markets across the country should be recorded accurately and allocated to table potatoes. A record of the fuel used by light motor vehicles for the transportation of scrap potatoes to the local market should be kept, and this figure should be allocated to the scrap potatoes. The transportation costs of transporting the seed potatoes to the markets should be allocated accordingly. Based on an estimate by the researchers for illustration purposes, the transport costs to markets should be divided between seed, table, and scrap potatoes in a ratio of 75:20:5, respectively.

Three: Evaluation

The artefacts created in Figures 5 and 6 are evidence of a cost allocation system and based on the cause-and-effect relationship between costs and activities. Costs can now be allocated in Facility A to activities by way of resource consumption, and activities are subsequently

allocated to cost drivers to consider that resources are not consumed equally (Correia *et al.*, 2008:359).

Four: Reflection

The interviewees agreed that a more sophisticated costing system is required. The benefits of the implementation of a more sophisticated ABC system are discussed above in step 3. In this reflection, the answers to theme 4 were used to determine whether the interviewees agreed that the refined system would improve budgeting, cost control, cost management, and decision making. They responded as follows:

[2] "Yes, I agree with that, because I feel the more data you have, the better your decisions will be ..."

[3] "Yes, I agree with you, the more accurate your information is, the better your decision making can be. So, especially if that information focuses on a specific cost, it is easier to decide on that specific cost. However, you must have systems in place to gather that information, and that is not easy."

[1] "Our big focus should be to cut costs, that's all."

Five: Learning

A sophisticated ABC system would be more accurate in allocating costs to seed, table, and scrap potatoes. An accurate allocation of costs would lead to more enhanced financial statements and sound management decision making. Note that an ABC system allocates costs to products more accurately; however, its aim is not to control costs or to reduce costs (Ngcobo *et al.*, 2019:818). What still needs to be done is to enhance cost control and especially cost management (which is a synonym for cost reduction (Drury, 2023:726)). A subsequent design round is proposed to design an artefact to address this issue`

DISCUSSION

Facility A is in need of an accurate cost allocation system to calculate accurate product costs for the following reasons: (i) the calculation of profit and valuation of inventories in the financial statements; (ii) cost control; and (iii) cost management (cost reduction) (Drury, 2023; Horngren *et al.*, 2015; Ngcobo *et al.*, 2019).

Advantages of an accurate cost allocation system: (i) cost of sales and potato inventories would be more accurately presented in financial statements; (ii) more accurate costs could be used to set budgets, and at the end of a period, a comparison of budgets that contain more accurate actual results would be possible to explain variances; and (iii) cost management would probably be important to Facility A, as it focusses on cost reduction.

System theory was selected as the framework in which the two systems of Facility A was investigated: The physical system of the flow and packing of potatoes; and its current cost allocation system. Systems theory allows for a holistic view of systems as a unit, and not as separate parts. Elements, such as consumption by seed, table, and scrap potatoes, are then directly connected to the costing system that allocates costs to cost pools, and costs are allocated accurately to the products.

The importance of systems theory lies in its first root, namely social systems. As 'social systems' harbour diverse and complex views, individual perspectives do not carry weight in the purpose of a system. Consequently, as viewpoints differ, not one employee at Facility A would implement or define a costing system in the same way. One individual may view scrap potatoes as a main product, whereas another may view it as a by-product, which require different cost accounting procedures. These different viewpoints would lead to the three products being costed in a different way. One individual may only be interested in the profit yielded by hectares of land, whereas another individual would also be interested in knowing how much it would cost their entity to bag potatoes.

The second root of systems theory focuses on how to grasp the process as a whole by comprehending the purpose of a system by way of four legs. This study only covered the first two: (i) to describe the nature of the system; and (ii) to explain the interaction of components in the system. Regarding the nature of the current costing system, a TC system is used in which all of the costs are equally allocated per hectare, and no formal cost control or cost management system is in place. An ABC system was proposed, based on various cost drivers that would enable Facility A to improve the allocation of costs — a prerequisite for cost control and cost management. The components in the current system are based on TC with a single allocation base: Hectares or the number of bags. The components in

the proposed system are based on ABC with various identified cost drivers. The third and fourth legs were not covered in this study: (iii) to analyse whether the system is effective; and (iv) to determine to which extent the systems could be implemented in reality. The reason for this is that the eADR stages done in this study included only the diagnosis and design. The third and fourth legs are done in the implementation and evaluation stages of an eADR approach.

CONCLUSION

The study aimed to develop a customised ABC system to allocate costs to seed, table, and scrap potatoes for a potato packing facility in South Africa. An interpretive/pragmatic philosophy that included an eADR approach to guide the empirical study was applied. The researchers found that Facility A needed a more sophisticated costing system to allocate costs more appropriately. Facility A does not separate the overheads of the facility from the rest of their operations. The costs are allocated per hectare or per bag with no attention given to any cause-and-effect relationships.

In this study, the researchers contributed to systems theory in which two systems were investigated as a unit. Firstly, the nature of the current system was investigated by observing the physical packing process. Secondly, the interaction amongst components in the physical system was explained with regard to a cost allocation system. The newly developed costing system reflects the cause-and-effect relationship between the two elements, costs and activities. Furthermore, the process used to design this new cost allocation system can be replicated by other researchers facing a similar research problem.

The value of the study is embedded in the newly developed cost allocation system, customised specifically for the case study entity. The new system helps allocate costs more accurately, which is necessary for cost control and cost management. The findings of the study could also be helpful in similar packing processes where various products need accurate assessment. The study's inductive reasoning approach hinders the generalisation of its findings. However, its value is evident in the likelihood of the transferability of its findings. The process followed to develop a new customised cost allocation system could be replicated to solve similar business problems. This study could be utilised as an example to future studies

in which researchers could employ elements of this study and connect them with their own research.

The researchers assumed that the truth was reflected in the opinions of the three interviewees. Accordingly, the verbal feedback from interviewees was deemed unbiased, and optimal feedback was provided to suggest an appropriate costing system. The fact that this study only used two parts of four ADR cycles, gave rise to an additional limitation to the research. The ADR stages of implementation and evaluation did not occur in this study. Consequently, no actual numbers were included in the artefacts proposed to be used in the newly customised costing allocation system. Future studies may address these limitations.

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The impact of corporate life cycle on dividend policy in listed South African non-financial firms

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Purpose: This study investigates whether the firm-specific factors, including the life cycle stages of firms, influence the dividend decisions of the non-financial firms listed on the Johannesburg Stock Exchange (JSE). Despite decades of extensive research, the true motivation behind corporate dividend payments remains unclear. This study aims to extend existing literature by seeking to understand how dividend decisions vary along the firms' life cycle stages.

Design: The study employs a quantitative research approach to test whether dividend policy can be explained by the life cycle theory. Non-financial firms listed on the JSE were studied using panel data regression to identify the factors determining corporate dividend policy. Financial data post the global credit crisis of 2009 were obtained from the IRESS database. Observations cover the period 2011 to 2018.

Findings: The results reveal that non-financial firms listed on the JSE, in the decline stage, significantly reduce dividend payments. Furthermore, return on equity, growth opportunities, and firm size all positively impact dividend payments.

Originality: The study is the first of its kind to consider the effects of firm life cycle on dividend policy in South African firms. It enhances previous studies by employing a dynamic measure of firm life cycle introduced by Dickinson et al. (2012). The study exclusively focuses only on quantitative data, potentially missing insights that could be gleaned from a qualitative study. Future studies could benefit from a mixed method approach.

KEYWORDS: corporate life cycle; dividend irrelevancy; dividend relevancy; growth; signalling.

INTRODUCTION

Corporate earnings distribution and retention remain among the most essential decisions in corporate finance. Managers are expected to retain and reinvest earnings when there are viable ¹investment opportunities available, otherwise, they are expected to return earnings to shareholders through dividends and share buybacks. Despite the growth in research on dividends, researchers are still befuddled with the motivation behind dividend payments (Arko, Abor, Adjasi, & Amidu, 2014). Studies have thus far have been unable to produce a universal theory on why firms pay dividends. This is because there are different characteristics peculiar to each country, including institutional and firm-specific characteristics (Baker & Weigand, 2015).

Dividend policy affects firm value as in most cases share prices react to changes in dividend policy (Anton, 2016). While this relationship gives rise to the temptation to follow a high payout dividend policy,

Huang, and Paul (2017) have warned that such a temptation would leave the firm with little internal resources to invest in growth opportunities. It then follows that those charged with governance must navigate an optimal payout policy that balances the benefits of dividend payout and the benefits of retaining earnings for future growth opportunities. The overarching goal should be optimizing the sustainability of a firm and smooth the market performance (stock price) of a firm.

The study seeks to determine which factors drive the dividend payment decisions of corporates listed on the Johannesburg Stock Exchange (JSE). While there are several corporate dividend policy studies, the majority of these have focused on developed economies. The few studies that have focused on firms in developing economies have largely been inconsistent in their findings. Hameed, Hussain, Naheed, and Shahid (2021) and Farooq, Al-Jabri, Khan, Ali Ansari, and Tariq (2022) investigated how corporate governance influenced dividend policy of listed firms on the Pakistan Stock

¹ This paper is partially based on the first author, Trust Chireka's dissertation presented for the degree of Master of Commerce at University of Limpopo with Promotor Professor MB Fakoya, and the subsequent work of the first author available here:

https://www.researchgate.net/profile/Trust-Chireka-2/publication/346601748_Corporate_life_cycle_and_cash_holding_decisions_A_South_African_study/links/5fc8f44ea6fdcc697bdb49b1/Corporate-life-cycle-and-cash-holding-decisions-A-South-African-study.pdf

Exchange. However, these investigations do not factor firm life cycle stage as a determinant of dividend policy. Those that focused on South Africa (Firer, Gilbert, & Maytham, 2008; Nyere & Wesson, 2019) were conducted during a period when several regulatory changes were implemented. Such changes include the 1999 amendment that made share repurchases a legal vehicle for earnings distribution, the more stringent liquidity and solvency threshold and the transition from the secondary tax on companies (STC) to the Dividend Withholding Tax (DWT) that came into effect on 1st April 2012.

This study investigates the factors influencing dividend policy dynamics in South African firms post the last regulatory change, DWT, of 2012. The study extends the work of Nyere and Wesson (2019) by incorporating the effects of firm life cycle dynamics in understanding corporate dividend policy. This study is different to that of Munzhelele, Ntungufhadzeni, Wolmarans, and Hall (2021) as it introduces a dynamic measure of firm life cycle. This is done to overcome the assumption of a monotonous linear life cycle path.

REVIEW OF RELATED LITERATURE

Corporate dividend policy has been a subject of research interest for several decades. As a result, various theories exist to explain how firms decide on their dividend policies. This section discusses these theories in detail.

Miller and Modigliani (1961) argued that dividend payments do not impact firm value. As such, any time spent contemplating dividend policy is time wasted. In coming to this conclusion, Miller and Modigliani made several assumptions, such as the existence of perfect markets, a world with no taxes, no information asymmetry and no transaction costs to conclude that shareholders' value is not altered by whether a company pays dividends or not (Nyere & Wesson, 2019). A myriad of theories, such as the bird-in-hand theory, the signaling hypothesis, and the agency theory, have been extensively used to explain why firms actively manage their dividend payout policies (Yousef, Tanna, & Patra, 2020).

The bird-in-hand theory argues that dividends are more certain than share price will appreciate. According to Gordon and Lintner (1956), there is a direct association between dividend payments and firm value as shareholders view dividends as less risky

than the promise of future capital gains. Accordingly, this theory argues that firms should set a high dividend payout ratio to maximise stock price (Priya & Mohanasundari, 2016). To reduce the uncertainty of future outcomes, shareholders prefer to receive dividends over future capital gains (Nawir, Hashim, Hiung, & Hadi, 2022).

The signalling theory views dividend policy as a tool to disseminate information regarding the firm's future economic prospects to existing and potential investors (Meza, Baez, Rodriguez, & Toledo, 2020). The theory argues that there is information asymmetry between managers and shareholders and managers either increase or decrease dividend payments to signal the firm's prospects (Arko, Abor, Adjasi, & Amidu, 2014). Consequently, shareholders will interpret dividend distributions as a signal of future financial prospects and non-dividend payments as a harbinger of future financial distress (Priya & Mohanasundari, 2016; Nawir et al., 2022). Dividends are sticky and any sudden decrease in dividend pay-outs are detrimental to investors' confidence in the future earnings potential of the firm (Arko, Abor, Adjasi, & Amidu, 2014). Nawir et al. (2022) argued that distributing a lower-than-expected dividend will depress a firm's share price as investors offload their shareholdings in the firm. The signaling hypothesis thus predicts a relationship between dividend payments and future firm-specific factors such as profitability (Meza et al., 2020).

Miller and Modigliani's (1961) irrelevancy theory assumes goal congruency between managers and shareholders. However, in the real world, there is often goal incongruency between corporate executives (agents) and shareholders (principals) (Jensen & Meckling, 1976). For instance, managers often take excessive personal benefits out of retained earnings and sometimes invest the retained earnings in negative NPV projects for empire building and to avoid giving back the money to shareholders (Greiner & Sun, 2021).

The agency theory argues that dividend policy is a tool to reduce the agency costs. For instance, by increasing dividends, a company mops up excess liquidity (free cash flow) that managers can misappropriate (Athari, Adaoglu, & Bektas, 2016). Managers will then be forced to raise funds from the capital markets which subject firms to circumscribing scrutiny thus reducing suboptimal investments. The monitoring by capital markets ensures that managers act in the best interest of the outside investors (Chireka & Fakoya, 2017).

These suppositions are supported by Ahmed (2015) who found that dividend payout ratio is positively and significantly related to liquidity while Al-Kayed (2017) found that financial leverage significantly influences dividend payments.

The firm life cycle theory of dividends

Despite the postulations of the above theories and related empirical studies, dividend payout policy remains a mystery especially in emerging economies like South Africa (Munzhelele, Wolmarans, & Hall, 2021). Recent studies have sought to describe dividend decisions through the lens of the firm life cycle theory (Bulan & Subramanian, 2009; Meza et al., 2020; Youcef et al., 2020). The firm life cycle theory posits that from the time a firm is introduced to the market, it grows through stages characterized by differing resources and cash generating capabilities (Lyden, 1975; Chireka, 2020).

Due to the varying resource and capacity factors in different life cycle stages, firms often have different managerial styles and priorities (Ferreira, Azevedo, & Cruz, 2011). For instance, DeAngelo and DeAngelo, and Stulz (2006) identified firm life cycle as a key factor that explains a firm's propensity to pay dividends. Flavin and O'Connor (2017) also observed that Korean firms increased dividend distributions as the progress along their lifecycle stages until the maturity stage. Munzhelele et al. (2021) attempts to explain how corporate life cycle determines dividend policy in the context of South African firms. However, like most other dividend life cycle studies, the findings of DeAngelo et al., (2006) and Munzhelele et al., (2021) are weakened by the use of a linear measurement of firm life cycle. These linear approaches assume that firms progress linearly, without exception, from introduction to decline and rule out corporate rejuvenation, suggesting that companies can reinvent themselves through product and market development (Drobetz et al., 2015).

This study introduces the dynamic model of Dickinson (2011) to approximate the life cycle stages of each firm using its cash flows. This study thus furthers the work of Munzhelele et al. (2021) by using a non-monotonous proxy for the firm life cycle stage. Furthermore, our approach is similar to that used for United States of America (USA) firms by Bhattacharya, Chang, and Li (2020). Our study thus makes an essential contribution to the literature on the firm life cycle and dividend

policy by focussing on the developing economy of South Africa.

EMPIRICAL HYPOTHESES

Leverage

As posited by the agency theory, dividends are instrumental in managing the agency conflict between debtholders and equity shareholders (Arko, Abor, Adjasi, & Amidu, 2014). Since a firm's leverage can signal financial distress, either in the short- or long-term, debt holders often use debt covenants or increase the cost of debt to discourage firms from depleting the collateral base through dividend payments (Abor & Fiador, 2013). As such, firms with high leverage ratios tend to have lower dividend payout rates (Kaźmierska-Jóźwiak, 2015).

H1: Leverage negatively impacts dividend payments.

Cash holdings

Firms require cash to pay dividends, and as such, firms with high cash holding levels are more likely to pay more dividends than firms with cash shortages (Kaźmierska-Jóźwiak, 2015). According to the bird-in-hand theory, cash generated by a firm must be distributed to shareholders who prefer the certainty of cash benefits today over future capital gains.

H2: Cash holdings are positively related to dividend payments.

Liquidity

Liquidity refers to the ability, of a firm, to meet its short-term obligations as they fall due. Section 46 of the new Companies Act of 2008 (RSA, 2008), which came into effect on 1 May 2011, sets a liquidity threshold that must be satisfied before a firm can distribute cash dividends (Nyere & Wesson, 2019). Therefore, the level of dividend payout will depend on the firm's liquidity ratios. Further, shareholders will prefer to receive dividends to avoid extraction of liquidity by self-seeking managers.

H3: Liquidity is positively associated with dividend payout rate.

Profitability

Prior studies identify profitability to be an important determinant of dividend policy. In accordance with the pecking order theory, profitable firms will generate enough retained earnings to satisfy investment needs with the remainder being distributed as dividends (Nyere & Wesson, 2019). Firms share their successes with their shareholders in the form of profits after interest and tax. The more profitable a firm is, the more dividends it can distribute (Wahjudi, 2019).

H4a: There is a positive relationship between profitability and dividend payout rate

Moreover, dividends are regarded as a signal of future prospects (Meza et al., 2020). Therefore, this study postulates that dividend payment will be related to future equity returns.

H4b: A positive relationship exists between dividend payment and future return on equity (ROE).

Investment opportunities

Firms with many investment opportunities tend to increase their retained earnings which are a cheaper source of finance for growth than external finance (Nyere & Wesson, 2019). In addition, firms with positive Net Present Value (NPV) investment opportunities tend to signal by increasing retained earnings by reducing dividend distributions, which in turn saves the firms the high flotation costs incurred when raising finance from the capital markets (Arko, Abor, Adjasi, & Amidu, 2014).

H5: There is a negative association between investment opportunities and dividend payments.

Firm size

Large firms are often well diversified than smaller ones and will thus have lesser risk of financial distress and bankruptcy (Kaźmierska-Jóźwiak, 2015). Thus, larger firms have better access to capital markets, enhancing their dividend payout capacity (Mehta, 2012). This is consistent with the solvency requirement of section 46 of the South African's Companies Act of 2008 that requires firms to be pass the solvency test before they can pay cash dividends (Nyere & Wesson, 2019).

H6: There is a positive relationship between firm size and dividend payout rate.

Firm life cycle

While prior studies use retained earnings to assets (Boťoc & Pirtea, 2014), growth opportunities (Dewasiri, et al., 2019), and returned earning as a ratio of total equity (Munzhelele et al., 2021) to proxy firm life cycle, these measures are poor proxies of firm life cycle stages as it assumes linear progression with no room to rejuvenate (Drobetz, Halling, & Schröder, 2015). However, firms rarely progress monotonously through the life cycle stages. With appropriate strategies, firms can reinvigorate their products and markets and thus move to earlier life cycle stages. The model by Dickinson (2011) factors in the dynamic nature of firm life cycle. The model identifies four life cycle stages: (i) the introduction, (ii) the growth, (iii) maturity, and (iv) decline stages as the observable stages of corporate evolution. Dickinson (2011) argues that corporate cash flow patterns are different in each life-cycle stage and that by observing the cash flows generated from operating, investing, and financing activities, the firm life cycle stage can be ascertained (Table 1).

Table 4: Firm life cycle proxies

	(1) Introduction	(2) Growth	(3) Maturity	(4) Decline
Operating CF	—	+	+	—
Investing CF	—	—	—	+
Financing CF	+	+	—	+/-

Source: Adapted from Dickinson (2011)

H7: There is no relationship between firm life cycle stage and dividend payout rate

METHODOLOGY

To test the hypotheses above, this study employs panel data analysis to determine how corporate dividend policies evolve along the firm life cycle. Firm specific data used in this study are sourced from IRESS database. The database records and stores financial data relating to JSE-listed. The sample comprises of 113 listed firms drawn from across all industries for the period beginning from 2011 until 2018. Firms with missing observations were dropped from the sample. The study applied the random effects panel data regression estimator to analyse how corporate life cycle impacts on dividend payout policies.

The following model was employed to analyse the relationship between dividend payments and corporate life cycle:

$$DIV_{i,t} = \alpha_{it} + \beta_1 I_{i,t} + \beta_2 G_{i,t} + \beta_3 M_{i,t} + \beta_4 D_{i,t} + \beta_1 D_{i,t} \beta_1 SIZE_{i,t} + \beta_2 LEV_{i,t} + \beta_3 MTB_{i,t} + \beta_4 LIQ_{i,t} + \beta_5 ROE_{i,t} + \beta_6 ROE_{i,t+1} + \beta_7 CASH_{i,t} + \beta_8 DIV_{i,t-1} + u_{i,t}$$

The variables used in the above regression are defined in Table 2 below.

Table 5: Definition of variables

Variables	Code	Description
Dependent variable:		
Dividend payment	DIV	A dichotomous variable equal to 1 if a dividend was paid in that year and 0 if no dividend was paid.
Independent variables:		
Introduction stage	I	Firms with negative cash flows from operating activities; negative cash flows from investing activities and positive cash flows from financing activities are identified to be in the introduction stage.
Growth stage	G	Firms with positive cash flows from operating activities; negative cash flows from investing activities and positive cash flows from financing activities are identified to be in their growth stage.
Mature stage	M	Firms exhibiting positive cash flows from operating activities and negative cash flows from both investing and financing activities are said to be in their mature stage.
Decline stage	D	Firms with negative operating cash flows; positive investing cash flows and either positive or negative cash flows from financing activities are said to be in their decline stage.
Control Variables		
Firm Size	SIZE	The natural log of total assets
Leverage	LEV	The proportion of total debt to total assets
Investment opportunities	MTB	The proportion total assets (at book value) less equity (at book value) plus the market value of assets to total assets
Liquidity asset substitutes	LIQ	Net working capital less total cash deflated by total assets
Profitability	ROE	Return on Equity (ROE)
Cash holdings	CASH	Total cash and cash equivalents deflated by total assets

Source: Author's construction

Note: Table 2 defines the variables used in this study. These variables have been defined as such in empirical corporate finance studies such as Driblets et al. (2015) and Chireka and Fakoya (2017).

RESULTS AND INTERPRETATION

The Pearson correlation (Table 3) shows that the correlations amongst the variables are relatively small and insignificant suggesting that there are no linear relationships amongst the independent variables.

The Hausmann specification test is insignificant showing that the null hypothesis cannot be rejected. Therefore, the random effects model provides more reliable inference than the fixed effects model. Both the R-squared and the Wald test show that the random effects regression model is a good fit for this investigation.

The regression results (Table 4) show that all firm life cycle stages, except the decline stage, have insignificant influence on dividend payment. Consistent with the firm life cycle theory, firms in the introductory stage do not have capacity to pay dividends as in this stage firms are financially constrained. Consistent with Munzhelele et al. (2021), we find no significant relationship between growth firms and dividend payment. The life cycle theory also posits that firms in the growth stage have more growth opportunities and all available resources are committed to these growth opportunities. As such, firms in the growth stage do not pay dividends. We also find no significant relationship between dividend payments and the mature stage. This is consistent with Bhattacharya et al. (2020) who found that mature U.S firms make no significant changes to their dividend policy as they try to rejuvenate to the growth stage.

Our findings differ from Munzhelele et al. (2021) in that we find a significantly inverse association between firms in the decline stage and dividend payments. Our results suggest that firms in the decline stage significantly lower dividend payments as they attempt to accumulate resources to rejuvenate their economic fortunes. This is consistent with Flavin and O'Connor (2017) who found that Korean firms significantly lower their dividends when in the decline stage.

Table 3: Pearson correlation matrix

	DIV	I	G	M	D	ROE	LEV	MTB	CASH	SIZE	LIQ
DIV	1.0000										
I	(0.0318)	1.0000									
G	0.0572	(0.2422)	1.0000								
M	(0.0073)	(0.2510)	(0.6013)	1.0000							
D	(0.0350)	(0.0547)	(0.1311)	(0.1358)	1.0000						
ROE	0.0044	(0.0385)	0.0064	0.0120	0.0184	1.0000					
LEV	0.0171	0.0424	0.0675	(0.0205)	(0.0396)	0.0802	1.0000				
MTB	0.0177	0.0489	0.0180	0.0193	(0.0458)	(0.7054)	0.0990	1.0000			
CASH	(0.0131)	(0.0121)	(0.0312)	0.0065	0.0295	(0.0044)	(0.0046)	(0.0233)	1.0000		
SIZE	0.0315	(0.1374)	0.1705	0.0284	(0.0809)	0.0455	0.1411	0.0264	(0.0976)	1.0000	
LIQ	0.0041	(0.0249)	(0.0038)	0.0302	(0.0209)	0.0009	0.0499	(0.0214)	0.8803	(0.0648)	1.0000

Notes: The table shows how the variables used in this study are correlated. The sample is made up of 904 firm-year observations from 2011 to 2018 from 113 non-financial firms listed on the JSE. Definitions and sources of the variables are given in Table 2

With regards to the other firm-specific factors, we find a positive and significant relationship between return on equity (ROE) and dividend payment, suggesting that firms distribute dividends out of the return on equity, such as retained earnings. This supports the bird-in-hand theory that posits that investors prefer to receive, from their available returns, dividends over future capital gains and dividends. The relationship between market-to-book (MTB) ratio and dividend payment is also significantly positive. This is consistent with the signaling theory that posits that firms with future prospects will signal these through paying dividends.

Our results also show a positive relationship between firm size and dividend payment suggesting that larger firms are more likely to make dividend payments than smaller firms. This is consistent with Fama and French (2001), DeAngelo et al. (2006), and Yousef, Tanna, and Patra (2021) who explained that large firms are normally more profitable, with higher retained earnings from which they can pay dividends.

Table 4: Random effects regression results

DIV	Coef.	P>[t]
I	(0.1183)	0.107
G	0.0387	0.507
M	0.0214	0.707
D	(0.2747)	0.014**
ROE	0.0002	0.061*
LEV	(0.0613)	0.433
MTB	0.0083	0.063*
CASH	0.0070	0.915
SIZE	0.0250	0.026**
LIQ	0.0081	0.541

Notes: This table exhibits results of the impact on corporate dividend policy on corporate life cycles and firm-specific control variables. The t-statistics based on robust standard errors clustered by firms are also shown. The variables deployed are defined in Table 2. The sample comprises of 113 JSE-listed firms observed from 2011 to 2018. Significance levels are indicated as follows: * = 10%, ** = 5%, *** = 1%

CONCLUSION

The majority of dividend policy studies have used linear proxies for the firm life cycle, ignoring the ability of firms to rejuvenate and move to precede and more viable life cycle stages. This study is the first to investigate the relationship between non-monotonous firm life cycle stages and South African firms' propensity to pay dividends. By applying the Dickinson et al. (2012) dynamic measure of the firm life cycle, this

study makes new contributions to dividend policy literature which has previously confined firms to a non-reversible linear progression along the life cycle stages. Contrary to the findings of static studies, this investigation found that firms in the introductory, growth, and mature stages do not alter dividend payments as they are content to stay in the most viable stages. However, if the firm enters the decline stage, a significant reduction of dividend payments. Our results also show that dividend payments have a positive and significant relationship with return on equity, growth opportunities (MTB) and firm size, consistent with the bird-in-hand theory and the signaling theory. This study enhances our understanding of the impact of life cycle on dividend policy. Investors ought to understand that firms will seek to utilize available resources to position themselves in viable markets and only pay dividends out of return on equity and to signal prospects.

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European Green Deal: Risks and opportunities for the South African citrus export market

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Purpose: The European Green Deal (EGD) comprises a series of policy initiatives by the European Union (EU) aimed at reducing greenhouse gas emissions. This paper endeavours to review the risks and opportunities posed by the EGD to South African citrus export from a management accounting perspective.

Design/Methodology/Approach: A comprehensive review of existing literature on the EGD was conducted to assess the implications of the EGD on the South African citrus export section.

Findings: Identified risks encompass the potential non-compliance of citrus farmers with updated Maximum Residue Limits standards outlined in the EGD's "farm to fork" strategy as well as the risk of not adhering to increased organic certification requirements. Opportunities arising from this legislation include the prospect of exporting critical raw materials (unrelated to agricultural produce) and organic products to the EU. However, the latter is contingent upon the establishment of organic certification policies to support farmers.

Contribution: This paper contributes to the limited body of literature examining the implications of the EGD on the citrus sector, which significantly contributes to the South African economy and the livelihoods many households.

KEYWORDS: citrus farmers; European green deal; European union; export; management accounting; organic farming; South Africa

INTRODUCTION

The South African agricultural industry is highly diversified and includes the production of all the major grains (except rice), oil seeds, deciduous and subtropical fruits, sugar, citrus, wine, most vegetables, cattle, dairy, pigs, sheep, broilers, ostriches and eggs (USDA & GAIN, 2019:2). In terms of agricultural export value, the fruit industry is the largest contributor, with 90% of South Africa's fruit exported to the international market. A large share of South Africa's fresh fruit exports, dominated by citrus fruit, is destined for the European Union (EU) (Phaleng, 2018).

The European Union (EU) adopted the European Green Deal (EGD) on 11 December 2019 to facilitate the goal of becoming climate neutral by the year 2050 (Cameron, Hartzenberg, Fundira, Hattingh, Monaisa, Montmasson-Clair & Wood, 2021; Faichuk, Voliak, Hutsol, Glowacki, Pantsyr, Slobodian, Szeląg-Sikora & Gródek-Szostak, 2022). Climate neutrality is emitting greenhouse gasses (GHGs) equal to or less than naturally absorbed, thereby having a net-zero effect (United Nations Climate Change, 2021). The EGD covers all economic sectors, including the agricultural sector (Faichuk *et al.*, 2022). According to Faichuk *et al.* (2022), the EGD requirements will influence European and agricultural export producers to Europe. The main

element that will influence South Africa's agriculture trade to the EU is the "Farm to Fork" strategy (European Commission, 2020; Faichuk *et al.*, 2022). This strategy entails ensuring food sources are healthy and environmentally friendly and reducing food waste. South African citrus export farmers, amongst others, stand to lose out on the lucrative EU export market by not complying with the new policies and regulations.

Citrus farming plays a vital role in South Africa in the creation of employment and contributing to the economy (Citrus Growers Association, 2022a:38). South Africa was the world's twelfth largest citrus producer in the 2020/2021-year, producing 2 815 thousand tons of fresh citrus. In the same period, the country was also the second-largest exporter of fresh citrus, exporting 2 599 thousand tons – with Spain ranking first (3 712 thousand tons) and Turkey third (1 958 thousand tons) (Citrus Growers Association, 2022a:38). Furthermore, the citrus farming sector has the largest proportion of exports to the EU in South Africa. In 2021, South African exports to Europe (excluding the United Kingdom) accounted for 36% of the orange exports, 35% of the grapefruit exports, 26% of soft citrus exports, and 37% of lemon exports (Citrus Growers Association of South Africa, 2022b:20). The citrus farming sector, therefore, plays a crucial role as an earner of foreign exchange but also offers and

creates employment (Bulbulia, 2022). Significant losses in employment and revenue in foreign exchange are at risk as access to EU export markets will close.

Previous research on the EGD includes an investigation into the impact of this legislation's Farm to Fork strategy on agricultural production in the EU (Beckman, Ivanic & Jelliffe, 2021). This research was extended to consider the impact of specific elements of the EGD on international trade activities (Beckman, Ivanic, Jelliffe & Arita, 2022). These studies analysed high-level agricultural production statistics for the EU, the United States of America (USA) and the rest of the world. On the other hand, Faichuk *et al.* (2022) performed a threat assessment for all 28 agri-food countries exporting to the EU by the EGD. Although South Africa was included in the study, it was a high-level statistical analysis similar to Beckman *et al.*'s (2021, 2022) studies. Ciot (2021) analysed Romania's implementation of the EGD using governmental reports, policy briefs, and public speeches on the topic. A report on the implications of the EGD for African countries was prepared by Usman, Abimbola and Ituen (2021). When considering research within a South African context, Sihlobo and Kapuya (2021) published an opinion piece on the EGD's threats, opportunities and risks for the country's agricultural sector. Cameron *et al.* (2021) considered the potential implications of the EGD on international trade between South Africa and the EU. This paper aims to fill the knowledge gap of the implications the EGD will have specifically on the citrus sector considering its significant role in employment and contribution to foreign exchange.

The citrus farmer must manage its risks to ensure the prolonged profitability of its agricultural enterprise. A citrus farmer faces risks related to input prices, yields, market access, climate, and regulatory compliance (Bulbulia, 2022). The EGD is a compliance risk that the citrus farmer must manage to secure future citrus exports to the EU.

The EGD brings additional risks and opportunities for citrus farmers. According to the Chartered Institute of Management Accountants (CIMA), management accountants source, analyse, use and communicate financial and non-financial information (CIMA, 2018:3). Management accounting is concerned with presenting information to internal decision-makers and therefore combines accounting, finance, and management. The role of a management accountant is broad and includes identifying and managing risk, strategic

management and performance (Galinova, 2017:36). A management accountant possesses skills to identify risks and opportunities but also mitigate these risks and capitalise on the opportunities as support to citrus farmers.

As discussed above, the EGD presents risks to the South African citrus economy. Non-compliance with the EGD could decrease South African exports to the EU and thus lead to a market share loss to countries compliant with these policies. Management accountants can use their expertise to assist in identifying the risks and opportunities posed by the EGD regulations.

This paper aims to review the risks and opportunities of the EGD to the South African citrus export from a management accounting perspective. Possible recommendations or solutions are suggested to minimise risks and enable the citrus industry to adapt to these new policies. From the above discussion, it is evident that non-compliance with these policies could negatively influence trade with Europe and lead to substantial market losses for export-driven sectors such as citrus.

This contribution of the paper is that it is an attempt by management accountants to conceptualise the implications of the EGD on the citrus export industry by considering possible risks and opportunities due to this relatively new legislation.

The rest of the paper is structured as follows: the next section contextualises the South African citrus industry and the EU's EGD. The third section presents the risks and opportunities facing the citrus export sector from these regulations. The final section concludes by providing recommendations, listing limitations and suggesting areas for future research.

SOUTH AFRICAN CITRUS INDUSTRY AND EUROPEAN GREEN DEAL

South African citrus farming and exports

Citrus is one of the most critical subsectors in South Africa, with a significant role in employment and the economy. In the 2018/19 year, the citrus industry contributed R16.1 billion (21%) to the gross agriculture value. The citrus industry is assumed to directly employ around 100 000 people, and around a million households depend on the industry (Department of Agriculture, Land Reform and Rural Development, 2020:5-19). According to Justin Chadwick, Chief

Executive Officer of the South African Citrus Growers Association, the growth projections in 2021 for lemons, soft citrus and Valencia oranges are expected to add 22 250 sustainable jobs and R6.8 billion in foreign exchange earnings over the next three years (CGA Grower Development Company, 2021).

In 2020/2021, South Africa produced 2 815 tonnes of citrus, 77% was exported and 5% was kept for local consumption, and the remaining 18% was processed further. Europe accounts for 34% of the total exports and is the largest market for South African citrus exports; this demonstrates how important the EU is to the citrus sector (Citrus Growers Association, 2022a:10).

Oranges are an integral part of the citrus industry. In 2019, oranges contributed 62% of the total citrus production, representing 65% of citrus exports. Oranges are also the largest citrus export to the EU, 47% of all orange exports were to the EU in the 2019 exports (Department of Agriculture, Land Reform and Rural Development, 2020:19-27).

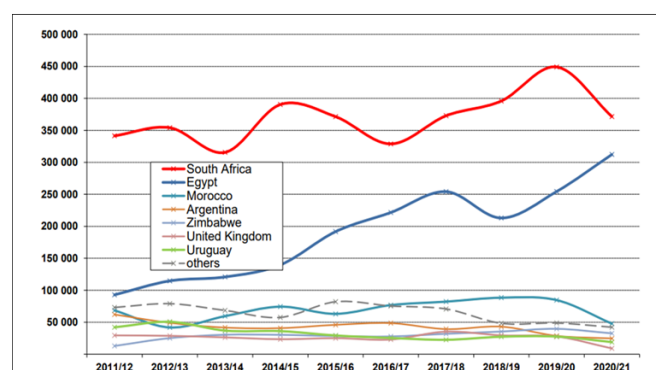


Figure 1: EU Orange imports per marketing year (Oct-Sept) [tonnes]

Source: European Commission, 2021 (Eurostat)

In the 2020/21 year, 317 568 tonnes of oranges were imported into the EU from South Africa (Figure 1). This represents 43.24% of the total orange imports to the EU, making South Africa the largest contributor to orange imports for this period. South Africa also exports many soft citrus and lemons to the EU. South Africa was the most significant contributor, with 39.71% (112 051 tonnes) of total lemon imports and 26.48% (162 615 tonnes) of soft citrus imports in the EU in the 2020/21 year (European Commission, 2021:6-8). From the above data and information, it is clear what a vital role South African citrus exports play

in meeting the EU's citrus demand and its role in employment and the agricultural sector of the economy.

According to Von Broembsen (n.a.), local market returns in South Africa are substantially lower than export market returns. In agreement with this, the South African citrus industry has always been export-oriented. As a result, the average citrus producer generates over 80% of his revenue from exports. A producer with above-average management practices and favourable growing conditions packs out 70% of his crop for exports and derives over 90% of his revenue from exports (Von Broembsen, n.a.).

European Union and European green deal

Europe has a history of taking the lead in implementing policies against climate change since 1992. The EU is publicly known for supporting various climate change policies, such as the Kyoto Protocol and the Paris Agreement (Ciot, 2021). However, these environmental policies act as non-tariff barriers. Non-tariff barriers are technical barriers or systems restricting trade other than import and export duties (Southern African Development Community, n.d.). These barriers can negatively influence developing countries (Hackenesch, Högl, Knaepen, Iacobuta & Asafu-Adjaye, 2021:12).

As mentioned previously, the EGD was adopted in December 2019 (Ciot, 2021:2), with the "farm to fork" strategy influencing agricultural trade to the EU (Beckman *et al.*, 2022).

Farm to fork strategy

One of the main goals of the "farm to fork" strategy is ensuring that the food chain has a neutral/positive environmental impact (European Commission, 2020:4; Faichuk *et al.*, 2022:2). In order to ensure the EU supports sustainable food production, they have set several policies and initiatives. The main initiatives that would impact the South African citrus sector are using pesticides and customer expectations from EU countries as voluntary certifications, and organic products become more popular and in demand (Cameron *et al.*, 2021:36).

The use of pesticides

The use of pesticides is expected to increase to meet the escalating demand for food due to the growing world population (Özkara, Akyıl & Konuk, 2016:4). The use of chemical pesticides contributes to soil, air and water pollution, as well as harm non-target plants and animals (European Commission, 2020:9). Pesticides can enter the surrounding air and water and can stay in the environment for years after use (Özkara *et al.*, 2016:4). As a result of the EGD's target of creating a healthy and sustainable food environment, they have the key quantitative target of reducing the use and risk of chemical pesticides by 50%, as well as decreasing the use of more hazardous pesticides by 50% (European Commission, 2020:9).

The "farm to fork" strategy will have an impact on the line of assessment of import tolerance of produce that uses pesticides that are not approved in the EU (Cameron *et al.*, 2021:36). The use of Maximum Residue Limits (MRLs) and the restriction on the use of certain pesticides have been implemented for several years to reduce the use and risk of pesticides on produce that is imported into the EU. MRLs refer to the highest level of pesticide levels that can be tolerated in food, the main aim is to ensure that the residues are safe for consumption and as low as possible (European Commission, 2008:1).

The tightened restrictions on the use of pesticides increase the weight of non-tariff barriers that the industry faces. The South African citrus industry faces many challenges including Citrus Black Spot (CBS). CBS is a fungal disease that causes lesions on the fruit's rind. CBS makes fruit unsuitable for the fresh market. CBS is contagious and can be harmful in areas where it is absent (Carstens, Schutte, Fourie, Hattingh, Le Roux, Holtzhausen, Van Rooyen, Coetzee, Wentzel, Laubscher & Dawood, 2012). As the fungus is absent in the EU, measures are in place to prevent CBS from being introduced into their markets (Du Plessis, 2021). South African citrus farmers have had to implement risk management programmes and protocols to continue exporting to the EU. These measures have cost the citrus industry approximately R2 billion annually (Joubert, 2021). These challenges have been exacerbated due to increased banned pesticides and MRLs. For example, Guazatine – a fungicide such which combats CBS – has an MRL of 0.05mg/kg. This implies that it cannot be used to export in the EU market (Schreuder, 2017:12). When these necessary pesticides

are banned, or the MRLs are too low to combat diseases effectively, citrus producers have no choice but to find alternative treatments. However, for smaller farmers, the costs may outweigh the benefits. Additionally, smaller farmers will need assistance transitioning to export-compatible pesticide regimes as these policies become more stringent (World Integrated Trade Solution, 2019:36).

Organic farming

Organic farming refers to practices that help reduce the amount of pollution while sustaining ecosystems, as well as improving the nutrition of the produce. Organic farming promotes human, soil, plant and animal health (Uhunamure, Kom, Shale, Nethengwe & Steyn, 2021:2).

The EU market for organic food is predicted to continue to grow, and the EU plans to increase organic farming further (European Commission, 2020:10). The increase in organic farming in the EU, as well as the movement towards organic and certified produce from consumers, means that the South African citrus industry will need to adapt in order to stay competitive.

In 2018, the EU imported 3.3 million tonnes of organic food. These imports have to prove that they meet standards equivalent to EU-produced goods (Jarossová, 2019:184). In January 2021, a new regulation set by the EU (Regulation (EU) No 848 of 2018) came into force, which sets out the rules of organic food and applies to production within the EU and to goods imported into the EU. The main goal is to harmonise the rules applicable to organic producers in EU Member States and third countries by introducing a compliance system (Department for Environment, Food and Rural Affairs European Union, 2022). Currently, standards concerning organic farming in South Africa are primarily set out by private organisations. Greater formalisation is needed to help consolidate standards with the EU (World Integrated Trade Solution, 2019:36).

DISCUSSION

This section will discuss various risks and opportunities for the South African citrus sector resulting from the EGD.

Risks

Cameron *et al.* (2021:107) considered the EGD and its implications on small to medium enterprises in South Africa and identified two risks related to the agricultural market. Firstly, the reduction of tolerances and increases in the MRL standards negatively influences smallholder farmers' ability to export, and secondly, the competitiveness of exporters as there is an increase in the requirements of organic certification coupled with South Africa's lack of formal standards concerning organic farming.

The reduction of tolerances and the increase in the MRL standards

One of the main risks to exporting citrus producers is the increased limitations on pesticides from the EU (Cameron *et al.*, 2021:36). The warm climate in South Africa means that citrus producers have to deal with significant pests and diseases (such as CBS). The stricter pesticide restrictions make it challenging for farmers to enter the export market (Potelwa, 2017:2).

The South African Department of Agriculture, Forestry and Fisheries (DAFF) – subsequently disestablished (June 2019) and incorporated into the new Department of Agriculture, Land Reform and Rural Development (DALRRD) – confirmed that all commodities are subject to MRL testing and the cost is at the expense of the farmer (cited in van Stade, 2019:49). A study by van Stade (2019) on the effect of food safety compliance on the emerging commercial farmers and sustainable farming in the Western Cape, Eastern Cape, Northern Cape and Gauteng provinces in South Africa analysed the costs on MRL testing. The study found that of the emerging farmers interviewed, only 20.9% of them found MRL analysis testing affordable (Van Stade, 2019:50). Van Stade (2019:51) also argued that the inability to afford MRL analysis costs will exclude emerging commercial farmers from entering the market.

