



Southern African Accounting Association

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25-27 June 2025
Cape Town, South Africa

*Shaping Tomorrow: Sustainable Innovation
through Accountancy Research in South Africa*

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Southern African Accounting Association

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PREFACE

The 2025 Southern African Accounting Association (SAAA) Biennial International Conference was hosted in person at the Century City Conference Centre, Cape Town, South Africa from 25 to 27 June 2025 with the overall theme “Shaping Tomorrow: Sustainable Innovation through Accountancy Research in Africa”.

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 20 accepted papers are as follows (weighted according to author affiliation).

SOUTH AFRICAN UNIVERSITIES/ENTITIES		
Cape Peninsula University of Technology	1.83	9.15%
Central University of Technology	0.50	2.50%
North-West University	0.25	1.25%
University of Cape Town	1.50	7.50%
University of Johannesburg	2.00	10.00%
University of Pretoria	2.67	13.35%
University of the Free State	1.25	6.25%
University of the Witwatersrand	7.17	35.85%
University of the Western Cape	1.00	5.00%
OTHER UNIVERSITIES/ENTITIES		
Leeds University	0.33	1.65%
Universidade de São Paulo	0.75	3.75%
Universidade Federal de São Paulo	0.25	1.25%
University of Western Australia	0.50	2.50%
TOTAL NUMBER OF PAPERS	20.00	100.00%

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LIST OF REVIEWERS

The review process was facilitated by 11 Subject Representatives (SAAA Extended Executive Committee) and 118 reviewers. This section acknowledges the aforementioned.

The Chairperson of the Scientific Committee was Tracy Beck (Nelson Mandela University).

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Are first-year accounting students' perceived values aligned with professional ethics?

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Purpose: The South African Institute of Chartered Accountants (SAICA) Code of Professional Conduct sets out the fundamental principles of professional ethics which form the foundation of ethical behaviour by professional accountants. The study's purpose was to identify first-year accounting students' perceived values, personal and professional values, and their alignment with the fundamental principles of the Code of Professional Conduct of the SAICA (the Code), also referred to as professional ethics.

Method: The study used a mixed method. Firstly, two questionnaires were deployed to students (N=546) to identify accounting students' perceived values (personal and professional values). Secondly, a qualitative approach was used, conducting focus groups to obtain students' feedback on perceived values and reasons why they ranked their value as the most important value.

Findings: Students indicated that their perceived values are aligned with the fundamental principles of the Code. The student values 'Integrity' 'Disciplined' 'Ambitious' and 'Broad-minded' were ranked as the top four values of which 'Integrity', 'Disciplined' and 'Broad-minded' aligned with the Code: integrity to be honest and disciplined to behave in a professional and disciplined manner.

Contribution: The study contributes to the student-profession (S-P) fit which resembles students' perceived values and professional ethics and can enhance undergraduate students' awareness of ethical issues to prepare students for the workplace. This paper further contributes to knowledge in understanding the relationship between students perceived values versus and professional ethics in accounting.

Limitations: The study is limited to first-year accounting students, at one South African university, and for a single discipline.

Keywords: *Accounting ethics; professional ethics; Chartered Accountant (CA); higher education; personal values; SAICA; students*

INTRODUCTION

Ethical behaviour forms the cornerstone of the accounting profession (Kiradoo, 2020; Martincevic, Ambrosic and Smoljic, 2020; Mvunabandi and Chonco, 2024). Recent South African corporate and accounting scandals have brought into question the integrity of the accounting profession (Business Tech, 2019; Fourie, 2019). The involvement of professional accountants in scandals either through their involvement as management or in an oversight role as auditors (Fourie, 2019; Holtzblatt, Foltin and Tschakert, 2020) has highlighted the importance of professional accountants' ethical behaviour (Fortuin and Lubbe, 2020). The behaviour of professional accountants is influenced by both personal values and professional ethics (Ariail, Smith and Smith, 2020; Voynich, 2005). Personal values are the beliefs that guide the actions and decisions of individuals (Mintz and Morris, 2011). Professional ethics guides the behaviour of a

professional in the work environment (Strahlendorf, 2004).

In South Africa, the "South African Institute of Chartered Accountants Code of Professional Conduct" (the Code) sets out the fundamental principles of ethics that professional accountants are expected to adhere to (SAICA, 2023) that is also referred to as professional ethics. These fundamental principles form the foundation of ethical behaviour by professional accountants and include "integrity, objectivity, professional competency and due care, confidentiality, and professional behaviour" (SAICA, 2023). Chartered accountants (CA) are included in the term professional accountant as defined by the