Developing countries rely on the use of pesticides for their economic production and the livelihoods of their farms (Matthews, 2022:59). It has been argued that these tight measures prohibit the use of important tools that help enable farmers to control pests and diseases (such as CBS), and impose further difficulties to farmers in developing countries (Matthews, 2022:54).

Another factor that makes adjusting to newer and stricter policies challenging is the lack of access to market information. Emerging farmers struggle to enter markets as they lack market access information, and these farmers need to be updated to comply with food safety regulations. The study by Van Stade (2019:37) found that out of the 80 farmers interviewed, only 30.8% of the respondents knew about the exportation of fruit and vegetables. In contrast, 71.8% indicated that they do not have market access knowledge.

The increase in demand for organic produce and requirements about organic certification

The increased demand for organic produce poses risks to citrus farmers, including pests and weeds management, decreased yields, and low market access.

Management of pests and weeds

The adaption of organic farm practices is in the environment's best interest but can pose risks, especially for developing countries such as South Africa. A study was conducted on smallholder farmers' perceptions of organic farming in Limpopo, South Africa. The citrus sector contributes 64% of gross income from agriculture in the province. A total of 220 farmers participated in the study, and only 36 were certified organic farmers (Uhunamure *et al.*, 2021:5-6). Most of the farmers interviewed believe that organic farming methods cannot control weeds, pests and diseases as insufficient organic pesticides are available (Uhunamure *et al.*, 2021:12).

Muneret, Mitchell, Seufert, Aviron, Djoudi, Pétillon, Plantegenest and Rusch (2018) conducted a study which provides evidence that organic farming promotes pest control. The study found that organic farming resulted in lower pathogen infestation, but led to similar levels of animal pest infestation as commercial farming methods. However, organic farming leads to a higher level of weed infestation than commercial farming (Muneret *et al.*, 2017:363).

The study found that organic farming led to the same control of pests in perennial crops (crops not replanted annually, such as citrus trees) as commercial farming. In contrast, annual organic crops had higher pest infestation compared to commercial farming. This was

attributed to more organic pesticides used on perennial crops than on annual crops (Muneret *et al.*, 2017:365). This supports the findings of Uhunamure *et al.* (2021:12) that a lack of organic pesticides leads to a lack of control of pests.

Decreased yields and market access

Jouzi, Azadi, Taheri, Zarafshani, Gebrehiwot, van Passel and Lebailly (2017:152) researched the opportunities and risks organic farming presents to small-scale farmers in South Africa. The authors established that farmers face the challenges of lower yields using organic farming methods compared to conventional farming methods. The lower yield risk refers to decreased output due to organic farming practices. According to Jouzi *et al.* (2017:149), there is inconclusive research evidence about yields produced by organic farming. Some research argues that organic farming reduces global crop yield by 40%, while others argue that organic farming can increase yields. Lower agricultural production in developed countries has been attributed to the lack of access to chemical fertilisers which goes against organic farming practices (Jouzi *et al.*, 2017:149). In contrast, others argue that organic farming positively contributes to food security and that the lack of information and technical skills in relation to pests and diseases leads to lower yields (Ndlovu, 2017:18-19). In the study by Uhunamure *et al.* (2021:9), only 20% of participants believe that organic farming practices would result in lower yields, but 88.4% believed that the standards were too restrictive to be practical.

An explorative study was done in 2017 to map the contours of organic agriculture in South Africa (Du Plessis, 2019). The study used 27 farms to determine how many hectares of land were used for organic farming practices and what type of organic crops were produced on the total hectares of land from the sample population. Of the total organic produce, citrus was the largest, with 24%, followed by wine grapes at 19%. The study also compares the organic farming yield versus the conventional farming yield of citrus, grapes and grain. The citrus yield concerning conventional farming was 31.08 tonnes per hectare, while the organic yield was 23.56 tonnes per hectare – a 24.2% yield gap between the two methods (Du Plessis, 2019:37). This supports the claim by Jouzi *et al.* (2017) that organic farming may lead to lower yields.

Low access to markets due to certification and market issues

Another possible risk organic small-scale farmers face is low market access due to certification and market issues (Jouzi *et al.*, 2017:152). Cameron *et al.* (2021:viii) collaborate on this and argue that weak domestic organic certification may limit market access and decrease market opportunities among consumers who are focused on being environmentally conscious. The increase in rigorous certification requirements by the EU exposes the lack of formal standards in South Africa and hinders farmers' ability to compete in the organic markets (Cameron *et al.*, 2021:93).

The lack of information and certification systems in South Africa has led to many farmers practising organic farming principles without being certified (Uhunamure *et al.*, 2021:4). South Africa lacks an official certification system resulting in farmers making use of private certification, which is expensive (Department of Agriculture, Forestry and Fisheries, 2010:11-12). According to the study by Uhunamure *et al.* (2021:9), 78.4% of the farmers perceive that organic farming requires high production costs, and 74.6% perceive that certification is difficult to obtain.

In the study by Du Plessis (2019:34), the sample population was asked what motivated them to switch to organic methods. The responses indicated that health, safety, and market access were the leading motivators. However, when the farmers were asked what the most common challenges currently were *after* the conversion to organic farming, the third most common challenge was access to markets. The third most common challenge *during* the conversion to organic farming was access to information (Du Plessis, 2019:44). These challenges relate to market access/information and could deter farmers from switching to organic farming methods (Jouzi *et al.*, 2017:152).

Opportunities

There is currently limited research on what potential opportunities the EGD will create for South Africa, especially regarding agriculture. A publication by Usman *et al.* (2021) on what the EGD means for Africa highlighted potential opportunities that Africa might benefit from. The authors mention that Africa has opportunities to collaborate with the EU in research in

deploying new green technology as the EU aims to reach breakthroughs in green technology innovation. Green innovations are defined by Wicki and Hansen (2019:971) as “new technologies, products, services, or business models that have positive impacts on the environment and society”.

Cameron *et al.*'s (2021:ix-x) report regarding the EGD identified an opportunity concerning specific environmental goods. These goods are environmental goods which reduce, prevent or correct environmental damage. This opportunity was broken down and then distinguished between short, medium and long-term opportunities. The short-term opportunities refer to goods that are export ready, the medium-term opportunities refer to the goods and export market needing further development, and the long-term opportunities are those goods that need investments.

Another opportunity for South African citrus farmers is to adapt to organic farm practices. However, as discussed above, numerous obstacles must be overcome for the sector to tap into this niche market.

Currently, limited research is available on the opportunities that the EGD will present to individual sectors, such as the citrus sector.

RECOMMENDATIONS

Van Stade (2019:92-93) provides a few recommendations regarding how the negative influence of strict food safety requirements (such as MRLs) can be reduced. Firstly, Van Stade recommends that emerging commercial farmers ensure that they are registered with the Department of Agriculture, Land Reform and Rural Development to obtain valid codes for food safety certification. Additionally, support for extension services such as training and workshops should be presented to improve understanding of food safety standards. Cameron *et al.* (2021:97) concur and highlight that there should be extended support to ensure small agricultural firms' compliance with the MRLs of pesticides. Lastly, Van Stade (2019:92-93) recommends that government should subsidise commercial farmers to assist with the high certification- and MRL analysis costs. These recommendations can be used to ease the risk of high certification costs and lack of market information, which may help citrus farmers adjust to the increase in MRL standards caused by the EGD.

Furthermore, organic farming practices should be encouraged to enable South African farmers to meet the changing market demands in the EU. Du Plessis (2019:67-68) argues that government should be instrumental in the latter by educating farmers on 1) organic farming methods and by establishing policies to support this structure and 2) the social and environmental benefits that organic farming can create.

CONCLUSION

This paper adds to the scarce body of knowledge on the implication the policy initiatives of the EGD will have on the citrus export industry. The researchers reviewed the risks and opportunities of the EGD to the South African citrus export from a management accounting perspective.

The identified risks can be summarised as non-compliance to updated MRLs standards set by the “farm to fork” strategy of the EGD, and non-adherence to increased organic certification. The implications of not addressing the abovementioned risks are that it could lead to South African citrus farmers losing their foothold in the European export markets. This will negatively influence the citrus farmers' profitability and the broader South African economy. Then again, adhering to the organic farming and stricter pesticide policies as required by the EGD will lead to additional costs, making it difficult for small-scale and emerging farmers to adapt and enter the international export market. Both risks identified can partially be attributed to the lack of market information and additional support from third parties (e.g. government). Opportunities identified relate to critical raw materials (unrelated to agricultural produce) that Africa has and can export to the EU. The second opportunity identified in the available literature is exporting goods that help combat environmental damage.

The study's limitations include that no primary data was collected, and this study was conducted from a management accounting perspective. The latter focuses on risk management and not necessarily on the science of agricultural production. Considering the limited academic literature on the implications of the EGD on agricultural exports to the EU, it is recommended to expand this study to other sectors, including collecting primary data. There are significant knowledge gaps in relation to the EGD's effect on exporting countries within Africa. Research is needed

to help countries adapt and protect themselves from losing important EU markets. Further management accounting research on the cost implications and subsequent profitability of citrus farmers to comply with the EGD regulations are needed. Additional research is also needed for a cost and yield comparison/analysis between commercial and organic citrus farming to provide the citrus farmers with information that can help them to formulate strategies and make sound management decisions for sustainable farming and profitability.

The citrus sector contributes significantly to the gross agricultural value of the South African economy, and to many South African households' livelihoods. It is the second largest citrus supplier to the EU and plays a vital role in meeting the Union's citrus demand. For this reason, the risks and opportunities posed by the EGD legislation should be carefully considered and managed.

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Pecking order theory: Application to a period of high information asymmetry on the Johannesburg Stock Exchange

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Purpose: The ongoing capital structure debate is the focus of this study, which contributes to the discourse on capital structure in African and emerging markets. The period from 2009 – 2013, is crucial as it offers a natural experiment, given the high information asymmetry, allowing for dynamic testing of pecking order theory.

Methodology: Multiple fixed effect regression models and white two-way cluster adjustments were employed to analyse 186 JSE-listed firms.

Findings: Characteristics previously deemed significant were found to be nonsignificant using more robust testing, and it was demonstrated that the pecking order theory did not apply.

Originality: An alternative formula is utilised for testing capital structure choices. The use of robust testing, a larger sample, and dynamic modelling contribute valuable insights to the ongoing debate while also highlighting potential inadequacies in the financial system and theories surrounding capital structure.

KEYWORDS: *capital structure; information asymmetry; pecking order theory; trade-off theory*

INTRODUCTION

Modigliani and Miller (1963) showed that capital structure has a material impact on the value of a firm, and it is one of the most important choices a firm can make due to that impact (Kumar, Colomage, & Roa, 2017). In attempting to answer the question; How firms choose to raise capital? Two main theories emerge from the literature that explains how the firm makes their choice: the trade-off theory (henceforth, TOT) and the pecking order theory (henceforth, POT). POT assumes equity capital is more sensitive to information asymmetry (Myers & Majulf, 1984). TOT is an extension of the Modigliani and Miller theorem (Frank & Goyal, 2007) and states that firms will choose their capital structure based on the benefits and costs of debt (Robichek & Myers, 1965).

Kumar et al., (2017) reviewed 167 papers on capital structure, and from this has shown that there are still gaps and unanswered questions, and the number of articles adding to the debate has increased post the 2008 financial crisis. Their findings demonstrated that only 57 out of 167 papers reviewed support the POT, 15 support the TOT and 20 support both, and 39 have no consensus. The capital structure debate is still unanswered, and further investigation is required (Mvita, Brummer & Hall, 2022).

Myers and Majulf (1984) identified information asymmetry as a key factor in capital structure decisions. Their underlying theory being that firms with high information asymmetry would borrow more and consequently have higher leverage (Shyam- Sunder & Myers, 1999; Frank & Goyal, 2003). Post the financial crisis of 2008, both equity and debt became difficult to source. It is acknowledged that changes in the macroeconomic environment in which firms operate does influence their capital structures (Auret, Chipeta & Krishna, 2013). With a heightened level of information asymmetry, it provides a unique opportunity to explore the impact of asymmetry on capital structure decisions. Emerging markets irrespective or cycle offer an opportunity to test POT due to high asymmetry and agency costs (Seifert & Gonenc, 2010).

In testing these theories most studies in emerging economies have made use of a static framework to study the determinants of the capital structure decision (Ramjee & Gwatidzo, 2012) and more investigation into dynamic models of the capital structure decision is needed. As Kumar et al., (2017:107) note: "The factors determining the financial mix of an organisation are dynamic in nature." Watson and Wilson (2002) provide a dynamic model that directly tests whether POT is followed when making capital structure decisions. This paper uses a similar dynamic method to Watson and Wilson (2002).

The timing of the data used in the study being 2009 – 2013, which is post the financial crises of 2008, allows an opportunity to use a dynamic model in a period of high information asymmetry to best test capital structure theory. This period allows for an investigation into the ability of TOT and POT to explain capital structure decisions in a context where information asymmetry is particularly high. High information asymmetry should favour POT. As noted above this is important as after more than 40 years, there is not yet a consensus on the determinants of capital structure decisions, especially in emerging economies (Kumar et al., 2017). Information asymmetry is not only high due to our choice of a time-period, immediately after the Global Financial Crisis (Fosu, Danso & Coffie, 2016), but also due to us using a sample of firms listed in an emerging African economy (South Africa) (Gwatidzo & Ojah, 2009). This is further exacerbated due to the stark size difference observed on the Johannesburg Stock Exchange (JSE) between few very-large firms and many smaller firms. Furthermore, the JSE being highly concentrated, compounds the impact of the information asymmetry (van Rensburg & Robertson, 2003).

It has also been noted there has not been significant work performed in this area post the global financial crises, which as Ombati and Ojah (2016) note is an especially relevant time. The primary objective is to use this unique natural situation to apply a robust test for POT to further the debate on how capital is raised in African and emerging markets. This is particularly relevant in the African context, for policy makers, lenders and management as an African context is different to developed markets (Ombati & Ojah, 2016; Mvita, Brummer & Hall, 2022).

This study builds three separate panel regression models on 186 JSE-listed stocks over five years. Using Wald tests to establish whether the coefficients of the various capital structure sources are significantly different. Where the model further adds to the debate, is by using a White firm cluster correction, for arbitrary correlations between firms in a cluster. With multiple firm times series data, this could occur with firms within different sectors being correlated (Cameron & Miller, 2015).

This paper contributes to knowledge by investigating the capital structure decision in an emerging market context at a time of high information asymmetry. This creates an opportunity to test theory, mostly

developed in a developed market context, on a more relevant dataset. The focus of the paper is on the understudied dynamic adjustment of capital structure by making use of Watson and Wilson's (2002) direct test of POT. This model has not been used in the South African context. This paper further contributes by updating the method of testing firm characteristics, enlarging the sample used in previous South African research, and explaining why the results differ to previous research on capital structure determinants. The findings are useful to policy makers and lenders in that they can better understand how to support value creation and growth in South Africa and potentially African and emerging markets.

In looking at the models for company characteristics, they explain some of the capital structure of the firms investigated, however when fixed effects and White cluster adjustments implemented in the models any significance from factors is lost. The fixed effects remove the cross-sectional firm and year impacts, and the White cluster adjustment corrects for any dependencies between firms.

Market conditions prevalent over the period should favour POT which provides an opportunity for directly testing POT. The results of testing show that POT is not followed.

The above-mentioned research approach and data allows for this paper to draw conclusions about the impact of the market cycle on capital structure choices. The above results are important as they indicate that our traditional understanding of capital structure may not apply in an African and emerging market context. This is relevant for policy makers and lenders to acknowledge when determining lending policies to encourage value creation and growth in developing African economies. The finding of this study adds to the untested hypotheses that the financial markets are inadequate in South Africa and more so in other African countries (Ombati & Ojah, 2016; Gwatidzo & Ojah, 2009). This also could link to the Correia and Cramer (2008) and Erasmus (2009) finding that South African firms are under-levered.

The remainder of the paper continues by examining the literature on capital structure choices, and the various theories to explain firms' choices. This is followed by the research approach and results. The paper then concludes and offers areas for further research.

Literature review

This review of literature outlines the two main theories explaining capital structure selection, after which the explanation of how these capital structure theories have been evaluated and the general findings associated with these tests. The literature will conclude by looking at findings from other studies conducted on African and JSE firms.

Capital structure selection theories!

Modern capital structure literature begins with Modigliani and Miller's 1958 paper titled: *'The Cost of Capital, corporation finance and the Theory of Investment'*. Modigliani and Miller's Proposition I shows that capital structure is irrelevant to the value of a firm in a world with:

- No taxes,
- Equal corporate and private lending costs,
- No transaction costs,
- Perfect symmetric information,
- No bankruptcy costs.

Modigliani and Miller go on to show in a later paper that the arbitrage opportunity that existed in the example above, disappears when taxes are introduced (Modigliani & Miller, 1963). This proposition implies that firms should increase their gearing as much as possible to increase their value. When a firm becomes more levered, the increasing interest rates, due to increased risk will at some point outweigh the benefit deriving from the tax shield (Modigliani & Miller, 1963). This means the value of the firm will begin to decrease again and shows that there is an optimal range of debt where the tax shield benefits, and the bankruptcy costs are similar. This implies that an optimal capital structure exists (Modigliani & Miller, 1963). Based on the above, two main theories about how firms choose to raise financing emerge:

Pecking order theory

The main alternative theory to Modigliani and Miller's theory of an optimal capital structure is POT. This theory states that firms will acquire financing from their safest sources first (Myers, 1984) and in a specific order of preference. With the order of preference being retained earnings, then debt, then equity (Myers & Majluf, 1984). Firms prefer internal financing over external financing due to information costs and

adverse selection issues (Frank & Goyal, 2003). Information costs arise due to information asymmetries between management and outsiders. Information asymmetries raise the cost of external financing over the cost of internal funds (Dhawan, 1997). Managers will prefer sources of capital where they do not have to issue information and that will subject them to investor monitoring or control (Shyam-Sunder & Myers, 1999). Firms will only raise equity capital once their debt capacity has been reached (Frank & Goyal, 2007).

Trade-off theory

TOT is an extension of the Modigliani and Miller theorem (Frank & Goyal, 2007). TOT states that firms will choose their capital structure based on the benefits and costs of debt (Robichek & Myers, 1965). Some of these costs have been mentioned in the five assumptions above, but TOT includes the direct costs under Modigliani and Miller, and it includes other indirect costs. The idea underlying TOT is that the cost of debt is low at low levels of gearing. As a firm takes on more debt, the associated direct and indirect costs of the debt increases. This results in there being an optimal range of debt, like in Modigliani and Miller's (1963) theory.

Testing capital structure theories

Capital structure theory testing normally starts with assessing the underlying assumption that there is an optimal capital structure. This allows researchers to calculate, in theory, how the financing should be raised and compare it to what firms actually do when raising financing. This comparison indicates where TOT is being followed. If the firm does not raise funding as expected, then the studies revert to POT. In brief, if TOT were to hold, the debt ratio should remain constant from year to year.

In understanding the choice of capital structure raising, it is important to distinguish between expected and unexpected funding requirements. The unexpected portion is difficult to fund using equity mainly due to the length of time to raise equity (Shyam-Sunders & Myers, 1999).

TOT can be examined by regressing debt ratios over time and testing if the slope of the regression line is 1. This can be represented by the below formula:

$$\left(\frac{Debt}{Total\ Assets}\right)_t = \alpha + \beta \left(\frac{Debt}{Total\ Assets}\right)_{t-1} \quad (1)$$

In a perfect capital structure targeting world, one would expect $\alpha = 0$ and $\beta = 1$ (Watson & Wilson, 2002).

Alternatively, the POT can be represented as follows:

$$\Delta D_{it} = a + \beta_{PO} DEF_{it} \quad (2)$$

Under POT one would expect $\beta_{PO} = 1$ and $a = 0$ when $DEF_{it} < 0$, where DEF_{it} is the funds flow deficit, ΔD_{it} is the change in debt (Watson & Wilson, 2002).

From a firm perspective excess funds raised from retained earnings could be distributed back to shareholders in the form of dividends and outstanding debt could be paid off (Shyam-Sunder & Myers, 1999). However, if there is a funds flow deficit, one can examine how the deficit is funded. Where ΔD_{it} is long-term debt issued and DEF_{it} is the funds flow deficit defined as:

$$DEF_t = DIV_t + X_t + \Delta W_t + R_t - C_t \quad (3)$$

Where DIV_t are dividends, X_t are capital expenditures, ΔW_t is the change in working capital, R_t is the current portion of long-term debt due in the coming year and C_t is operational profits (Shyam-Sunder & Myers, 1999).

This funds flow deficit is further split into expected and unexpected portions as follows:

$$DEF_t = E_{t-1}[DEF_t] + Z_t \quad (4)$$

where $E_{t-1}[DEF_t]$ is the expected funds flow deficit expected at time $t-1$. Z_t represents the unexpected portion of the funds flow deficit (Shyam-Sunder & Myers, 1999; Frank & Goyal, 2003; Seifert & Gonenc, 2010). This approach was criticized by Chirinko and Singha (2000), stating alternative tests are needed to be able to differentiate between the TOT and POT hypotheses.

Watson and Wilson (2002), take a slightly different approach to the above in that they start with the accounting equation of assets equal equity plus liabilities and convert it into an equation showing that the change in assets equals the change in equity and liabilities, and split the equity into retained earnings and newly issued equity:

$$\frac{TA_{it} - TA_{it-1}}{TA_{it-1}} = \alpha_i + \frac{\beta_1(P_{it} - Div_{it})}{TA_{it-1}} + \beta_2(NE_{it} / TA_{it-1}) + \frac{\beta_3(D_{it} - D_{it-1})}{TA_{it-1}} \quad (5)$$

This could be split further between long-term and short-term debt financing, as short-term debt financing would have lower informational requirements (Watson & Wilson 2002).

If $\beta_1 = \beta_2 = \beta_3$ in equation (5) then TOT holds, because the D/E ratio will have remained constant. If $\beta_1 > \beta_3 > \beta_2$ then POT holds, because retained earnings are preferred to debt and debt is preferred to issuing new equity (Watson & Wilson, 2002).

Four main considerations are raised in testing these theories with the first being individual costs associated with TOT being difficult to measure and quantify (Watson & Wilson, 2002). The second is firm or industry-specific factors might influence why an individual or group of companies use specific sources of finance. The third being economic factors and lastly it can be difficult to differentiate between POT and TOT at high debt levels, since under POT firms are more likely to issue equity and under TOT, they may be adjusting to their capital structure target (Shyam-Sunder & Myers, 1999).

General findings and considerations on capital structure

When examining capital structure Shyam-Sunder & Myers (1999) find that capital structure theories may not necessarily hold at the extreme ends of the debt-equity ratio, but it should be reasonably accurate at moderate levels of gearing. When splitting out the fund deficit flow into expected and unexpected, their analysis found that firms tend to fund expected shortfalls through debt and could use unexpected gains to reduce their planned increase in debt. The testing performed by Shyam-Sunder and Myers (1999) used simulated data generated from hypothetical firms using a Monte Carlo simulation. In conclusion their findings suggest POT is rejected correctly in all cases, whereas the TOT model is likely to be accepted even when the hypothetical dataset is following POT rules (Shyam-Sunder & Myers, 1999). A limitation in their findings is that the data may be serially correlated, and dividends are sticky making it appear that the firm is following a TOT approach.

Shyam-Sunder and Myers (1999) also find that small high-growth firms do not follow POT. Watson and Wilson (2002) find that POT tends to hold amongst small and medium size enterprises (SMEs) and that there is a preference for specific types of debt. The four types tested were hire purchase, debts owing to group members, long-term debt, and short-term debt. Watson and Wilson (2002) go so far as to say there may be a pecking order within debt as a classification. Frank and Goyal (2003), also suggest that the debt with shorter maturities will be issued first as they have lower information costs (Frank & Goyal, 2003).

Lim, Marcias and Moeller (2014) found that a positive relationship exists between intangible assets and leverage. Intangible assets that generate cash may be collateralised; however intangible assets are funded by half the debt levels of a tangible asset of equal value. Firms that have high levels of collateral are considered less risky and tend to benefit by having access to lower debt costs, so according to TOT firms with high levels of tangible capital will have more debt (Frank & Goyal, 2009; Shyam-Sunder & Myers, 1999). The nature of the asset itself is also important. If a firm owns machines and expertise that are not easily transferable in the case of a bankruptcy, then these will have to be sold at a discount, increasing bankruptcy costs (Titman & Wessels, 1988). Firms with overpriced equity are most likely to want to issue debt, causing another adverse selection problem for the issuers of the debt (Frank & Goyal, 2007).

TOT is based on the basic axioms of finance which adds influence whereas POT is persuasive and based on a logical theoretical basis (Baskin, 1989). That said, like Modigliani and Miller's theory, it does not pass all empirical tests.

Main determinants of capital structure from emerging markets, African and South African studies

Naidu (1986) found that there is no significant difference in capital structures across industries in South Africa, but there were significant differences in firms in different industries in Australia. The same paper also found that Australia and South Africa follow distinctly different capital structure strategies when choosing long-term debt, but not when choosing short-term debt (Naidu, 1986).

Negash (2002) considers firms between 1991 and 1998 and performs a regression analysis using marginal tax rates, effective tax rates, leverage, interest paid, operational cash flow, asset tangibility, depreciation, price-to-book ratio and turnover. Tax rates and cash flow were found to be the most significant indicators of leverage (Negash, 2002).

Pandey and Chotigat (2004) document the lack of testing in emerging market. While not specifically testing POT, but rather focusing on determinants of capital structure using a pooled Generalised Least Squared (GLS) regression model, using Malaysian market data, give inconclusive conclusions for and against POT and TOT.

Industries from different countries can show similar capital structures. De Wet (2006) compares the average long-term debt ratios of firms from South Africa (SA) and the United States of America (USA).

Table 1: Long-term debt to capital (book value)

Sector	U.S.	SA
<i>Technology</i>	19%	20%
<i>Energy</i>	30%	31%
<i>Healthcare</i>	32%	33%
<i>Transportation</i>	40%	45%
<i>Basic Materials</i>	46%	48%
<i>Capital Goods</i>	46%	56%
<i>Conglomerates</i>	54%	32%
<i>Services</i>	63%	35%

Correia and Cramer (2008) surveyed 28 South African firms focussing on their capital budgeting, cost of capital and corporate structure policies. They published the following figures in their paper:

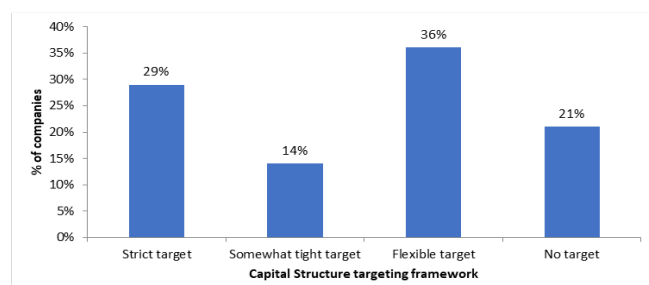


Figure 1: Survey results for the question - Do firms follow a target capital structure?

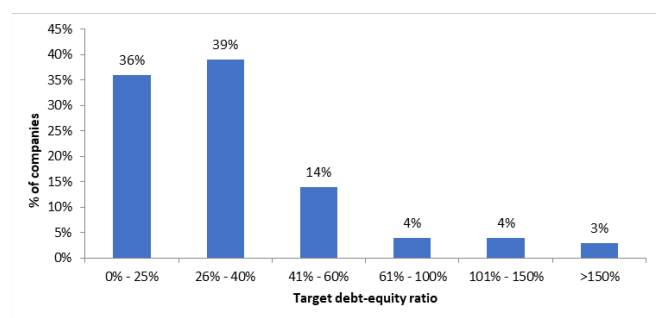


Figure 2: Target debt-equity ratio of South African firms

If the results from this small sample can be generalised, then it looks as if South African firms tend to target a low debt-equity ratio. Correia and Cramer (2008) state that this target appears to be too low from what would be predicted from TOT. They argue that this may be due to local firms facing limited growth potential, an unwillingness to expand to international markets and historically high real interest rates. They argue that the fact that private equity firms use such high levels of gearing for financing the purchase of companies implies that these firms are utilising too little debt (Correia & Cramer, 2008).

Theories that use agency cost and information asymmetries to explain capital structure, like POT, are more likely to fit empirical data in an African context given costs are more material in less developed markets with lower levels of legal protection (Gwatidzo & Ojah, 2009). Gwatidzo and Ojah (2009) used a regression to determine the firm's leverage by using the tangible asset ratio, tax rate, firm profitability, firm size, and firm age as the independent variables. For South Africa, they find that profitability is negatively related to debt. Presumably this is due to the firms having more retained income to finance their assets. Larger firms are more likely to take on more debt. Firms with lower tangibility ratios use more debt, but they found that the tax rate is not significant. They also found that more mature firms take on less short-term debt, but they do take on more long-term debt.

The paper also finds that South African firms tend to have higher debt levels than firms in Kenya and Nigeria, which may be due to the South African financial market being more developed (Gwatidzo & Ojah, 2009).

Erasmus (2009) considers the impact of the economic environment on the capital structure of 312 Johannesburg Stock Exchange (JSE) listed companies between 1989 and 2008. He analyses the data using

multiple regressions to understand the relationship between these economic factors and the capital structure. He considers firm specific factors and economic factors that could impact the capital structure.

Table 2: Summary of variables considered by Erasmus (2009)

Erasmus (2009)	
Firm specific factors	Economic factors
<i>Maturity of debt</i>	<i>Inflation</i>
<i>Asset tangibility</i>	<i>Economic growth</i>
<i>Profitability</i>	<i>Exchange rate</i>
<i>Operating risk</i>	<i>Corporate tax rate</i>
<i>Firm size</i>	<i>Foreign direct investment</i>
<i>Growth</i>	
<i>Asset maturity</i>	

The firm-specific factor choice of variables largely agrees with the significant variables found by Frank and Goyal (2009). Economic factors are not strongly correlated to capital structure (Erasmus, 2009). The paper also supports Correia and Cramer (2008) in that South African firms take on conservative levels of debt. Additionally, they found that firm size and the market-to-book ratio (a measure of growth) are statistically significant across the full sample, though the direction of the relationship disagrees with the study performed by Gwatidzo and Ojah (2009).

Mans and Erasmus (2011) show that the impact of economic variables may have a delayed impact on leverage. The correlation between some of the variables change over time indicating that firms may follow different theories under different situations.

Seifert and Gonenc (2010) looking at 23 emerging markets, as well as, comparing to the US, found there is support for POT in emerging markets where information asymmetry and agency costs are highest.

Ramjee and Gwatidzo (2012) investigate the speed and movement of adjustments of capital structure, to get to optimal capital structure. They use a sample of JSE-listed firms for the years 1998 – 2008. They conclude that a target debt-equity ratio exists in South Africa and that the target would be reached within 1.2 years if the firm is deviating from the target. It is interesting to note that they found firms target a certain gearing level, though firms also prefer internal financing.

Singh and Kumar (2012) use both Shyam-Sunder and Myers (1999) and Frank and Goyal (2003) methodologies on Indian firms and conclude on average Indian firms follow TOT. In this paper there is a risk adjustment factor added to the Frank and Goyal (2003) method.

Moyo (2013) considers capital structure of JSE-listed manufacturing, retail and mining firms, which were continually listed from 2000-2010. Running tests on between 87 and 98 firms for different periods. Moyo (2013) tests for POT and dynamic and static TOT using multiple regression techniques, and finds that asset tangibility, firm profitability, non-debt tax shields, financial distress, liquidity, price earnings, share price and retention rate were negatively correlated with leverage and dividend paid, capital expenditure, firm growth rate, profitability, cash flow from operations and economic value added were positively correlated to leverage.

Kodongo, Mokoaleli-Mokoteli and Maina (2014) examine firm characteristics on capital structure as well as capital structure impacts on profitability. They used 29 firms listed on the Nairobi stock exchange for a period of 10 years from 2002-2011. While their focus was on the profitability side, they did note that the firms preferred to raise funds using equity, saying expensive debt had negative effects on profitability.

De Wet and Gossel (2016) through surveying 33 CFOs of JSE companies found South African CFOs are equally likely to follow POT and static TOT. In addition, they found small firms are more likely to follow POT and larger firms TOT. They conclude that South African companies were more likely to follow TOT than other emerging markets.

Mouton and Smith (2016), examined company-related determinants of capital structure pre and post the 2008 financial crisis, using panel regression on a sample of JSE Top 40 firms. Their findings were that the capital structures of the firms remained consistent. In terms of determinants, profitability became insignificant post the crisis.

Bhama, Jain and Yadav (2016) using the same principles as Sunder and Myers (1999) and Seifert and Gonenc (2010) however splitting firms into deficit and surplus free cash flow before financing and using the Bombay Stock Exchange 500 index and using an ordinary regression rather than a panel regression,

found mixed results. Their main finding was that firms with deficits are more likely to follow POT.

Ombati and Ojah (2016) build on the idea proposed by Gwatidzo and Ojah (2009), that inadequate financial infrastructure could put constraints on financing and impact the capital structure decisions. This study focuses on analysing these constraints at different levels using data from across seven African countries using varying periods between 2000 and 2008. They outline that firm-specific characteristics have a greater impact than inadequate infrastructure, although this is not consistent across individual countries.

Allini, Rakha, McMillan and Caldarelli (2018) followed the Shyam-Sunder and Myers (1999) methodology however using three methods of testing the model; pooled-OLS, fixed and random effects panel regression. Their paper also examines market timing theories. Allini et al., (2018) as with a lot of other research above found distinct characteristics have different influences on how firms raise capital (Mouton & Smith, 2016; Moyo, 2013; Singh & Kumar, 2012; Pandey & Chotigeat, 2004).

Chipeta and McClelland (2018) expand on Shyam-Sunder and Myers' (1999) work by identifying JSE firms that have off (on) target leverage, and test if the firms' evidence capital structure targeting behaviour. Using simulated data and adding a variable to represent off (on) target leverage they use a fund deficit and firm characteristic model to test for TOT and POT. Using their adjusted model, no evidence of TOT and with some evidence supporting POT was found.

The way forward

Previous South African research on capital structure has focused on TOT and aside from Erasmus (2009) and Naidu (1986), have small or medium sample sizes. None of the quantitative studies above directly test POT, and none split debt into short-term and long-term debt in testing capital structure theories. Moyo (2013) does directly test TOT for three industries without splitting debt into short and long-term.

From an emerging markets perspective there has been some testing of POT with the majority following Shyam-Sunder and Myers (1999) methodology which has been criticised as not clearly differentiating between TOT and POT.

This study will apply a direct test of POT to a large sample, 186, JSE firms, across seven industries, post the financial crisis of 2008.

DATA AND RESEARCH APPROACH

Data source and description

Financial statement data was collected from the McGregor BFA database for all firms from the JSE from 2009 to 2013. Firms were excluded from the sample if they were not present for the full period 2009 – 2013.

Firms were allocated to one of the following JSE industries: basic, consumer goods, financials, general, information technology, resources, and services. Financial firms include banks, real estate companies and insurance firms.

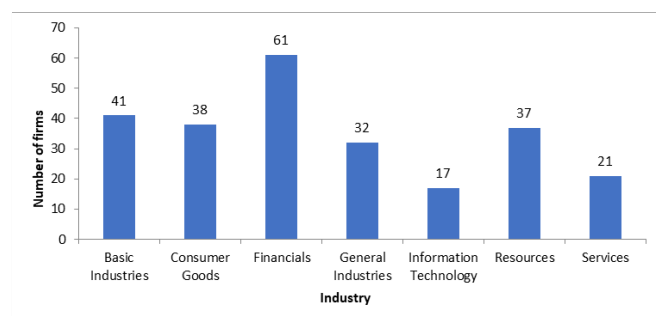


Figure 3: Distribution of firms examined, by industry

There are 247 different firms split across the seven industries, as reflected in Figure 3 above.

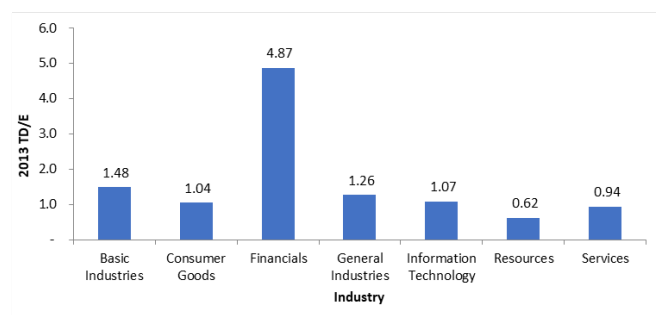


Figure 4: Total debt to equity of firms examined, by industry in 2013

Gearing in the financial industry is significantly different to the other industries. Based on Figure 4, and that financial firms and REITS have specific capital structure regulation, the financial sector follows a difference capital structure to other listed firms. Real estate companies have been included in financials. Other studies recommend the financials and REITS are

removed from the sample (Ramjee & Gwatidzo, 2012), and this paper has removed them. Firms in the financial industry will be excluded from the regression analysis when looking at the JSE in its entirety. Excluding financial firms leaves us with a sample of 186 firms. Financial firms will be considered separately from other industries.

Turnover is used as a measure of firm size. Firms were ranked by their turnover and split into equally sized deciles to give an indication of the distribution of large and small firms in the data.

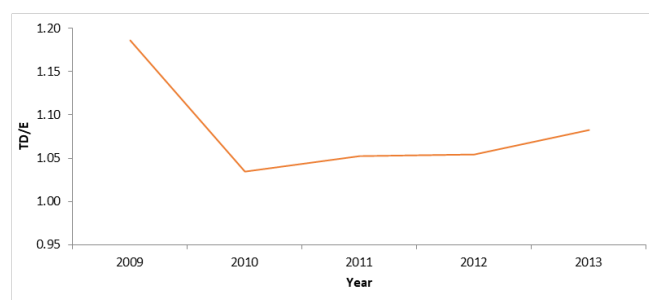


Figure 5: Total debt to equity ratio for firms examined over the period of study (excluding Financials firms)

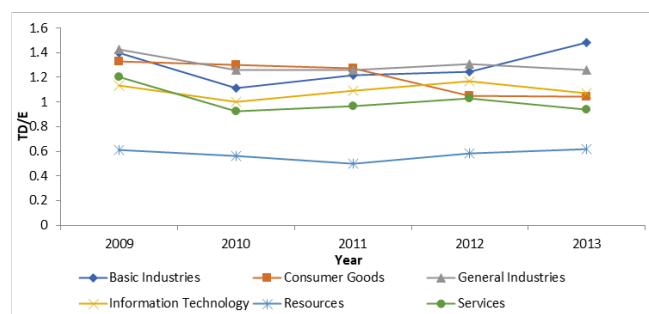


Figure 6: Total debt to equity for firms, by industry

Figures 5 and 6 show leverage dropped significantly from 2009 to 2010 and has been recovering slowly, except for financial services with kept decreasing. It is already noticeable how the trends of leverage of these different industries move differently over time. If similar macro-economic variables were at play, then the lines should be parallel or move similarly.

RESEARCH APPROACH

In adding to the debate in previous literature, this paper addresses whether previous firm characteristics found to be significant are still significant post the 2008 financial crisis, by applying formula (6) below. In addition to fixed effects being applied across firm and year, a White two-way cluster robust standard errors adjustment has been applied, as there is heterogeneity

across firms and industries. This adjustment provides more robust results. Both a Cross-section F and cross-section Chi-Squared test was applied to confirm that there are cross-sectional effects, and thus fixed effects is appropriate to adjust for these.

$$\begin{aligned} \frac{Debt_{it}}{Equity_{it}} = & \beta_1 \left(\frac{EBIT_{it}}{Turnover_{it}} \right) + \\ & \beta_2 (Eff. Tax Rate_{it}) + \\ & \beta_3 \left(\frac{Intangible Assets_{it}}{Total Assets_{it}} \right) + \beta_4 (Turnover_{it}) + \\ & \beta_5 (Growth in Turnover_{it}) + \beta_6 (c_{it}) + \\ & u_{it} \end{aligned} \quad (6)$$

The dependent variable, leverage, was measured in three ways:

1. Total debt-equity ratio (TD/E)
2. Long-term debt-equity ratio (LTD/E)
3. Short-term debt-equity ratio (STD/E)

The Total debt-equity ratio is measured by the firm's book value of debt over the market value of equity. The long-term debt-equity ratio measures the firm's book value of debt that is due in more than one year's time over equity. The short-term debt-equity ratio is the firm's book value of debt that is due in less than one year's time over the market value of equity. The long-term and short-term debt-equity ratios are included, so that the difference in debt maturity choices can be observed.

Independent variables:

The independent variables considered in this paper are based on Frank and Goyal's (2009) paper. This is to add robustness to the past finding and to see if they are still significant for the time period examined. This paper will only focus on firm-specific variables identified in past South African studies. Economic variables are not considered as none were found to be significant in previous South African studies (Erasmus, 2009; Frank & Goyal, 2009). The primary focus of this paper is testing POP on the JSE.

Specifically, the independent variables being assessed are:

1. Profitability,
2. Effective tax rate,
3. Tangibility,
4. Firm size,
5. Growth.

Firm size is measured by the firm's revenue. Growth is measured by the yearly percentage increase of the firm's revenue. Tangibility is measured as the percentage of assets that are tangible, it measures the percentage of a firm's assets that can stand as surety. Profitability is measured as profit before taxes over revenue. The effective tax rate is calculated as tax paid by the firms over profit before taxes.

In addition to the above testing, a further regression analysis will be done to test explicitly if the POT or TOT is followed. Watson and Wilson (2002) perform a regression analysis based on the accounting equation. They re-arrange the accounting equation to show how a change of assets is financed. The coefficients indicate if the business preferred a certain financing method (which would indicate POT) or if they have no preference (which would indicate TOT). Wald tests were used to determine if the sizes of the coefficients are significantly different. A White cluster robust standard errors adjustment has been applied to improve the robustness of the results.

$$\begin{aligned} \frac{TA_{it} - TA_{it-1}}{TA_{it-1}} = & \sum \alpha_i + \frac{\beta_1 (P_{it} - Div_{it})}{TA_{it-1}} + \beta_2 (NE_{it} / \\ & TA_{it-1}) + \frac{\beta_3 (D_{it} - D_{it-1})}{TA_{it-1}} + u_{it} \end{aligned} \quad (7)$$

To do this the following variables are used:

Dependant variable:

Change in total assets.

The change in total assets is measured by the difference in assets from one year to the next over the value of assets in the base year.

Independent variables:

Retained profits (profit attributable to shareholders less dividends) over total assets,

Change in equity over total assets (excluding retained profits),

Change in debt over total assets.

Retained profits are measured as profits after dividends. Change in equity represents the new equity that is available to fund new assets and change in debt represents the new amount of debt available to fund new assets. This model is also applied to different

turnovers to investigate how firms of different sizes finance a change in their assets.

Panel data techniques

The same firms are observed over time, which means that the data extracted from McGregor BFA is panel data. Using a random effect model is useful when drawing random samples from a large data set (de Jager, 2008). The data in this paper does not meet these requirements, since it follows the same firms over time. This paper will use the fixed effects method to adjust for the fixed unobserved firm effects found in the error term. A fixed effect model allows the assumption that firms are homogenous to be relaxed and adjusts for omitted variable biases (de Jager, 2008).

The decision whether to use first difference methods or the dummy variable approach is dependent on the data. A first difference approach was first applied to adjust for omitted variable bias. This approach is preferred over the dummy variable as first differencing reduces the degrees of freedom, and better adjusts for serial correlation, which allows a fixed effects model to be more efficient. If the variables are found not to be serially correlated, the use of a dummy variable approach assists in isolating the fixed unobserved firm effect. In summary, using a dummy variable has the same impact as using a time demeaned method which would result in movements from the variables' mean over time being modelled.

A regression using the first differences of the variables mentioned was performed. A unit root test on the residuals revealed that the error term is serially correlated. It was therefore concluded that it would be best to use a dummy variable approach on the sample.

If a fixed effects approach is used, then the sample will need to be clustered by firms, by time or both. Firm-

specific shocks can cause correlation across time. Market shock variables can cause shocks at one point of time, but across all firms (Thompson, 2011). When doing capital structure regressions Thompson (2011) states that it is reasonable to assume that correlation over both time and firms would exist. The periods were also compared using an ANOVA F-test. From this test it was concluded that each year has a different impact on the residuals in the model. This supports Thompson's (2011) statement, so both firm and time dummies will be used.

RESULTS AND RESULTS DISCUSSION

This section considers the results of the various panel regressions to add to the debate on capital structure selection. Firstly, the results of the testing the relevance of firm-specific characteristics in explaining a firms capital structure, after which the second section will look at the results of POT and TOT testing applied to changes in a firm's capital structure across all firms, as well as classifying firm by size.

Results of panel regression analysis of determinants of capital structure against capital structure for the period 2009 – 2013

As illustrated in Table 3 below, the firm characteristics of tangibility, firm size and growth are shown to be significant when using total debt. This is in line with pervious findings. What is notable is the low R-Squared value implying there are possible omitted variables that need to be considered. Without the White two-way cluster, this test would imply the data points are independent. However, we know that firms are not independent across time and across firms.

By using the White two-way cluster adjustment, we acknowledge these points are not independent.

Table 3: This represents the results of applying formula 6 without using fixed effects or the White two-way cluster adjustment

Results of panel regression without fixed effects or White two-way cluster standard errors and covariance

Variables	Total debt			Long-term debt			Short-term debt		
	Coefficient	Standard error	t-Statistic	Coefficient	Standard error	t-Statistic	Coefficient	Standard error	t-Statistic
C	1.1452	0.0490	23.3878**	0.2348	0.0201	11.6725**	0.9104	0.0403	22.5633**
Profitability	0.0026	0.0045	0.5864	0.0008	0.0018	0.4168	0.0019	0.0037	0.5038
Effective tax rate	0.0057	0.0138	0.4159	0.0017	0.0057	0.3031	0.0040	0.0114	0.3536
Tangibility	- 0.6305	0.2405	-2.6214**	- 0.1378	0.0988	- 1.3948	- 0.4927	0.1982	-2.4858*
Firm size	0.0000	0.0000	2.2331*	0.0000	0.0000	3.1183**	0.0000	0.0000	1.1555
Growth	- 0.1016	0.0491	-2.0687*	0.0209	0.0202	1.0365	- 0.1225	0.0405	-3.0272**
N	930			930			930		
Adjusted R-Squared	0.0152			0.0082			0.0161		

The table above represents 5 years of data (2009 -2013), and consists of 186 firms.

* indicates significance at a 5% level

**indicates significance at a 1% level

Table 4: This represents the results of applying formula 6 without using fixed effects however do use the White two-way cluster adjustment

Results of panel regression without fixed effects however including White two-way cluster standard errors and covariance

Variables	Total debt			Long-term debt			Short-term debt		
	Coefficient	Standard error	t-Statistic	Coefficient	Standard error	t-Statistic	Coefficient	Standard error	t-Statistic
C	1.1452	0.0956	11.9763**	0.2348	0.0391	6.0038**	0.9104	0.0781	11.6600**
Profitability	0.0026	0.0024	1.0786	0.0008	0.0007	1.0987	0.0019	0.0018	1.0590
Effective tax rate	0.0057	0.0036	1.5740	0.0017	0.0016	1.0667	0.0040	0.0024	1.6409
Tangibility	- 0.6305	0.3225	- 1.9548	- 0.1378	0.1271	- 1.0842	- 0.4927	0.2691	- 1.8312
Firm size	0.0000	0.0000	1.2304	0.0000	0.0000	1.8396	0.0000	0.0000	0.7614
Growth	- 0.1016	0.1220	- 0.8324	0.0209	0.0231	0.9059	- 0.1225	0.1010	- 1.2127
N	930			930			930		
Adjusted R-Squared	0.0152			0.0082			0.0161		

The table above represents 5 years of data (2009 -2013), and consists of 186 firms.

* indicates significance at a 5% level

**indicates significance at a 1% level

As can be seen in Table 4 above, by adjusting for the fact that the firms are not independent the significance is lost, however the model still has little predictive

power. For this we use fixed effects across time and firms, and what we see are the results set out below.

Table 5: This represents the results of applying formula 6 with fixed effects and the White two-way cluster adjustment

Results of panel regression with fixed effects and White two-way cluster standard errors and covariance

Variables	Total debt			Long-term debt			Short-term debt		
	Coefficient	Standard error	t-Statistic	Coefficient	Standard error	t-Statistic	Coefficient	Standard error	t-Statistic
C	1.1492	0.0454	25.3172**	0.2432	0.0260	9.3626**	0.9060	0.0288	31.4346**
Profitability	0.0009	0.0019	0.4759	0.0003	0.0002	1.3860	0.0005	0.0016	0.3380
Effective tax rate	- 0.0003	0.0025	- 0.1058	- 0.0003	0.0009	- 0.3007	0.0000	0.0020	0.0051
Tangibility	- 0.6739	0.3954	- 1.7044	- 0.1754	0.1742	- 1.0065	- 0.4986	0.3023	- 1.6494
Firm size	0.0000	0.0000	1.2536	0.0000	0.0000	1.4487	0.0000	0.0000	0.5557
Growth	- 0.0283	0.0534	- 0.5302	0.0146	0.0065	2.2631	- 0.0430	0.0499	- 0.8613
N	930			930			930		
Adjusted R-Squared	0.7855			0.7351			0.8129		

The table above represents 5 years of data (2009 -2013), and consists of 186 firms.

* indicates significance at a 5% level

**indicates significance at a 1% level

What we see in Table 5 is firm characteristics are no longer significant when the model is more robust. This is contrary to the prior findings of: Allini et al., (2018); Mouton and Smith (2016); Ombati and Ojah (2016); Moyo (2013); Singh and Kumar (2012); and Pandey and

Chotigeat (2004). This study when looking at industries found similar results with firm characteristics, where fixed effects were used with the White cluster adjustments any significance previously found was lost. These results were not included as the main question

being examined in whether POT is followed in raising capital, and this is addressed below.

Results of panel regression analysis of pecking order theory to explain changes in capital structure.

Firstly, formula 7 is applied using the closing balance of total assets as the denominator and then secondly, formula 7 is applied using the opening balance of total assets. Which is more relevant would be determined by the order in which you view funding and purchasing of assets happening. This paper takes the view that is in line with Watson and Wilson (2002) that opening balance is most appropriate. It is however interesting to contrast the results.

Table 6: This represents the panel regression results of applying formula 7, however using TA_{it} instead of TA_{it-1} as the denominator for all firms as well as splitting into size categories.

Panel regression results for pecking order testing (Which the change in assets not lagged 1 period)				
Variable	All firms	Small firms	Medium firms	Large firms
C	0.04**(0.005)	0.00(0.011)	0.04**(0.002)	0.04**(0.006)
Retained earnings	0.47*(0.201)	0.50*(0.193)	0.84**(0.079)	-0.30**(0.070)
New Equity	0.33*(0.156)	0.24(0.155)	0.50**(0.025)	1.34**(0.180)
New Debt	0.35**(0.102)	0.19(0.114)	0.79**(0.087)	1.05**(0.026)
N	744	249	248	247
R-Squared Adjusted	0.62	0.64	0.58	0.62
Firm FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes
White firm clustered SE	yes	yes	yes	yes
Wald coefficient tests	Cannot reject that they are all equal		Cannot reject that they are all equal	
			RI>NE; ND>NE	
			NE>ND; ND>RI	

The table above represents 5 years of data (2009 -2013), 4 years of movement, and consists of 186 firms. Standard Errors are shown in parentheses.

*indicates significance at a 5% level

**indicates significance at a 1% level

The results of Table 6 are interesting in that for medium firms and all firms the coefficient for retained income is the biggest, followed by new debt, and lastly new equity this is in line with POT. The Wald test results however do not show the retained income to be significantly different to new debt for medium firms, and none of the coefficients are significantly different for all firms which indicates for all firms, in general, have an optimal capital structure. However, with large

firms they tend to use new equity before debt and lastly retained income. This could be an indication that it is easier for large firms to raise new equity in times of high information asymmetry. Alternatively, one could consider in times of high-risk, investors could increase allocation to larger firms as they are considered less risky. This has not been investigated further in this paper but is an area that could be examined in future studies.

Table 7: This represents panel regression results of applying formula 7 for all firms as well as splitting into size categories.**This is the regression 2 formula with lags to change in assets**

Panel regression results for pecking order testing (per the formula presented).

Variable	All firms	Small firms	Medium firms [^]	Large firms
C	0.03(0.014)	0.02(0.014)	0.02(0.010)	0.01(0.020)
Retained earnings	0.40(0.109)	0.13(0.738)	0.07(0.175)	-0.94*(0.232)
New Equity	1.47**(0.195)	1.29**(0.053)	1.42**(0.183)	2.74*(0.748)
New Debt	0.58**(0.036)	0.40*(0.075)	1.13*(0.110)	0.99**(0.134)
N	744	249	248	247
R-Squared Adjusted	0.67	0.83	0.72	0.54
Firm FE	yes	yes	yes	yes
Year FE	yes	yes	yes	yes
White firm clustered SE	yes	yes	yes	yes
Wald coefficient tests	NE>ND	N/A	NE>ND	NE>ND; NE>RI

The table above represents 5 years of data (2009 -2013), 4 years of movement, and consists of 186 firms. Standard errors are shown in parentheses.

*indicates significance at a 5% level

**indicates significance at a 1% level

[^] For medium firms had to use a one way cluster due to lag errors. All other results are using a two way cluster.

Using the opening balance of assets as the denominator gives a more consistent answer. The results in Table 7 show across all categories other than small firms, new equity was the largest source of new funding, followed by new debt and then by retained earnings. Given the high levels of asymmetry, we would expect retained earnings to be the first option. This finding is counter to what would be expected if POT were to be followed. These results present strong evidence, in the South African context, that Myers's (1984) POT does not hold in the natural experiment examined. It also contradicts the findings of De Wet and Gossel (2016) who say CEOs are likely to follow POT. The significance of this is that the time period examined had the high levels of asymmetry that should have favoured POT. However, the finding implies POP does not explain how firms chose to raise capital.

While this has not been explicitly examined this could add to the arguments of Ombati and Ojah (2016); and Gwatidzo and Ojah (2009), that the financial market is inadequate in African economies, and this impacts how capital is raised.

The results also show that TOT does not apply during the time periods as the Betas do differ. This is in line with Correia and Cramer (2008) findings from their

survey, however contrasts Ramjee and Gwatidzo (2012) and Mouton and Smith (2016) as it implies there is no target or consistent gearing level.

CONCLUSION

In the African and emerging market context POT is considered more appropriate in explaining how capital is raised (Seifert & Gonenc, 2010; Ojah & Ombati, 2016; Mvita, Brummer & Hall, 2022). Given the natural experiment post the 2008 financial crisis where information asymmetry was very high, this provided an opportunity to test POT in a market that would favour the theory. Also noting that very limited work has been done on capital structure in an African context. (Ombati & Ojah, 2016), this paper set out to assess the two questions to add to the debate on how firms choose to raise capital:

Are previously significant determinants of capital structure still significant post the financial crisis of 2008?

In answering this first question, this paper applies a more robust model and corrected for lack of independence across the sample. The finding contradicted previous research done in the area by

Allini et al., (2018); Mouton and Smith (2016); Ombati and Ojah (2016); Moyo (2013); Singh and Kumar (2012); and Pandey and Chotigeat (2004). The results of the regressions showed that when you assume the firms examined are not independent over time or from each other, the significance of factors diminishes and is lost entirely.

Does the pecking order theory apply to JSE-listed firms' selection of financing post the 2008 financial crisis?

In answering the second question, it was found that firms consistently chose to use new equity rather than POT. This is contrary to what was expected, while there are no directly comparisons in a South African context, and adds to our understanding in an African context, it further adds to the debate on the relevance of POT in emerging markets, in which it is though POT is more likely to explain changes in capital structure. The findings are contradictory to the findings in Seifert and Gonenc (2010) on 23 emerging markets, Chipeta and McClelland (2018) on the 234 JSE firms, and Bhama, Jain and Yadav (2016) findings on the Bombay stock exchange.

This paper contributed to the field of study as it considered a large sample, new more robust methods of testing to give more reliable results, and a different time period when compared to many South African studies. This study also adds value in that the findings indicates there are some other considerations that need to be further researched.

The results of answering the second question add to the thoughts of Ombati and Ojah (2016); and Gwatidzo and Ojah (2009) that financial markets in African economies are inadequate. It also highlights that further research needs to be done in explaining why firms chose new equity first if theory considers this the most expensive option.

In conclusion, this paper found that previously significant determinants of capital structure may no longer have explanatory power and while we believed POT would be followed in an emerging African market at a time of high information asymmetry this was found not to be the case and gives strong evidence to the contrary of POT. While it does not answer the capital structure question and adds to the debate and gives some clear areas for further research.

LIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH

An investigation into why firms would choose new equity to raise capital during a period of high information asymmetry. This would shed light on the question of whether the South African financial system provides adequate opportunities for firms to raise capital. This could also shed light on the difficulties of raising capital in Africa. Firms that delisted during the time period were not examined and these could be included to compensate for any survivorship bias that may exist in this data sample.

The methodology applied in this paper could be applied to different countries. Additionally, the dataset could consider a longer timeframe to analyse the impact of different market cycles.

This paper specifically focussed on two main theories: TOT and POT. It did not consider less recognised theories. It would be interesting to retest the findings of this paper using qualitative methods.

The negative coefficients found in the accounting equation regressions could also be studied in more detail. This paper hypothesises that these negative coefficients are largely due to the impact of intangible assets, but this could be investigated more thoroughly.

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Designing a model to develop smart #goal_diggers: Theory and practice

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Purpose: In 2021, the South African Institute of Chartered Accountants (SAICA) published a new competency framework to guide the development of the professional competence of future chartered accountants. Among the competencies, goal-setting was identified as a fundamental skill and attribute that develops the skills of lifelong learning, relational acumen, self-management and emotional intelligence. This paper aims to present the reader with a hybrid, computerised, goal-setting targeted intervention designed as a four-cycle repeating intervention for second-year accountancy students.

Design/Methodology: The design presents a targeted intervention based on the theoretical and philosophical underpinning of qualitative research findings.

Findings (Intervention): The intervention employs the research underpinning to guide students to set SMART performance, personal and process goals. Furthermore, it guides students to review and reflect on their main assessment performance, as underpinned by goal-setting literature.

Contribution: Students will acquire goal-setting skills, improving metacognition and self-awareness. Metacognitive strategies acquired will consist of planning and goal-setting, reviewing and regulating. These strategies will aid students in controlling and executing their learning process. Attributes such as self-regulation, motivation and self-efficacy will illuminate the path to developing cognitive abilities. These skills will significantly improve academic success and mould students into well-rounded professionals with the attributes required by the chartered accountancy profession. At a metacognitive level, goal-setting will underpin life skills and time management, improve motivation and focus, relieve stress and foster hopefulness.

KEYWORDS: CA(SA) competency framework 2021; goal-setting; intervention; performance goals; personal goals; process goals; SMART

INTRODUCTION

In 2021 the South African Institute of Chartered Accountants (SAICA) published a new Competency Framework (referred to as the CA(SA) Competency Framework 2021) to guide the development of the professional competence of its future chartered accountants, with the slogan "In pursuit of accountability in an integrated world". This CA(SA) Competency Framework 2021 is also often referred to as the CA2025 Competency Framework since it outlines the professional competencies expected from entry-level future South African chartered accountants (CAs(SA)) (SAICA: 2022). Accountancy students should acquire these competencies during their academic career to mould them into professionals of high repute.

The CA(SA) Competency Framework 2021 results from an in-depth study project involving wide-ranging engagement. It has undergone extensive research to ensure that CAs(SA) will remain relevant in the society where they live and work. This world is frequently called volatile, uncertain, complex, and ambiguous (VUCA). Furthermore, the pressures brought on by technological development and elements such as

social justice, climate change, and many other intricate problems add to the challenges accountants must confront head-on. It quickly becomes apparent that accountants are far more than merely "bean counters" of the old days (Els, 2021).

The academic curriculum, training programme, and professional evaluations are all used to build and evaluate the competencies required throughout the pre-qualification phase according to the CA(SA) Competency Framework 2021 (Els, 2021). An in-depth study of the CA(SA) Competency Framework 2021 revealed that goal-setting is a critical component of the competencies included in professional values and attitudes and some enabling competencies.

PURPOSE

This paper presents the design and development of a targeted goal-setting intervention based on researched theory and empirical data to foster students' goal-setting skills and strategies as an attributive competency in second-year accounting students. This intervention aims to promote the skills, proficiencies and attributes aligned with goal-setting

competencies to develop and mature simultaneously within the goal-setting intervention. Competencies and qualities aligned with goal-setting, such as life-long learning, self-management, and emotional intelligence, are simultaneously developed within the procedural development of a goal-setting intervention.

Cultivating goal-setting as a skill becomes an enabler for acquiring related proficiencies set out in the competency framework. While it initially teaches goal-setting as a skill, the intervention aims that goal-setting will evolve to become integrated as an innate attribute encompassing the outcomes in the CA(SA) Competency Framework 2021.

Therefore, the study aimed to design and develop a targeted goal-setting intervention for second-year accounting students, which would teach and practice goal-setting to the extent that it would become an innate characteristic vested in self-awareness and metacognition. Metacognition was defined by J.H. Flavell in the 1970's, as the knowledge people have about their cognitive processes. Later Flavell defined it as "Thinking about thinking." Flavell went on to split metacognition into four components, namely metacognitive knowledge, metacognitive experiences, metacognitive goals and metacognitive actions or strategies (Moritz & Lysaker, 2018).

When practised and instilled as a skill, goal-setting becomes a metacognitive strategy that helps students control and execute their learning (Vrugt & Oort, 2008: 123). A metacognitive strategy, such as a goal-setting intervention, is fundamental to developing cognitive abilities and independent learning.

When interventions are consciously deployed, they change strategies (Fraser & Galinsky, 2010: 459). Researchers have found that when a targeted intervention addresses specific motivational processes at crucial time points in the educational process, it can have powerful and long-lasting effects (Harackiewicz & Priniski, 2018: 410).

It can be expected that SAICA-accredited universities would include the theory of goal-setting in some non-core modules at a first-year, or even second-year level, to comply with the requirements of the SAICA's CA(SA) Competency Framework 2021. However, the exit level in these non-core modules would be insufficient compared to that required by the CA(SA) Competency Framework 2021 since these courses do not integrate

goal-setting practices into students' daily life. The research gap was thus identified. A targeted goal-setting intervention was developed to assist second-year accounting students in becoming effective goal-setters that not only set goals but also cultivate strategies to reach these goals.

DESIGN AND METHODOLOGY

Research Design: A targeted intervention was designed based on the literature review and previous research findings. The paper outlines the intervention's design process, structure and content and describes its implementation.

Research Methodology: This study followed a qualitative research approach to provide a theoretical and philosophical underpinning for the targeted intervention's design (Ford & Goger, 2021). Qualitative research is a methodology that aims to explore the subjective experiences, attitudes, and perspectives of individuals or groups (Bhandari, 2020). Qualitative research is often used to generate theories or hypotheses that inform the design of interventions, programs, or policies (Maxwell, 2005: 56). In this intervention, using qualitative research to inform the design of the targeted intervention grounds the intervention in a deep understanding of the experiences and perspectives of the target audience.

LITERATURE REVIEW

Students who set goals can develop their goal-setting skills and increase their academic performance because they can focus more effectively on particular academic skills once they are more accustomed to the goal-setting process (Rowe, Mazzotti, Ingram, & Lee, 2017). In the following section goal-setting, types of goals that will be used in the intervention design, goal-setting steps and how the CA(SA) Competency Framework 2021 links to goal-setting, will be discussed.

Goal-setting

Setting goals guides one to focus on achieving the intended results and gives a roadmap for success. Improvement in various fields of life has also been attributed to effective goal-setting (Locke & Latham, 2002: 706). Conscious goals lead to action (Locke & Latham, 2013: 3). A goal is the object or aim of an action, such as attaining a specific standard of

proficiency, usually within a specified time limit (Locke & Latham, 2002: 705).

In the learning environment, goal-setting is defined by Locke and Latham (2013: 4) as the process of identifying desired outcomes for learning, while Marzano, Pickering and Pollock (2001: 93) described setting goals as the process of setting a course for learning. These authors argue that successful people have acquired this ability to assist them in achieving both their short- and long-term goals.

Dotson (2016a: 26) mentions that goal setting can positively impact learning if done appropriately. Goal-setting is a critical component in achieving success and has been found to impact students' academic performance positively. In the field of accountancy, goal-setting has been found to be particularly effective in improving academic outcomes (Dotson, 2016b: 44).

Moeller, Theiler and Wu (2012:161) conducted a longitudinal study on the connection between goal-setting and student achievement. They concluded that specific steps are needed for students to adopt goal-setting properly. This conclusion was confirmed by Rader (2005: 124), who stated that the first step in adopting goal-setting is to write down the goal.

Goal-setting helps students focus on achieving a desired outcome. It becomes a guide, steering the student in the right direction. Effective goal-setting enforces focus on life goals by channelling personal efforts. Emotional energy is, therefore, not spent dealing with mere trivialities (Locke & Latham, 2002).

According to Locke and Latham (2002: 706) higher performance is achieved by setting specific and challenging goals rather than general ones or no goals. We might assume that when people develop realistic goals, they become more dedicated to achieving them, which raises their self-efficacy and improves self-regulated performance (Schunk, 2001: 3).

Goals are frequently set using the SMART framework, an acronym for: "specific, measurable, attainable, relevant, and time-sensitive" (Doran, 1981: 36). Furthermore, goals should be supported and outlined by a specific plan of action if they are to increase success. Monitoring activities according to the outlined plan ensures progress and thus reinforces the importance of effort. Progress must also be celebrated, and improvements recognised (Dotson, 2016b: 46).

Types of goals

After exploring and considering various types of goals, the researchers decided on incorporating performance, personal and process goals into the intervention. These three goals are defined below.

Performance goals

Performance goals refer to the goals set by individuals to achieve a certain level of performance or attain a specific outcome (Schunk, 1990:73). In the academic context, performance goals could be obtaining a particular mark in a course or passing a professional certification exam. Research has shown that setting performance goals can improve students' academic performance (Locke & Latham, 2002; Seijts & Crim, 2009).

Seijts, Latham, Tasa and Latham (2004: 229) argue that those who have adopted a performance goal orientation tend to concentrate on the results, other people's opinions, feedback, and performance assessments, favouring assignments that allow them to demonstrate their abilities instead of learning new skills. The researchers incorporated personal and process goals into the intervention to counteract this negative effect of setting performance goals.

Personal goals

Personal goals refer to the goals set by individuals related to their personal aspirations, desires, and interests (Nair, 2003: 193). Personal goals can be related to academic pursuits, such as a desire to pursue a specific specialisation or interest in a particular research area. In the accountancy context, personal goals could include aspirations to work for a particular firm or achieve a certain level of professional recognition (Liu, Robinson & Xu, 2018: 96). Research indicates that setting personal goals can increase motivation, engagement and persistence in pursuing academic goals (Ryan & Deci, 2017: 320).

In 2010, Morisano, Hirsh, Peterson, Pihl and Shore (2010) conducted a study that suggests goal-setting can be particularly beneficial for undergraduate students who are in a transitional phase of their lives and may not have a clear idea of their future goals. According to the authors, the most valuable contribution of a goal-setting intervention for

undergraduate students is helping them specify their vision of an ideal future and reflect on their personal goals (Morisano et.al., 2010:260). The study found that goal specificity is important. By doing so, students may be better equipped to make informed decisions about their future and take steps towards achieving their goals.

Process goals

Process goals could include setting specific study routines, seeking feedback from peers and instructors, or identifying areas of weakness and developing strategies to address them. Process goals have been found to be particularly effective in improving academic performance in students, and their effectiveness has been attributed to empowering students to develop better study habits and self-regulated learning skills (Zimmerman, 2013).

In the current study process goals are linked with strategies. Although there are many definitions for the word "strategy," most of them relate to a plan, a pattern of decision-making, or a set of actions devised or taken to accomplish a goal (Kingston & Wilson, 2009:83).

In goal theories, task strategies refer to specific actions or methods individuals employ to achieve their goals. These strategies can be cognitive or behavioural and involve various approaches such as planning, problem-solving, seeking feedback and self-regulation (Locke, Frederick, Lee & Bobko, 1984).

Task strategies are essential to goal theories because they help individuals bridge the gap between their current and desired states. Individuals can overcome obstacles and challenges by identifying and implementing effective task strategies and progress towards their goals. Finally, in this study, process goals refer to the actions and strategies developed by students to improve their learning process.

Goal-setting steps

Dotson (2016b:46) describes four steps to help students implement successful goal-setting, namely:

- Set goals that are specific, measurable, attainable, realistic, and time-sensitive;
- develop a plan of action;
- monitor progress frequently; and
- celebrate successes—even the small ones

Step one: Set goals that are specific, measurable, attainable, realistic, and time-sensitive

The first step is ensuring that goals are specific, measurable, attainable, realistic and time-sensitive. Goals must be specific to ensure that students view it as meaningful (Doran, 1981; Dotson, 2016b: 46). Goals must be established for specific learning objectives. One can, for example, state that by 24 March 2023, one will have mastered IFRS 15 *Revenue* according to the International Financial Reporting Standards (IFRSs). This goal addresses the first step; it is specific, measurable, attainable, realistic and time specific.

Step two: Develop a plan of action

Student learning is not affected by just writing down a goal; a plan of action (or strategies) must be developed. Students' strategies engaged during the learning process can favourably impact student progress. Strategies and activities that improve students' knowledge and comprehension of the targeted area should be meaningful and offer learning opportunities. It is crucial to keep the student's aim in mind when creating activities and ensure a system is in place to keep students accountable. The possibility that a student will successfully complete an assignment decreases if the responsibility component is absent. Adding responsibility to some established activities takes a little imagination, but the effort is worthwhile (Dotson, 2016b: 45). In the intervention, this step links to students developing and setting process goals.

Step three: Monitor progress frequently

Monitoring the planned activities' impact on student success is imperative, as student ownership is critical in goal-setting. Progress monitoring provides a system to ensure that students value and own their learning. Students must learn how to evaluate their performance or learning progress. When students know they are progressing, it will increase their self-efficacy, which is essential for maintaining motivation and self-control (Schunk, 2001: 2).

To complete step three, the lecturer must track the student's progress towards achieving predetermined goals. The lecturer can also assess the efficacy of their instructional strategies through this method.

Additionally, progress tracking ensures that students value and own their learning because student ownership is a vital component of goal-setting. Progress monitoring is essential to the intervention of the current study; it involves students systematically implementing a self-developed, needs-based action plan.

Step four: Celebrate successes

It is essential that successes are recognised once students realise they have succeeded in achieving their objectives. Students will be inspired to work harder if their efforts are recognised. Acknowledging student accomplishments emphasises the value of effort and recognises progress (Dotson, 2016b: 46).

CA(SA) Competency Framework 2021 and a link to goal-setting

South African chartered accountants are required to continuously improve their competence as life-long learners so that they can adjust and work in an agile manner to deal with complexity (SAICA, 2022: 15). Literature indicates that a goal-setting intervention will foster and develop many competencies and outcomes as required by the CA(SA) Competency Framework 2021, such as life-long learning, self-management and emotional intelligence.

Life-long learning

"Life-long learning refers to the process of self-initiated education aimed at self-development and acquiring an adaptive and agile mindset" (SAICA, 2022: 15). This attribute becomes possible as goal-setting becomes an intrinsic personal quality, underpinning motivation (Locke & Latham, 2002: 702), autonomy and confidence (Van den Broeck, Vansteenkiste, De Witte, Soenens & Lens, 2010: 981), self-efficacy (Bandura, 1997) and self-regulation (Latham & Locke, 1991; Schunk, 1995). Researchers have found that allowing individuals to set their own goals enhances motivation and self-regulation, perhaps because self-set goals produce higher goal commitment (Schunk, 1995).

Self-management

Self-management requires the student to "[p]lan and manage personal development and appreciate how personal strengths and weaknesses may impact work,

learning and goal attainment" (SAICA, 2022: 34). Self-management, through setting goals, leads to better focus and increased motivation. It supports action to address areas of weakness and enforces continuous learning and professional growth (Locke & Latham, 2002).

Emotional intelligence

"Establish and sustain trusting relationships based on self-awareness, sensitivity to the situation, culture and people involved" (SAICA, 2022: 35). Emotional intelligence, which is the ability to be aware, understand and manage one's own emotions as well as those of another person, will benefit from embedded goal-setting skills. It encourages self-reflection, self-awareness, self-regulation and seeking opportunities to develop techniques to ensure continuous learning and growth. By developing emotional intelligence students will show persistence and resilience in obtaining their goals in spite of difficulties and setbacks (Goleman, 1995; Lopes, Salovey, Côté & Beers, 2005; SAICA, 2022: 34).

Conclusion

Literature indicates that a goal-setting intervention will foster and improve many competencies and outcomes as required by the SAICA's CA(SA) Competency Framework 2021. Since goal-setting is a metacognitive activity, it will advance self-mastery and benefit-related outcomes.

CONTRIBUTION

Design process

The intervention is a hybrid, computerised, goal-setting, targeted intervention. It is designed as a once-off workshop with a repeating four-step cycle. The design of the intervention is based on the Intervention-Development-Evaluation model of Kumar (2011: 327) incorporating goal-setting related acumens as per the CA(SA) Competency Framework 2021 and goal-setting principles as discussed in the literature review. It relies on the observations of scholars in the field. Kumar's Intervention-Development-Evaluation process contains four phases. This paper addresses only Phases 1 and 2, as Phase 3 focuses on the intervention execution, and Phase 4 on the intervention evaluation. The Kumar model was chosen since it can be used in

future research to evaluate the effectiveness of the intervention.

The need for developing goal-setting skills of accountancy students was identified according to Phase 1. Phase 2 has four sub-phases: (i) the development of aims, (ii) objectives, (iii) strategies to achieve the objectives and (iv) activities to achieve the strategies.

The following *aims* were identified from the CA(SA) Competency Framework 2021: Improve students' goal-setting acumen linked to self-development, adaptive mindset and agility, self-management and emotional intelligence. The *objective* is to increase the number of students that set and monitor their goals. The intervention *strategies* are based on a hybrid computerised model, including a workshop and participants' completing manual and Learning Management System (LMS) activities. The intervention includes the following activities: (i) SMART #GOAL_Digger workshop (including a handout (see Appendix A and B)); (ii) setting SMART #GOAL_Digger goals; (iii) reviewing and revising SMART #GOAL_Digger goals, (iv) a Post Test-analysis Activity; (v) reflecting on SMART #GOAL_Digger goals. Figure 1 on the next page depicts the intervention design based on Kumar's Intervention-Development-Evaluation Model, while Figure 2 depicts the activities of the SMART #GOAL_Digger intervention.

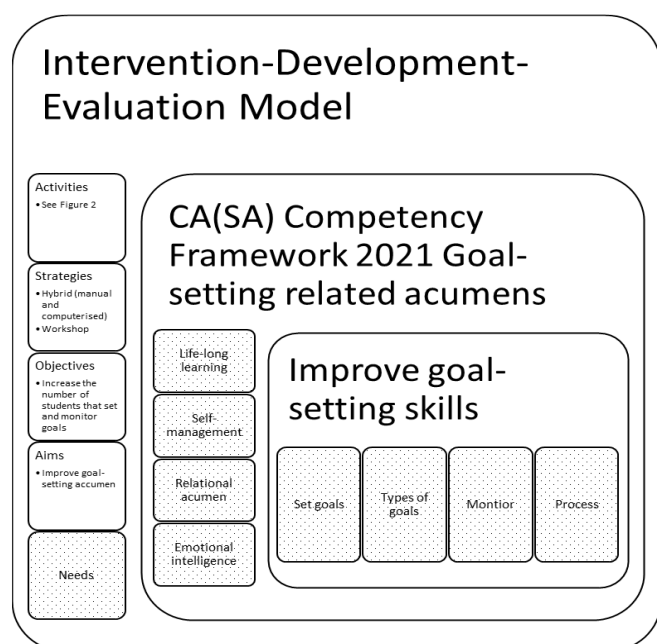


Figure 1: Design of the SMART #GOAL_Digger intervention (prepared by researchers)

SMART #GOAL_Digger intervention

The activities of the SMART #GOAL_Digger intervention consist of a once-off workshop with a repeating four-step cycle. The cycle repeats for each main assessment and includes manual and computerised activities that students must complete on the module's LMS. The intervention activities are depicted in Figure 2 below.

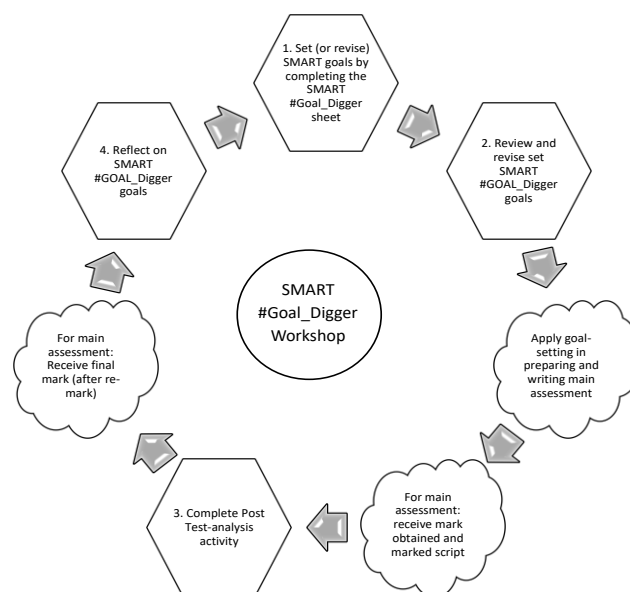


Figure 2: SMART #Goal_Digger intervention activities (prepared by researchers)

The intervention starts with a workshop (see the circle in the middle of Figure 2) where a presenter introduces students to the SMART #Goal_Digger intervention and informs them about the research study. At the beginning of the workshop, students receive a SMART #Goal_Digger handout. The handout consists of a one-pager information sheet (Appendix A) and a page guiding students to set their performance, personal and performance goals (Appendix B). Completing this handout will assist them in completing step one of the intervention cycle. The workshop makes use of PowerPoint slides to guide the presentation. The workshop introduces the SMART #Goal_Digger theme before focussing on efficient and effective goal-setting. The first activity requires students to imagine their future professional selves. The three types of goals addressed in this intervention are introduced next, namely performance, personal and process goals.

The workshop explains performance goals as the marks students want to obtain in the module's assessments.

The presenter then moves on to personal goals, which focus on setting goals for different areas of one's life. The presenter explains the following seven personal subcategories as examples: Health, Relationships, Business, Finances, Leisure, Spirituality and Community. However, students are encouraged to explore more subcategories. Through emphasising personal goals, students are encouraged to envisage their future professional selves, which fosters a long-term perspective while discouraging short-term goal-setting.

The workshop explains process goals as the strategies students commit to in order to achieve their performance goals. The presenter explains that for this intervention, process goals link to the strategies students need to implement to reach the performance and personal goals they have set. Process goals, instead of strategies, were selected for this intervention because goals fit better into the SMART #GOAL_Digger theme.

The well-known SMART framework that George T. Doran developed in 1981 (Doran, 1981) was used to guide students in setting goals. The SMART acronym states that goals should be Specific, Measurable, Achievable, Realistic, and Time-bound. The acronym approach is chosen because it is a well-known approach to student goal-setting. The SMART framework is also taught in the school subject Life Orientation, which forms part of the National Curriculum and Assessment Policy Statement (CAPS) curriculum; therefore, most students should be familiar with this approach to goal-setting (Basic education, 2011).

The presenter then explains how the SEOT framework can help students set process goals. The SEOT acronym refers to Strategy (plan of action, game plan, tactics), Effort (a vigorous or determined physical or mental attempt), Optimise (making the best use of a situation, opportunity or resource) and Tinker (an attempt to repair/fix/adjust and improve) (SEOT.CA, 2023). This framework and supporting resources are available online and can be used to improve goal-setting skills. The SEOT framework was chosen because it resonates with the researchers' approach to goal-setting and integrates performance and personal goals with process goals. The SEOT framework is also easy to understand and implement. As explained previously, process goals focus on strategies to achieve performance and personal goals. Therefore, the SEOT

framework improves students' strategies (process goals), improving the likelihood of them reaching their goals by guiding them to develop strategies, motivating them to put in the effort, optimising their habits and tinkering with their strategies to reach their goals.

This part of the workshop concludes with the presenter guiding students to identify how they will reward themselves for achieving their process goals. This approach shifts students' focus from being result orientated to instead being process driven.

The workshop closes with the presenter explaining the timeline for the repeating steps of the intervention. Students are then instructed to complete their SMART #Goal_Digger handout (Appendix B) and requested to upload it to the LMS. "As people learn to set realistic goals we might expect that self-set goals would produce higher self-efficacy and better self-regulated performance than assigned goals because they will be committed to attaining their goals and feel efficacious about doing so" (Schunk, 2001). Completing the SMART #Goal_Digger handout and uploading it is step one (see the first hexagon in Figure 2) of the intervention's repeating four-step cycle. In repeating cycles, step one will focus on setting new SMART #GOAL_Digger goals for the next main assessment and revising goals set in a previous cycle. The intervention requires students to set seven performance goals, namely the mark for their four main tests, continuous assessments mark, examination mark and final combined mark.

Step two of the intervention is to request students to review and revise their goals as submitted in step one on the LMS three weeks after the workshop (see the second hexagon in Figure 2). The timeframe of three weeks was decided upon because it allows sufficient time for students to implement their process goals and to evaluate whether their set goals (for all three types of goals) are SMART. Students will be required to complete an LMS assignment with questions on whether they want to adjust any of their goals, why they want to adjust them, and their final SMART #GOAL_Digger goals for the following main assessment.

Students will then prepare for and write a main assessment, implementing the process goals they set to reach their performance and, if applicable, personal goals. Once the assessment is marked, students will receive their marks and marked script. The assessment

and the marking thereof do not form part of the intervention as it is part of the routine assessment process of the university; therefore, it is indicated with cloud symbols in Figure 2.

Step three (see the third hexagon in Figure 2) of the intervention requires students to complete a post-test analysis based on the re-marking guidelines of the university. Only the steps applicable to the intervention will be discussed. Students will be required to compare their set performance goal with the mark they obtained for the original assessment (before the remarking of the assessment). For each question, including sub-questions, students must identify and indicate which questions' marks they are satisfied with to determine whether the mark meets or exceed the set performance goal. Next, students must identify and reflect on each question where their performance goals were not obtained. Based on the researchers' experience, students are given a list of possible reasons for not achieving their set performance goal for the question. Students must indicate which of the reasons provided might have contributed to them not achieving their set performance goal for a specific question. This step is completed with the LMS assignment tools.

Step four (see the last hexagon in Figure 2) is completed after receiving the final mark of the main assessment of the current cycle. Students must complete an LMS assignment requiring them to review and revise their SMART #GOAL_Digger goals submitted before the main assessment of the current cycle (see step one of Figure 2). Students are guided to consider the actual results of all assessments to date. Students are specifically instructed to review and reflect on their performance goals as these directly influence achieving set performance and personal goals.

Expected impact of the SMART

#GOAL_Digger intervention

A successful targeted goal-setting intervention can have beneficial outcomes for second-year accounting students as it has the potential to enhance academic performance over a continuous spectrum significantly. It can optimise skills that the SAICA desires from its future CAs(SA), namely self-development and adaptive mindset and agility, as included in life-long learning values and attitudes, as well as relational acumen that includes self-management and emotional intelligence.

Lastly, it also has the potential to create hope. Table 1 below summarises the SMART #GOAL_Digger activities and the expected learning outcomes of the CA(SA) Competency Framework 2021 it is expected to develop, limited to life-long learning, self-management and emotional intelligence (SAICA: 2022).

Table 1: Mapping of SMART #GOAL_Digger intervention activities to the CA(SA) Competency Framework 2021 outcomes (prepared by researchers)

	Professional values and attitudes Life-long learning values and attitudes						Enabling competencies Relational acumen					
	Self-development			Adaptive mindset and agility			Self-management			Emotional intelligence		
	Outcomes as per the CA(SA) Competency Framework 2021											
	III1b)	III1c)	III1d)	III2a)	III2b)	III2c)	X6a)	X6c)	X6d)	X6e)	X8a)	X8c)
Activities:												
SMART #GOAL_Digger Workshop (workshop)	X									X		
SMART #GOAL_Digger Handout (workshop)	X									X		
Define future professional self (step 1)	X									X		
Set Performance goals for future assessments (step 1)	X									X	X	
Set Personal goals (step 1)	X		X	X					X	X	X	
Set Process goals (step 1)	X	X		X	X	X	X	X		X	X	
Determine reward (step 1)							X			X		
Review and revise goals (step 2)	X		X			X				X	X	
Post-Test analysis (step 3)	X	X	X	X	X	X				X	X	X
Review and revise goals (step 4)	X		X		X	X				X	X	X

Furthermore, the intervention will positively impact students' personal lives in many spheres. These areas are interlinked to professional and academic scholarship according to CA(SA) Competency Framework 2021. A goal-setting intervention aims to improve well-being by enabling students to eliminate procrastination, set barriers, manage time optimally, increase motivation, relieve stress, improve focus and create hope.

Eliminate procrastination

Latham and Locke (2006) state that goal-setting relieves boredom because a goal gives people a sense of purpose. It increases their mental focus on tasks. The outcome is usually a heightened sense of self-efficacy, as well as the pleasure inherent to being purposeful (Latham & Locke, 2006). Goal-setting will help students overcome procrastination. Steel (2007) describes procrastination as a quintessential self-regulatory failure. It severely jeopardises the chances of success in any endeavour.

Set barriers

Goal-setting serves as a gauge for a person's progress that enables the evaluation of advancements from time to time, providing a clear idea of what has been achieved so far, what is lacking and how improvements can be made. Once all shortcomings are discerned,

new ways may be devised to eradicate these and facilitate personal advancements to attain the ultimate goal set initially (Bandura, Schunk, Schmidt, Tankersley, Tuomy & Wilder, 1981: 586). Goal-setting also induces a sense of accountability towards the self, thereby compelling action and revealing whether or not a goal has been committed to and reached.

Manage time optimally

Setting goals enforces maximum time management, providing a clear idea of the goal for a specific timeframe, thereby channelling energy to achieve it. Splitting one major goal into several short-term goals, bound by certain time limits, makes the task easier. It increases productivity and efficiency (Locke & Latham, 2002: 705). Goal-setting is effective because a goal is a level of performance proficiency that needs to be attained, usually within a specified period (Latham & Locke, 2006: 332).

Increase motivation

Motivation is an important aspect that steps up one's prospect of achieving personal milestones. Goal-setting is linked to task performance. Challenging goals lead to a higher level of motivation. However, breaking down challenging goals into smaller ones can make them more achievable, as it becomes easier to initiate and complete tasks that are linked to each smaller goal.

Task completion delivers high motivation, which brings an upsurge of energy and passion, which in turn leads to control and direction (Latham & Locke, 2006).

Relieve stress

Weintraub, Cassell and De Patie (2021: 247) explain that when people strive to reach goals, they experience workflow, which relieves daily stress. A goal and an effective management strategy enable an organised life and the achievement of goals. Mental stress is avoided, and efficiency and productivity are enhanced.

Improve focus

Goal-setting helps maintain and perpetuates focus throughout life. The goal-performance relationship is strongest when people are committed to their goals (Locke & Latham, 2002: 707).

Create hope

Hope consists of believing that one can achieve one's goals and ideals. Planning and motivation through goal-setting fosters hope. Hopeful thinking involves beliefs about developing meaningful goals and finding ways to achieve these goals and increases energy and determination to pursue these goals (Snyder, 2002).

CONCLUSION

This paper highlights the development of a well-designed, targeted, goal-setting intervention and the potential benefits thereof. Based on the literature review and contribution information, the SMART #GOAL_Digger intervention can potentially enhance job proficiency and satisfaction and the emotional health and relationships of the future CAs(SA). The intervention incorporates key principles of goal-setting theory and provides a user-friendly approach for students to create SMART goals that are specific, measurable, achievable, relevant and time-bound. Additionally, the intervention encourages students to reflect on their progress and adjust their goals as needed, which can lead to improved motivation and success. Overall, the SMART #GOAL_Digger intervention has the potential to improve goal-setting practices and enhance goal-achievement outcomes for future CAs(SA). However, further research is needed to investigate the intervention's impact and how it can be applied more broadly.

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APPENDIX A



Performance goal	Personal goals	Process goals
T1 %	• Learning • Health • Financial • Relationship • Entrepreneur • Leisure • Spiritual • Community	Strategy: What approach will you take to achieve your goal? How will you leverage your strengths and overcome your weaknesses?
T2 %		Effort: How much effort are you willing to put in to achieve your goal? What sacrifices are you willing to make to prioritise your studies?
T3 %		Optimise: How can you optimise your study habits to achieve your goal? What adjustments can you make to your approach based on your progress and feedback?
T4 %		Tinker: How will you use critical thinking skills to evaluate your progress and adjust your plan?
Con ~~Ass~~ %		
EXAM %		
FINAL %		



Specific: What exactly do you want to achieve? Be specific about what you want to accomplish.

Measurable: How will you know when you have achieved your goal? What metrics will you use to track your progress?

Attainable: Is your goal realistic and achievable? Is it something you have control over? Think about the resources, skills, and time required to achieve your goal.

Relevant: Is your goal relevant to your academic and career aspirations? Does it align with your interests and values?

Time-bound: When do you want to achieve your goal? Set a deadline for yourself and break down your goal into smaller milestones.



REWARD



SMART
#GOAL_DIGGER

APPENDIX B



Performance goal	Personal goals	Process goals
T1 %		
T2 %		
T3 %		
T4 %		
Con ~~Ass~~ %		
EXAM %		
FINAL %		



SMART#GOAL_DIGGER

The disclosure of the six capitals of the Integrated Reporting Framework in the strategy, risk and performance sections of integrated reports of top JSE-listed companies

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Purpose: This research paper aims to determine the extent to which the six capitals of the Integrated Reporting (<IR>) Framework are considered in the strategy (including business model), risk and performance sections of the integrated reports of 28 top Johannesburg Stock Exchange (JSE) listed companies for the 2020 financial year.

Method: A disclosure checklist was developed interpretively based on relevant literature. Content analysis was used to investigate whether the six capitals are addressed in the strategy, risk and performance sections of the companies' integrated reports, along with assessing the level of detail provided. Descriptive statistics and a Kruskal-Wallis test were performed to analyse the data.

Key Findings: There was a high level of detail in the strategy and risk sections and a lower level of detail in the performance section. The six capitals were included to a large extent in these sections. The Kruskal-Wallis test showed that there is no statistically significant difference between industry and the level of detail of the sections. However, statistically significant differences were observed between (1) industry and manufactured capital and (2) industry and intellectual capital in the strategy section, and (3) industry and human capital in the risk section.

Contribution: Investors can enhance their analysis of integrated reports by better understanding integrated thinking informed by the six capitals. This paper can assist practitioners in assessing whether the strategy, risk and performance sections of their organisation's integrated reports convey to stakeholders that the best practice of considering multiple capitals is implemented by the organisation, post-implementation of King IV Report on Corporate Governance for South Africa, 2016 (King IV).

KEYWORDS: *integrated reporting, integrated thinking, King IV, six capitals of the <IR> Framework, strategy, risk, performance*

INTRODUCTION

Integrated thinking is seen as the core principle of integrated reporting (Adams, 2017; International Integrated Reporting Council (IIRC), 2013c; IIRC, 2018; IIRC, 2021; IIRC, 2020; King, 2015 & Klynveld Peat Marwick Goerdeler (KPMG), 2012). The IIRC's long-term vision is to use integrated reporting to facilitate integrated thinking as a corporate reporting norm (IIRC, 2013c & IIRC, 2021). Incorporated in integrated thinking is a multiple capital approach (IIRC, 2020). The six capitals of the <IR> Framework are categorised as follows: financial, manufactured, intellectual, human, social and relationship, and natural capital (IIRC, 2013c & IIRC, 2021).

Integrated thinking is a critical area identified by the IIRC as an emerging discipline that is fast-growing but is being adopted by companies in disconnected ways. There is a need to drive its progress (IIRC, 2018 & IIRC, 2020). A large number of theoretical and empirical studies have explored integrated thinking in integrated reports of JSE-listed companies as a whole (Ernst & Young (EY), 2020; EY, 2019; EY, 2018; Integrated

Reporting Committee of South Africa (IRCSA), 2011 & Marrone and Oliva, 2020), without focussing on specific sections. For the preparation of the integrated report, the use of specific sections is recommended (PricewaterhouseCoopers (PwC), 2019, p. 29). These integrated reporting sections include the strategy, business model, risk and performance section (PwC, 2019) which may inform users that the organisation has implemented the good practice of using multiple capital approach to inform an organisation's strategy, risk management and performance on value creation (Chen and Perrin, 2017).

This paper aims to evaluate:

1. Whether each of the six capitals is present in the strategy, risk, and performance sections of organisations' integrated reports and
2. The level of detail presented on the six capitals in the stated sections,
3. post-implementation of King IV.

One similar study was found that explored integrated thinking, with a focus on strategy, risk and opportunity of top JSE-listed firms' pre-implementation of King IV (Moolman, Oberholzer and Steyn, 2016), however, did not focus on the company business model and performance. This paper can add to the limited body of academic literature addressing integrated thinking in specific sections of the integrated report.

Stakeholders are drawn to the integration of the six capitals in companies' business models (The Institute of Directors South Africa (IoDSA), 2016). This paper can assist users of financial statements to better understand the company by analysing the disclosure of the six capitals in the company's strategy, risk and performance sections of the company's integrated report (King, 2015). Including a multiple capital approach to inform an organisation's strategy, risk management and performance is good practice for reporting on value creation (Chen and Perrin, 2017) and represents an element of integrated thinking (IIRC, 2020). This paper can assist practitioners in identifying factors (sub-themes) that may indicate that a specific capital has been incorporated in a specific section of their integrated reports and assess the level of detail of the overall capital disclosure in those sections.

South Africa was one of the first countries to prepare integrated reports before the IIRC published its final framework on integrated reporting in 2013 and includes a long history of reporting on non-financial information. Consequently, South Africa is in a position to produce high-quality reports as companies in South Africa had the opportunity to gain the necessary experience, expertise and develop accounting infrastructure to prepare high-quality reports. This paper may provide credible findings from a country that may be leading integrated reporting globally (Malola and Maroun, 2019). Therefore, exploring integrated reports of JSE-listed companies may assist in driving integrated thinking research and adds to the limited body of research on integrated thinking in an African context.

The remainder of the paper is structured as follows: The literature review provides an account of integrated thinking and reporting; introduces and explains the multiple capital approach, and provides an account of integrated reporting and integrated thinking in South Africa. Next, the method is described. This is followed by the presentation and discussion of the results.

Lastly, the paper presents the conclusion and areas of future research.

LITERATURE REVIEW

Integrated thinking and reporting

The introduction of integrated reporting is evidence of the notable shift in corporate reporting practices due to the ever-changing accounting and business world (IoDSA, 2009; IoDSA, 2016; Solomon and Maroun, 2012 & World Business Council for Sustainable Development (WBCSD), 2014). Integrated reports provide an account of the material information about an organisation's strategy, governance, performance and prospects in a manner that indicates the commercial, social and environmental conditions in a single document (IIRC, 2011; IIRC, 2013c; IIRC, 2021; IoDSA, 2016 & Solomon and Maroun, 2012). Integrated thinking is the cornerstone of integrated reporting (Association of Chartered Certified Accountants (ACCA), 2018; Busco, Frigo, Quattrone, and Riccaboni, 2013; Chen and Perrin, 2017 & IIRC, 2013b) which can encourage a shift from siloed reporting to integrated reporting (De Villiers, Hsiao, & Maroun, 2020).

Integrated reporting and integrated thinking are mutually reinforcing (IIRC, 2013b; IIRC, 2013c & IIRC, 2021). It should result in efficient and productive capital allocation and act as a force for financial stability and sustainability (IIRC, 2013c & IIRC, 2021). It considers the challenges presented by complex interactions between different organisational resources and the risk and opportunities it presents (De Villiers et al., 2020). Conversely, some studies suggest that integrated thinking and integrated reporting may not interact in the manner envisioned by the IIRC (Al-Htaybat and von Alberti-Alhtaybat, 2018 & Feng, Cummings, and Tweedie, 2017), which suggests that integrated thinking and integrated reporting may need to be considered independently.

Integrated thinking is associated with breaking down traditional silo thinking, creating strategies linked to material operations, and increasing communications (Giovannoni and Fabietti, 2013), which may lead to better decision-making (Köhler and Hoffmann, 2016). Some papers suggest that integrated thinking can advance strategic planning and communication between departments (Barth, Cahan, Chen, and Venter, 2017 & Dumay and Dai, 2017). Other papers find no internal benefit with the adoption of integrated

reporting (Flower, 2015; Thomson, 2015; Stubbs and Higgins, 2014).

Integrated thinking is poorly defined. Academics and practitioners seem to have a poor understanding of integrated thinking (Feng et al., 2017). Also, there is evidence of integrated thinking and integrated reporting potentially being disconnected (Arul, De Villiers, and Dimes, 2020). Integrated thinking includes (1) the company's use of the six capitals and the inter-relationship, (2) consideration of the capitals and their interaction with the organisation's past, present and future activities, (3) the material needs of major stakeholders and whether the company has sufficient capabilities to meet those needs and (4) the company's business model, which is structured to attend to external shifts in their business environment and react to opportunities and threats (IIRC, 2013c & IIRC, 2021). Jensen and Berg (2012) stated that the wide-ranging goals of integrated reporting have led to confusion on its implementation and developing an understanding of integrated thinking has not been prioritised. Integrated thinking is the focus of this paper as it is a less well-understood topic (Arul et al., 2020).

The interconnection between material economic, social and environmental factors and the resulting impact on the organisation's strategy, risk management and operations in the short, medium, and long term should be explained in an integrated report (De Villiers, Rinaldi, & Unerman, 2014; IRCSA, 2011; IIRC, 2013c & IIRC, 2021). In addition, the report should be concise and address material issues for understanding a company's value creation (IIRC, 2013c & IIRC, 2021). This suggests that integrated thinking should be evident in the interconnection between material issues addressed in the integrated report as demonstrated in Moolman et al. (2016).

Integrated reporting has been critiqued as being merely an extension of a logic where financial capital is at the core, which will have a small impact on the advancement of the sustainable business agenda (Flower, 2015; Dumay, Bernardi, Guthrie, and La Torre, 2017 & Thomson, 2015). This may imply that companies are not applying an integrated thinking model internally. Non-financial reporting has been promoted by integrated reporting (IIRC, 2012; IIRC, 2013a & IIRC, 2021), however, the possibility that integrated reporting is used as an impression

management tool cannot be ignored (Ahmed Haji and Anifowose, 2016). This suggests that integrated thinking may not be applied by businesses. In addition, due to the lack of understanding of integrated thinking by academics and practitioners (Feng et al., 2017), integrated reporting may not be implemented as envisaged by the IIRC (Arul et al., 2020).

Multiple capital approach

According to Professor Mervyn King (IIRC, 2020):

*"A collaborative management culture, a **multi-capital mindset**¹ and outcome-based corporate governance – these are the building blocks of integrated thinking, the output of which is an integrated report. Above all, integrated thinking is a unifying concept and a strategic tool that helps management to bring order to the manifestly complex environment in which businesses must operate in the 21st century."*

A multiple capital mindset is seen as fundamental to integrated thinking (IIRC, 2020). The current best performers base their business decisions on interconnected information across multiple capitals which include the six capitals of the <IR> Framework, with financial capital seen as one capital of many (Coulson, Adams, Nugent, and Haynes, 2015 & IIRC, 2020). Integrated reports should follow a process of integrated thinking within the organisation, which suggests that the organisation should have an awareness of the interrelated nature of the organisation's financial and non-financial capital which is used to create value (IIRC, 2013b & IIRC, 2013c). This includes a consideration of all the capitals that a company affects and is affected by (Chen and Perrin, 2017; IIRC, 2013c; IIRC, 2018; IIRC, 2021 & King, 2015). Consequently, it may be inferred that integrated reports should also take a multiple capitals approach in the material sections in the integrated report (Chen and Perrin, 2017, De Villiers et al., 2020).

The amalgamation of the financial statements, and sustainability or social and environmental report is not the aim of integrated reporting (IoDSA, 2016). The <IR> Framework (2013) adopts a principle-based approach that aims to balance the need for comparability among integrated reports with context-specific reporting that considers the organisations' circumstances, business

¹ *multi-capital mindset* emphasised for the purpose of this paper.

models and strategies. An integrated report should explain how an organisation manages multiple capitals to create sustainable returns (IRCSA, 2011; IIRC, 2013c; IIRC, 2021 & Malola and Maroun, 2019). Performance should not only be measured in financial metrics and should incorporate a multiple capital approach (Malola and Maroun, 2019).

What do we know about integrated reporting and thinking in South Africa?

The first King Report on Corporate Governance (King I) was published in 1994 and was the first corporate governance report in South Africa. The King Report on Corporate Governance for South Africa 2002 (King II) was introduced in 2002, introducing triple-bottom-line reporting (Malola and Maroun, 2019). Triple-bottom-line reporting includes the reporting on economic, environmental and social aspects of the firm's activities. The King Report on Governance for South Africa 2009 (King III) was published in 2009 and confirmed the importance of non-financial disclosures or environmental, social and governance (ESG) disclosures and explained that the integrated report explains the interconnection between economic, environmental and social aspects (IoDSA, 2009 & Malola and Maroun, 2019). In 2010, the JSE decided that all companies listed on the JSE should prepare integrated reports or explain why they have not produced integrated reports (Appiagyei et al., 2018 & South African Institute of Chartered Accountants (SAICA), 2010). According to the JSE (2019), the use of the <IR> Framework is encouraged. This indicates the use of integrated reports are not entirely voluntary (Malola and Maroun, 2019).

In 2011, the Integrated Reporting Committee of South Africa (IRCSA) issued a discussion paper on integrated reporting which stated that the appearance of sustainability reporting and financial reporting seemed disconnected (IRCSA, 2011). Integrated reporting seems to have bridged this gap. An integrated report provides concise communication on strategy, governance, performance and prospects taking an organisation's external environment which can lead to value creation over time (IIRC, 2013c). The introduction of financial and non-financial reporting in South Africa and the integrated report suggests that integrated thinking is incorporated in South Africa.

JSE-listed companies and a number of South African State-Owned Entities were encouraged to adopt an integrated reporting as part of their King III application programmes from the years commencing on or after 1 March 2010. The South African business viewed integrated reporting as a refreshing manner to look at and manage their businesses and reporting internally and externally. This included establishing benchmarks, trends and common material issues and performance measures. This resulted in better integrated reporting practice overtime (KPMG, 2012). Subsequently, the IIRC framework was introduced in 2013 which reiterated many of the principles in the King Code of Corporate Governance Report 2009. King IV was introduced in 2016, which currently serves as a guide for integrated reporting which is also in line with the currently applicable IIRC framework (2013). Both frameworks include an inclusive capitalism approach. The IIRC Framework (2021) is the new guidance for integrated reporting for years commencing 1 January 2022. The IIRC Framework (2021) and King IV are emphasised as important (and similar) guides for integrated reporting in South Africa (IRCSA, 2021). This is evidence of the continuous development of integrated reporting in South Africa, which aims to embed an integrated thinking mind-frame.

A recent study by Marrone and Oliva (2020) shows that South African companies' integrated reports show a high level of alignment with the IIRC framework. The study used a sample of 65 companies that published integrated reports following the IIRC Framework (2013) using their 2017 integrated reports. The scoreboard used in the study was adopted from (Marrone and Oliva, 2019) following 8 content elements: governance, organizational overview and external environment, business model, strategy and resource allocation, outlook, performance, risks and opportunities, and basis of presentation and 2 fundamental concepts: value creation process and by the capitals. The paper evaluated whether these elements were present or absent in integrated reports. This study suggests that integrated reporting in South Africa has been using the IIRC Framework to a large extent. It may also confirm the statement made by Malola and Maroun (2019) that South African companies had a chance to refine their compliance with the integrated reporting model. The integrated reports published by South African companies, were ranked as the best on average when compared to 10 other countries globally (Khanyile, 2019).

Multiple capital approach in South Africa

A growing number of empirical studies examine the integrated reporting practices in a South African context which address integrated thinking and the capitals on integrated reports as a whole are evident (EY, 2020; EY, 2018; EY, 2019; Haji and Anifowose, 2017; IRCSA, 2015 & Setia, Abhayawansa, Joshi, and Huynh, 2015). Other studies focussed on specific elements addressed in this paper to a limited extent studying companies before the publication of King IV (Moolman et al., 2016).

Studies provide evidence of increased sustainability disclosures, incorporating non-financial capitals (Haji and Anifowose, 2017 & Herbert and Graham, 2021), however, integration between the capitals was not evident from these studies (Haji and Anifowose, 2017 & Herbert and Graham, 2021). Other studies have shown that a multiple capital approach was not followed, where financial capital was focussed on, and the other capitals were ignored despite it being significant to the organisation's activities (IRCSA, 2015). Past studies, also show that companies are biased toward positive disclosures using multiple impression management techniques and ignoring negative outcomes indicating that the <IR> framework was applied to a limited extent (IRCSA, 2015 & Solomon and Maroun, 2012). Nevertheless, there seems to be a development of integrated thinking in integrated reports with regards to strategy, risk and opportunity as evidenced by Moolman et al. (2016), which initially examined the development of integrated thinking between strategy, risk and opportunity of 18 of the JSE top 100 companies using the latest available integrated reports as at 30 September 2015.

Integrated reporting and thinking have become ever more important and prevalent, internationally and in South Africa. Increased importance is placed on the implementation of integrated thinking through a multiple capital approach by organisations (IIRC, 2013c & IIRC, 2021). Integrated thinking is difficult to understand, let alone its implementation (Arul et al., 2020). An analysis of the current implementation of integrated thinking is required. Analysing the integrated thinking model informed by a multiple capital approach may provide insight on whether companies incorporate integrated thinking in integrated reporting. Prior studies show that there seems to be progress in the implementation of a multiple capital approach by firms however may not be

at a satisfactory level. Reports are divided into sections that should provide users with important information. King IV states that stakeholders are drawn to the integration of the six capitals in companies' business models (IoDSA, 2016) which includes an analysis of the value creation. By assessing the business model, strategy, risk and performance sections' the disclosure of the capitals could provide valuable insights into the organisation's value creation process (Chen and Perrin, 2017).

This paper provides a basic analysis of whether the capitals are included in the strategy (including business model), risk and performance sections of selected companies, and the level of detail of the capitals disclosed in the stated sections. More detail is provided in the method section.

METHOD

This paper is an exploratory study. Although it is quantitative it is inspired by an interpretative philosophy.

Research approach and design

This paper followed a mixed methods approach. Qualitative data was analysed and coded using quantitative methods. Qualitative content analysis was performed to:

- Determine which sections of the integrated report will be used to extract the strategy, material risk and key performance information.
- Assess whether each capital is included in the stated sections.
- Assess the level of detail of the capital disclosure in the stated sections for the 2020 integrated reports of the companies in the study.

Population and sampling

28 JSE-listed companies were selected from the Top 100 companies (by market capitalisation) and cover 6 industries. An adaptation of the FTSE-Russell Industry classification was used. Industries with similar products were grouped.

The following table shows a representation of the number of companies in this study in each industry:

Table 1: Industries represented in this study and the number of companies

Industry	Number of companies
Basic Materials, Industrials and Oil and Gas	3
Consumer Goods and Consumer Services	9
Health Care	3
Telecommunications and Technology	2
Financials	10
Conglomerate	1
Total	28

Source: Adapted from FTSE-Russell, 2021

Data collection

The integrated reports of the sampled companies which are publicly available were downloaded and analysed by the researcher using prior literature and judgement. Information from other reports or websites were not considered for this study. The integrated reports published for the companies' 2020 financial year was considered as it represents the most recent reporting period.

Data analysis

The qualitative information (such as words, paragraphs, diagrams) and quantitative information (such as quantitative results) was not presented consistently across the reports, therefore content analysis was appropriate to use to analyse the information (Guthrie et al., 2004).

Each report was read to understand its content and structure. This paper focussed on analysing specific sections and subsections of the integrated report. The sections of the report were grouped as follows: (1) strategy (including business model) section, (2) risk and (3) performance. Specific consideration was made with

regards to analysing the performance of the company: The integrated reports were first analysed to determine if the company included key performance indicators (KPIs) in the integrated report. If KPIs were not present or not defined in the report, the section used to assess the linkage of capital to performance was the performance section of the report which was often linked company performance to strategy. Lastly, if KPIs or a performance section was not included in the report, then the salient features of the report were used.

A systematic analysis of the report was performed first by reading specific sections, followed by analysing individual paragraphs, tables and images which was the unit of analysis (Beattie et al., 2004 & Krippendorff, 2018). To avoid the risk of overlooking meaning or context, the analysis tried to avoid performing key, sentence or phrases searches and mainly rely on the reporting format and content in determining what the company considers as its strategy (including business model) section, key risks section, and performance section of the report were. Despite this, to ensure the disclosures were identified, a keyword search was performed. Examples include key performance, key performing, KPI, performance, strategic, strategy, business model, risk, to identify the various sections used in this study.

Whether each capital is included in the sections for each year was coded. A score of 1 means that the capital is present and a score of 0 means the capital is not present. This is done to determine the extent of disclosure of each of the capitals in the strategy, material risk and key performance sections for that year. The thematic content analysis in Table 2 is used to determine whether the information in the strategy, material risk and key performance sections include the specific capital. The thematic content analysis table was created using the description of the capitals by the IIRC and prior literature (Dess & Picken, 2000; IIRC, 2013a & Stiglitz, Sen, and Fitoussi, 2009).

Table 2: Thematic content analysis

Capital	Description	Theme disclosures
Financial Capital	Financial capital is broadly understood as the funds an organisation has available. Financial concepts include economic thinking (IIRC, 2013a).	Financial Ratios Economic environment
Manufactured Capital	Manufactured capital is human-created and production orientated tools and equipment (IIRC, 2013a).	Infrastructure physical Infrastructure technological
Intellectual Capital	Intellectual capital requires a wide range of intangibles, research and development, and the contingency between investment in research and development, innovation, human resources and external relationships which can determine an organisation's competitive advantage (IIRC, 2013a).	Brand and Reputation Company governance and control Business processes Intellectual property and other intangibles Research and Development
Human Capital	Human capital includes the knowledge, skills, experience (Dess and Picken, 2000) and links to other aspects of human capital, such as employee health and care (Stiglitz et al., 2009, IIRC, 2013a).	Number of employees/ staff turnover Employee benefits Staff performance Staff safety and health Training and skills investment Key staff retention Overall employee satisfaction
Social Capital	Social and relationship capital includes supply chain relationships, community acceptance, customer loyalty, government relations, relationships with competitors. It includes relationships within and outside an organisation (IIRC, 2013a).	Customers BBBEE, employee empowerment and related initiatives Projects by the firm to help society Laws and regulations Supply chain Funders of capital
Natural Capital	Natural capital includes resources that can be used by people to provide a return (IIRC, 2013a).	Project to help the environment Climate change/ natural disasters Sustainable supply chain/ business processes

The overall level of detail of the capital disclosures for each year has been coded using the schematic in Table 3. The scoring system is adapted from Nilsson (2016) and Marrone and Oliva (2019). The level of detail of each section was recorded as follows:

Table 3: Assessing the level of detail

0	No disclosure
1	Performance/Risk/Strategy mentioned only
2	Performance/Risk/Strategy mentioned, and Results are included or a description given
3	Performance/Risk/Strategy mentioned, and Results are included and A description given

Source: Adapted from Nilsson (2016) and Marrone and Oliva (2019)

Validity and reliability of data

Data collection and analysis processes were iterative. As each report was read and analysed, new disclosures categories were included under one or more of the capitals in the disclosure checklist. The reports were re-examined where it resulted in a change to the disclosure categories included under the capitals. This process continued until no further disclosures were noted and no more changes to how the disclosures were classified, we required (Beattie et al., 2004 & Krippendorff, 2018). The coding process is inherently subjective as in any study of this nature. To ensure consistency, notes were taken with regards to items that could result in the study being inconsistent and analysed frequently to ensure consistency, and the coding was re-analysed 5 days after the initial data capturing. Where there was uncertainty about how a disclosure should be classified, the literature and prior

data capturing was consulted to ensure appropriate coding and consistency (Beattie et al., 2004). Emphasis was on context and meaning, the frequency of the disclosure was therefore not included. A descriptive statistics package, IBM SPSS Statistics 27, was used to further analyse the level of detail and presence of the capitals per industry.

PRESENTATION AND DISCUSSION OF RESULTS

Figure 1 shows that the majority of the 28 companies in the study included all six capitals in their strategy (including business model) section. Human capital was considered by 26 companies and natural capital was considered by 27 companies.

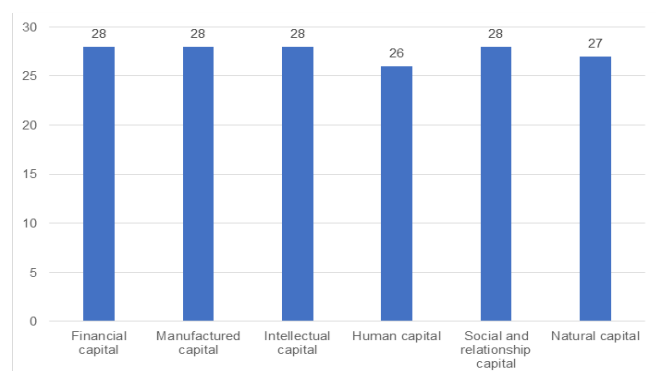


Figure 1: Strategy (including the business model) and the 6 capitals

Figure 2 shows all but one company disclosed financial capital, manufactured capital, intellectual capital, and social and relationship capital in the risk section of their 2020 integrated reports. 4 companies did not take human capital into account in their risk section and 9 companies did not take natural capital into account in their risk section.

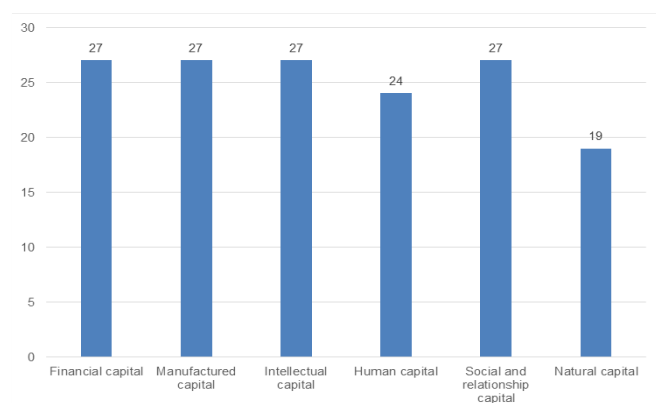


Figure 2: Risk and the 6 capitals

Figure 3 shows that all the companies provided performance information on financial capital. 26 of these companies included social and relationship capital in their performance measure. Manufactured capital, intellectual capital and natural capital were all included in the performance section of 21 companies. 22 companies provided performance measures on human capital.

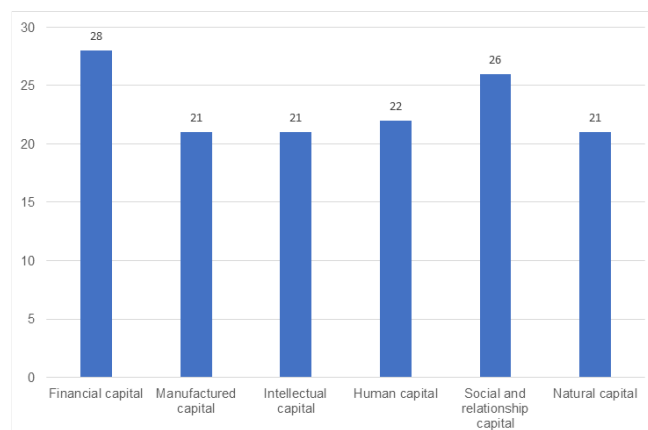


Figure 3: Performance and the 6 capitals

Figure 4 shows most companies had a level 3 level of detail in the strategy (including business model) and risk section (Strategy (including business model) section: 25 companies; and Risk section: 24 companies), meaning that the companies' mentioned the strategic factors and risk factors, and provided a description and results. On average, the strategy section shows on average 2,89 for the level of disclosure and the risk section follows with a slightly lower level of detail at 2,75. The 28 companies' strategy section and risk section show a high level of detail on average. 16 companies had a level 2 level of detail in the performance section, 11 companies had level 3 level of detail and 1 company had level 1 level of detail. The average level of detail was 2,35. Therefore most companies' performance sections included performance measures which were either accompanied by a description of the performance measure without results or results were provided with no description of the performance measure.

Level 1 level of detail was not observed often in any of the integrated report sections evaluated in this study. Level 1 disclosures indicate that the company only mentioned what the performance indicator, risk or strategy factors was without providing a description or results. Level 0 level of detail indicates that no strategy or business model section, risk or performance section was provided by the company in their integrated

report. Level 0 level of detail was only evident for the risk section of Firststrand Ltd. Firststrand Ltd included their risks in a separate report.

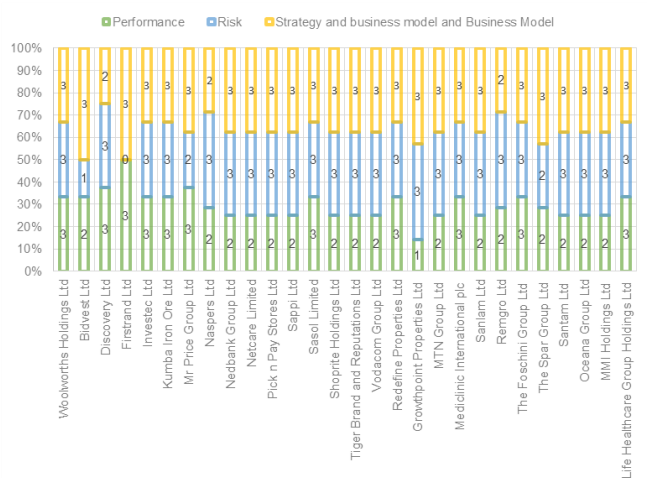


Figure 4: Level of detail in each of the sections

A Kruskal-Wallis test was performed as the data is not normally distributed to determine whether the differences between the industry and level of detail in the strategy (including business model) section, risk section and performance section are statistically significant. Table 4 shows that there is no statistically significant difference between the industry and level of detail in the sections focused on in this paper.

Table 4: Kruskal-Wallis test (Symbol= H) between industry and level of detail in the strategy (including business model), risk and performance sections

	Level of detail in strategy (including business model) section	Level of detail in risk section	Level of detail in performance section
Industry	1,912	7,878	3,437

Table 5 shows that there is a statistically significant difference between industry and manufactured capital in the strategy (including business model) section in the integrated reports of the companies in the study ($H=14,657$, $p < 0,05$). There is also a statistically significant difference between industry and intellectual capital in the strategy (including business model) section in the integrated reports of the companies in the study ($H=4,223$, $p < 0,05$). There is a statistically significant difference between industry and human capital in the risk section in the integrated reports of the companies in the study ($H=14,400$, $p < 0,05$).

Table 5: Kruskal-Wallis test (Symbol= H) between industry and the six capitals in the strategy (including business model), risk and performance sections

	Financial capital	Manufactured capital	Intellectual capital	Human capital	Social and relationship capital	Natural capital
Strategy (including business model) section [^]	0,000	14,657*	4,223*	11,629	4,345	7,000
Risk section [^]	1,800	1,800	1,800	14,400*	1,800	8,137
Performance section [^]	0,000	0,000	0,000	3,738	0,000	1,800

*Significant at the 0,05 level (2-tailed)

CONCLUSION AND AREAS FOR FURTHER RESEARCH

This paper indicates that most of the companies in the study accounted for the six capitals in the strategy (including business model), risk, and performance

sections of their integrated reports. The findings suggest that the disclosures reported by the 28 companies in the study do include elements of the six capitals to a large extent. However, the strategy and risk section show a more detailed disclosure than the performance section of the integrated report. This may

suggest that most of the companies in the study have developed a firm foundation in reporting on the strategy and risk (Moolman et al., 2016), whereas the performance section has not required as much attention by most firms as evidenced by the mode being at level 2 disclosures. In addition, financial capitals in the strategy (including business model), risk, and performance sections were slightly more prevalent than non-financial capitals.

In general, the companies included the multi-capital approach in the strategy (including business model), risk and performance sections of their integrated reports and a fair level of detail, which may indicate that an integrated thinking model is adopted by the companies in the study (IIRC, 2018, IIRC, 2021, IIRC, 2013c).

Companies could improve the disclosures in any section in their integrated reports by including the themes which may indicate a multiple capital approach is used by the company and also assess the level of detail they include in any sections.

This study is limited to 28 of the top JSE-listed companies by market capitalisation. Including more companies may be useful to determine whether the small, and medium-sized companies include a multiple capital approach in the strategy (including business model), risk and performance sections of their integrated reports. This study is limited to 2020, prior years can be included in future studies to determine a more detailed study on the adoption of integrated thinking (De Villiers et al., 2020). In addition, the study can be performed across countries.

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South African NPO financial reporting practices

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Purpose: The purpose of this paper is to identify and discuss the current financial reporting practices of South African non-profit organisations (NPOs) and to determine whether differences exist in the financial reporting practices of South African NPOs based on their size, objective, and the qualifications of the preparers of the financial statements.

Design: To achieve the paper's objective, information was collected from 50 South African NPO financial statements through content analysis. The researcher scored this information to develop numerical data, which was then analysed using descriptive statistics and non-parametric Kruskal-Wallis tests.

Findings: The paper reveals that the majority of NPO financial statements are prepared using accounting frameworks primarily designed to meet the reporting needs of profit-making companies, with larger companies favouring the use of more complex accounting standards. It was also found that many NPO financial statements receive qualified audit opinions, indicating a general lack of resources available to NPOs and challenges in financial reporting. Inconsistencies in financial reporting were noted, with differences observed in the length and detail of the financial statements produced.

Originality/Contribution: Limited research exist on NPO financial reporting, specifically in a South African context. This paper contributes to the existing body of research and may provide context and understanding to standard-setters and regulators considering accounting standards specific to the reporting needs of NPOs.

KEYWORDS: *Department of Social Development; non-profit organisation; objective, size; resources*

INTRODUCTION

The Conceptual Framework for Financial Reporting states that the objective of financial statements is to provide useful information to users to allow effective and efficient decision-making (IASB, 2018). It follows that consideration should be given to who the users of the financial statements are and what information these users consider useful. The same would apply when considering the financial reporting requirements of non-profit organisations (NPOs). The needs of the users of NPO financial statements should be considered in contemplating what information to include in NPO financial statements. NPOs, unlike corporate entities, do not have a profit motive. Funds are obtained mainly through donations that are used to assist the most vulnerable members of society. The result is accountability to donors and beneficiaries that cannot be communicated solely through profits, financial position, and other financial KPIs (Cordery, Belal & Thomson, 2019).

The accountability of NPOs and the need to communicate this accountability has become of greater importance in recent years. Growing government failings locally and abroad and increased environmental and social consciousness have resulted

in increased NPOs (Gray, Unerman, Bebbington & Collison, 2006). Data from the Department of Social Development shows that South Africa had 257 706 registered NPOs as of May 2022 (Department of Social Development, 2022). From a South African perspective, there are currently no reporting standards that are tailored to the reporting needs of NPOs, where social justice, rather than profits, is the primary motive of many of the operations (Crawford, Morgan & Cordery, 2017). As there are no standardised reporting frameworks applicable to the NPO sector from a South African perspective, additional research is required to provide insight into the financial reporting frameworks that are being used by South African NPOs to provide the users of these organisations with information about the activities and outcomes of the NPOs.

NPO Financial Reporting is largely under-researched, specifically in a South African environment (Unerman & O'Dwyer, 2006; Van Caneghem, 2015; Crawford et al., 2017; Costa, Pesci, Andreaus & Taufer, 2018; Cordery et al., 2019). A greater understanding of how NPOs prepare financial statements and what information is included in these statements is required to assist standard-setters and regulators in identifying any current financial reporting deficiencies. This will allow future improvements to be made to the

usefulness of NPO financial statements. Improved usefulness and quality of NPO financial statements may increase the credibility of the NPO and their access to capital, allowing additional resources for the organisation to further its cause.

This paper explores the current financial reporting practices of South African registered NPOs by inspecting the financial statements of 50 South African NPOs. The following literature review provides background to the current financial reporting practices of South African NPOs. The methodology follows this, a discussion of results and a conclusion.

LITERATURE REVIEW

This paper aims to provide insight into the financial reporting practices of South African NPOs. These insights are analysed through the lens of agency theory and stakeholder theory. NPOs generally obtain funds from donations and are thus accountable to their donors. However, the management and donors of the NPO may have divergent goals and objectives. Consideration is given as to how the financial statements of NPOs provide greater communication and alignment between management and donors of the organisation, as accounting was created to align management and shareholder interests (Hopwood, 1987). Stakeholder theory is also particularly relevant in the NPO reporting space. Stakeholder theory considers all parties to whom an entity should be accountable, in addition to simply the entity's shareholders (Phillips, Freeman & Wicks, 2003). NPOs are accountable to many members of society, with many of these stakeholders being some of the most vulnerable members of society. The needs of these diverse stakeholders should be considered in investigating the current financial reporting practices of South African NPOs.

The literature review that follows provides context to NPOs, the existing available financial reporting standards available to NPOs, and explores the existing literature on NPO financial reporting.

NPO purpose and objective

NPOs are non-governmental organisations without a profit motive that serve the needs of burdened members of society (Goddard, Unerman & Juma Assad, 2006; Gray et al., 2006; Unerman et al., 2006; Cordery et al., 2019). These entities generally have specific

environmental and social goals, the funding of which relies mainly on donations rather than the ability of the organisation to generate a profit (Gazzola, Amelio, Papagiannis & Michaelides, 2021). NPOs do not only serve the goals of the most vulnerable members of society but also provide insight into the challenges faced by countries and their populations to assist governments in policy decisions and resource allocations, working as an early warning system.

The term "non-profit organisation" is quite broad and covers several entities that serve the public interest and organisations that govern professional bodies, such as the SAICA. It becomes difficult to define an NPO. This paper considers an entity an NPO if registered with the Department of Social Development. In South Africa, there are 257 706 registered NPOs whom all focus on one of 130 specified objectives recognised by the Department of Social Development, such as; health, sports, rhino conservation, service clubs, refugee assistance, and the environment (Department of Social Development, 2022). The issue with identifying NPOs based on registration is that some NPOs serve the public interest and are NPOs by design but not by registration. The needs of these organisations may not be considered.

Information useful to the users of NPO financial statements

As previously mentioned, NPOs differ from profit entities in that their operations are funded through donations rather than through investors, who predominantly invest with the prospects of a return on investment. These differences in the sources of funds and the reason for donations may mean that users of the financial statements of these entities would have different information needs. In exploring the needs of the users of NPO financial statements, the concepts of Neoliberalism and Stewardship will be explored in greater detail.

The concept of stewardship focuses on the needs of a broad range of stakeholders, primarily on providing information to hold management accountable for using and allocating resources (Murphy & al, 2013; Zhang & Andrew, 2014). As stewardship places accountability and responsibility at the forefront of financial reporting, historical cost measurements are favoured and subject to less manipulation (Zhang & Andrew, 2014).

In recent years, there has been a renewed focus on information usefulness and providing information that is relevant and provided promptly. This aligns with a neoliberalist agenda where fair value measurements are favoured to provide capital providers with more decision-relevant information (Zhang & Andrew, 2014). The focus of fair value measurement places a greater emphasis on the needs of shareholders and provides significant evidence of potential returns on investment. Based on the above discussion and the understanding that the stewardship agenda services the interests of a larger group of shareholders, it would appear that financial statements based on the stewardship agenda would be best suited to the preparation of NPO financial statements, where donors are predominantly interested in how their funds have been allocated to allow the NPO to achieve their stated objective (Connolly & Hyndman, 2000).

Although NPOs serve the interests of a range of stakeholders, an emphasis is placed on these organisations' accountability towards funders (donors) and regulators (Crawford et al., 2017; Kuruppu, Dissanayake & de Villiers, 2022). Users of NPO financial statements are generally not involved in buying and selling decisions that the neoliberal, fair value measurement methods favour (Unerman et al., 2006; Cordery et al., 2019). Rather, NPO users measure performance by deploying resources (Saxton & Guo, 2009; Cordery et al., 2019). Evidence suggests that users of NPO financial statements are more interested in non-financial qualitative information that provides evidence of resource allocations to meet the stated cause of the NPO (Khumawala & Gordon, 1997).

NPO financial reporting and available financial reporting frameworks

The funding of NPOs through donations and the specific reporting needs of a range of stakeholders of NPO necessitates accounting standards tailored to the accountability needs of the NPO space (Cordery et al., 2019). Unfortunately, there are limited financial reporting standards available to South African NPOs in preparing their financial statements, and the available standards were designed to meet the financial reporting needs of profit-generating businesses (Crawford et al., 2017). In a South African context, NPOs generally prepare financial statements using the International Financial Reporting Standards (IFRS), the International Financial Reporting Standards for Small

and Medium-Sized Entities (IFRS for SMEs), and the Modified Cash Basis (SAIBA, 2015). Although there are no reporting standards tailored to the reporting needs of South African NPOs, the Non-profit Organisations Act [No. 71 of 1997] (NPO Act) provides some guidance as to the statements required to be produced by an NPO. Per the NPO Act, all registered South African NPOs are required to produce a statement of income and expenditure and a balance sheet within 6 months of the end of their financial year.

Breen, Cordery, Crawford and Morgan (2018) are of the opinion that the current reporting standards available to South African NPOs are not appropriate to meet the needs of NPO financial statement users. Crawford et al. (2017) provide an example of the IASB's conceptual framework, which was developed with primary users of investors, lenders, and creditors in mind, favouring information with neoliberal characteristics, allowing decisions to be made on buying, selling, or holding which are not relevant to the users of NPO financial statements. There is a call for developing international reporting standards for the NPO sector to increase the usefulness of reports. Crawford et al. (2017) make mention of a South African NPO staff member who expressed that the current reporting standards only provide increased transparency and accountability to accountants, with funders and beneficiaries receiving little value from the current NPO financial statements produced.

Only a few countries, all of which are developed countries, have NPO-specific accounting standards, such as Canada, the USA, and England (Crawford et al., 2017). For example, US GAAP guides NPO reporting, advocating for a statement of activities and functional expenses in place of a traditional statement of comprehensive income (FASB, 2016; Gordon & Granlund, 2018). There is, however, no international standard on NPO reporting. This leaves the NPOs of developing countries at a greater risk of producing financial statements that do not meet the reporting needs of the users of these financial statements. There has been a substantial increase in NPOs in developing countries, where there are increased government failings (Casey, 2016). A lack of guidance on accountability reporting means that there may be greater opportunity for manipulation and misappropriation in these developing NPOs. It may also mean that NPOs cannot sufficiently communicate their activities to users, which may negatively impact the

ability of the NPO to attract funds to meet their objectives.

NPO financial reporting challenges

NPOs generally lack a bottom line in their income statements, as they are not motivated by a profit objective. The lack of profit and prospects of financial gain for participation in NPOs means less regulation and accountability enforced on NPOs (Gray et al., 2006). This may further negatively impact the quality of the financial statements that are already lacking quality due to the application of standards developed for profit-generating entities (Crawford et al., 2017).

The diversity of the stakeholders of these organisations heightens the reporting challenges of NPOs. The needs of donors, beneficiaries, and regulators of the NPO are quite different (Goddard et al., 2006; Reheul, Van Caneghem & Verbruggen, 2012; Crawford et al., 2017; Costa et al., 2018). The result may be over-accounting to meet the needs of all stakeholders and to avoid scrutiny for under-accounting (Kuruppu et al., 2022).

As previously mentioned, NPOs are not driven by profits. The result of this is that some of the actions taken by the NPO may be in the best interest of their stakeholders but may not be quantifiable in financial terms. For example, a marine and seaside clean-up-focused NPO may environment be unable to quantify its environmental impact.

NPOs generally have limited resources due to their reliance on donated funds. This lack of resources affects the accounting resources and time and effort allocated to the financial reporting process. There may also be a lack of understanding of financial statements and the benefits associated with high-quality financial statements due to NPOs, especially smaller organisations attracting less qualified staff members due to low or no compensation offered (Cordery et al., 2019; Kuruppu et al., 2022). Research has found that management may not understand accounting terms and technicalities, resulting in sometimes dubious accounting in the financial statements (Connolly & Hyndman, 2000).

Another challenge that NPOs faces is how to generate funds from donations. Research has shown that the cause the NPO supports affects the funds donors allocate to the NPO. It was identified that 95% of donations in a US context were allocated to NPOs with

the following objectives: education, religion, human services, and health. Only 3% of donations are allocated to environmental and animal welfare NPOs (Septianto, Kemper & Chiew, 2020). Lower donations impact resource allocations, which may impact the financial reporting practices of NPOs.

NPOs and assurance

Although NPOs serve the interests of a number of stakeholders, the reporting needs of funders in the form of donors are prioritised (Crawford et al., 2017; Kuruppu et al., 2022). Donors seek credibility and accountability from the NPOs to whom they donate to determine the effectiveness of the NPO resource deployment (Saxton & Guo, 2009; Cordery et al., 2019). Research has indicated that NPOs with audited financial statements perform better and can attract more donor funds (Dell, Subedi, Hsu & Farazmand, 2022).

In terms of the requirements of the Non-profit Organisations Act [No. 71 of 1997], all registered NPOs are required to submit a written report from an Accounting Officer two months after the finalisation of the financial statements of the NPO. The report should indicate that the financial statements have been prepared in accordance with the policies of the NPO and are consistent with the accounting records, the policies applied are appropriate, and that the NPO complies with the act (SAIBA, 2015). There is no specific need for an audit, but the accounting officer report can take the form of an audit.

Research shows that the NPO's size and complexity of the NPO's operations determine the NPO's assurance fee (Ellis & Booker, 2011). It has also been found that, like the profit sector, the higher the audit fee, the greater the importance placed by the auditor on the engagement, in line with resource dependency theory (Vermeer, Raghunandan & Forgiione, 2009).

METHOD

This paper aims to identify the current financial reporting practices of NGOs.

To achieve this objective, 2 research questions were asked:

1. What are the current financial reporting practices of South African NPOs?

2. Do the financial reporting practices differ depending on the NPO's objective, the NPO's size, and the qualifications of the preparers of the NPO financial statements?

A quantitative method was adopted to answer these 2 research questions in line with prior exploratory studies. Content analysis was conducted over the financial statements of 50 South African NPOs (Leedy, Ormrod & Johnson, 2019; Buchling & Maroun, 2021; van Zijl & Hewlett, 2021). The population of this study is defined as the organisations registered as NPOs with the Department of Social Development as of the 1st of May 2022. At this date, there were 257 706 NPOs. Research indicates that sample sizes for quantitative analysis should be between 30-500 observations (Delice, 2010). The financial statements of 50 NPOs were inspected. Convenience sampling was used due to the financial statements of NPOs not being publicly available. Existing networks were used to obtain financial statements where the financial statements of the NPOs were not available on their websites.

For each organisation, the researcher captured general information such as the objective of the organisation, total asset value, profit, number of employees of the NPO, and the year of the latest available financial statements. A single researcher collected and scored all information to ensure consistency in the data-capturing process. The following content items were captured for each NPO:

- Availability of financial statements on the NPO website or by request.
- The latest available financial statements as at the 30th of September 2022.
- Financial Reporting Framework used by the NPO and the presence of statements as required by the reporting framework.
- The qualifications of the preparer of the NPO financial statements.
- The level of assurance expressed over the financial statements.
- The length of the financial statements and the presence of the notes to the financial statements.

The policies used to account for fixed assets and whether the policy was in line with the stated financial reporting framework used by the NPO.

The information collected by way of content analysis was scored to develop numerical data. The data was analysed using descriptive statistics to answer the

research question (i). The data was stored in a spreadsheet, with data for each organisation recorded on a separate row to facilitate the analysis of the data using SPSS.

Kolmogorov- Smirnov and Shapiro-Wilk tests were performed over the data. Results indicated that the data were not normally distributed. As a result, non-parametric Kruskal Wallis tests were used to answer the research question (ii), whether there is a significant difference in the financial reporting practices of NPOs depending on their size, objective, and level of qualifications of their preparers of the NPO financial statements. Where significant differences were identified, pairwise comparisons were performed to identify which categories of data were significantly different.

To address data validity and reliability of the Kruskal Wallis test, the variables were tested to ensure that each observation was independent. The Kruskal Wallis test tests for differences in categorical data (industry, size, qualification of the preparer) depending on ordinal data. A single researcher scored non-numerical data obtained from the content analysis to develop this data. The latest available financial statements were obtained directly from the NPO, either from the organisation's websites or the NPO. A pilot study was conducted over five NPOs where the researcher read the financial statements of the NPO in detail to identify and document accounting practices, transaction types, and related accounting treatments by the NPOs. These initial analysis findings helped the researcher identify common accounting practices to guide the remainder of the data collection process (Van Teijlingen & Hundley, 2001; Leedy et al., 2019).

Variables

Theoretical frameworks and the previous literature inform the variables used in the non-parametric tests in this research on the factors challenging NPO financial reporting.

Independent variables

In answering research question ii (do the financial reporting practices differ depending on the size, objective, and qualifications of the preparers of the NPO financial statements?), the independent variables would be as follows:

NPO size: NPO size is measured in relation to the net asset value of the NPO. Based on an inspection of 5 publicly available NPO financial statements, the following size categories were developed to be used in the study:

Table 1: NPO size classifications

Net Asset Value (Rands)
Less than 1 million
1 - 5 million
5 - 10 million
10 - 20 million
Greater than 20 million

NPO objective: The NPOs were categorised based on the 130 objectives listed by the Department of Social Development (Department of Social Development, 2022). These objectives have been refined into 8 broad objectives as indicated in the table below:

Table 2: NPO objective classifications

Employment, training, and education
Business, economic and professional associations
Sports
Youth services
Animal welfare
Environmental
Health
Social Services

Qualifications of the preparer: The qualifications of the preparer are measured with reference to their highest qualification achieved:

Table 3: Qualifications of preparers of financial statements:

High school education (no degree)
BCom/ equivalent degree
Chartered Accountant CA(SA) or equivalent

Dependent variables

The dependent variables will be the financial reporting practices of the NPO as disclosed in the financial statements. These include the financial reporting framework used, the presence or absence of notes to financial statements, and the accounting policy choices for fixed assets. The data for each variable will be captured using a defined set of outcomes based on a legend determined in the pilot study allowing ordinal data to be collected (Leedy et al., 2019).

The following relationships are apparent and will be investigated in answering research question ii:

- Statements produced by NPOs = f (size of the NPO)
- Statements produced by the NPO = f (objective of NPO)
- Statements produced by NPO = f (qualifications of preparers)

RESULTS

Tables 4 and 5 below provide an overview of the accounting practices of South African NPOs. The discussion that follows will focus on the results from descriptive statistics and the non-parametric Kruskal-Wallis tests to provide insight into the financial reporting practices of South African NPOs.

Table 4: Financial reporting frameworks and assurance

	Number of entities per category	Financial reporting Framework used			Level of assurance		Opinion expressed on financial statements			Year of latest available financial statements				
		IFRS	IFRS for SMEs	Cash basis	Audit	Review	Unqualified	Qualified	Disclaimer	Earlier than 2020	2020	2021	2022	
NPO Objective														
Employment, training and Business, economic and professional associations	5	0%	60%	40%	100%	0%	80%	20%	0%	40%	40%	20%	0%	
Sports	7	43%	57%	0%	86%	14%	86%	0%	0%	0%	71%	29%	0%	
Youth services	2	0%	0%	100%	100%	0%	50%	50%	0%	0%	50%	0%	50%	
Animal	9	0%	78%	22%	89%	11%	56%	44%	0%	22%	33%	44%	0%	
Environment	2	50%	50%	0%	100%	0%	0%	100%	0%	0%	50%	50%	0%	
Health	4	25%	75%	0%	100%	0%	75%	25%	0%	0%	25%	50%	25%	
Social services	12	8%	58%	33%	100%	0%	33%	58%	8%	17%	25%	50%	8%	
Total	9	0	78%	22%	100%	0%	44%	56%	0%	44%	33%	11%	11%	
		50	12%	64%	24%	96%	4%	54%	42%	2%	20%	38%	34%	8%
NPO Size (based on net asset value)														
Less than 0	3	0%	33%	67%	67%	33%	67%	33%	0%	33%	33%	33%	0%	
Less than 1 million	8	0%	100%	0%	100%	0%	63%	38%	0%	25%	13%	50%	13%	
1-5 million	14	7%	50%	43%	93%	7%	79%	21%	0%	14%	29%	43%	14%	
5-10 million	7	0%	86%	14%	100%	0%	57%	43%	0%	29%	43%	29%	0%	
10-20 million	8	0%	75%	25%	100%	0%	38%	63%	0%	0%	25%	63%	13%	
Greater than 20 million	10	50%	40%	10%	100%	0%	30%	60%	10%	20%	40%	30%	10%	
Total	50	12%	64%	24%	96%	4%	56%	42%	2%	20%	38%	34%	8%	
Companies based on qualification of preparers of financial statements														
No degree or diploma	1	0%	100%	0%	100%	0%	100%	0%	0%	0%	100%	0%	0%	
Bcom or equivalent	11	9%	82%	9%	91%	9%	64%	36%	0%	18%	36%	36%	9%	
Chartered accountant	15	20%	53%	27%	100%	0%	60%	40%	0%	7%	33%	47%	13%	
Not disclosed	21	10%	57%	33%	100%	0%	43%	52%	5%	33%	19%	38%	10%	
Non-accounting degree	2	0%	100%	0%	50%	50%	100%	0%	0%	0%	0%	100%	0%	
Total	50	12%	64%	24%	96%	4%	56%	42%	2%	20%	38%	34%	8%	

Table 5: Financial statement attributes

Categories	Number of entities per category	Average number of pages in the financial statements	Average number of notes in the financial statements	Average number of statements included in a full set of financial statements	Average number of entities using revaluation model for fixed assets
NPO Objective					
Employment, training and education	5	20.4	12.8	4.0	0
Business, economic and professional associations	7	20.0	13.9	3.9	0
Sports	2	22.0	11.5	3.5	0
Youth services	9	24.4	12.1	3.9	0
Animal	2	28.0	18.5	4.0	0
Environment	4	38.5	16.5	4.0	0
Health	12	34.0	16.4	3.8	0
Social services	9	17.3	11.7	4.0	0
Total	50	25.6	14.2	3.9	0
NPO Size (based on net asset value)					
Less than 0	3	17.3	11.0	3.7	0
Less than 1 million	8	17.6	11.5	4.0	0
1-5 million	14	22.4	12.1	3.9	0
5-10 million	7	25.3	12.3	4.0	0
10-20 million	8	32.6	16.4	3.9	0
Greater than 20 million	10	33.6	18.6	3.8	0
Total	50	24.8	13.7	3.9	0
Entities based on qualification of preparers of financial statements					
No degree or diploma	1	16.0	7.00	4.0	0
Bcom or equivalent	11	31.5	14.09	3.9	0
Chartered accountant	15	25.0	15.33	3.8	0
Not disclosed	21	24.3	13.62	3.9	0
Non-accounting degree	2	16.5	10.00	4.0	0
Total	50	22.6	12.0	3.9	0.0

Accounting frameworks used by South African NPOs

Based on the information in Table 4, it is noted that 64% of the NPOs investigated used IFRS for SMEs to prepare their financial statements, with 24% making use of the cash basis and only 12% of organisations preparing their financial statements in accordance with IFRS. This is in line with previous research where it was identified that no specific accounting policies are available to South African NPOs, with most entities using the modified cash basis, IFRS for SMEs, and IFRS (SAIBA, 2015). It is interesting to note that only 6 (12%) of the NPOs that were investigated made use of full IFRS. This may be due to the resource and skill constraints that are experienced by many NPOs (Cordery et al., 2019; Kuruppu et al., 2022). The application of full IFRS requires a greater level of understanding of accounting principles as well as time allocated to the preparation of financial statements. Of the 6 NPOs that prepared their financial statements in accordance with IFRS, 3 of these organisations were business, economic and professional associations. These types of organisations would generally have greater access to financial knowledge and would be in a better position to apply and interpret the financial reporting requirements of IFRS. Time and skills are generally in limited supply in NPOs. Although this may be the case from the information, it is evident 15 of the 50 organisations did have preparers that were qualified as chartered accountants. This could contribute to the high use of IFRS for SMEs by the NPOs.

When considering the size of the NPO, it is evident that there is a generally higher use of IFRS for SMEs in all size categories, except for organisations with a negative net asset value and organisations with a net asset value of greater than 20 million. The lower net asset value is an indication of a lower level of resources available for the preparation of financial statements. In companies with a negative net asset value, organisations tended to use the cash basis (67% cash basis compared to 33% IFRS for SMEs) to prepare financial statements. This may have resulted in using the cash basis, which is generally less time-consuming to apply with fewer accounting policies and guidance than IFRS for SMEs.

For those entities with a net asset value above R20 million, IFRS financial reporting standards became the favoured financial reporting framework. Additional

resources available with an increase in net asset value may mean that resources can be allocated to the more onerous financial reporting requirements associated with applying IFRS.

Table 6: Results of the Kruskal Wallis test: Organisations categorised based on net asset value

Variable	Significance at a 5% significance level
Number of pages in the financial statements	.020*
Latest available financial statements	.453
Accounting framework used in the preparation of financial statements	.026*
Level of assurance	.141
Opinions expressed on the financial statements	.526
Existence of the Statement of Changes in Equity	.846
Existence of the Statement of Cashflows	.343
Existence of other statements	1.000
Number of notes	.190
Sources of revenue	.428

The results of the Kruskal-Wallis test performed in Table 6 above indicate a significant difference in the framework chosen by the NPO depending on the size of the organisation as measured using the net asset value of the organisation. The pairwise comparison test results indicated a significant difference between the accounting framework chosen by companies with a negative net asset value and companies with a net asset value in excess of 10 million. This is in line with the findings from the descriptive statistics, where it was noted that companies with a negative net asset value generally prepare financial statements using the cash basis, while the larger companies favour the use of IFRS or IFRS for SMEs.

**Table 7: Results of the Kruskal Wallis test:
Organisations categorised based on NPO objective**

Variable	Significance at a 5% significance level
Number of pages in the financial statements	.104
Latest available financial statements	.449
Accounting framework used in the preparation of financial statements	.025
Level of assurance	.728
Opinions expressed on the financial statements	.202
Existence of the Statement of Changes in Equity	.642
Existence of the Statement of Cashflows	.257
Existence of other statements	1.000
Number of notes	.454
Sources of revenue	.820

A significant difference was also noted in the choice of accounting framework when the organisations were categorised based on their objectives (Table 7). A pairwise comparison revealed a significant difference between the accounting frameworks applied by entities in the Social Services and the Health categories. The most notable difference is that none of the companies in the Social Services sector prepared financial statements using IFRS. It may be that the financial statements of Social Services organisations are under less scrutiny than those of Health organisations where the health and mortality of their beneficiaries are at stake, resulting in greater accountability for these organisations. Less scrutiny may mean that less time is spent developing accounting policies that could provide the users of financial statements with information that is more useful to their decision-making needs. This is in line with the findings of Gray et al. (2006).

A significant difference was also noted between the accounting frameworks chosen by organisations with business objectives and health objectives. This is in line with the findings in Table 4, where it was noted that no organisations with a business objective applied the cash basis in preparing their financial statements, favouring the use of IFRS for SMEs and IFRS.

Linked to the choice of accounting framework is the use of fair value measurement in the preparation of financial statements. Based on the information in Table

5, it is evident that none of the organisations made use of fair value measures in accounting for their fixed assets. The reason for this is twofold. Firstly, as previously discussed NPOs face the issue of limited skills and resources (Cordery et al., 2019; Kuruppu et al., 2022). The calculation and measurement of assets to fair value regularly require a greater level of understanding than applying the cost model, and it uses additional time to prepare financial statements. Secondly, the users of financial statements of NPOs appear to favour stewardship to measure the NPOs' deployment of resources (Saxton & Guo, 2009; Cordery et al., 2019). The use of cost-based measurement methods is in line with the concept of stewardship and accountability.

Availability of financial statements

The information in Table 4 indicates that most of the NPOs inspected did not have the current year's financial statements available at the data collection date. Most NPOs' latest available financial statements were for the 2020 financial year (38%). 20% of organisations' latest available financial statements related to the 2019 financial year or earlier, and only 8% of organisations investigated had 2022 (current financial year) statements available. The delay in issuing financial statements may relate partially to the resource constraints discussed above and the lack of importance placed by management and users on the financial statements of NPOs (Gray et al., 2006). It may also be due to the requirements of the NPO Act, which only requires financial statements to be prepared together with an accounting report within 6 months of the end of the financial reporting period (SAIBA, 2015). Due to the data's collection dates, the 2022 financial statements of the NPOs investigated may not have been available. This would attribute to the finding that 34% of the latest available financial statements are related to the 2021 financial year.

In considering the objective of the NPO, it is evident that organisations that serve animal and environmental objectives generally have their financial statements available sooner than youth services, health, and social service initiatives. This may be due to the factors described by Septianto et al. (2020), where it was noted that most donors donate to social and human causes rather than animal and environmental causes. The timely release of financial statements by these organisations may be in effect to increase accountability and much-needed funds.

Organisations with business, economic and professional objectives also generally released financial statements more timely, with no organisations having the latest available financial statements after 2020. This may be due to the business focus, which is more in line with profit-oriented business, necessitating the timely release of financial statements (Gray et al., 2006).

Assurance and opinions expressed on the financial statements of NPOs

Based on the data collected in Table 4, 96% of all NPOs investigated receive an audit. This may be due to the requirements of the NPO Act requiring a report from an accounting office (SAIBA, 2015). Although the NPO Act does not require an audit, many NPOs may decide to audit their financial statements due to their public interest and the increased credibility and ability to attract funders associated with an audited set of financial statements (Dell et al., 2022). The data collected shows that only entities in the size category below 0 and 1-5 million received a review of their financial statements rather than an audit. This may be due to the higher costs associated with auditing financial statements. Resource constraints experienced by these entities may inhibit them from having an audit. A lower net asset value also means that there may be less reliance placed on the financial statements as there may be fewer donors. As such, there may be little benefit to justify the higher cost of auditing the financial statements.

The results of the Kruskal-Wallis test included in Table 8 identified a significant difference in the level of assurance obtained by the organisations depending on the qualification of the preparer of the NPO financial statements. Only organisations with preparers with a BCom degree or equivalent or a non-accounting degree had their financial statements reviewed rather than audited. This may stem from the potentially lower skills of these preparers. Lower skills may contribute to a decreased understanding of the importance of high-quality financial statements and the benefits associated with increased financial statement credibility that is associated with an audit of the financial statements (Cordery et al., 2019; Kuruppu et al., 2022).

Table 8: Results of the Kruskal Wallis Test: Organisations categorised based on the qualifications of their preparers

Variable	Significance at a 5% significance level
Number of pages in the financial statements	.216
Latest available financial statements	.557
Accounting framework used in the preparation of financial statements	.797
Level of assurance	.011
Opinions expressed on the financial statements	.632
Existence of the Statement of Changes in Equity	.675
Existence of the Statement of Cashflows	.979
Existence of other statements	1.000
Number of notes	.616
Sources of revenue	.072
Number of pages in the financial statements	.216

Notably, 44% of the NPOs audited or reviewed received a qualified or disclaimer of opinion. This again relates to the resource and skills shortages experienced in the NPO sector, resulting in financial statements that may not be prepared per the stated accounting policies (Cordery et al., 2019; Kuruppu et al., 2022). Research has found that management may not understand accounting terms and technicalities, resulting in sometimes dubious accounting in the financial statements (Connolly & Hyndman, 2000). On further inspection, it was noted that the audit opinions' qualifications related to the auditors' inability to obtain assurance over the cash donations of NPOs. This is a challenge that is faced by many NPOs that is difficult to overcome and may contribute to the potential risk of misappropriation of funds.

Financial statement attributes

Table 5 summarises the attributes of the financial statements of the 50 NPOs investigated. Overall, the number of pages included in the full set of financial statements was 25.6 pages. The number of pages is below the average number of pages expected in profit-generating companies (Clatworthy & Jones, 2003). It is also evident that the number of pages of financial reports increases as the size of the NPO (measured in accordance with the net asset value of the NPO) increases. The average number of pages ranges from

17.3 pages in companies with a negative net asset value to 33.6 in companies that have a net asset value of over 20 million. This is consistent with the findings of Clatworthy and Jones (2003), where it was found that companies with better financial performance generally have a longer set of Annual Financial Statements. The number of notes included in the set of NPO financial statements follows the same trend with larger companies having more notes to the financial statements.

The results of the Kruskal-Wallis test (Table 6) indicate that this relationship between the size of the organisation and the number of pages in a full set of financial statements was significant. Companies in the largest size categories prepared financial statements of a greater length than their smaller counterparts. This is consistent with prior research that was conducted in the profit sector (Clatworthy & Jones, 2003).

In terms of the number of statements included in a set of NPO financial statements, it was found that organisations have, on average, 3.9 statements. In terms of the requirements of IFRS for SMEs, a full set of financial statements should comprise 4 statements: the income statement, balance sheet, statement of changes in equity, and statement of cash flows. The average number of statements may be below 4 as it was found that not all organisations prepared their financial statements following IFRS for SMEs or IFRS. The lower number of statements is justified by the requirements of the NPO Act, which requires only a statement of income and expenses and a balance sheet to be presented (SAIBA, 2015).

Data collected from the financial statements of 50 NPOs indicated that each organisation did disclose the accounting policy for expenses, revenue (donations), and fixed assets. All of the accounting policies disclosed were in line with the stated framework. However, it was noted that the accounting policies disclosed in the financial statements used boilerplate wording, specifically where IFRS for SMEs was applied in preparing the financial statements. This was evident from the inspection of one of the organisation's financial statements, where an accounting policy was provided concerning investment property, even though no investment property was included in the statements or notes to the financial statements. This again indicates a lack of skills and resources allocated to preparing NPO financial statements.

Apart from those relationships discussed above, no other significant differences were noted between the accounting policies and practices of NPOs based on their size, objective, or qualification of the preparer of the financial statements.

CONCLUSION

There is a lack of consistency in preparing financial statements by South African NPOs. The NPOs investigated exhibited the use of several different accounting frameworks in preparing their financial statements, including; IFRS for SMEs, the cash basis, and full IFRS. The use of various frameworks and the application of own accounting policies may severely negatively impact the comparability and usefulness of the financial statements produced by the ever-increasing number of NPOs in South Africa. Significant differences were noted in the Financial Reporting framework choice depending on the NPO's size and objective, with larger NPOs favouring IFRS or IFRS for SMEs and smaller NPOs favouring the modified cash basis. The lack of guidance on the preparation of financial statements was again evident in the length of the financial statements produced by South African NPOs, with the length of financial statements investigated ranging from an average of 17.3 pages for entities in the social services sector to an average of 38.5 pages for entities with an environmental objective.

The shortcomings in the usefulness and quality of the NPO financial statements were again highlighted in the finding that nearly half of the investigated companies received a qualified audit opinion. This emphasises the probable lack of skills and resources allocated to the financial reporting process. It may also indicate a lack of guidance on the part of the auditors. The lack of specific financial reporting frameworks to service the information needs of South African NPOs means there is less guidance on how to audit these financial statements to ensure that the financial statements are prepared following the stated framework. It was also found that there was a significant difference in the level of assurance obtained on the financial statements depending on the preparer's qualifications. The financial statements of preparers with a BCom or equivalent and non-accounting degrees had a higher chance of receiving a review rather than an audit. This is again indicative of the skill shortage felt by a number of South African NPOs and the importance placed on the quality and credibility of financial statements.

The lack of consistency in the financial reporting standards applied to financial statements and the financial statement assurance received by the NPOs investigated provide context for the further investigation into and the development of financial reporting standards that are tailored to the operations and needs of South African NPOs. Standard-setters and regulators could use this research to develop new accounting standards to improve the credibility, consistency, and accountability of South African NPOs.

This research aimed to provide an overview of the current financial reporting practices of South African NPOs. The research considered only the financial reporting practices as included in the latest available NPO financial statements. Further research would be required to determine why these reporting practices had been implemented by the NPOs that were studied. The study considered only South African NPOs, reducing the generalizability of the study. Further research would be required to determine whether the findings of this paper are consistent with the financial reporting practices of other developing and developed countries. The research did not address what information is useful to the users of financial statements. Additional research is required to determine what information would be necessary to the funders, beneficiaries, and preparers of NPO financial statements.

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Cryptocurrencies and VAT in South Africa: Recommendations based on a comparative study

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Purpose: Cryptocurrencies (crypto assets) are virtual assets that are not controlled by any central authority. Cryptocurrencies have various uses, including investment and spending, as users may use them to pay for goods and services. The South African Revenue Service has introduced Value-Added Tax (VAT) legislation and cryptocurrencies have been classified as financial services. This means that cryptocurrencies are an exempt supply and no VAT is levied on their supply. The goal of this study is to find alternatives for this classification by SARS.

Design: A comparative investigation is carried out, in which the classification of cryptocurrencies for VAT purposes in Bahrain, Thailand, and Colombia is examined. This comparison is carried out using a doctrinal research approach, followed by analysis and synthesis of the literature.

Findings: The categorisation used by Thailand and Bahrain has resulted in actual VAT. This demonstrates that the notion that the South African Revenue Service's categorised cryptocurrencies as financial services because it was difficult to ascertain the value added and, hence, how to charge VAT does not hold. The South African Revenue Service can investigate alternatives that might result in a broader VAT base.

Originality/contribution: Cryptocurrencies are exempt from VAT in South Africa, but this is not the case in every country. This research contributes to understanding cryptocurrencies and the VAT treatment thereof to determine amendments that can result in VAT being generated on cryptocurrencies in South Africa.

KEYWORDS: *bitcoin; cryptocurrency; crypto asset; exempt supplies; financial services; VAT.*

INTRODUCTION

Cryptocurrencies are widely adopted in the Republic of South Africa (RSA) (Ukwueze, 2021). This is demonstrated by the fact that, as of January 2022, RSA had 19.4% of internet users who owned cryptocurrencies, which resulted in RSA being ranked as the fourth highest country in the world in regards to owners of cryptocurrencies (Kemp, 2022). This large number of internet users owning cryptocurrencies indicates that user acceptance is growing in RSA (DeVries, 2016).

Cryptocurrency can be defined as a medium of exchange that is digital and uses encryption techniques to manage the creation of units and to authenticate the transfer of funds (Ukwueze, 2021). Cryptocurrencies are intangible in nature, existing only in digital and electronic formats in cyberspace (Ukwueze, 2021). The intrinsic nature of cryptocurrency is that it is a virtual currency that serves a similar purpose as a traditional currency (Farell, 2015). It allows its users to make virtual payments for goods and services, without the involvement of a central, trusted authority (Farell, 2015).

Cryptocurrencies are used by individuals on the peer-to-peer system (DeVries, 2016). The peer-to-peer system relies on cryptographic proof, rather than trust (Farell, 2015). To ensure legitimate and unique transactions, cryptocurrencies depend only on the transmission of digital information and use cryptographic techniques (Farell, 2015). Cryptocurrencies are completely decentralised and transactions are verified, independently of any central bank's intervention (Tomas, 2017). Users sell, buy and exchange cryptocurrencies without having to reveal their true identities to one another (Kabwe, 2020).

For the purposes of this research, it is vital to understand how regulators in RSA have responded to the increasing popularity of cryptocurrency. The South African Revenue Service ('SARS') does not consider cryptocurrencies to be a currency but rather considers them to be intangible assets for income tax purposes (South African Revenue Service, 2018). It has been established that normal income tax rules shall be applied to all crypto assets (South African Revenue Service, 2022). Section 2 of the Value-Added Tax Act ('VAT Act') defines cryptocurrencies as financial services (Value-Added Tax Act No. 89 of 1991). Cryptocurrencies defined as a financial service in

section 2 are exempt from Value-Added Tax ('VAT') in terms of section 12(a) and, as a result, there are no VAT consequences on cryptocurrency transactions. The fees on cryptocurrency transactions are not exempt from VAT, in terms of the proviso to the financial services definition in section 2. (Value-Added Tax Act No. 89 of 1991)

The objective of this research is to examine and compare the VAT implications of cryptocurrencies in RSA with those of other developing countries and provide recommendations on amendments (if any) that can be made to the VAT treatment of cryptocurrencies in South Africa. The recommendations would consider if an alternative VAT treatment can be introduced so that cryptocurrencies have VAT consequences and can generate output tax for SARS.

The original VAT system, effective from 1991, dates back to a time when technological use was minimal and digitalisation has taken place since then (Olbert & Spengel, 2019). While the VAT system has been amended since then, there is still a lag in addressing new developments. This research is significant, because it will ensure that tax policymakers are consistently finding better ways to update tax rules as they gain a better understanding of new digital economy features. The advent of cryptocurrencies, popularised by the invention of Bitcoin in 2008 (Ram, 2018), demonstrated that tax rules were out of date. This was evident because SARS published tax guidance on how cryptocurrencies should be treated many years later in 2018 (South African Revenue Service, 2018).

There is a critical need for this industry to be understood, and for tax policymakers to not fall behind in adapting tax rules to reflect the use of cryptocurrencies in the economy. It is important to note that in 2018, the cryptocurrency industry was still relatively new (South African Revenue Service, 2022). Many studies have been undertaken since 2018 (Adam, 2021; Erasmus & Bowden, 2020; Greeff, 2019; Harvey, 2019; Kabwe, 2020; Ram, 2018; Ram, 2019), as many tax jurisdictions have a desire to understand this industry and update their tax rules in an easy-to-understand and consistent manner. This research is also important as it can provide recommendations to SARS to generate VAT revenue from cryptocurrency supplies.

This research compares South Africa's VAT treatment of cryptocurrencies with the VAT treatment of Thailand, Colombia and the Kingdom of Bahrain, discussed below. This comparison will be carried out using a thorough doctrinal analysis. Doctrinal analysis involves assembling the relevant facts, identifying the legal issue, analysing the issue, and gathering the information from the various jurisdictions and sources. This is followed by a synthesis of the data to answer the research question and conclude. Doctrinal analysis has as its central purpose the aim of improving current laws, in this case the VAT on cryptocurrencies, through a comparative analysis (Hutchinson & Duncan, 2012; Kharel, 2018). The doctrinal analysis is essential to understand the differences of VAT treatment of cryptocurrencies between South Africa and the other jurisdictions. South African legislation and reports are part of the data that is analysed. The treatment in various other jurisdictions is identified through using regulatory publications to understand how those jurisdictions tax cryptocurrencies. The legal issue under scrutiny is the VAT treatment of cryptocurrencies, as a result, the South African position must be considered and then contrasted with the other jurisdictions.

South Africa is being compared to developing countries, as classified by the United Nations ('UN') (United Nations, 2020). This is to ensure that the comparison yields fair, reasonable and coherent results and that RSA can reasonably be expected to be able to adapt to what other tax jurisdictions are doing because they are nearly the same size and can reasonably be expected to have similar resources. The following criteria were used to select the above-mentioned countries:

1. All countries must be defined as developing countries by the UN (United Nations, 2020). Cryptocurrencies are extremely popular in developing countries, particularly in nations where traditional currencies are more susceptible to exchange rate changes (Kemp, 2022). This comparison appears to be reasonable because the volume of cryptocurrency transactions can be expected to be high and how they are treated for VAT purposes will provide a better basis for determining how appropriate SARS' response is.
2. The country must have issued relevant VAT guidance regarding cryptocurrencies, as not all developing countries have such guidance.
3. Any of the following other requirements are satisfied:

- The country that was the latest to issue cryptocurrency tax guidance. On 1 January 2022, Bahrain's National Bureau of Revenue ('NBR') issued an updated version of the Financial Services VAT Guide that clarifies the VAT treatment of cryptocurrency transactions (Chandra, Athavale & 2022). This requirement was chosen because it will be used to examine whether there have been any substantial developments in the cryptocurrency industry and how other tax jurisdictions have responded to those changes. This will assess if SARS' VAT approach to cryptocurrencies can still be considered appropriate.
- Countries classified as 'newly industrialised countries: South Africa and Thailand are classified as newly industrialised countries (Hossain, 2011). This requirement can reasonably be expected to provide a better comparison because South Africa and Thailand appear to be developing in a similar manner (Hossain, 2011). This will ensure that South Africa remains competitive by having tax rules that are appropriate and in line with countries that seem to be developing at their pace.
- Countries with high levels of inequality and poverty. South Africa has the highest wealth inequality, according to the Gini Index, at 63 (World Population Review, 2022). Colombia ranks 12th in terms of wealth inequality, according to the Gini Index (51.3) (World Bank, 2021; World Population Review, 2022). This criterion appears appropriate because we can compare how Colombia has structured its VAT system and whether it is designed to address inequality and poverty. The results of this comparison will show whether other jurisdictions have broadened their tax bases by taxing cryptocurrencies. Indicating how the government can increase its revenue and be able to increase its expenditure on social relief programmes.

VAT is the only tax that will be discussed. Only Bahrain, Thailand and Colombia are included in this research as a delimitation. South Africa's VAT laws are not compared to all the countries that have implemented tax guidance rules, as this research is limited to examining VAT treatment in developing countries. Further, it is impossible to compare South Africa to all developing countries, because not all the countries

have established tax guidance laws for cryptocurrencies, resulting in a limitation.

CRYPTOCURRENCIES

It is critical to understand what cryptocurrencies are to fully understand how policymakers have responded to their use. Cryptocurrency is defined as a virtual currency in which encryption techniques are used to control the generation of units of currency and to verify the movement of funds without the intervention of a central bank (Tomas, 2017). Encryption techniques refer to the application of mathematics and computer science to provide digital communication (Ram, 2018). Cryptocurrency is based on the theory of solving encryption algorithms to generate unique numerical values with finite numbers (DeVries, 2016). It is important to note that a cryptocurrency functions like a standard currency, as it enables its users to make virtual payments for goods and services, but it is independent from a central, trusted authority (Farell, 2015). It is intangible in nature as it is only digital in form (Ram, 2018). Cryptocurrencies are easily transferable worldwide (Ram, 2018).

In RSA, cryptocurrencies are often denoted as crypto assets. For the purposes of this research, the terms crypto assets and cryptocurrency will be used interchangeably. A crypto asset is defined as a virtual representation of value that is not issued by any central bank but is traded, transferred and kept electronically by legal and natural persons for investment, payment and other types of use and employs cryptographic methods in the underlying technology (Intergovernmental Fintech Working Group, 2021b). It is important to understand that this definition excludes digital representation of sovereign currencies, thus, crypto assets may not be regarded as legal tender or fiat money in the form of such digital representation (Intergovernmental Fintech Working Group, 2021b).

The concept of crypto assets is neither restricted nor easy to define, one can examine the design and functions that crypto assets can perform to have a better knowledge and understanding of them (Intergovernmental Fintech Working Group, 2021a). It can be used as a form of payment, for speculative trading of assets, or for investment purposes, with crypto assets serving as a store of value (Ram, 2019). Crypto assets can also be used to raise finance, this is a procedure in which a company sells an amount of digital tokens to the public in return for other key

crypto assets (Intergovernmental Fintech Working Group, 2021b). It might also be employed as the underlying asset class in a derivative product (a financial instrument where the value is derived from the underlying asset), these products might be used to control the risk associated with crypto assets (Intergovernmental Fintech Working Group, 2021b).

VAT IN SOUTH AFRICA

The provision of any financial services shall be exempt from VAT in terms of section 12(a) provided that the financial services are not zero-rated under section 11 (Value-Added Tax Act No. 89 of 1991). If financial services are exported, then section 11 takes precedence over section 12(a) (South African Revenue Service, 2016). The issue, acquisition, collection, buying or selling or transfer of ownership of cryptocurrency is a financial service as defined in section 2(1)(o) (Value-Added Tax Act No. 89 of 1991).

When a vendor supplies goods or services in the furtherance of an enterprise carried on by him, he has to levy output tax on that supply (Gardiner, 2019). Output tax is the tax charged on that supply (Gardiner, 2019). In accordance with section 12(a), the supply of any cryptocurrency is an exempt supply (Value-Added Tax Act No. 89 of 1991). The acquisition, issuance, collection, purchase, sale, or transfer of ownership of any cryptocurrency is considered an exempt supply under the VAT Act (Value-Added Tax Act No. 89 of 1991). This classification of cryptocurrencies as financial services results in no VAT implications for cryptocurrency transactions (PricewaterhouseCoopers, 2021).

Given the lack of SARS recommendations on the VAT treatment of specific uses of crypto assets (PricewaterhouseCoopers, 2021). It is suggested that the South African VAT treatment of a given transaction be reviewed in accordance with the VAT principles established in the VAT Act (PricewaterhouseCoopers, 2021).

VAT ON CRYPTOCURRENCIES IN OTHER JURISDICTIONS

VAT on cryptocurrencies in the Kingdom of Bahrain

On 1 January 2022, NBR issued an updated version of the Financial Services VAT Guide that clarifies the VAT

treatment of cryptocurrency transactions (Chandra et al., 2022). The NBR is a government body in Bahrain that is responsible for VAT implementation and administration (National Bureau for Revenue, 2019). Bahrain implemented VAT on 1 January 2019, at a standard rate of 5% (National Bureau for Revenue, 2021). The standard rate was increased to 10% on 1 January 2022 (National Bureau for Revenue, 2021). The supply of certain goods and services is zero-rated, while others are exempt supplies (National Bureau for Revenue, 2021).

Crypto assets are defined as tokens or digital assets that operate on a blockchain network and are encrypted. There are four types of tokens recognised in Bahrain: payment, utility, asset and hybrid tokens. It is important to note that hybrid tokens are a combination of payment, utility and asset tokens. Its VAT treatment should be determined on an individual basis. Asset tokens are similar to bonds, derivatives or equities in that they reflect assets such as debt or equity claims to the issuer. Asset tokens are an exempt supply of financial services, unless supplied for an additional explicit charge above the market value of the token, for example, a commission, in which case the amount above the market value of the token is subject to VAT. (National Bureau for Revenue, 2022)

Payment tokens are virtual currencies designed to be applied as a form of payment for goods or services, or value transfer or as a means of money. There are different VAT implications for payment tokens. (National Bureau for Revenue, 2022)

- There are no customers capable of receiving mining services because there is an insufficient relationship between mining activities and the consideration received (the tokens). As a result, the tokens received by miners from mining activities fall outside the scope of VAT. The miners do not have to levy any output tax on their mining activities. (National Bureau for Revenue, 2022)
- There are no VAT consequences when tokens are exchanged for legal tender or other tokens because they constitute a supply of financial services. These transactions are an exempt supply. (National Bureau for Revenue, 2022)
- When tokens are used to purchase goods or services, this does not constitute a supply of the token and falls outside the scope of VAT because the token merely serves as a means of payment (National Bureau for Revenue, 2022). In this transaction, VAT is disregarded from the

purchaser's perspective (National Bureau for Revenue, 2021).

- When the supplier of goods or services receives tokens in exchange for the provision for goods or services (National Bureau for Revenue, 2022). This transaction should be treated in the same manner as those goods or services remunerated in traditional currency (National Bureau for Revenue, 2022). The value of these supplies will be denominated in tokens and VAT will be levied depending on whether the supply of these is taxable at the standard rate of 10%, zero-rated, exempt or a transaction outside the VAT scope (National Bureau for Revenue, 2021).
- When the consideration is indicated in tokens, the VAT value is equal to the amount in Bahrain Dinar (Bahrain's local currency) at the time of the transaction. The exchange rate to be used for this conversion will be the rate published on the Central Bank of Bahrain website, or, if it is not available, the open market exchange rate. The VAT vendor should use the same source of rates for conversion for all transactions with payment tokens. (National Bureau for Revenue, 2022)
- Any charges made for organising a payment token transaction that exceed the value of the payment tokens will be exempt from VAT. If the remuneration for the service is explicitly stipulated as a fee, commission, or commercial discount, in which case the supply would be subject to VAT. (National Bureau for Revenue, 2022)

The VAT treatment for utility tokens is the same as the VAT consequences for vouchers. Utility tokens are similar to vouchers in that they are intended to offer access to a certain application or service but cannot be used to redeem access to other applications or services. When the utility tokens can only be used to exchange for supplies with the same VAT treatment, they are a single purpose voucher. The issue date is the date of supply. The VAT will be charged based on the consideration paid for the token at the time it is supplied. Utility tokens are multi-purpose vouchers that may be used to exchange for supplies with varied VAT treatment. The VAT will be levied on the tokens at the time of delivering the goods or services traded for the token, based on the value of the consideration paid for the token. When the value of the goods or services is not specified, the face value of the token can be used as the value of supply (National Bureau for Revenue, 2021; National Bureau for Revenue, 2022).

VAT on cryptocurrencies in Thailand

Cryptocurrencies are legally recognised in Thailand, however, they are neither legal currencies nor legal tender (Bunyamissara, 2021). Cryptocurrencies are classified as digital assets under Thai law (Bunyamissara, 2021). The crypto asset industry in Thailand is governed and regulated by the Royal Decree on Digital Asset Businesses ('Royal Decree') (Asian Development Bank, 2022). Cryptocurrency is defined by Royal Decree as: 'a unit of data messages created on an electronic system or network for use as a medium of exchange, with a view to acquiring goods, services or any other rights or exchanging digital assets, and shall also include a unit of any other data messages prescribed under the Notification of the Securities and Exchange Commission of Thailand' (Blandin et al., 2019).

Thailand's Minister of Finance announced, on 28 March 2018, that the Royal Decree will include VAT at a standard rate of 7%, which will be payable by investors who acquire and sell cryptocurrencies. VAT is a tax charged on the value added to all products (tangible and intangible assets) and services acquired by a person or legal organisation each month. VAT is levied on both the sale of goods and services in exchange for cryptocurrency and the sale of cryptocurrency as an intangible property (David, 2019).

When cryptocurrencies are traded through Thai exchanges, which are trading platforms registered with the Minister of Finance, the transaction will be exempt from VAT. This tax relief will apply from 1 April 2022 until December 31, 2023. The objective of exempting these transactions is to encourage cryptocurrency trading on recognised exchanges, which will allow cryptocurrency transactions to be regulated and carried out under the supervision of appropriate organisations such as the SEC (Tassev, 2022).

VAT on cryptocurrencies in Colombia

In Colombia, VAT is administered by the National Directorate of Taxes and Customs (Dirección de Impuestos y Aduanas Nacionales ('DIAN')). In Colombia, the supply of goods and services could be subject to VAT at the standard rate (19%), a reduced rate (5%) or zero-rate (0%), provided that the supplies are not excluded. When VAT is charged at a zero rate, the supply is classified as an exempt supply. A VAT

vendor who acquires exempt supplies may be eligible for an input credit for the VAT paid on inputs, resulting in VAT balances in their favour that can be refunded. Excluded supplies are supplies of goods and services that are not subject to VAT and for which input tax cannot be claimed (Ernst & Young Global Limited, 2022).

VAT can be charged on the transactions indicated in the tax scope:

- The sale of movable physical assets.
- The transfer or sale of rights over intangibles connected with industrial property.
- The supply of services in Colombia.
- The supply of services from abroad are permitted if the recipient of the services is physically located, domiciled in or a resident of Colombia. This is because this supply is deemed to be used in Colombia.
- Movable goods that are imported into Colombia.
- The services rendered in the operation of games of chance or the sale of tickets for games of chance. The games are operated only online and lotteries are excluded from these services (Ernst & Young Global Limited, 2022).

In 2017, the Colombian Tax Office issued guidance on how crypto assets should be treated for VAT purposes. Crypto assets are defined as intangible assets that are not connected to intellectual property. The sale or transfer of crypto assets would constitute a sale of intangible assets not related to industrial property. This transaction is outside the scope of VAT. There are no VAT consequences of crypto asset transactions (PricewaterhouseCoopers, 2021).

When a provider of goods or services, however, accepts crypto assets in exchange for those goods or services, there will be VAT implications only to the extent that VAT is chargeable on the supply of such goods or services. Whereas the vendor who settles for the supply of crypto assets cannot charge VAT on the transfer of crypto assets, he or she must pay VAT on the purchase of goods or services from a VAT vendor. (PricewaterhouseCoopers, 2021)

COMPARISON, DISCUSSION AND RECOMMENDATIONS

Comparison

The similarities and differences observed between South Africa, Bahrain, Thailand, and Colombia will be addressed in a tabular manner in this section. Examples will be used to demonstrate the differences and similarities in the VAT treatment of cryptocurrencies. For the purposes of this section, the examples will solely involve an examination of output tax.

Four examples are used in this research. Example 1 deals with crypto assets as a payment method. Example 2 considers the sale of cryptocurrencies as legal tender, while example 3 explores cryptocurrencies used as a utility token (see the Kingdom of Bahrain discussion). Lastly, example 4 concludes with cryptocurrencies as a multi-purpose voucher (see the Kingdom of Bahrain discussion). The purpose of these examples is to illustrate the different situations involving cryptocurrencies and to consider the comparative treatments to identify where output tax can arise. Since the Kingdom of Bahrain includes different classifications between single-use and multi-purposes tokens, these are specifically included in the examples to illustrate the treatment.

Example 1: Cryptocurrencies used as a payment method

In reference to the jurisdiction where VAT implications are being evaluated, Co XX and Co YY might be deemed to be VAT vendors. Co XX acquires product B from Co YY (assuming the value to be 1,000 denominated in the local currency of the jurisdiction that is under scrutiny). Co XX pays Co YY in bitcoin for product B (assuming the value of bitcoin is 1,100 correctly translated to the local currency of the jurisdiction under review). The assumption made is that product B is a standard rated supply in all the tax jurisdictions. An important assumption is that the amounts exclude VAT, where applicable. In this case, because this is a barter transaction, there are 2 supplies, the supply of bitcoin by Co XX and the supply of goods by Co YY. Co XX would also have input tax considerations, but these are not considered. The table below illustrates the VAT implications for each jurisdiction.

Table 1: Comparative VAT analysis using cryptocurrencies as a payment method

Description	South Africa	Bahrain	Thailand	Colombia
Co XX, the supplier of bitcoin. Consideration received is 1,000 the value of product B.	Exempt supply. No VAT implications.	This falls outside the scope of VAT.	$1,000 \times 7\% = 70$ Co XX will collect output tax of TBH70 and pay it over to the Thai Revenue Department.	This falls outside the scope of VAT.
Co YY, the supplier of product B. Consideration received is 1,100 the value of bitcoin.	$1,100 \times 15\% = 165$ An output tax of R165 has been levied and will be paid over to SARS by Co YY.	$1,100 \times 10\% = 110$ Co YY will levy and collect output tax of BHD110 and pay it over to NBR.	$1,100 \times 7\% = 77$ An output tax of TBH77 has been charged and will be paid over to Thai Revenue Department by Co YY.	$1,100 \times 19\% = 209$ An output tax of COP 209 will be collected and paid to DIAN by Co YY.

Example 2: Sale of cryptocurrencies in exchange for legal tender

Co XX is deemed to be a VAT vendor in reference to the jurisdiction where VAT implications are being evaluated. Co XX sells bitcoin to Co YY (assuming the

value of bitcoin is 1,100 correctly translated to the local currency of the jurisdiction under review). Co YY pays Co XX using traditional fiat currency for the acquisition of bitcoin. The table below illustrates the VAT implications for each jurisdiction.

Table 2: Comparative VAT analysis where cryptocurrencies are sold for legal tender

Description	South Africa	Bahrain	Thailand	Colombia
Co XX the supplier of bitcoin.	This is an exempt supply of financial services. No VAT is levied by Co XX.	This is a supply of financial services. There are no VAT consequences. Co XX will not levy output tax on the sale of bitcoin.	$1,100 \times 7\% = 77$. Output tax charged and collected by Co XX is THB77 and will be paid over to the Thai Revenue Department.	This is outside the scope of VAT. Co XX cannot levy VAT on the supply of bitcoin.

Example 3: Utility token defined as a single purpose voucher

In reference to the jurisdiction where VAT implications are being evaluated, Co XX and Co YY are registered VAT vendors. Co XX purchases utility tokens from Co YY. Co XX can only redeem these tokens in exchange for products X and Y only from Co YY. Co XX pays 1,000

for the utility token denominated in the local currency of the jurisdiction under review. Co YY charges a standard rate on both products under normal operations. The table below illustrates the VAT implications for each jurisdiction.

Table 3: Comparative VAT analysis where cryptocurrencies are single purpose vouchers

Description	South Africa	Bahrain	Thailand	Colombia
Co YY – supplier of the utility tokens	No VAT implications as exempt financial service.	$1,000 \times 10\% = 100$. Output tax of BHD 100 is levied.	$1,000 \times 7\% = 70$. Output tax of TBH 70 is levied.	No VAT implications.

Example 4: Utility token defined as a multi-purpose voucher

In reference to the jurisdiction where VAT implications are being evaluated, Co XX and Co YY might be deemed to be VAT vendors. On 1 June 2022, Co XX purchases utility tokens from Co YY. Co XX can only redeem these

tokens in exchange for products X and Y only from Co YY. Co XX pays 1,000 for the utility token denominated in the local currency of the jurisdiction under review. Co YY charges a standard rate on products X and a zero rate on product Y under normal operations. On 25 June 2022, Co XX redeems the utility token. The table below illustrates the VAT implications for each jurisdiction.

Table 4: Comparative VAT analysis where cryptocurrencies are multi-purpose vouchers

Description	South Africa	Bahrain	Thailand	Colombia
Co YY – supplier of the utility tokens	No VAT implications as exempt financial service.	$1,000 \times 10\% = 100$. Output tax of BHD100 is levied on 25 June 2022, the date when the utility token is redeemed.	$1,000 \times 7\% = 70$. Output tax of TBH70 is levied on 1 June 2022, the date of transaction.	No VAT implications.

Discussion

Cryptocurrencies are classified differently in each of the four jurisdictions considered in this study. In RSA, it was stated that the designation of cryptocurrencies as financial assets was attributable to the difficulties in determining or calculating the value-added from cryptocurrency transactions, which made determining how cryptocurrencies may be taxed for VAT reasons problematic (Kabwe, 2020). The most noteworthy finding from all the data collected is that the Thailand and Bahrain governments have discovered a mechanism to tax cryptocurrencies for VAT purposes.

In Colombia, cryptocurrencies are defined as intangible property that is outside the scope of its VAT (PricewaterhouseCoopers, 2021). The classification is different from the South African classification, but the VAT implications are nonetheless the same (PricewaterhouseCoopers, 2021). This classification is not a significant finding because the purpose of this paper is not to criticise or discover new ways to classify cryptocurrencies, but rather to identify a jurisdiction that has been able to classify cryptocurrencies in a way that generates revenue for its government. There is no actual VAT, thus, the Colombian government has not discovered a way of broadening its VAT base by charging VAT on cryptocurrency-related transactions. There is nothing that South Africa can adopt from Colombia, as both jurisdictions have not utilised the application of cryptocurrencies to broaden the VAT base and increase revenue for the government to help address the issues of high inequality.

Bahrain classifies cryptocurrencies more broadly, and each classification has various implications for VAT purposes (National Bureau for Revenue, 2022). The categorisation of cryptocurrencies as asset tokens has the same VAT effects as the classification in South Africa, with no VAT imposed. This is because asset tokens are classified as a supply of financial services and are thus VAT exempt supplies (National Bureau for Revenue, 2022). The designation of cryptocurrencies as utility tokens, on the other hand, has VAT consequences. NBR concluded that utility tokens have comparable features to vouchers, but most importantly, they fulfill the same function (National Bureau for Revenue, 2022). The VAT system currently covers how VAT should be imposed on vouchers, the same rules are then applied to utility tokens (National Bureau for Revenue, 2022). The same considerations apply to utility tokens as to vouchers under the VAT system (National Bureau for Revenue, 2022).

The designation of cryptocurrencies as payment tokens has the same VAT implications as in South Africa. There are no VAT consequences when crypto assets are supplied in exchange for goods or services or for legal tender both in Bahrain and in South Africa. The difference is that the NRB issued a guideline on how barter transactions are treated from the perspective of the supplier of goods or services other than cryptocurrencies (National Bureau for Revenue, 2022). It specifies how the consideration should be determined. CBB will publish the exchange rates and the rate at the time of transaction is to be used to denominate the value of supply in BHD (National Bureau for Revenue, 2022). This is significant given how cryptocurrencies' prices fluctuate (DeVries, 2016).

In Bahrain, there was no unified approach to how VAT should be imposed. It is evident that cryptocurrencies are taxed based on their functionality. When it serves as a means of payment, there are no VAT consequences, this ensures that the VAT system remains coherent (National Bureau for Revenue, 2022). As there are no VAT consequences for the transfer of money (Ebrill et al., 2001), the same principle is applied and this way the VAT system's design remains coherent. When cryptocurrencies are used as utility tokens, there are VAT consequences because vouchers have VAT consequences (National Bureau for Revenue, 2022). Cryptocurrencies are complex because they can assume numerous forms and be classified under different types of economic activities (Adam, 2021). Bahrain's response was a functional approach, this conclusion is based on the research undertaken.

In Thailand, cryptocurrencies are classified as intangible property and VAT is to be levied on both the sale of goods and services for cryptocurrencies (a barter transaction) and the sale of cryptocurrencies (David, 2019). The Thai Revenue Department developed a consistent method for VAT taxation in Thailand. All cryptocurrency transactions are subject to VAT (David, 2019). This approach is not just distinct from that of South Africa, but also from that of Bahrain.

There was no information available from either Bahrain or Thailand to explain how the VAT is imposed. This is a significant question, since the problem with cryptocurrency transactions is that they are anonymous (Adam, 2021). It is unclear how Thailand identifies all transacting individuals for all transactions. It is reasonable to assume that the licence requirement is used as a mechanism to identify users in Thailand. This view is supported by the fact that the Thai government is using a VAT exemption to encourage individuals to trade cryptocurrencies through Thai exchanges (Tassev, 2022). This will allow the government to oversee cryptocurrency transactions (Tassev, 2022) and this will enable the government to identify transacting parties and determine who should be subject to VAT.

Recommendations

From the discussion above, it is evident that SARS can consider adopting the tax laws of Bahrain and Thailand. This section discusses some recommendations and limitations that SARS can consider from these

jurisdictions, as well as the benefits and problems of following a similar approach in these jurisdictions.

The lack of precise and uniform terminology for cryptocurrencies is a key challenge for regulators and policymakers in setting clear guidelines for the developing cryptocurrency industry. Many terms are employed, usually interchangeably and with no apparent definition. Even the term "crypto asset" has been criticised for being vague. It has been advised that each jurisdiction should identify the terminology most appropriate for its regulatory aims, define this term explicitly and ensure that it is used consistently in all of its official pronouncements. (Blandin et al., 2019)

Policymakers did not appear to see the necessity of providing a definition for cryptocurrency, which is a significant problem since it allows individuals to define what cryptocurrencies are (Kabwe, 2020). If policymakers are to adopt ways of levying VAT on cryptocurrencies, then a description of what crypto assets are, is crucial. If there are VAT implications, individuals will define cryptocurrencies in such a way that no VAT is charged in circumstances where it should have been levied. This would result in disputes between taxpayers and SARS. The inclusion of a definition for cryptocurrencies, would result in an easy-to-understand and simple VAT system.

A legal definition should be added to section 1 of the VAT Act, where terms are defined for VAT purposes. It is critical that this definition encompasses what does not constitute crypto assets (Kabwe, 2020). The following definition of crypto assets can be applied because it has been adopted by regulatory authorities through the Intergovernmental Fintech Working Group (IFWG).

'A crypto asset is a digital representation of value that is not issued by a central bank but is traded, transferred, and stored electronically by natural and legal persons for the purpose of payment, investment, and other forms of utility, and applies cryptography techniques in the underlying technology. However, this definition of crypto assets does not include digital representations of sovereign currencies and is therefore not regarded as legal tender or public money.' (Intergovernmental Fintech Working Group, 2021b)

Bahrain's VAT approach is comprehensive because crypto assets are classified based on how they are

utilised, and VAT consequences are dependent on this classification. In South Africa, there are crypto asset tokens that are recognised, namely exchange or payment tokens, security tokens and utility tokens (Intergovernmental Fintech Working Group, 2021b). If this approach is followed, the tokens could be classified as follows under section 1 of the VAT Act:

1. Exchange or payment token: These are tokens designed to be used as a means of exchange or payment for buying goods and services. Some users also use it for investment purposes.
2. Security token: These tokens provide rights such as ownership, the repayment of a specific sum of money, or entitlement to a share in future profits.
3. Utility token: These tokens can be redeemed for access to a specific product or service that is typically provided using distributed ledger technology (DLT) like the blockchain. (Intergovernmental Fintech Working Group, 2021b)

Utility tokens can be included under section 8 of the VAT Act as a deemed supply. Furthermore, the value of this supply should be determined in terms of section 10(18), 10(19) or 10(20). This classification, on the other hand, may incur compliance and administrative costs since vendors must identify which classification their crypto asset falls under. This creates an opportunity for evasion, as vendors could intentionally misclassify their crypto assets as payment or security tokens, to have their crypto assets exempt. This allows flexibility for interpretation and enables the exempt provisions to be exploited. Based on the disadvantages of having zero-rated supplies (Breedt, 2020; Woolard et al., 2018; Von Berg, 2020), this impact can be anticipated. This is why the Thailand approach could be more favourable.

When considering the Thailand approach, the reference to cryptocurrency under "financial services" in section 2 of the VAT Act must be removed and the following should be included:

- Section 8(30): For the purposes of this Act, the issue, sale or transfer of ownership of any crypto assets as defined in section 1 by a vendor, shall be deemed to be a supply of goods in the course or furtherance of the vendor's enterprise.
- Section 9(14): When any supply of goods is deemed to be made as contemplated in section 8(30), that supply shall be deemed to take place at the time when the transaction is added to the blockchain in the public ledger.

- Section 10(30): When a supply of goods is deemed to be made as contemplated in section 8(30), the value of the supply is equal to the crypto asset's value denominated in Rands at the time of supply as determined in section 9(30).

When crypto asset transactions occur, no personal information is exchanged between the transacting parties (Erasmus & Bowden, 2020). Due to the anonymity of crypto assets, SARS has been limited in its ability to effectively tax crypto asset transactions (Adam, 2021). When SARS chooses to impose VAT on the supply of crypto assets, this will be the most difficult challenge.

When VAT is collected from vendors that operate in a regulated environment, VAT becomes less susceptible to evasion (Davis Tax Committee, 2018). The crypto asset sector could be, as South African officials want to govern this industry through the introduction of registration procedures for crypto asset service providers (Intergovernmental Fintech Working Group, 2019).

SARS may impose specific registration rulings for crypto asset service providers in addition to the rules in section 23, regulating when a person can register as a VAT vendor. The value of crypto assets is highly volatile (Harvey, 2019). This appears to be a legitimate exemption because the total amount of taxable supplies to be made by crypto asset service providers may not be accurately predicted due to the volatile nature of the crypto asset business. Crypto service providers may be required to register as VAT vendors as part of the procedures for obtaining a licence and operating in South Africa. SARS has incurred significant expenditure in its attempts to identify all taxpayers to ensure compliance with normal tax (Adam, 2021). It is important to note that if registration is mandatory to get a licence, SARS will not incur these expenditures in ensuring compliance with the VAT Act.

CONCLUSION

Policymakers must constantly be prepared to adjust policies or regulations in response to the ever-changing economy. The introduction of cryptocurrencies in 2008 is still something that policymakers are seeking to control and alter rules to accommodate this new ideology of virtual currency (Adam, 2021). As a response to this emerging digital asset or currency, SARS, in 2018, elected to define cryptocurrencies as a

supply of financial services, thus an exempt supply for VAT purposes. Cryptocurrencies can be classified and used for many different economic functions and there is growing user acceptance in South Africa. This raised the question of whether the supply of cryptocurrencies could constitute an economic activity that, if classified differently, could broaden the VAT base, and increase revenue for the South African government. A comparative study was performed to evaluate the classification of crypto assets in Thailand, Bahrain, and Colombia, and significant results were discovered.

In Colombia, the government designated cryptocurrency as an intangible asset that was not subject to VAT. The Colombian government did not use the growing usage of crypto assets as a method to extend its VAT base, increase revenue and mitigate the impact of the country's severe inequality. It should be noted, however, that the standard rate of 19% is levied on taxable supplies in Colombia, whereas in South Africa it is 15%. As a result, before concluding that South Africa's policy of not levying VAT is because it will not significantly increase the income collected, this should be considered.

Bahrain implemented VAT for the first time in its tax system in 2019. The guidance provided on how VAT should be applied to crypto assets is substantial and clear. Bahrain released in 2022, how VAT will be imposed, and the VAT consequences depend on how crypto assets are employed in the economy. Consequently, crypto assets do not change the essential principles of how VAT is to be charged, and its VAT system remains simple and consistent even with the inclusion of how crypto assets should be taxed. This resulted in only utility tokens having VAT implications, which may be predicted to result in insignificant revenue increases for SARS. The VAT guidelines, however, are critical in assisting and demonstrating to SARS that crypto asset businesses should be regularly assessed to identify if any important discoveries might lead to possible increases in revenue streams for the state.

Crypto assets are classified as intangible property in Thailand. All crypto asset transactions are subject to a 7% VAT, which is a remarkable finding given that SARS' classification results in no actual VAT. This approach could be used because it could generate significant revenue; nevertheless, SARS may incur administrative expenditures as a result. This is due to the high level of anonymity of crypto asset transactions, so ensuring

that VAT is charged and paid over to SARS could be an issue. The SARS would have to identify these transaction participants, which would be highly expensive, if not impossible in some cases. This raises questions that still need to be answered about how SARS would use regulatory measures such as licencing requirements.

When South African authorities establish the licencing regulatory framework, SARS may require all crypto asset service providers to register for VAT and become VAT vendors. This will ensure that all crypto asset transactions are VAT-charged. Future research can be conducted in this area. Other areas of research could include the incorporation of more jurisdictions in the study and the determination of the best treatment under SA VAT law by considering the appropriateness of the classification as financial services.

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Critical analysis of the incongruities arising from the application of the value-added tax relief regime granted to South African property developers

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Purpose: The primary objective of this paper is to critically investigate the value-added tax (VAT) implications triggered by the application of section 18D of the VAT Act and its related provisions. Additionally, the paper aims to highlight and critically analyse incongruities arising from the application of the VAT relief regime for property developers, assessing whether these VAT implications align with the policy objectives set behind its introduction.

Methodology: The research is positioned within interpretivism paradigm, where a critical investigation is conducted through legal research through a doctrinal analysis.

Findings: Two incongruities were identified (i) uncertainty regarding whether the cost of land on which property development takes place forms part of 'adjusted cost' under section 10(29); and (ii) the correct determination of the time of supply under section 18(1) when a developer's intention to lease out developed fixed property changes from temporary to permanent during the allowed "temporary applied" lease agreements period. A comparison between a literal and purposive approach of interpretation revealed misalignments between the VAT consequences and the policy objectives of the section 18D VAT relief regime.

Contribution: The paper contributes to the debate on the highlighted incongruities and provides recommendations to unify the policy objectives set behind the introduction of the section 18D VAT relief measures with the actual VAT consequences triggered by the application of this relief regime.

KEYWORDS: doctrinal analysis; fixed property; property developers; South Africa; value-added tax.

INTRODUCTION

Background to the research area

The South African National Development Plan (2018) mandates a series of interconnected interventions to address, amongst others, housing infrastructure development. One of the medium-term goals set in terms of South Africa's strategic framework is to achieve sustainable human settlements and improved quality of household life which requires the provision of adequate housing and the creation of a functionally equitable residential property market (BusinessInSA, 2018). In terms of the Organization for Economic Co-operation and Development's Questionnaire on Affordable and Social Housing (QuASH 2021), South Africa is one of 40 countries who reported having a national housing strategy in place (OECD, 2021).

Therefore, it is evident that the development of residential properties in South Africa is pivotal. Since the development of residential properties requires large amounts of financing for various type of property development expenditure to be incurred, these properties constitute high value items. The supply of high value items requires of property developers to

register as value-added tax (VAT) vendors in South Africa as the value of their taxable supplies is likely to exceed the R1 million compulsory VAT registration threshold. Compulsory VAT registration is regulated in terms of section 23 of the Value-Added Tax Act No. 89 of 1991 (South Africa, 1991) which stipulates that a person is obliged to register as a VAT vendor in South Africa if the value of its taxable supplies exceeds R1 million in any 12-month period.

Property development: Normal South African VAT consequences

The term "developer" is defined in terms of section 18D(1) of the VAT Act as follows:

"...a vendor who continuously or regularly constructs, extends or substantially improves fixed property consisting of any dwelling or continuously or regularly constructs, extends or substantially improves parts of that fixed property for the purpose of disposing of that fixed property after the construction, extension or improvement."

Hence, the enterprise of a property developer (a registered VAT vendor) comprises of the development and supply (sale) of fixed property as part of a scheme of profit making. Such vendor will be allowed to claim input tax (in terms of section 16(3) read with section 17(1) of the VAT Act) on expenditure incurred relating to the development of such property in the making of standard-rated taxable supplies. In turn, such vendor will also be required to levy output tax (in terms of section 7(1)(a) of the VAT Act) on the supply (i.e., subsequent sale) of such property.

If such fixed property however constitutes a “dwelling” as defined (i.e., residential accommodation), the temporary letting and hiring thereof will constitute a change in the taxable use of such property from a VAT perspective. This is because the intention to sell the property (the making of a taxable supply) now changes to the supply of such property as a dwelling in terms of a letting/hiring agreement which constitutes the making of an exempt supply under section 12(c) of VAT Act. The latter will, in the absence of any other provision, result in an output tax adjustment required to be made in the hands of the property developer (hereafter referred to as the “vendor”) in terms of section 18(1) of the VAT Act. This adjustment needs to be determined by applying the tax fraction (15/115) to the open market value of such property (dwelling) in terms of section 10(7) of the VAT Act. Furthermore, this VAT adjustment is deemed to take place on the date that the change in use from a taxable to a non-taxable (or exempt) supply occurs (i.e., the day the developed property commences to be let/rented out) in terms of section 9(6) of the VAT Act.

Since no input tax is allowed to be claimed in the making of an exempt supply, the section 18(1) output tax adjustment aims to revoke the previous input taxes claimed by the vendor in developing the residential fixed property. However, the section 18(1) output tax adjustment could have a dire impact on the cash-flow position of the vendor, especially in scenarios where the vendor is forced to rent out numerous developed residential accommodation properties, due to a weak South African property market. The latter may result in serious liquidity issues for, and even insolvency of, the vendor (Viviers & Vorster, 2022). To combat the latter, section 18D was introduced into the VAT Act.

National Treasury’s main policy objective behind the introduction of section 18D and its related provisions (namely: sections 9(13), 10(29) and 16(3)(o)) into the

VAT Act was to provide VAT relief to property developers who experience a temporary change in use from the making of taxable supplies to the making of exempt supplies for VAT purposes once embarking into the temporary letting of a dwelling (National Treasury, 2021:53). The value associated with the VAT adjustment triggered because of a temporary change in taxable use of such properties in the absence of this VAT relief regime was found to be inequitable when compared to the value to be applied where the change in use is permanent in nature (Hassan, 2022; National Treasury, 2021:53). Furthermore, the introduced VAT relief regime aimed to remove all confusion and to provide taxpayers with clarity regarding the correct VAT treatment of a temporary, as opposed to a permanent, change in use adjustment. Furthermore, it aims to clarify whether a temporary, as opposed to a permanent, deemed change in use adjustment results in residential fixed property to exit the VAT net, or not. Finally, this VAT relief regime also aims to provide clarity regarding the correct VAT treatment upon the subsequent sale of a residential fixed property by a property developer who temporarily, as opposed to permanently, let out residential fixed property prior to its disposal (National Treasury, 2021:53).

The history of South African VAT relief measures introduced to assist fixed property developer VAT vendors

The South African VAT regime regulating the VAT treatment of temporary changes in the taxable use of developed dwellings (i.e., fixed properties constituting residential accommodation) has undergone numerous changes over the past decade (Julyan 2004; Viviers & Vorster, 2022).

During the South African National Budget Review of 2010, it was announced that a need prevails to investigate and determine an equitable value and rate of claw-back for property developers since the VAT treatment was considered disproportionate in instances where temporary rental income was earned (National Treasury, 2010:79). The latter was motivated to be ascribed to the event where property developers embarked on the temporary leasing of residential units as opposed to the sale of such units. Such temporary change in use will require of a vendor to account for a full claw-back of the input taxes that were allowed to be claimed upon the initial development of such residential units in the making of taxable supplies. In

reaction to the latter, changes were made to the South African VAT Act which provided temporary relief to such South African vendors by means of allowing residential units (dwellings) to be temporarily let for a period of up to 36 months before a change in use adjustment was required to be made in terms of the VAT Act. This relief was provided for under the former section 18B of the VAT Act. However, this relief provision was only available to South African property developers for a specific window period which commenced on 10 January 2012, and which ceased to apply on 1 January 2018.

From 1 January 2018 until the introduction of section 18D, the vendor faced a change in use adjustment triggered in terms of the VAT Act where it was forced (due to a weak South African retail property market) to enter into temporary agreements for the letting and hiring of developed residential properties. This change in use comprises of an output tax adjustment that is required to be made in terms of section 18(1) of the VAT Act in the hands of such vendor based on the market value of such property. However, the South African Revenue Service (SARS) then announced in its VAT News 14 (March 2000) that such vendors who performed a section 18(1) adjustment and who then subsequently sold the fixed property were then allowed to deduct the total amount of output tax paid under section 18(1) against the output tax payable on the subsequent sales price of such property (SARS, 2000).

Hereafter, on 10 September 2020, SARS took a completely different view when it issued Binding General Ruling (VAT): 55 (SARS, 2020). In terms of this ruling, it was indicated that the subsequent sale of a dwelling for which a vendor previously accounted for a section 18(1) output tax adjustment, would no longer be subject to VAT but rather be subject to transfer duty. The latter view was because the property no longer constituted an “enterprise” asset of the vendor for VAT purposes as subsequently it was now to be used temporarily in the making of non-taxable supplies which is specifically excluded from the definition of an “enterprise” in terms of proviso (v) of this definition in section 1 of the VAT Act. In addition, the vendor was accordingly also not entitled to claim any input tax deduction on the subsequent disposal of such residential property.

All these different and various VAT regulations caused much confusion amongst South African vendors (Van

Schalkwyk & Moodaley, 2022). More specifically, it became questionable whether a change in the taxable use of developed fixed properties was to be permanently removed from the South African VAT net, or not. Conflicting views prevailed amongst property developers on whether there is still a liability to account for output tax when a residential property is temporarily let, but then subsequently sold (National Treasury, 2021:53).

These uncertainties required some clarification. Consequently, section 18D was introduced into the South African VAT Act and has been effective since 1 April 2022. However, upon the practical application of section 18D, and its related VAT provisions, it seems as if some incongruities arise. These incongruities seem to cause a mismatch in the VAT implications triggered and the policy objectives that were aimed to be achieved.

RESEARCH QUESTION, OBJECTIVES AND VALUE

The main purpose of this research paper is to analyse the VAT consequences arising due to the introduced section 18D into the VAT Act aimed at providing VAT relief to fixed property developers in terms of the initial development cost incurred, temporary and/or permanent change in taxable supply use, and subsequent disposal. In addition, this paper aims to identify incongruities arising from the application of these VAT relief measures when interpreted based on a literal as well as a purposive approach of interpretation. Finally, the paper critically analyses if the actual VAT consequences triggered by the application of section 18D (read with other related provisions) of the VAT Act are in fact aligned with, and successfully achieves, the policy objectives set behind the introduction of this VAT relief regime for South African property developers.

Therefore, the research question (RQ) that this paper endeavours to answer is:

RQ: Are the South African VAT implications triggered by section 18D and its related provisions aligned with the policy objectives set behind this VAT relief regime?

To answer the former research question, the following two research objectives (ROs) are addressed in this paper:

RO₁: To conduct a doctrinal analysis of the current legislation regulating the VAT treatment of property developers where a temporary change in use occurs where properties developed with the intention to sell are temporarily leased out; and

RO₂: To highlight, explain and critically analyse two incongruities arising from the application of the VAT relief regime for property developers and to measure these against the policy objectives of the legislator based on a literal as well as a purposive approach of interpretation.

The findings of this paper aim to contribute to the debate and analysis of incongruities highlighted in the current VAT legislation under consideration by the South African regulator (National Treasury, 2023a) to be amended. Furthermore, this paper intends to make recommendations that will assist in unifying the policy objectives set behind the section 18D VAT relief measures with that of the actual VAT consequences triggered by the application of this VAT relief regime.

RESEARCH METHODOLOGY

The research to be conducted in this paper is positioned within the interpretivist paradigm as a doctrinal analysis of legislation is one of the typologies of legal research which is in turn described as a possible research paradigm in the field of taxation (Hutchinson, 2005; McKerchar, 2008). Henning *et al.* (2004:23) recommend that more than one research instrument needs to be applied within the interpretive paradigm to create multiple dimensions on the investigation under review. Therefore, to scientifically ground the research methods applied within the interpretive paradigm to investigate the incongruities of the VAT treatment of property development expenditure where a temporary change in use of developed property occurs between taxable and non-taxable supplies, a qualitative doctrinal analysis is applied. The latter is supported by using hypothetical scenarios to perform a basic comparative analysis of the VAT implications triggered by various events after entering into a temporary letting agreement.

From a qualitative research perspective, a doctrinal analysis is one of the research methods that could be employed that will help the researcher to explore the complexity of the research problem and build an understanding or an interpretation (McKercher, 2008). Therefore, the purpose of the research to be

conducted in this paper through the application of a basic comparative analysis is to enrich the understanding of the incongruities under investigation and to advance debate on it, in support of the doctrinal analysis (Stronach & McLure, 1997).

The research in this paper is classified being inductive in nature, employing both a literal and purposive approach of interpretation, to investigate the South African VAT consequences triggered by the recently introduced section 18D of the VAT Act. The literal approach of interpretation focuses on the strict or the letter of the law interpretation, also known as the “black letter law” approach (Knight & Ruddock, 2008:29). Doctrinal research is based on the “black letter law” approach and is typified by the systematic process of identifying, analysing, organising and synthesising statutes, judicial decisions and commentary (Hutchinson & Duncan, 2012).

Goldswain (2008:109) argues that the literal interpretation approach generally leans towards an interpretation in favour of the *fiscus*. In support of the literal approach of interpretation, it was indicated in the English case *Cape Brandy Syndicate v IRC*, (1921(1) KB 64) that by interpreting a tax act one should merely consider at what is clearly said. There is no room for any intendment or presumption and that nothing is to be read in or implied as one can only look fairly at the language used by the act. Brackin (2014) advocates that it is critical for any country’s tax authority to provide its taxpayers with clarity regarding the correct interpretation and application of legislative requirements as this improves taxpayer’s understanding of the requirements of the tax legislation.

In turn, Goldswain (2008:111) describes the purposive approach as the act of seeking and ascertaining the intention of the legislator by reading an act as a whole and by placing it in the context of what is sought to be achieved (i.e., the policy objectives behind the legislation) and the relationship between the individual provisions of the act. In terms of the latter approach, the researcher (and ultimately the taxpayer) is enabled to realistically question the interpretation of legislation where the result of its application does not seem to match the true intent of the legislator.

Where a mismatch is discovered between the result of the literal as opposed to the purposive approach of interpretation, incongruities arise. In other words,

legislative incongruities occur where the strict or literal interpretation and application of a specific provision(s) results in a deviation of what was to be expected when measured against the policy objective(s), true intent and rational behind its legislative introduction. This deviation has been referred to in *Shaler v The Master and Another*, 1936 AD 136 (1936:143) as the resulting “absurdity” because of ambiguities, inconsistencies and uncertainties that arise in the process of trying to interpret legislation.

Therefore, the research methodology framed and motivated in the former discussion will be used in this paper to analyse the VAT treatment by vendors developing fixed properties, and where a forced change in the use of taxable supplies occurs due to a weak South African property retail market and its related VAT consequences. Findings of the doctrinal analysis will be further critically analysed to evaluate if the VAT consequences triggered by the literal approach of interpretation are aligned to the policy objectives of the VAT relief regime for property developers based on a purposive approach of interpretation.

DOCTRINAL ANALYSIS

To address RO₁, the next section encompasses a doctrinal analysis of the legislative provisions contained in the VAT Act that could be triggered when a change in the taxable use of fixed residential property consisting of a dwelling occurs.

Change in taxable use: Section 18(1) versus section 18D VAT consequences

The introduction of section 18D and its related provisions enables VAT relief to fixed property developers by way of deeming the change in use of any dwelling from taxable use to the making of an exempt supply to still constitute a taxable supply for VAT purposes. As a result, this deemed taxable supply will still trigger an output tax adjustment required to be made in the hands of the property developer VAT vendor. However, this deemed output tax adjustment is not required to be made in terms of section 18(1), but rather in terms of section 18D(2) of the VAT Act. The section 18D(2) output tax adjustment is different from that of the section 18(1) output tax adjustment in that it requires a different value to be placed on the deemed change in use supply. In terms of section 10(7)

of the VAT Act, where goods or services are to be supplied by a vendor in terms of section 18(1), the supply shall be deemed to be made for a consideration in money which equals the open market value of such a supply. The term “open market value” of any goods or services is defined in section 3(2) of the VAT Act to constitute the consideration in money at which the supply of such goods or services would generally be made at if supplied in similar circumstances at the same date as that of the deemed supply where it is freely offered and taking place between non-connected persons.

The value to be placed on a change in use supply under section 18D is regulated in terms of section 10(29) of the VAT Act. Section 10(29) is effective from 1 April 2022 and requires the consideration in money to be placed on a section 18D(2) deemed supply to be the “adjusted cost” of the vendor to construct, extend or improve the fixed property or portion of such fixed property. This regulated value is regarded to result in a more equitable supply when compared to the value to be placed on such a supply in terms of section 18(1) read with section 10(7) of the VAT Act. The latter argument is ascribed to the fact that the vendor is placed in a VAT neutral position upon the change in use, as the value of the “adjusted cost” effectively constitutes the same value(s) that the vendor was initially allowed to claim input tax on in order to “construct, extend or improve” the fixed property which now consists of a “dwelling” which is the same value on which the section 18D deemed output tax adjustment needs to be based. It is however questionable if it could be said with utmost certainty and clarity that the section 10(29) “adjusted cost” comprising of the cost to the fixed property developer (hereafter referred to as the “vendor” in this paper) “...of the construction, extension or improvement of such fixed property...” includes or excludes the cost to acquire land for fixed property development purposes.

The latter is highlighted as the first incongruity identified in this paper in terms of the application of the VAT relief regime provided to property developers. This first incongruity is later critically analysed in this paper under the heading: “*First incongruity: Whether the cost of the land on which the development is situated is included within the ‘adjusted cost’ contemplated in section 10(29) of the VAT Act*”.

Cognisance should be taken of the fact that the reason behind the VAT relief regime in terms of section 18D

and its related provisions, is to allow fixed property developers to be placed in a VAT neutral position when the fixed property consisting of a dwelling is temporarily applied for a purpose other than the making of taxable supplies. The term “temporarily applied” is defined in section 18D(1)(b) of the VAT Act as:

“...the application of fixed property or a portion of fixed property in supplying accommodation in a dwelling under an agreement or more than one agreement for letting and hiring thereof which agreement or agreements relate to a combined total period not exceeding 12 months.”

Furthermore, the proviso to the definition of “temporarily applied” as defined in section 18D(1) of the VAT Act stipulates that it specifically excludes the application of fixed property in supplying accommodation in a dwelling under an agreement for the letting and the hiring thereof where any such agreement exceeds 12 months. Hence, where the agreement exceeds 12 months the relief provided in terms of section 18D and its related provisions will not apply and then the section 18(1) and its related provisions need to be applied. It is important to note that where the vendor enters into one or more rental agreements, the aggregate of the rental periods for all agreements may not exceed 12 months in total. This means that the section 18D relief will also not be available if the developed dwelling is rented out to the same or different lessees for more than one single 12-month period. It could therefore be concluded that the main difference between the change in use output tax adjustment in terms of section 18(1) as opposed to section 18D is that the vendor’s intention with its change in use is permanent in nature in a section 18(1) context, while the vendor’s intention behind the change in use is only temporary in nature (i.e. the total lease agreement period does not exceed 12 months per fixed property consisting of a dwelling) in a section 18D context.

Regarding the timing of these change in use supplies, section 9(6) is the provision in the VAT Act which regulates the timing of a section 18(1) supply for VAT purposes. In terms of section 9(6) read with section 18(1), the supply is deemed to be made at the time that the goods or services are subsequently applied for a purpose other than the making of a taxable supply.

Upon the introduction of section 9(13) into the VAT Act in terms of section 50 of the Taxation Laws Amendment Act (20 of 21) the time of a section 18D(2) supply was indicated to be “...the tax period in which the agreement for the letting and hiring of the accommodation in a dwelling comes into effect.” (National Treasury, 2022:58). However, recently the time of supply in terms of section 9(13) of the VAT Act was retrospectively amended (effective since 1 April 2022) by section 28 of the Taxation Laws Amendment Act (20 of 2022) from being the tax period in which the agreement for the letting and hiring of the accommodation comes into effect, to being the earlier of the date within the tax period in which the agreement for the letting and hiring of the accommodation in a dwelling comes into effect, or in which the dwelling is occupied, whichever comes first (National Treasury, 2023b).

The next section of this paper provides an analysis of VAT consequences which might be triggered because of different types of subsequent hypothetical events (discussed below as scenarios 1 to 3) taking place after a vendor temporarily changed the use of a fixed property consisting of a dwelling from taxable to non-taxable supplies.

VAT consequences of subsequent events after the initial temporary change in use

Subsequent events could occur after the initial change in use of the property from sale (i.e., a taxable supply) to temporary letting (i.e., an exempt supply). All these subsequent events will trigger a deemed input tax adjustment in terms of section 16(3)(o) in the hands of the vendor. The purpose of this deemed input tax adjustment is to put the vendor back into the same VAT position as if such vendor never entered into a temporary letting agreement. However, this deemed input tax adjustment is to be followed by a VAT consequence depending on how the vendor deals with a dwelling after its “temporary application” as referred to in section 18D(1) of the VAT Act. The latter is discussed next by way of three hypothetical scenarios (deduced from Viviers & Vorster (2022)):

Scenario 1: The vendor continues to rent out the dwelling on a permanent basis and no longer searches for a buyer

The decision to permanently rent out a dwelling under lease agreement(s) with no further intention to sell will continue to constitute the making of exempt supplies for VAT purposes under section 12(c). Such change in use is regarded to be permanent in nature where the vendor's intention behind the use of the property now permanently changes from using it in the making of taxable supplies to exempt supplies. Hence, this will trigger a section 18(1) output tax adjustment in the hands of the vendor to be determined based on the market value of the dwelling as on the date that the change in use occurs. As a result, the vendor will be liable to pay output tax on the difference in value between the initial "adjusted cost" (in terms of section 10(29)) and the market value used for the section 18(1) change in use adjustment (in terms of section 10(7)).

The precise date on which the section 18(1) change in use adjustment needs to take place is however questionable since SARS might question and oppose a vendor's *ipse dixit* (true intention). The latter is especially true in the scenario where an apparent temporary change in use of embarking on a rental trade is initially entered into which is then subsequently changed to a permanent intention to continue using the property in the making of non-taxable supplies (i.e., permanently renting it out). The timing of the section 18(1) change in use adjustment could be argued by SARS to be the initial date on which the vendor commenced its "temporary application" of the fixed property consisting of a dwelling, based on the argument that such vendor never had the intention to only embark on a temporary letting, and that its intention rather was to permanently lease such fixed property out from the start. Hence, SARS could argue that the vendor's true intention had always been an intention of permanent letting from the start, as opposed to a situation where an initial intention of temporary letting subsequently changed to an intention of permanent letting.

The latter is highlighted as the second incongruity identified in this paper in terms of the application of the VAT relief regime provided to property developers. This second incongruity is later critically analysed in this paper under the heading: "*Second incongruity: The timing of supply for s 18(1) when temporary intention*

changes to a permanent intention during the allowed 12-month "temporary applied" lease agreement period".

In addition, where a vendor under this first scenario decides to sell property consisting of a dwelling at a specific date in future, there will be no liability to levy output tax upon such a disposal as the property consisting of a dwelling was used in the making of exempt supplies for VAT purposes.

Scenario 2: The vendor continues to rent out the dwelling (extending beyond the initial 12-month rental agreement period) while still actively searching for a buyer

This scenario differs from scenario 1 as the vendor's decision to continue renting out the dwelling is not permanent in nature. Since the vendor continues to actively search for a buyer, even after the expiry of the 12-month rental agreement(s) period, shows that the vendor's true intention remains that of disposal (i.e., making taxable supplies) and not letting (i.e., making exempt supplies).

However, because the rental period now exceeds the allowed rental period under the definition of "temporarily applied" in section 18D(1)(b), the nature of this change in use is now considered to no longer be classified as being "temporarily applied" for the making of non-taxable supplies. Consequently, this will trigger a section 18(1) output tax adjustment to be made in the hands of the vendor based on the market value of the dwelling (in terms of section 10(7)) as on the date that the change in use occurs (in terms of section 9(6)). Now the market value to be used is the market value as on the last day of the 12-month rental agreement period. Furthermore, once a buyer is subsequently located and the dwelling is sold, there will again be no liability to levy any output tax as the dwelling was used by the vendor in the making of exempt supplies for VAT purposes.

Scenario 3: The vendor located a buyer and sells the fixed property during the temporary 12-month lease agreement period

Upon the actual sale of the fixed property to a non-connected (independent) buyer at any point in time during the temporary 12-month lease agreement

period, the fixed property developer will need to levy output tax at the standard rate (15%). The latter will be triggered based on the actual sales price in terms of section 7(1)(a), read with section 18D(3) of the VAT Act, constituting a normal taxable supply for VAT purposes. The time of such a supply in terms of section 9(3)(d) of the VAT Act will be the earlier of the date of registration under a deed registry, or the date on which any consideration for such supply is made.

The next section of this paper investigates the two incongruities identified in the former doctrinal analysis to address RO₂. These two incongruities arise from the practical application of the VAT relief regime for property developers when interpreted based on a literal as well as a purposive approach of interpretation. In addition, the VAT consequences of these incongruities are measured and evaluated against the policy objectives behind the introduction of the VAT relief regime for property developers.

First incongruity: Whether the cost of the land on which the development is situated is included within the ‘adjusted cost’ contemplated in section 10(29) of the VAT Act

Where a property developer acquires vacant land on which the development of dwellings needs to take place, it is questionable whether the section 18D output tax adjustment upon temporary letting of such completed dwellings will also apply to the cost of such land. This incongruity was also recently listed by National Treasury as an item to be considered for possible amendment as part of the upcoming 2023 legislative cycle (National Treasury, 2023a). Where the vendor was initially allowed to claim input tax (or notional input tax, if transfer duty was payable and the land was previously owned and used) upon the acquisition of the land, it could not be said with utmost certainty and clarity if section 18D also includes and apply to the cost of the land. The latter is based on the literal approach of interpretation of section 10(29) of the VAT Act which refers to the “adjusted cost” and where it seems as if the initial cost of the vacant land falls outside the scope of this deemed value of a section 18D supply.

Section 10(29) of the VAT Act specifically deals with the value to be placed on the supply deemed to be taking place in terms of section 18D(2) of the VAT Act where a temporary change in use from the making of taxable

supplies to the making of non-taxable supplies of fixed property consisting of a dwelling occurs. In terms of section 10(29) of the VAT Act the supply is deemed to be made at a consideration in money which equals the “adjusted cost” to such vendor. This “adjusted cost” is referred to in section 10(29) as the cost incurred by the vendor “...for the construction, extension or improvement of such fixed property or portion of such fixed property so supplied” and it is unclear if the cost of land is included in this description of the value of a section 18D change in use supply.

The term “fixed property” is defined in section 1(1) of the VAT Act as follows: “...means land (together with improvements affixed thereto),... and any real right in any such land,...”. However, in section 18D(2) the following wording is used to describe the type of item that is being supplied falling within the ambit of section 18D: “...where goods being supplied consists of fixed property consisting of any dwelling...” (own emphasis added). Hence, based on a literal approach of interpretation it could be argued that the meaning and context of the term “fixed property” as defined in section 1(1) of the VAT Act may have a different meaning than that of “fixed property consisting of any dwelling” as used in the scope of section 18D of the VAT Act.

The term “dwelling” is defined in section 1(1) of the VAT Act as follows:

“...means, except where it is used in the supply of commercial accommodation, any building, premises, structure, or any other place, or any part thereof, used predominantly as a place of residence or abode of any natural person, including fixtures and fittings belonging thereto and enjoyed therewith.”

It is questionable if the cost of “land” could be seen as fixed property consisting of a dwelling as “dwelling” seems to constitute the cost incurred to construct, extend or to improve the underlying land, while the cost of land itself rather constitutes the cost incurred to acquire land or the right to land. Typical examples of expenditure incurred to construct, develop or extend would be the acquisition of building materials (such as bricks, cement, building sand, steel, etc.) as well as the costs of labour needed for construction, extension or improvement of land. Based on a literal approach of interpretation the cost to acquire land itself does not seem to be a cost incurred to construct, extend or improve a fixed property.

Therefore, based on a literal approach of interpretation, it seems like the cost of land is excluded from the “adjusted cost” as referred to in section 10(29) of the VAT Act. The result of the latter is that a section 18(1) change in use adjustment would be applicable to the cost of land upon the decision taken by a developer to temporarily lease out a fixed property consisting of a dwelling. This would result in a section 18(1) output tax adjustment required to be made in the hands of the vendor based on the open market value of the land (as regulated in terms of section 10(7) of the VAT Act) on the date the land is applied for temporary letting together with the supply of the dwelling which is also temporarily let out.

However, based on a purposive approach of interpretation it could be argued that it could not have been the intention of the legislator to exclude the cost of the acquisition of land from the definition of “adjusted cost” as referred to in section 10(29) of the VAT Act. The latter is based on the argument that the policy objectives behind the VAT relief regime for property developers are to provide developers with relief in terms of steering away from the open market value triggered under section 18(1) as this value to be used for the change in use adjustment as this value of supply was regarded to be inequitable. In addition, the change in use in terms of the land also seems to be temporary and not permanent in nature as the land, together with its dwelling attached thereto, is earmarked with the intention to be eventually sold as trading stock. Hence, from the doctrinal analysis conducted in this paper it is concluded that the nature of the change in use adjustment required to be made in terms of section 18(1) as opposed to section 18D, differs in that the change in use under section 18(1) is permanent in nature, while the change in use under section 18D is temporary in nature.

It is therefore evident that differences in the interpretation of the meaning of “adjusted cost” as referred to section 10(29) of the VAT Act could occur when this term is to be interpreted based on a literal as opposed to a purposive approach of interpretation. These different interpretations could cause confusion amongst taxpayers (specifically vendors who develop fixed properties) regarding whether the cost to acquire land is included in or excluded from “adjusted cost” and whether the cost of land will trigger a section 18(1) as opposed to a section 18D(2) output tax adjustment when embarking on the temporary letting of a dwelling. The latter prohibits vendors from correctly

applying the correct VAT treatment on the acquisition cost of land with clarity and certainty.

Second incongruity: The timing of supply for section 18(1) when a temporary intention changes to a permanent intention during the allowed 12-month “temporary applied” lease agreements period

To distinguish between a change in use being permanent as opposed to being temporary in nature, one needs to consider the vendor’s *ipse dixit* (or true intention) behind the development of the fixed property and how it will be used or applied for VAT purposes. The determination of true intention is however subjective as it is difficult to interpret and to establish with precision and true clarity (Påhlsson, 2017; Surtees, 2004). Hence, as also indicated in *CSARS v Capstone 556 (Pty) Ltd (20844/2014) [2016] ZASCA (9 February 2016)*, each case needs to be subjectively and objectively evaluated and determined based on its own unique facts and circumstances.

As discussed under scenario 1 of the doctrinal analysis, a vendor could for example indicate to embark on a temporary letting of a dwelling for a period of 11 months and then, at the end of the 11-month lease agreement period, indicate its intention to have changed to that of a permanent change in use of such property for the letting thereof in the making of non-taxable supplies. In such a case (as in the latter example), SARS could be of the opinion that the vendor’s true intention behind the development of the fixed property consisting of dwelling was that of the permanent letting thereof from the start (i.e. from the first day of the 11-month letting period) and that the vendor’s apparent intention posed to SARS of that of a “temporarily application” of such developed fixed property for the letting thereof was only to successfully achieve the deferral or extension of its liability to account for a section 18(1) output tax adjustment upon a permanent change in use.

In the event that such opposing views regarding the vendor’s true intention prevails, such matter will be subject to the processes of objection and appeal by the vendor (i.e., the taxpayer) in terms of Chapter 9, Part B of the Tax Administration Act (28 of 2011). Section 102(1)(d) of the Tax Administration Act (28 of 2011) (South Africa, 2011) places the burden of proof on the

taxpayer (in this case the vendor) to prove that a decision that is subject to objection and appeal under a tax Act, is incorrect.

The question regarding the true intention of the vendor is a crucial aspect to consider in this context, as the true intention directly impacts the timing as to when the section 18(1) output tax adjustment needs to be accounted for. Although section 9(6) regulates the timing of a section 18(1) change in use supply, it stipulates that the time of supply is when the change in use occurs. Therefore, if SARS is of the opinion that the vendor's intention of permanent letting and hiring started directly after the fixed property was developed and ready for sale, the open market value of such property on the date at the start of the 11-month lease agreement needs to be applied in determining the section 18(1) output tax adjustment. However, if the true intention was sale and the only reason why the 11-month lease agreement was temporarily entered into was due to adverse market conditions and difficulty in locating a buyer, then the intention of permanent change in use will only be on the last day of the 11-month temporary lease agreement period. This means that the open market value as on the last day of the 11-month temporary lease agreement needs to be applied to determine the section 18(1) output tax adjustment.

Different open market values of fixed property could substantially differ from each other on different dates. This is due to various factors that could impact the open market value of fixed property on different dates, such as the rapid changes in fixed property market economic conditions, changes in the supply and demand of developed fixed properties, as well as the impact of the time value of money. These changes could either benefit the revenue collector, or the fixed property developer, depending on how these factors impact the open market value of fixed property over the 12-month "temporarily applied" period as referred to in section 18D(1)(b) of the VAT Act.

It is submitted that based on the literal approach of interpretation, the wording of the VAT Act used in section 9(6) read with section 18(1) to correctly determine the time of supply of the section 18(1) output tax adjustment is not clear. The latter is ascribed to the fact that it could not be said with exact certainty when a vendor's intention changes which directly impacts and determines the timing at which a change in use adjustment is triggered under section 18(1). Opposing views based on different approaches

of interpretation could occur in the process of establishing a vendor's true intention in terms of how and when developed fixed property is used and applied for VAT purposes. Different opinions on the true intention of the vendor once the fixed property is developed (i.e., permanent letting once the property is completed as opposed to the initial temporary letting and then subsequent permanent letting) directly impacts the timing of the section 18(1) supply. The latter determines the open market value to be used in calculating the section 18(1) output tax adjustment (i.e., the open market value on day one of letting once developed property is completed, or the open market value on the date that the intention of temporary letting changes to the intention of permanent letting). These differences in interpretation could cause confusion amongst taxpayers (specifically vendors who develop fixed property) preventing them from correctly applying the VAT Act with clarity and certainty regarding the timing and the open market value to use in accounting for a section 18(1) output tax adjustment.

CONCLUSIONS AND RECOMMENDATIONS

The main research question that this paper endeavoured to answer was whether the South African VAT implications triggered by section 18D and its related provisions are aligned with the policy objectives set behind this VAT relief regime.

National Treasury (2021) motivated its policy objectives behind the introduction of this VAT relief regime as follows: (i) To serve as an anti-avoidance measure; (ii) to be a more equitable approach in terms of its VAT treatment; (iii) and to prevent prejudice of property developers whose intentions, regarding residential fixed properties, have always been to sell such properties in the ordinary course and furtherance of its enterprise.

It is concluded that section 18D and its related provisions are successful anti-avoidance measures ensuring a more equitable VAT position for property developers. The latter is ascribed to the VAT neutral position in which a vendor is placed when a temporary change in use (from the intention to sell to the temporary use as a dwelling) occurs. However, this more equitable approach is negatively impacted by the uncertainties surrounding two incongruities identified

from the doctrinal analysis conducted in this paper based on two approaches of interpretation.

The first incongruity relates to the uncertainty regarding whether the cost of land on which development takes place does form part of “adjusted cost” in a section 10(29) context. It was concluded, based on a literal approach of interpretation, that the wording of this definition is ambiguous in that the cost to acquire land does not seem to constitute costs incurred by the vendor to construct, extend or improve the fixed property. This interpretation would result in a section 18(1) output tax adjustment based on the open market value of such land in the hands of the vendor once entering into a temporary letting agreement. However, when considered based on a purposive approach of interpretation which is aimed at achieving a more equitable VAT approach and to prevent prejudice to the vendor, it is argued that a section 18(1) output tax adjustment based on the open market value of land could not have been the true intention of the legislator. The latter VAT treatment contradicts the policy objective aimed at temporary VAT relief for the vendor.

The second incongruity identified and analysed in this paper relates to the uncertainty regarding the timing of a section 18(1) change in use adjustment that needs to be accounted for when, during the allowed 12-month “temporary applied” lease agreements period, a temporary application of fixed property as a dwelling change to a permanent intention in applying such fixed property as a dwelling. It was concluded that to determine and to prove true intention at a specific point in time is subjective as it is difficult to establish with precision and true clarity. The latter is however a crucial aspect to consider as it determines the time at which the section 18(1) output tax adjustment based on open market value needs to be accounted for. Open market values of developed fixed property were indicated to be impacted by various factors, which could result in either benefiting the revenue collector or the vendor.

In the instance where SARS questions the vendor’s intention and argues it to have been permanent to rent it out from the start, the section 18(1) output tax adjustment will be triggered at its open market value on the day the property is developed and ready for sale, but then rather rented out. In turn, where the vendor argues that its intention had first been to temporarily apply the fixed property by renting it out, and then

subsequently changed its intention to permanently rent it out, the section 18(1) output tax adjustment will only be triggered at its open market value on the day the intention to rent it out became permanent.

Therefore, it is recommended that the legislator should revisit the definition of “adjusted cost” as referred to in section 10(29) of the VAT Act to clarify whether it includes the cost to acquire land on which development (i.e., construction, extension or improvement) is aimed to take place. Based on the purposive approach of interpretation, which is also aligned with the policy objectives set behind the introduction of the VAT relief regime aimed at property developers, it is recommended that such clarification should specifically include the cost to acquire land as part of the definition of “adjusted cost” in section 10(29) of the VAT Act.

Furthermore, it is recommended that the timing of the required section 18(1) output tax adjustment needs to be clarified under section 9(6) of the VAT Act, specifically in a section 18D context where a temporary intention to apply property as a dwelling, changes to a permanent intention to apply it as a dwelling. Clarification on timing of intention, based on objective and subjective factors to be considered, could for example be furnished by means of an Interpretation Note or Regulation to be issued by SARS. These could aid in furnishing taxpayers with better clarity and certainty regarding the correct VAT treatment of the VAT relief regime provided to fixed property developers in South Africa.

RESEARCH LIMITATIONS AND SUGGESTION FOR FURTHER RESEARCH

It is acknowledged that this paper is subject to certain limitations. Hence, the findings, interpretations and conclusions drawn should therefore be interpreted within the context of these limitations being acknowledged, which is solely and inductively based on the views and interpretation of the researchers.

Since it is difficult to prove and determine a vendor’s true intention in the application of developed fixed property at different dates in time (which could easily be falsely motivated by apparent adverse fixed property market conditions), further research is suggested to be conducted regarding criteria to be applied to establish such a fixed property developer’s true intention more accurately at different points in time.

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A critical analysis of the draft interpretation note relating to value-added tax consequences of points-based loyalty programmes

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Purpose: Loyalty programmes, particularly those that award points for purchasing eligible products, are popular in the retail and service industries. Over one hundred suppliers in South Africa make use of these programmes in their businesses. Despite its popularity, there is uncertainty regarding the value-added tax treatment on these transactions.

Method: The South African Revenue Service issued the Draft Interpretation Note in 2020 to provide clarity on this issue. This paper will discuss the shortcomings of the Draft Interpretation Note: Value-Added Tax Consequences of Point-Based Loyalty Programmes ('Draft IN') to determine whether it provides a clear and practical guidance on the value-added tax treatment of point-based loyalty programmes. The Draft IN uses the terms, 'vendor' and 'small', both these terms will be analysed.

Findings: Certain types of loyalty programmes have not been addressed by the Draft IN. This includes scenarios where the discount method has been applied to loyalty programmes and where competitions are part of the loyalty point-based programmes. This report will discuss the value-added tax consequences of scenarios in terms of the Value-Added Tax Act 89 of 1991.

Contribution: The paper is among the first to deal with the taxation of customer loyalty programmes. The research is timely because these programmes are attracting increased attention from companies to generate revenue, but the associated tax consequences remain unclear.

KEYWORDS: *competition; draft interpretation note; discount method; point-based loyalty programme; value-added tax.*

INTRODUCTION

Background

Point-based loyalty programmes are programmes which award its members with points as a result of acquiring goods and services from qualifying suppliers of these loyalty programmes (SAIT, 2014). These loyalty points can later be exchanged for cashback rewards, a discount on future purchases or in exchange for goods or services for no consideration (SAIT, 2014). Loyalty programmes have gained popularity in recent years. In South Africa, there are over one hundred suppliers that use these programmes in their businesses (SAIT, 2014).

These loyalty programmes exist to incentivise brand loyalty and repeat purchases (Cromhout & Netto, 2018:4, 9). Loyalty programmes also enable businesses to perform market research by identifying the spending trends of their customers. This allows businesses to improve their stock management systems and marketing campaigns (SARS, 2020:3).

According to the Draft IN released in 2020, a loyalty programme comprises of six characteristics. Firstly, any person or entity can participate in a loyalty programme to become a member. Secondly, membership to a

loyalty programme rewards loyalty points to their members. The loyalty points could be awarded if the member purchases certain goods or services from specific entities, has performed a specific promoted behaviour (using the loyalty programme card) or is simply a member of the loyalty programme. Thirdly, no additional payment (besides the membership fee) is needed before the member is entitled to the loyalty points. Fourthly, there is no difference in the price paid for goods or services by a member, when they are earning or redeeming points, and a non-member. Fifthly, there is a value attached to the allocated loyalty points. This value is relatively small in comparison to the purchase price of the goods and services used to acquire the loyalty points. Lastly, the loyalty points can be redeemed for goods or services that have a similar value to the fair value of the loyalty points (SARS 2020:4).

The parties involved in a loyalty programme are the members, the loyalty programme operator (LPO), the loyalty partner and the redemption partner. The members are the customers that have a membership with the loyalty programme. The LPO manages and administers the loyalty programme. The member purchases qualifying goods and services from the loyalty partner and earns loyalty points on these

purchases. The redemption partner is a vendor that supplies the member with goods and services when the member redeems the loyalty points. The redemption partner accepts the loyalty points as payment for the goods and services sold to the member (SARS, 2020:2).

There has been uncertainty in regard to the Value-Added Tax ('the VAT') treatment on loyalty points. In response to this, National Treasury has issued a Draft IN that provides information and guidance on the following:

- Clarification on the applicable definitions relating to loyalty programmes,
- The characteristics of a loyalty programme,
- The transactional flow of a loyalty programme,
- The different structures of loyalty programmes,
- Loyalty points, and
- The proposed VAT implications of the parties involved in the loyalty programme (the programme operator, its members, loyalty partner and redemption partner)

(PwC, 2020)

The Draft IN, however, does not stipulate the proposed VAT treatment for circumstances in which the loyalty points give rise to discounts on future purchases. The reason why the Draft IN does not provide for this is unclear (PwC, 2020).

PURPOSE OF RESEARCH

According to the 2019/20 Truth & BrandMapp Loyalty Landscape Whitepaper, 72% of economically active South Africans use loyalty programmes (Cromhout & Netto, 2020: 5). This suggest that a major portion of sales transactions involve loyalty programme-related transactions. Consequently, knowing how to account for VAT on these loyalty programme transactions is important as VAT is levied on the consumption of goods and services.

The Draft Discussion Paper on loyalty points issued by SARS in 2014 found that the stakeholders of the loyalty programmes interpreted and applied the relevant provisions of the VAT Act to loyalty programmes differently. This has created a need for a policy whereby the VAT principles for all loyalty programmes can be uniformly applied (SARS, 2014a).

The main aim of this research report is analyse the Draft Interpretation Note issued by SARS in relation to

Value-Added Tax consequences of points-based programmes and to identify shortcomings not addressed. It is noted that the current VAT legislation does not provide much guidance on the treatment of point-based loyalty programmes. Therefore, SARS has issued the Draft IN. This report will outline the transactions arising from a point-based loyalty programme as outlined by SARS in the Draft IN, analyse certain terminology used as well as address the discount method of loyalty programmes not addressed by the Draft IN.

RESEARCH PROBLEM

The research question to be addressed is: What are the shortcomings not addressed by SARS in the Draft IN?

Sub-questions:

- What transactions arise from a loyalty programme?
- Is there ambiguous terminology used or contradictory statements made in the Draft IN?
- What type of loyalty programmes and promotions does the Draft IN not address?

METHODOLOGY

The research method applied in this research report constituted an in-depth literature review, followed by the interpretation and synthesis thereof. Literature included, inter alia, textbooks, discussion papers, legislation, journal articles and media reports. A literature review was considered an appropriate research method for the analysis of the Draft IN.

SCOPE AND LIMITATIONS

Loyalty programmes can be structured as either an exclusive programme or a multiple party programme. An exclusive programme is when a single entity simultaneously acts as the loyalty partner, redemption partner and the LPO. A multiple party programme is when different entities act as the loyalty partner, redemption partner and the LPO (SARS, 2020: 6). This report will only analyse the scenarios outlined by SARS in the Draft IN. Both the output tax and input tax treatment will be analysed to determine shortcomings not addressed by SARS.

THE MECHANICS OF A COMMON LOYALTY PROGRAMME

Introduction

The four main stakeholders involved in a loyalty programme are the members, loyalty programme operator (LPO), loyalty partner and redemption partner. This will discuss the transactions found between these parties as described in the Draft IN.

There are two main structures of loyalty programmes namely, the exclusive programme and the multiple party programme. The main difference between the two is the identity of the parties involved in the programme. In an exclusive programme, the role of the LPO, loyalty partner and the redemption partner are performed by the same person, the supplier of the loyalty programme. In a multiple party programme, the role of the LPO, loyalty partner and the redemption partner are performed by separate entities. The VAT treatment of the transactions involved in either an exclusive programme or a multiple party programme remains unchanged for all the parties involved (SARS, 2020:6, 7).

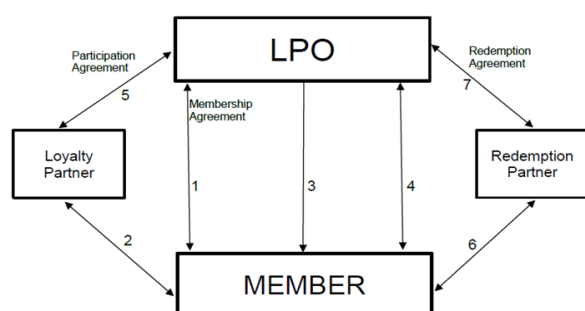


Figure 1: Diagram depicting transactional flow of loyalty programmes

Source: SARS, 2020:5

Common transactions in a loyalty programme

Transaction 1: membership fee

Initially, a membership agreement is entered into between the customer and the LPO whereby the customer becomes a member of the programme. A membership fee or a minimum spending amount may be required in terms of the contract. This grants the member the right to participate in the loyalty programme and may also be compensation for the administration performed by the LPO (SARS, 2020:5).

Transaction 2: purchases of eligible goods or services at the loyalty partner by a member

The member must purchase qualifying goods or services at the loyalty partner before the member is awarded loyalty points (SARS, 2020:9). The payment made to the loyalty partner would be the same price that a non-member would pay for that same good or service as this is one of the characteristics of a loyalty partner (SARS, 2020: 4).

Transaction 3: the subsequent allocation of loyalty points by the LPO

The LPO will allocate loyalty points to the member after the member has made an eligible purchase at the loyalty partner or has performed the specified action. The conditions are described in the membership agreement (SARS, 2020:11).

Transaction 4: the sale of loyalty points between the member and the LPO or between members

Should the membership agreement permit, additional loyalty points may be purchased by the member from the LPO if the member has insufficient loyalty points to redeem certain goods or services (SARS, 2020:13). In addition, the sale of loyalty points between members of the same loyalty programme may be permissible depending on the membership agreement (SARS, 2020:15). The LPO would be required to re-allocate the loyalty points and facilitate this transfer (SARS, 2020:15).

Transaction 5.1: administration fee paid by the loyalty partner to the LPO

The LPO may require the loyalty partner to pay a fee to the LPO for the administration function performed by the LPO. This would be stipulated in the partnership agreement (SARS, 2020:7, 8).

Transaction 5.2: points fees paid by the loyalty partner to the LPO

Eligible goods or services purchased at the loyalty partner by the member would result in the loyalty

partner having to pay a point fee to the LPO. The value of the point fee is determined by the method allocated in the partnership agreement. It could be equal to the value of the allocated loyalty points awarded to the member or calculated as a percentage of the original sale or calculated in another manner (SARS, 2020:6).

Transaction 6: loyalty points redeemed by the member at the redemption partner

The member may redeem the loyalty points at the redemption partner. The loyalty points can be redeemed for specific goods or services or the points can be donated to certain charities (SARS, 2020:16).

Transaction 7.1: administration fee paid by the redemption partner to the LPO

The LPO may require the redemption partner to pay a fee to the LPO for the administration function performed by the LPO. This would be stipulated in the redemption agreement (SARS, 2020:7,8).

Transaction 7.2: redemption cost paid by the LPO to the redemption partner

The LPO would have to pay the redemption cost to the redemption partner subsequent to the member making a purchase at the redemption partner. The payment is made to the redemption partner as a result of the partner accepting the loyalty points as payment for goods and services. Consequently, the value of the redemption cost may be equal to or less than the value of loyalty points used to pay the goods and services. (SARS, 2020:6)

Transaction 8: conversion of loyalty points to a different loyalty programme

Certain loyalty programmes may allow the exchange of loyalty points from one loyalty programme to another. This will trigger a redemption of the original points and the redemption partner would be the LPO of the new loyalty programme to which the points are being converted to (SARS, 2020:19).

Conclusion

The transactions most commonly found in a loyalty programme are the payment of the initial membership fee, the purchase of eligible goods or services by a member, the allocation of loyalty points by the LPO, the sale of loyalty points between the member and the LPO or between members, the payment by the loyalty partner to the LPO in respect of administration fee and points fee, the redemption of loyalty points by the member at the redemption partner, the payment by the redemption partner to the LPO in respect of administration fee, the redemption cost paid by the LPO to the redemption partner and; the conversion of loyalty points to a different loyalty programme (SARS, 2020:5).

SHORTCOMINGS OF THE DRAFT IN: VALUE-ADDED TAX CONSEQUENCES OF POINTS-BASED LOYALTY PROGRAMMES

Introduction

In this paper two terms will critically be analysed, namely 'vendor' and 'small' and the application of the VAT provisions on loyalty programmes as outlined in the Draft IN. In addition, it will discuss the following three scenarios, which address the question as to what scenarios the Draft IN does not address:

1. The VAT consequences that could arise from a discount method applied for loyalty programmes as the Draft IN does not apply to this scenario.
2. The proposed VAT treatment in the Draft IN surrounding loyalty points granted under an employment incentive scheme.
3. The scenario where competitions are part of the loyalty point-based programme and the VAT treatment thereof.

There is no explicit provision in the VAT Act dealing with transactions in a loyalty programme (SARS, 2014b:9). Thus, this paper will make use of the general provisions currently available in the VAT Act to address the VAT consequences of the abovementioned transactions and will further analyse whether any specific provisions may be proposed where the VAT Act does not address the specific transaction.

Analysis of terms ‘vendor’ and ‘small’ as used in the draft IN

The term ‘redemption partner’ and ‘loyalty partner’ are referred to as vendors in the Draft IN (SARS, 2020:5). This suggests that redemption partners and loyalty partners who are not required to register for VAT will not apply the Draft IN guidelines. This could be a resident partner not in the business of making taxable supplies or a non-resident partner with no South African liability to register for VAT (SAICA VAT Committee, 2020:1). It is unclear as to whether it is the intention of the Draft IN to exclude these partners who are non-VAT vendors (SAICA VAT Committee, 2020:1).

A characteristic used to describe a loyalty programme in the Draft IN is that the value of the allocated loyalty point is generally ‘small’ in comparison to the purchase price of the goods and services used to acquire the loyalty points (SARS, 2020:4). The Draft IN does not clarify the meaning of ‘small’ in this context (SAICA VAT Committee, 2020:2).

Analysis of the application of the VAT provisions on loyalty programmes as outlined in the Draft IN

Reference to the Consumer Protection Act

Section 1 of the CPA defines a ‘loyalty credit or award’ in a loyalty programme as any:

- a) benefit accruing to a consumer.
- b) right to any goods, service or other benefit granted to a consumer; or
- c) point, credit, token, device or other tangible or intangible thing which, when accumulated in sufficient quantities, entitles the holder to seek, request or assert a claim for any goods, services or other benefit, allocated to a consumer.

The Draft IN uses section 1 of the CPA to support its argument that loyalty points are rights which provide its members with the benefit of using the loyalty points to pay for future purchases (SARS, 2020:7).

The use of the definitions set out in the CPA in applying the VAT Act to loyalty programmes may be inappropriate. The definitions provided in the CPA was intended to give meaning to only the provisions of the CPA. The VAT Act and CPA are separate legislation,

each designed to serve different purposes. The VAT Act taxes goods and services consumed in South Africa, whereas the aim of CPA is to protect and promote the economic interest of consumers. Consequently, using the definitions in the CPA may not serve the purpose of the VAT Act (SAICA VAT Committee, 2020:2).

Section 35(1) of the CPA states:

“Despite any provision in any law, agreement or notice to the contrary, for all purposes of this Act, loyalty credits or awards are a legal medium of exchange when offered or tendered as consideration for any goods or services offered, or transaction contemplated, in terms of that loyalty programme.”

The Draft IN applies section 35 of the CPA to prove that a loyalty point constitutes ‘consideration’ for a supply. This is incorrect as section 35(1) of the CPA specifically states that this provision is only applicable to the CPA. Furthermore, the term ‘consideration’ used in the CPA specifically includes loyalty credit, however, ‘consideration’ as defined in section 1 of the VAT Act does not (SAICA VAT Committee, 2020:2).

The Draft IN refers to section 63 of the CPA to give effect to section 10(18) from a VAT perspective (SARS, 2020:17). According to section 63 of the CPA, when a consumer pays consideration to a supplier for a prepaid voucher or similar device, the amount paid will be the property of the voucher holder. Section 10(18) of the VAT Act disregards the supply of a voucher issued for a consideration. It is inappropriate to use the provisions of the CPA when applying the VAT Act for loyalty programmes. This is because the VAT Act and CPA are separate legislation, each designed to serve different purposes (SAICA VAT Committee, 2020:4).

Application of section 10(20) in the context outlined in the Draft IN

Section 10(20) of the VAT Act applies when a ‘token, voucher or stamp’ has been issued for no consideration and for which the holder has a right to a discount on specified goods and services. Section 10(20) deems the consideration to include the monetary value specified on such token, voucher or stamp’.

The Draft IN has compared a loyalty point to a voucher as both have a similar meaning. The Draft IN considers a loyalty point to be a right which provide a member with the benefit of using the loyalty to pay for future

purchases. Likewise, a 'voucher' is defined in the Collins Dictionary as:

"a ticket or piece of paper that can be used instead of money to pay for something".

(SARS, 2020:6,7)

Paragraph 4.3 of the Draft IN considers loyalty points to be vouchers as envisaged in section 10(20) of the VAT Act. However, paragraph 5.9.1 states that section 10(20) is not applicable to loyalty points in a loyalty programme. The two statements contradict each other (SAICA VAT Committee, 2020:4).

The Draft IN provides that when a member redeems their loyalty points at the redemption partner, the consideration received by the partner includes both the amount received and the open market value of the loyalty points (SARS, 2020:16). This utilizes the deeming principle in section 10(20) which deems the consideration to include the monetary value specified on such voucher. This is contradictory to the statement made in paragraph 5.9.1 which states that section 10(20) does not apply to a loyalty programme (SAICA VAT Committee, 2020:7).

The VAT treatment of redemption cost

When the LPO pays the redemption cost to the redemption partner, the unrealised value on the loyalty points, when it was received as payment for supplying the member with goods and services, is now realised. The payment of the redemption cost is, in essence, the LPO converting the loyalty points to cash (SARS, 2020:18).

The Draft IN recognises that this transaction will not have any VAT consequences as this redemption cost is merely money transferred to the redemption partner (SARS, 2020:18). The SAICA VAT Committee disagrees that the transaction has no VAT consequences only because of this reason.

When the redemption partner accepts the loyalty points as payment for supplying the member with goods and services, the redemption partner has the right to be paid the monetary value of the loyalty partner from the LPO. This is stipulated in the redemption agreement. The loyalty points from the perspective of the redemption partner meet the definition of 'debt security' as per section 2(2)(iii) of the

VAT Act. Accordingly, the payment of the redemption cost is exempt from VAT as it is a 'financial service' as envisaged under section 2(1)(c). This results in no VAT consequences for the LPO and the redemption partner (SAICA VAT Committee, 2020:6,7).

Proposed VAT consequences of a discount loyalty programme

SARS asserts that the Draft IN outlines the VAT treatment of South Africa's most popular transactions in loyalty programmes (SARS, 2020:19). However, the Draft IN does not apply to instances where loyalty points grant discounts on future purchases (SARS, 2020:17). The loyalty points can be compared to a voucher as described above.

There are loyalty programmes where the loyalty points grant its members the benefit of purchasing future goods at a discount. This is known as applying a discount method. In this programme, the customer acquires points from every purchase at a loyalty partner. The points generated will grant the customer a discount on its subsequent purchase (SAIT, 2020).

According to the Truth Whitepaper on loyalty programmes, the top 3 loyalty programmes used by South Africans for 2019/2020 are:

- Clicks Clubcard
- Pick n Pay Smart Shopper
- Dischem Benefits

(Cromhout & Netto, 2020: 16).

The salient terms and conditions of each of South Africa's Top Rewards programmes are mentioned below.

According to the Dis-Chem Benefit programme, the participants accumulate points in store and present the card at the point of sale to redeem points. A benefit card and the rewards accruing thereto are non-transferable (Dischem n.d.).

Upon analysing the terms and conditions of the Clicks Clubcard, it was noted that the points that have been converted into Rewards may be redeemed. A Clubcard holder must earn a minimum of 50 points to qualify for a reward. A Clicks ClubCard is non-transferable (Clicks, n.d.).

According to the terms and conditions of the Smart Shopper, once sufficient Smart Shopper points have been accumulated, subject to certain terms and conditions, the member is entitled to spend their points to get a personalised promotional discount on certain products, donate the points or switch the points to third party Smart Shopper partners (Pick n Pay, n.d.).

Consequently, the VAT consequences relating to the discount method should be clarified by SARS as this method of accounting for loyalty points is found in the terms and conditions of Top 3 loyalty programmes in South Africa. Furthermore, in *CSARS v Clicks Retailers* (2019) JOL 46369 (SCA), Clicks Retailers was objecting to the disallowance of section 24C of the Income Tax Act. The Supreme Court of Appeal (SCA) considered the nature of loyalty points in its decision. The SCA stated that a rewards voucher represents a discount when the value of the rewards voucher is deducted from the overall price, resulting in the consumer having to only pay the net balance. Consequently, loyalty points could represent a discount on future purchases (SAICA VAT Committee, 2020:4).

As there are no specific provisions that deal with the VAT treatment of the discount method under loyalty programmes, one would need to analyse the existing provisions in the VAT Act. The general provisions of section 10(18), 10(19), 10(20), deal with vouchers and these sections will be analysed below.

A 'voucher' is defined in terms of the Concise Oxford Dictionary as a piece of paper that can be used to pay for particular goods or services or that allows a person to pay less than the usual price for them (Anon, 2020e). A loyalty point has similar characteristics to a voucher in that it could represent a discount on future purchases.

Analysis of section 10(18) and 10(19)

Section 10(18) and 10(19) applies when consideration has been paid for the issue of a voucher and such voucher grants the holder the right to acquire future goods or services. The only difference between section 10(18) and 10(19) is that section 10(19) refers to the right to acquire the good or service specified on the voucher whereas section 10(18) does not specify the good or service that the holder may be entitled to (SARS, 2014b:2,3).

A characteristic of a loyalty programme as described in the Draft IN is that the loyalty points are issued for no consideration. Due to this characteristic trait, section 10(18) and 10(19) will not apply as no consideration is paid when these loyalty points are issued.

Analysis of section 10(20)

Section 10(20) meets the characteristic trait of loyalty points issued for no consideration. As a result, section 10(20) would apply to loyalty points used to provide discount on future purchases when redeemed. The consideration paid for the supply shall be deemed to contain the monetary value of the loyalty points. The monetary value is deemed to include VAT.

The redemption partner will levy output tax on the taxable supply of goods or services redeemed by the loyalty points. At redemption date, the redemption partner is deemed to receive total consideration equal to the amount received and the monetary value of the discount allocated to the loyalty points. In essence, consideration received would be the usual price paid by a non-member. This supports another characteristic of a loyalty programme, namely that there should be no difference in the price paid for goods or services by a member and a non-member. Thus, the redemption partner is liable to levy VAT on the full value of the taxable goods or services. The value of supply may not be reduced by the discount given to its members (SARS, 2013:3)

The member could claim an input tax deduction on the goods or services purchased from the partner if the member is registered as a VAT vendor, the goods or services was acquired to make taxable supplies and the conditions of section 16(2) and 16(3) are met (SARS, 2020:17).

The redemption partner could claim an input tax deduction on any expenses incurred in providing this discount (similar to honouring a voucher) to the extent that the redemption partner is a registered VAT vendor, the discount was given on standard-rated goods or services and; the conditions of section 16(2) and 16(3) have been met (SARS, 2013:4).

The proposed VAT treatment in the Draft IN surrounding loyalty points granted under an employment incentive scheme

Employers may award loyalty points in a loyalty programme to their employees to motivate their employees to achieve a desired performance. Generally, loyalty points are awarded for no consideration to the employees, however, there are instances where the loyalty points are given to the employees for a consideration that is less than the actual value of the loyalty points (SARS, 2020:15).

Loyalty points granted to employees by the employer could trigger section 18(3) of the VAT Act should this benefit be granted to the employee as envisaged in paragraph (i) of the gross income in section 1 of the Income Tax Act 58 of 1962, read together with the Seventh Schedule (SARS,2020;15).

Pretorius (2010), in a master's dissertation, has analysed the impact of employees' tax on loyalty points awarded to employees as an incentive. Pretorius (2010) concluded that where it is likely that the loyalty points is an asset, it will be taxed under paragraph 2(a) of the Seventh Schedule. This report shall similarly use paragraph 2(a) and (e) of the Seventh Schedule, together with the Draft IN to determine whether a fringe benefit exists and its consequential VAT implications.

Paragraph 2(a) of the Seventh Schedule refers to an employee acquiring assets comprising of any 'goods, commodity, financial instrument, or property of any nature' from the employer for no consideration or consideration less than the value of the asset. The Income Tax Act does not define 'goods', 'commodity', and 'property'. The ordinary meaning should be given. The Merriam-Webster dictionary defines goods as 'something manufactured or produced for sale' (Anon, 2020a). The Cambridge Dictionary defines commodity as 'a product that can be traded, bought and sold' (Anon, 2020b) and property as 'an object that belongs to someone' (Anon, 2020c). The definitions of 'goods, commodity, and property' suggests that the asset should be tangible. Loyalty points are intangible. The definition of a financial instrument defined in section 1 of the Income Tax Act does not apply to loyalty points. Consequently, loyalty points are not assets as contemplated in paragraph 2(a) of the Seventh Schedule.

Paragraph 2(e) of the Seventh Schedule provides for 'services' that has been rendered to the employee at the expense of the employer for no consideration or for consideration less than the cost to the employer. The term 'service' is not defined in the Income Tax Act. The ordinary meaning should be given. InvestorWords defines a service as 'an intangible economic activity that is not stored and does not result in ownership' (Anon, 2020d). Loyalty points are intangible. It grants its member the right to use the points as part- payment or as a discount on future purchases. The benefit is only granted at the point in time when the future sale occurs. It appears as if the loyalty points are merely storing this benefit until the future sale. Consequently, the 'service' definition is not met when the loyalty points are granted as no service is performed on the grant date. There will only be a service when the points are redeemed.

Neither paragraph 2(a) nor 2(e) of the Seventh Schedule applies. However, the Draft IN considers these loyalty points granted by the employer to its employees to be a fringe benefit in term of the Seventh Schedule of the Income Tax Act (SARS,2020;15). There is no substantiation provided as to the reason for this. SARS should provide clarity as to why loyalty points granted to employees as an incentive is taxed as a fringe benefit in terms of the Seventh Schedule to the Income Tax Act.

The loyalty points awarded by the employer to its employees could be included in remuneration by reason of paragraph (c) of the gross income definition. This paragraph would apply to any amount received or accrued in respect of services rendered or by virtue of employment.

In *Stevens v CSARS (2006 SCA)*, the expression 'in respect of' and 'by virtue' represents a causal relationship between the amount received and the taxpayer's services or employment. Loyalty points are awarded to employees to motivate their performance at work. Hence, a causal relationship exists between the loyalty points awarded and the employees. The loyalty points are received by virtue of employment and would be included in the gross income of the employee in terms of paragraph (c).

SARS should provide clarity as to why loyalty points granted to employees as an incentive is taxed as a fringe benefit in terms of the Seventh Schedule to the Income Tax Act.

Proposed VAT treatment where competitions are part of the loyalty point-based programme

A loyalty programme may allow its members to redeem the loyalty points by converting the loyalty points into a ticket that will enable the member to enter a competition to win a prize. This report will only discuss the scenario where the prizes are awarded in the gambling industry.

An example of this scenario is the '100 Cars in 100 Days' promotion offered by Sun International. Members of the Sun MVG earn casino points through gambling at the participating Sun International casinos. The accumulation of a specified number of points would enable the Sun MVG members to enter the competition to win a car (Sun International, n.d.).

Under section 8(13), when a person places a bet on an uncertain outcome of any event, the person with whom the bet is placed shall be deemed to supply a service to such first-mentioned person. Section 8(13) applies when the member bets on an outcome by playing the slot machines or table games and is subsequently awarded loyalty points. The casino who has received the bet will have a deemed supply and will levy output vat on the consideration received.

The loyalty points allocated to the member would be issued for no consideration as this is a characteristic trait of a loyalty programme. Consequently, the allocated loyalty points will have no VAT implications as it would be issued for no consideration.

The proviso (ix) to section 17(2)(a) states that input tax may be deducted where entertainment was acquired to be awarded as a prize to a customer in relation to a bet received on the outcome of an unpredictable event. Casinos may claim an input tax deduction under section 16(3)(d) on the acquisition of entertainment in the event that the bet being placed is linked to the supply under section 8(13).

As per Interpretation Note No: 14 (published on 2 April 2007), there must be a direct link to the supply created under section 8(13) for an input tax deduction to be allowed on the acquisition of such entertainment (SARS, 2014c). The Draft IN does not deal with the instance where the participant entered the draw to win a prize as a consequence of the bets placed. It may be argued that there is no direct link to the bet being placed and the prize awarded in the competition as the

competition was entered into using loyalty points and not directly from the placing of a bet.

According to Interpretation Note No: 41 (published on 2 April 2007) and Interpretation Note 41(Issue 2)(published on 31 March 2008) SARS has stated that:

It is common practice for casinos to hold competitions where there is no entry fee payable to participate in such competition. The qualifying criteria to participate in these competitions are limited to gambling events (i.e. a person gambling wins the jackpot/perfect hand and is accordingly awarded a free entry into such competition). In this regard, it is submitted that there is a casual link in such cases to the original supply (i.e. being a supply in terms of section 8(13) of the VAT Act) (SARS, 2014c).

Therefore, when a casino awards a promotional prize, being a supply of entertainment, to participants in such competition, the acquisition of such promotional prizes would qualify for a deduction under section 16(3)(d) of the VAT Act.

It is suggested that SARS broadens the scope of the Draft IN to include the above scenario.

Summary

Certain terminology used in the Draft IN can create uncertainty in its interpretation. It is unclear as to whether the Draft IN intended to exclude loyalty and redemption partners who are non- VAT vendors (SAICA VAT Committee, 2020:1). In addition, the Draft IN does not clarify the meaning of "small" used when describing a characteristic of a loyalty programme (SAICA VAT Committee, 2020:2).

The VAT provisions used in the Draft IN has been analysed. It was found that using the provisions of the CPA to apply the VAT Act may be inappropriate as the provisions of the CPA are not designed to serve the purposes of the VAT Act. Additionally, there was contradictory statements in the Draft IN regarding the applicability of section 10(20) of the Act. Moreover, it was found that a 'transfer of money' may not be the only reason for there being no VAT consequences on redemption cost. Another reason for there being no VAT on the redemption cost is that redemption cost is a financial service and would be exempt from VAT (SAICA VAT Committee, 2020: 4,6,7).

The Draft IN does not apply to instances where loyalty points grant discounts on future purchases. A proposed VAT treatment for this scenario is to use section 10(20) of the VAT Act. This would result in output VAT levied by the redemption partner on the full purchase price of taxable goods or services. The discount would not reduce the value of the supply (SARS, 2013:3)

The Draft IN considers loyalty points granted by the employer to its employees to be a fringe benefit in term of the Seventh Schedule. It does not substantiate the reason for this. Paragraph 2(a) and 2(e) of the Seventh Schedule does not apply as loyalty points are neither an asset nor a service at grant date. SARS should clarify as to why loyalty points granted to employees as an incentive is taxed as a fringe benefit.

There could be a loyalty programme where the participants are awarded loyalty points from placing bets and subsequently uses the points to enter a competition to win a prize. There would be a supply under section 8(13). The allocated loyalty points would not have any VAT consequences as it would have been issued for no consideration. An uncertainty may arise regarding whether the casino could claim a section 16(3)(d) input tax deduction. It could be argued that there is no direct link between the bet placed and the prize awarded in the competition as the competition was entered into using loyalty points and not from placing a bet. Therefore, clarity is required as to how this transaction should be accounted for in the Draft IN on loyalty points.

CONCLUSION

The characteristics of a loyalty programme was discussed. The parties involved in a loyalty programme are the members, the loyalty programme operator (LPO), the loyalty partner and the redemption partner (SARS, 2020:2). The transactions most commonly found in a loyalty programme are the payment of the initial membership fee, the purchase of eligible goods or services by a member, the allocation of loyalty points, the sale of loyalty points between the member and the LPO or between members, the payment by the loyalty partner to the LPO in respect of administration fee and points fee, the redemption of loyalty points by the member at the redemption partner, the payment of administration fee by the redemption partner to the LPO, the redemption cost paid by the LPO to the

redemption partner and; the conversion of loyalty points to a different loyalty programme (SARS, 2020:5).

A recent issue of the Draft IN on the VAT consequences of point-based loyalty programmes in 2020 has provided some clarification on the VAT treatment of loyalty points. The Note address transactions commonly found in South African loyalty programmes by using the general provisions of the VAT Act as there is currently no specific provisions that accounts for a loyalty programme (SARS, 2020: 19).

The Draft IN had made references to section 1, 35 and 63 of the CPA. This is inappropriate as the VAT Act and CPA are separate legislation, each designed to serve different purposes. Consequently, using the definitions and provisions in the CPA may not serve the purpose of the VAT Act (SAICA VAT Committee, 2020:2).

There are contradictory statements surrounding the application of section 10(20) of the VAT Act. Paragraph 5.9.1 states the section 10(20) is not applicable to loyalty points in a loyalty programme. However, the deeming provisions of section 10(20) has been used for the consideration received by the redemption partner when a member redeems their loyalty points at the redemption partner (SAICA VAT Committee, 2020:4,7).

The Draft IN recognises that there are no VAT consequences when the LPO pays the redemption cost to the redemption partner as this is merely a 'transfer of money' (SARS, 2020:18). The SAICA VAT Committee disagrees. The Committee views the loyalty points to meet the definition of 'debt security' from the perspective of the redemption partner (SAICA VAT Committee, 2020:6,7). Accordingly, the payment of the redemption cost is a 'financial service' as envisaged under section 2(1)(e) and is exempt from VAT under section 12(a) (SAICA VAT Committee, 2020:6,7).

The Draft IN does not apply to instances where loyalty points provide discounts on future purchases (SARS, 2020:17). There remains uncertainty regarding the VAT treatment of, amongst others, a discount method applied for loyalty programmes, a competition operated by loyalty programmes and the potential double taxation in an employee incentive scheme.

A proposed VAT treatment for discount loyalty programmes could be to apply section 10(20) of the VAT Act. Thus, the consideration for the supply of goods or services purchased using the loyalty points

shall be deemed to contain the monetary value stipulated on the loyalty points. The monetary value is deemed to include VAT. Thus, the redemption partner is liable to levy VAT on the full price of the taxable goods or services.

According to the Draft IN, SARS considers loyalty points granted by employer to employees as an incentive to constitute a fringe benefit under the Seventh Schedule to the Income Tax Act No.58 of 1962 (SARS,2020;15). No substantiation was provided to support this statement.

This report examined whether paragraph 2(a) and 2(e) of the Seventh Schedule could apply for these loyalty points to represent fringe benefit. Paragraph 2(a) of the Seventh Schedule does not apply as loyalty points are not assets as contemplated in that paragraph. Loyalty points grants its member the right to use the points as part- payment or as a discount on future purchases. At grant date, the 'service' definition is not met as no service has been performed. Paragraph 2(e) of the Seventh Schedule would not apply. Therefore, it can be concluded that loyalty points granted by employer to employees as an incentive would not constitute a fringe benefit. This is different to the conclusion reached by SARS.

SARS should provide reasons for concluding that the awarding of loyalty points as an incentive is a taxable fringe benefit under the Seventh Schedule to the Act.

There could be a loyalty programme where the participants are awarded loyalty points from placing bets and subsequently uses the points to enter a competition to win a prize. There would be a supply under section 8(13). The allocated loyalty points would not have any VAT consequences as it would have been issued for no consideration. An uncertainty may arise regarding whether the casino could claim an input tax deduction under section 16(3)(d). It could be argued that there is no direct link to the bet being placed for the prize as the competition was entered into using loyalty points and not from placing a bet. Therefore, clarity is required as to how this transaction should be accounted for in the Draft IN on loyalty points.

The Draft IN only describes the VAT application of multi-party loyalty programmes in depth. It does not address VAT consequences that could arise from a discount method applied for loyalty programmes and

the scenario where competitions are part of the loyalty point-based programme.

There was some misapplication of the VAT provisions, namely the references to the CPA, the contradictory statements regarding section 10(20) and the VAT treatment on redemption cost. Confusion was also caused by the terminology used in the Draft IN. In addition, an employee may be exposed to a potential double tax on output tax, under an employment incentive scheme, when the loyalty points are granted to the employee for no consideration or for a consideration less than the cost to the employer.

This report was limited to only address the VAT consequences of the loyalty programme outlined in the Draft IN. As a result, donation tax arising from donating the loyalty points was not addressed, along with the income tax effect of the transactions.

From a VAT perspective, it can be concluded that the Draft IN does not provide clear and practical guidance on the Value-Added Tax treatment of point-based loyalty programmes. There are other types of loyalty programmes not addressed by the Draft IN and which is beyond the scope this report. This can include a situation where there is a competition component in a loyalty programme not involved in a gambling industry. Future research on such loyalty programmes is recommended.

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An analysis of South African VAT registration for foreign suppliers

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Purpose: International trade has led to an increase in foreign suppliers for South African customers, making the question of Value-Added Taxation (VAT) registration in South Africa increasingly relevant. The aim of this report is to determine whether South African VAT (as per the VAT Act No. 89 of 1991) has any inherent limitations concerning foreign supplier VAT registration.

Design/methodology/approach: The research details and criticises the foreign supplier registration requirements and the available procedures to register. The research design is a literature review with an analysis of specific phrases in the enterprise definition and how they relate to a foreign supplier.

Findings: The research revealed uncertainties that foreign suppliers face when ascertaining whether they should register for VAT and differences to the Organisation for Economic Co-operation and Development (OECD) guidelines, specifically relating to foreign supplier VAT registration.

Practical limitations/implications: This research study focuses on foreign supplier VAT registration in South Africa and does not address South African resident VAT registration. Future research could propose additional revisions to the VAT Act concerning its approach to cross-border transactions.

Originality/value: The paper adds to the limited body of work dealing with South African tax from a technical and practical perspective.

KEYWORDS: *enterprise definition; foreign supplier, South African VAT; VAT registration.*

INTRODUCTION

Background and contribution

Value-Added Tax (VAT) in South Africa is a consumption tax that follows the regime of levying VAT according to the destination principle. This principle requires VAT to be levied in the jurisdiction where the good or service is consumed (Davis Tax Committee, 2018). National Treasury (2013) has acknowledged that the absence of precise place of supply rules means that determining whether a foreign supplier must register for VAT requires a lot of interpretation and there are “no clear answers.” Foreign suppliers provide goods or services to South African consumers, with or without a physical presence in South Africa. A significant weakness in the current South African VAT system is the uncertainty concerning when a foreign supplier is carrying on an enterprise in South Africa (De Swarts & Oberholzer, 2006).

When a foreign supplier's activities are determined to be the carrying on of an enterprise and it produces taxable supplies greater than R 1 million, it is obliged to register for VAT (National Treasury, 1991, s23). However, the 'enterprise' definition is required to determine whether a foreign supplier should register

for VAT. The definition contains elements that are not defined and there is little to no guidance from South African Revenue Service (SARS) (De Koker & Badenhorst, 2018; van Zyl, 2014). Furthermore, services provided by foreign suppliers to South African recipients can be regarded as the importation of services (National Treasury, 1991, s1). It is difficult to ascertain whether the foreign supplier is required to register for VAT or if the individual who received the service is meant to levy VAT according to the reverse charge mechanism. If a foreign supplier is not VAT-registered as an 'enterprise' then the South African consumer may have to levy VAT on the imported services per section 14 of the VAT Act (van Zyl, 2014).

To fully apply the destination principle, a VAT system needs place of supply rules for cross-border supplies (Organisation for Economic Co-operation and Development (OECD), 2017). The absence of place of supply rules further adds to the lack of clarity regarding VAT registration by foreign suppliers when they are carrying on business activities in South Africa (Van Zyl, 2014; SARS, 2011). The OECD is also of the opinion that foreign suppliers should have a simplified registration and compliance system for certain services and intangibles, which will assist in clarifying whether a foreign supplier should register in a specific jurisdiction

or not (OECD, 2017a). Difficulties in the foreign supplier registration process are detrimental to the South African VAT base and may hinder economic growth in this developing country.

This research will identify what guidance is available for foreign supplier VAT registration in South Africa, even if it is limited. It will identify the limitations in and barriers to foreign supplier VAT registration through a detailed literature review and a comparison to the OECD guidelines.

Research objective

This research aims to determine if there are inherent limitations in South Africa's VAT legislation regarding the jurisdictional reach of, and barriers to, foreign supplier VAT registration. The research also considers if the South Africa's VAT legislation has inconsistencies to the OECD guidelines in its approach to foreign supplier VAT registration.

Method

A literature review was performed. The researchers reviewed South African VAT legislation (published at any time) that related to foreign supplier VAT registration during 6 March 2020 until 26 August 2020. The sources include the VAT Act and two well-known books that provide commentary on the South African VAT legislation (De Koker & Badenhorst, 2018; Silver, 2019). Google Scholar and Sabinet were used to source academic journals on South African VAT registration. The following keywords were used in the searches: "Cross border supplies", "Electronic services VAT amendment", "Enterprise definition", "Non-resident VAT registration", "OECD", "SARS VAT Registration", and "VAT". The primary Google search site was used to find reliable internet sources of information from reputable South African law firms, large accounting organisations, publications by SARS and by the OECD. The following keywords were used in these searches: "Electronic services VAT amendment", "Cliffe Dekker Hofmeyr", "EY", "KPMG", "PWC", "foreign supplier VAT registration", "OECD", "SARS VAT Registration", "SARS" and "VAT". As South African VAT is an area that is under-researched, every search result was initially considered. Sources were excluded if they were relevant to South African VAT but not specifically relevant to foreign supplier VAT registration. Sources were also excluded if they related to old South African

VAT legislation with respect to the outdated provisions on electronic services.

The process to synthesise the literature was informed by these sub-questions:

- What are the current requirements and procedures for a foreign supplier to register for VAT?
- What inherent limitations are there in South Africa's VAT legislation regarding its jurisdictional reach of foreign supplier VAT registration?
- What barriers exist in the foreign supplier VAT registration process in South Africa?
- What inconsistencies are there in the South Africa's VAT laws surrounding foreign supplier VAT registration compared to the guidance provided by the OECD?

Scope and delimitations

The focus of this report is to determine when a foreign supplier should register for VAT in South Africa. The report will not consider other South African taxes. Foreign Funded Donor Projects and welfare organisations will not be considered.

Results

This section is divided into sections to addressing the four sub-questions outlined in the method.

FOREIGN SUPPLIER REGISTRATION REQUIREMENTS

The registration requirements to become a taxpayer are set out in section 23 of the VAT Act and these provisions are also applicable to foreign suppliers. This is because section 23 applies to every "person" (National Treasury, 1991, s23; De Koker & Badenhorst, 2018). Section 1 of the VAT Act defines a "person," however there is no reference to a person either being a resident or a non-resident of South Africa. This implies that both residents and non-residents may have to register to be VAT vendors on meeting the quantitative turnover requirements in section 23.

COMPULSORY REGISTRATION

VAT registration for a foreign supplier can either be compulsory or voluntary. A person must register if the following requirements are met: First, the foreign supplier carries on an enterprise (De Koker &

Badenhorst, 2018). Secondly, the total value (an amount exclusive of VAT) of taxable supplies is greater than R1 million (National Treasury, 1991, s23(1)).

There are additional requirements for foreign suppliers to register in section 23(2) of the VAT Act. The foreign supplier must have a representative vendor and provide SARS with his information, that being a certified copy of an identity document, proof of address and letter of appointment (National Treasury, 1991, s23(2)(a); SARS, 2020d). This would be an agent who handles his affairs in South Africa or a manager of his enterprise (National Treasury, 1991, s46(f)). Having a representative vendor serves as the foreign supplier having a “physical presence” in South Africa (van Zyl, 2014: 161). The second requirement is that the foreign supplier must have a bank account for carrying on the enterprise in South Africa (National Treasury, 1991: s23). Foreign suppliers of electronic services are specifically referred to in the VAT Act, in section 1 of the definition of an enterprise (National Treasury, 1991: s1).

FOREIGN SUPPLIERS OF ELECTRONIC SERVICES

The VAT provisions for foreign suppliers of electronic services were first adopted on 1 June 2014 and the provisions have been updated recently, with effect from 1 April 2019 (Davis Tax Committee, 2018; SARS, 2019a). Foreign suppliers of electronic services are carrying on an enterprise if two out of the three characteristics exist (National Treasury, 1991: s1 definition of ‘enterprise,’ paragraph (b)(vi)). The first and second characteristics are: The person receiving the electronic services is a South African resident and has a South African address (business, residential or postal) (National Treasury, 1991: s1 definition of ‘enterprise,’ paragraph (b)(vi)). The third characteristic is that the foreign supplier is paid from a South African bank account (National Treasury, 1991: s1 definition of ‘enterprise,’ paragraph (b)(vi)). In addition, the foreign supplier must be providing electronic services as defined in the Electronic Communications and Transactions Act, No 25 of 2002 (EY, 2019). Foreign suppliers of electronic services are liable to register if the value of their taxable supplies exceeds R1 million in a consecutive 12 month period as defined in section 23(1A) and they have the option to register if their taxable supplies only exceed R50 000 (EY, 2019).

In the updated regulations (effective from 1 April 2019), the scope of what constitutes an electronic service was

extended to include electronic services such as computer software, cloud computing and online services such as advertising, online training and broadcasting services (Badenhorst & Moodaley, 2018; PWC, 2019). The new definition of electronic services is that it is any service provided by a foreign supplier for an amount of consideration and it is provided using an electronic agent, electronic communication or the internet (SARS, 2019a). This new definition has a much broader reach and more foreign suppliers supplying electronic services will be subject to VAT (Badenhorst & Moodaley, 2019; PWC, 2019; EY, 2019).

There are a limited number of exclusions to electronic services. These exclusions are telecommunication services, educational services and particular supplies to same group companies (Badenhorst & Moodaley, 2018). Telecommunication services have yet to be defined in the Electronic Communications and Transactions Act, No. 25 of 2002, however, SARS provides guidance for its interpretation, and it is very similar to the telecommunication services definition in the New Zealand Goods and Services Tax Act 1985 No. 141 (Badenhorst & Moodaley, 2019; Davis Tax Committee, 2018: 89;). Where a foreign supplier provides an electronic service to a South African company that is the “end-user” of the service and both are part of the same group of companies, this would not fall within the “scope” of electronic services (Baker McKenzie, 2018; SARS, 2019a: 8). The reason for this exclusion is to reduce the burdensome regulations (National Treasury, 2019).

Supplies made by using the internet, electronic communication or an electronic agent will not fall within the scope of electronic services if they would normally be exempt under the VAT Act (Badenhorst & Moodaley, 2018). Some of the registration provisions applicable to other foreign suppliers do not apply to foreign suppliers of electronic services. The foreign supplier does not have to appoint a representative vendor nor is he required to open a South African bank account (SARS, 2019a). A simplified VAT registration process was introduced for foreign suppliers of electronic services and registration occurs via email (Badenhorst & Moodaley, 2019).

VOLUNTARY REGISTRATION

For voluntary registration, SARS must be “satisfied” that the foreign supplier meets four criteria (except for some specific situations discussed later) (National

Treasury, 1991, s23; SARS, 2019). The four conditions of section 23(7) are that the foreign supplier must have a “fixed place of business or residence”, maintain “proper accounting records”, have a South African bank account, must not have previously been registered as a VAT vendor, (under the VAT Act or Sales Tax Act No. 103 of 1978) and failed to execute his duties regarding the enterprise under either of these Acts (National Treasury, 1991, s23(7); SARS, 2019).

If the foreign supplier made taxable supplies in the last 12 months with a total value exceeding R50 000, it may voluntarily register as a VAT vendor (National Treasury, 2011: s23(2)(b)(i)). A foreign supplier may also apply to register if the total value of taxable supplies made or to be made have yet to exceed R50 000 but in the next 12 months there is a reasonable expectation that the value will be exceeded (National Treasury, 1991: s23(2)(b)(ii); De Koker & Badenhorst, 2018).

A foreign supplier who will carry on an enterprise supplied to him as a going concern could voluntarily register as a VAT vendor if the seller made a total value of taxable supplies greater than R50 000 in the past 12 months (National Treasury, 1991, s23). If this is the case, the foreign supplier may register as a VAT vendor (National Treasury, 1991, s23). The necessary proof for SARS would be the sellers’ past sales records and their VAT201 declarations that confirm these past sales (RSM South Africa, 2017).

If the foreign supplier is carrying on a specific type of activity set out by the Minister of Finance and the taxable supplies will be made only after some time, voluntary registration may be elected (National Treasury, 1991, s23). The type of enterprise includes agriculture, farming, forestry and fisheries, mining, shift and aircraft building, manufacture or assembly, property development, infrastructure development and beneficiation (De Koker & Badenhorst, 2018: 12.3).

REGISTRATION PROCEDURES IN SOUTH AFRICA

On 12 May 2014, a single registration process was implemented which resulted in there being two processes for registration, for new taxpayers and existing taxpayers (Kamdar, 2015). New taxpayers must do so by physically going to a SARS branch with the VAT101 form and supporting documents (Kamdar, 2015; SARS, 2020c). Existing taxpayers register online through e-Filing by completing a Registration,

Amendment and Verification form, (RAV01) (Kamdar, 2015). For online registrations, SARS can still request to visit the business premises and interview the taxpayer before processing the registration (Kamdar, 2015). In evaluating the acceptability of the supporting documents provided, SARS is very critical (RSM South Africa, 2017). Accurate supporting documentation required is not consistent across all SARS offices, as tax experts have noted that documentation ‘can differ per (SARS) office’ (EY, 2020).

As of 20 April 2020, supporting documentation can be submitted via an online form on the SARS website. If a person is not an e-Filer, they do not have to go to a SARS branch (SARS, 2020e).

NON-EXECUTIVE DIRECTORS, ELECTRONIC SERVICES SUPPLIERS AND NON-ESTABLISHED BUSINESSES

South Africa has three registration procedures: one for a foreign supplier of electronic services, one for manual registration by visiting a branch and one for registration by e-Filing (EY, 2020).

Foreign suppliers of electronic services register as VAT vendors using a simplified process, by downloading the VAT101 form from the SARS website, completing it (in English) and submitting the correct “supporting documents” to a specific email address concerning the VAT registration by electronic service suppliers (Badenhorst & Moodaley, 2019; SARS, 2019a). Foreign suppliers need not have a South African bank account, nor do they have to appoint a representative vendor to register as a VAT vendor (Badenhorst & Moodaley, 2019). Once registered, the foreign supplier will also need to register as an e-Filer to allow VAT electronic returns to be filed and VAT payments from outside South Africa (SARS, 2019b). A foreign supplier of electronic services need only submit four items of documentary proof, a copy of the certificate of incorporation in English, proof of registration with its foreign authority, the identification document of the designated individual to be contacted for registration and if the foreign supplier has a South African bank account, a copy of a recent bank statement (EY, 2020).

As there are registration concessions for foreign suppliers of electronic services only, other foreign suppliers would be expected to register for VAT like every other South African resident through e-Filing or at a SARS branch (closest to the foreign supplier’s place

of business) by submitting a VAT101 application for registration in person (Baker McKenzie, 2020; SARS, 2020b). A registered tax practitioner can appear at the SARS branch on behalf of the foreign supplier applicant. SARS does not allow faxed or photocopied applications for registration (SARS, 2020b).

A foreign supplier who is a Non-Executive Director (NED) would be a natural person who is a non-resident of South Africa. According to Binding General Ruling 41, a non-resident NED physically rendering its services in South Africa or through a “fixed or permanent place in the Republic” on a “continuous or regular basis”, constitutes the carrying on of an enterprise (SARS, 2017). This is because the NED is not a common law employee but rather an independent contractor (Nair, 2017). The NED must provide financial information that can be a copy of the letter of appointment, minutes of director’s meetings, directorship contract or a specific IRP5 certificate. The other information the non-resident NED must provide is proof of identification, address, banking details and the details of the non-resident NED’s tax practitioner (SARS, 2017).

An EY survey defines a non-established business as an entity that carries on an enterprise with “no fixed establishment in South Africa.” The documentation needed for the non-established business is a copy of the certificate of incorporation in English, certified copies of company directors/shareholders/trustees’ passports and the financial information of the non-established company. The financial information consists of banking details, original letter from the bank and three months’ bank statement with the bank’s stamp. The relevant material for the representative vendor is needed (including a certified copy of their identity document) or for an authorised practitioner (including a letter of Authority or Power of Attorney that authorises the practitioner to act on behalf of the foreign supplier). If the non-established business has no address in South Africa, the representative vendor’s proof of physical address is required. If the non-established business has a principal that is a local company with a physical address in South Africa, a copy of their municipal account must be submitted (EY, 2020).

THE “ENTERPRISE” DEFINITION

Carrying on an enterprise or having an aim to carry on an enterprise is a prerequisite to register as a VAT vendor (De Koker & Badenhorst, 2018). The definition

of an enterprise can be found in section 1 of the VAT Act and it is made up of three parts: paragraph (a), paragraph (b) and the provisos (National Treasury, 1991, s1). Paragraph (a) of the definition will be given specific attention in this research, as this part of the definition contributes significantly to the challenges of foreign supplier VAT registration. Paragraph (b) sets out specific persons or activities which constitute an enterprise (National Treasury, 1991, s1). The provisos provide additional information on what can be regarded as the carrying of an enterprise and what cannot (National Treasury, 1991, s1).

Paragraph (a) of the definition states that an enterprise means,

“In the case of any vendor, any enterprise or activity which is carried on continuously or regularly by any person in the Republic or partly in the Republic and in the course or furtherance of which goods or services are supplied to any other person for consideration, whether or not for profit, including any enterprise or activity carried on in the form of a commercial, financial, industrial, mining, farming, fishing, municipal or professional concern or any other concern of a continuing nature or in the form of an association or club.”

The following elements of the definition will be discussed below: “an enterprise or activity”, “carried on continuously or regularly” and “in or partly in the Republic.”

“ENTERPRISE” OR “ACTIVITY”

The word “enterprise” is included in the definition of “enterprise” and its ordinary meaning is determined using the dictionary. The enterprise definition includes a business, activities conducted with the intention of making a profit and the commitment to take on new and unpredictable ventures (SARS, 2013; De Koker & Badenhorst, 2018). The term “activity” is also not defined in the VAT Act and its meaning is determined using the dictionary. An activity is defined as the condition of being active and doing something (De Koker & Badenhorst, 2018).

SARS Interpretation Note 70 affirms that “activity or enterprise” alludes to actions that are performed with a business mindset and supplying goods or services at a price (SARS, 2013; De Koker & Badenhorst, 2018). Generally other VAT regimes in the world define an

“enterprise” or a “business” in their enterprise definition equivalents. It would be appropriate to investigate the meaning of business from the perspective of the enterprise definition in VAT. According to the United Kingdom (UK) English definition of a business used by SARS in Interpretation Note 70, it is a specific occupation, or it is being engaged in commerce with a particular purpose to buy, produce and sell a good or service for consideration (SARS, 2013).

De Koker and Badenhorst (2018) looked to case law and the Income Tax Act for the meaning of a business. From the Income Tax Act, they evaluated the word “trade”, which is given a wide interpretation and the authors deduced that being involved in trade and conducting a business is not the same activity.

According to the South African case, *CIR v Stott (1928) AD 252, 3 SATC 253*, it was held that it is an assumption from evidence whether a business is carried out and this assumption is “a matter of law”. De Koker and Badenhorst (2018) acknowledged that determining whether a foreign supplier is carrying on an enterprise in South Africa is not an entirely objective task, as it involves hypothesising the circumstances of the situation which is “a matter of the law.” The determination is based on how the circumstances are interpreted by the courts and this could cause a variety of results (De Koker & Badenhorst, 2018).

There is no established “nature or scope” of what is necessary to be regarded as activities that constitute the carrying on of an enterprise in South Africa for a foreign supplier (De Koker & Badenhorst, 2018; Ernest & Young, 2011).

“CONTINUOUSLY” OR “REGULARLY”

“Continuously” or “regularly” are not defined terms in the VAT Act (Millar, 2008) and reference will be made to case law and any general interpretations SARS has provided for these terms. The case law relevant to these terms would be New Zealand case law as the South African VAT legislation is broadly based on New Zealand’s Goods and Services Tax (GST) (De Koker & Badenhorst, 2018; Millar, 2008).

The SARS’ interpretation of “continuously” is that the enterprise or activity is conducted constantly with no enduring interruptions (SARS, 2013). The New Zealand Taxation Review Authority interpreted “continuously”

as there being no permanent discontinuation of the activity or that the activity was not substantially disrupted (Case N27 (1991) 13 NZTC 3,299).

“Regularly” is interpreted by the SARS as an activity that occurs frequently (SARS, 2013). According to the New Zealand case *Allen Yacht Charters Limited v CIR (1994) 16 NZTC 11,270* it was held that for an activity to be carried on regularly it must be carried out over recurring lengths of time (De Koker & Badenhorst, 2018). A common rule is that transactions that only occur once are neither continuous nor are they regular and cannot be regarded as the carrying on of an enterprise. The VAT Act does not provide parameters on what ‘continuously’ or ‘regularly’ entails. There is no defined benchmark of when a foreign supplier’s activities in South Africa are continuous or regular enough to be regarded as the carrying on of an enterprise (De Koker & Badenhorst, 2018).

“IN OR PARTLY IN” THE REPUBLIC

“The Republic” is a defined term in section 1 of the VAT Act as the country, South Africa and in accordance with the Maritime Zones Act which consists of “territorial waters”, “contiguous zone” and the “continental shelf” (De Koker & Badenhorst, 2018; National Treasury, 1991, s1; Silver, 2020).

An entity conducting business in South Africa and anywhere else in the world could be a registered vendor. The foreign supplier would have to register as a VAT vendor and be liable for VAT output on the total value of all its supplies. South African VAT legislation is not exclusive to taxable supplies made in South Africa (De Koker & Badenhorst, 2018).

De Koker and Badenhorst, (2018) note that when a foreign supplier conducts business with persons in South Africa, the foreign supplier is usually uncertain whether the scope and size of its business activities in South Africa is sufficient to be considered as the carrying on of an enterprise “in or partly in the Republic.” A foreign supplier simply exporting goods to South African consumers does not necessarily mean that the foreign supplier is conducting an enterprise “in or partly in the Republic.”

The VAT Act defines the term “resident of the Republic” in section 1. A person shall be considered a

resident to the effect that he conducts an enterprise or other activity in a fixed or permanent place in South Africa. Considering that the enterprise definition in section 1 of the VAT Act makes no reference to a fixed or permanent place in South Africa to be carrying on an enterprise in South Africa (National Treasury, 1991: s1; Steyn, 2010). Without any provision for the required level of activity in South Africa, no specific rules in the Act on when an activity is carried out “partly in the Republic” and no general place-of-supply rules, ascertaining whether registration is required by a foreign supplier is a challenge (Steyn, 2010).

In *South African Rugby Football Union v C: SARS, (1999) SCA 90/98* the court held that for the foreign supplier, the position of its permanent or fixed place of business was not explicit. It was deemed that because employees and agents were used to conduct business in South Africa, the foreign supplier was physically represented in South Africa (De Koker & Badenhorst, 2018).

In VAT News 13, SARS, (1999) announced that a foreign supplier who has allowed his trademark or intellectual property for a period is deemed to be conducting an enterprise “partly in the Republic”. As a result, foreign suppliers who made passive income from royalties, franchise or agency fees were obliged to register as vendors if their annual receipts were greater than the registration threshold, (R300 000 at the time) (SARS, 1999). Then in VAT News 37 SARS, (2011) declared that if the foreign supplier does not carry out any other activities and does not have an immovable property as a place of business or a “physical presence” in South Africa, it does not have to register for VAT. The SARS has not continuously applied its position of what is an enterprise and what is not an enterprise and their position and policy related to foreign suppliers has been under review from 2011 (SARS, 2011; van Zyl, 2014). Since its implementation in 1991 South African VAT legislation has not had a systematic review and revision in terms of transactions with foreign suppliers (Schneider, 2018).

Foreign suppliers working in South Africa must be careful when assessing their possible duty to register, where the foreign supplier carries consignment stock in South Africa, is a consultant or where an agent conducts the foreign suppliers’ activities. The foreign supplier could be “continuously or regularly” conducting their business in South Africa when an agent is used (De Koker & Badenhorst, 2018).

When revenue-earning transactions are mainly conducted in South Africa, SARS considers this to be the carrying on of an enterprise “partly in the Republic.” The activities of a sub-contractor may lead to the main contracting party being regarded as conducting its activities in South Africa despite the main contractor not having a physical presence in South Africa (De Koker & Badenhorst, 2018).

Where a foreign supplier is carrying on an enterprise in South Africa and it has a main business or a branch located outside South Africa, the supplies made by the main business or branch are potentially not part of the South African enterprise (De Koker & Badenhorst, 2018). According to proviso (i) of the enterprise definition in the VAT Act, if the main business or branch can be independently located and it maintains its own independent accounting system from the South African enterprise, the branch or main business is separate from the South African enterprise (National Treasury, 1991, s1). This implies that the separate branch or main business of the foreign supplier would make its own independent assessment of whether it must register for VAT in South Africa and consider whether it meets the enterprise definition. In the case *S v Coetzee 1927 3 SA 526 (O)* it was held that two conditions must be met for something to constitute a branch. It must be a branch or section of the main body and its objects and activities must significantly correspond to those of the main body (De Koker & Badenhorst, 2018).

It is important to define where a supply takes place to assess the scope of the activities carried on in a country and in the case of cross-border transactions, place of supply rules would help (Silver, 2019). As posited by De Koker and Badenhorst (2018) there is a lack of place of supply rules in the VAT Act and there is no way of compensating for this in the form of a clear judicial position. To aggravate the situation, SARS’ explanation of what constitutes or does not constitute the conduct of an enterprise is not conclusive and is subject to change (De Koker & Badenhorst, 2018). The Davis Tax Committee (DTC) (2018) has also commented that the lack of specific place of supply rules often creates challenges in ascertaining where a supply has been made and as a result, whether a transaction is taxable within South Africa and if a foreign supplier must register. The DTC (2018) acknowledged that implicit place of supply-of-supply rules exist in the VAT Act, however, with the increase in cross-border transactions of services these rules may need explanation.

Binding Private Ruling 4 addressed several disputes. One dispute was whether a foreign supplier was deemed to be conducting an enterprise in South Africa. The transaction included a foreign supplier, and non-vendor, providing raw materials to Company A. Company A is a South African registered vendor. Company A anticipated carrying out its enterprise in both the South African market and the export market. In the South African market, it imported raw materials that were used to produce finished goods and sold these. In the export market, the foreign supplier remained the owner of the raw materials as Company A only processed the raw materials and either exported the finished goods back to the foreign supplier or exported them to customers outside South Africa. Seeing as Company A never took ownership of the goods, the foreign supplier made these sales (SARS, 2007a).

The question is, if and to what degree the foreign supplier is obliged to register for VAT and account for VAT (Reitz, 2008). The ruling assumed that the foreign supplier did take ownership of the finished goods (SARS, 2007a; Silver, 2019). Where the foreign supplier sold the raw materials to Company A and Company A exported the finished goods, it does not constitute the carrying on of an enterprise. As a result, the foreign supplier need not register for VAT (SARS, 2007a).

Silver, (2019) posited that as far as South African legislation is concerned, ownership transfers at the time of delivery. It is evident that when the sale and distribution is conducted outside South Africa, the supply would not be treated as being made in South Africa. What is not evident is in a situation where the transaction is completed when the goods are outside South Africa but where delivery takes place in South Africa (Silver, 2019). Silver (2019) used the 2012 Explanatory Memorandum (that commented on imported goods sold by foreign suppliers before being cleared for home consumption) to conclude that the focus is on the location of the goods when the transaction is finalised and on when the risks associated with the goods transfer from the foreign supplier. Using this conclusion, Silver (2019) argued that the foreign supplier does not need to register for VAT when a foreign supplier supplies goods in South Africa and the risks and rewards associated with the goods have also transferred to the other party by the time the goods enter South Africa.

Section 12(k) of the VAT Act (National Treasury, 1991) is an exemption for the regular supply of goods in South Africa by a foreign supplier before they are cleared by customs for home consumption. The exemption does not apply when the supply is by an inbound duty or a tax-free shop (National Treasury, 1991, s12(k)). The purpose of the exemption is to prevent the registration of foreign suppliers with no permanent establishment or any significant business activity in South Africa. The other purpose is to avoid double taxation. Some foreign suppliers may apply to SARS not to have the exemption apply to them in cases where it generates a substantial amount of domestic expenditure which can be deducted as input VAT by a registered vendor (De Koker & Badenhorst, 2018).

Binding Private Ruling 1 dealt with a foreign supplier performing salvage services on a ship that was shipwrecked in South African waters at the request of another foreign supplier. The first foreign supplier planned to be salvaging for seven to eight months and during that time it imported equipment to South Africa, sent employees to South Africa and traded with South African suppliers (SARS, 2007b). SARS (2007b) ruled that the first foreign supplier had to register as a VAT vendor because the nature of its activities was considered to be continuous and regular enough to constitute the carrying on of an enterprise “partly in the Republic”.

There is no defined benchmark to establish when a foreign supplier’s activities are regarded as the carrying on of an enterprise (EY, 2019; De Koker & Badenhorst, 2018). For example, a foreign supplier providing the right of use of intellectual property for some time in South Africa constitutes the carrying on of an enterprise partly in the Republic (SARS, 2011). Determining the duration may be difficult as SARS has not defined a time. These interpretation issues are coupled with the fact that there is no place of supply rules to provide guidance to a foreign supplier on whether their “enterprise or activity” is conducted in or outside South Africa. Another example to illustrate this uncertainty is if a foreign supplier physically provides its services in South Africa on a “once-off project” for a few months, (between four to eleven months) and exceeds taxable supplies of R1 000 000 it will not be able to definitively determine whether it should register as a VAT vendor (De Koker & Badenhorst, 2018).

OECD INTERNATIONAL VAT GUIDELINES

The OECD established an all-inclusive “practical application” of VAT guidelines, that many countries and organisations accepted (EY, 2016). Guideline 2.5 deals with the approaches available to ensure that foreign suppliers are not charged VAT they cannot recover. South Africa is in harmony with this guideline because foreign suppliers can register as VAT vendors which entitles them to VAT refunds (OECD, 2017a).

When goods are traded internationally, determining which country has the taxing rights is not a challenge (EY, 2016). As a result, the OECD guidelines address internationally traded supplies of “services and intangibles” (EY, 2016). To appropriately implement the destination principle to cross-border supplies of goods and services, a country’s VAT legislation should have place of supply rules.

The OECD (2017a) also supports a distinction between business-to-business transactions, (B2B) and business-to-consumer transactions, (B2C) for cross-border supplies of services and intangibles and such transactions should have place of supply rules. The OECD (2017a) necessitates the distinction because the reason for the place of supply rules for each transaction is different. The place of supply rules for B2B transactions simplifies the charging of VAT to the “final consumer” in the relevant jurisdiction. The place of supply rules for B2C transactions, suggests that it should be the location where final consumption of the supply takes place (OECD, 2017a).

There is no clear “distinction” between B2B and B2C transactions in South Africa (DTC, 2018). The DTC (2018) opines that the lack of differentiation violates international best practice and could cause cross-border supplies to be double-taxed or going untaxed in jurisdictions. The DTC (2018) observed that there were some exclusions in the previous list of electronic services which amounted to certain B2B transactions enjoying the exclusion. Due to the lack of differentiation, B2C transactions may have benefitted by going untaxed in South Africa. The DTC insists that the best strategy is to have a distinction between the two (DTC, 2018). In the updated regulations effective from 1 April 2020 certain supplies of electronic services where the parties, (foreign supplier and recipient resident company) are part of the “same group of companies” and the foreign supplier only provides the electronic service to the resident company who will be

the end-user of the electronic service (EY, 2019; SARS, 2019a).

The importation of services to make taxable supplies by a VAT vendor does not meet the definition of imported services in section 1 of the VAT Act and it is not subject to VAT (National Treasury, 1991, s1; Badenhorst & Moodaley, 2019). It is not subject to VAT because it is merely a postponement of the collection by SARS of their VAT (van Zyl, 2013). After all, SARS will receive it when the buyer of the imported service sells its taxable supply and then VAT output is payable to the SARS (van Zyl, 2013). Services supplied by foreign suppliers are taxed as imported services, (except for electronic services) if they are supplied to a VAT vendor for anything besides making taxable supplies or if supplied to a South African resident who is not a VAT vendor (Badenhorst & Moodaley, 2019; Steyn, 2010).

When the amendments to electronic services became effective from 1 April 2019, there was still no distinction between B2B and B2C transactions (EY, 2019). The justification of National Treasury (2019) for the lack of distinction between a B2B transaction and a B2C is that it ensures that foreign suppliers do not have a cash benefit over local suppliers. Conversely, the indirect introduction of B2B transactions into the electronic services regulation has resulted in discrepancies between the supply of electronic services and “any other service” supplied by a foreign supplier (Badenhorst & Moodaley, 2019). The indirect introduction is that a foreign supplier providing electronic services to a South African VAT vendor (who will use the electronic service to make taxable supplies) is included in the scope of electronic services. The overall result of this inclusion is of no benefit to the national fiscus because, in B2B transactions, both parties are registered VAT vendors, as a result, the foreign supplier would charge the buyer output tax which the buyer will claim as input tax. This creates an administrative burden for the SARS and the foreign suppliers who will be required to register and provide VAT returns to SARS (Badenhorst & Moodaley, 2019).

The lack of distinction and the indirect inclusion of B2B transactions is not in harmony with the OECD guidelines nor is it in line with the recommendations of the DTC (DTC, 2018: 91; Badenhorst & Moodaley, 2019). Including some B2B transactions into the electronic services regulation is not necessary and all B2B transactions should be exempt (BusinessTech, 2019). If a foreign supplier fails to register for VAT

when liable he will be charged heavy penalties and interest (Kruger & Grimm, 2018). Kruger and Grimm (2018) conclude that a rigid approach to control such an everchanging problem has been adopted by National Treasury and SARS. It makes no sense to impose VAT on B2B transactions where the applicable jurisdiction has a reverse charge mechanism, as the reverse charge mechanism will capture any VAT levied on B2B transactions (Kruger & Grimm, 2018).

The reverse charge mechanism is applicable in South Africa whether or not the “final consumer” is a registered VAT vendor, accordingly, it applies to all “imported services” as defined, (in section 1 of the VAT Act) except for services that constitute “electronic services” as defined (Coetzee & Meiring, 2016). The use of the reverse charge mechanism for all imported services is not feasible for transactions between foreign suppliers and unregistered “private consumers” (Steyn, 2010; van Zyl, 2014). This is because most consumers (those who are not registered for VAT) are unaware of their duty to pay over the VAT to SARS (if the supply is greater than R100) and the SARS is yet to find a suitable means to compel conformity (National Treasury, 1991, s14(5)(e); van Zyl, 2014).

CONCLUSION AND RECOMMENDATIONS

VAT in South Africa is a consumption tax that aims to follow the regime of levying VAT according to the destination principle (DTC, 2018). VAT registration for a foreign supplier can either be compulsory or voluntary (De Koker & Badenhorst, 2018). There can be challenges in a VAT registration due to the specific supporting documentation required by SARS (RSM South Africa, 2017) and currently there is only a simplified registration process for foreign suppliers of electronic services.

Carrying on an enterprise or having an aim to carry on an enterprise is a prerequisite to register as a VAT vendor (De Koker & Badenhorst, 2018). “Enterprise” or “activity” are not further defined in the Act (SARS, 2013:10) and open to interpretation. “Continuously” and “regularly” are also not defined in the VAT Act and the Act does not provide parameters on what it entails (Millar, 2008; De Koker & Badenhorst, 2018). Case law is used to interpret their meanings, which may give variable outcomes. “In” or “partly in the Republic” is also difficult to interpret (De Koker & Badenhorst, 2018). Defining the location where a supply takes place

is necessary (Silver, 2019). The shortage of explicit place-of-supply rules is not addressed with a clear legal position (De Koker & Badenhorst, 2018). The lack of clear place-of-supply rules poses difficulties in deciding where the supply was made and if the foreign supplier must register for VAT in South Africa (DTC, 2018). Determining if a foreign supplier is conducting an enterprise in South Africa is subjective and causes uncertainty for foreign supplier in deciding if he should register (De Koker & Badenhorst, 2018). It is recommended that explicit place of supply rules should be included in VAT legislation.

South African legislation does not make a direct distinction between B2B and B2C transactions (DTC, 2018) even after the amendments to electronic services became effective from 1 April 2019 (EY, 2019). This is not in harmony with the OECD guidelines nor is it in line with the recommendations of the DTC (Badenhorst & Moodaley, 2019; DTC, 2018). For purchases between foreign suppliers and unregistered “private consumers” the reverse charge mechanism is not appropriate (Steyn, 2010; Van Zyl, 2014). It is suggested that there should be a differentiation between B2B and B2C transactions to enable a more effective application of the OECD Guidelines. To reduce the compliance costs on the foreign supplier, all B2B transactions should be exempt from the supply of electronic services. The reverse charge mechanism should not be applicable to B2C transactions.

Foreign suppliers of supplies besides electronic services face a great deal of uncertainty and challenges when determining their registration obligation. There are inherent limitations in the VAT legislation in its jurisdictional reach and barriers to foreign supplier VAT registration. Future research can propose additional revisions to the VAT Act in its approach to cross-border transactions. Future research could also address a simplified registration process for all foreign suppliers obliged to register for South African VAT.

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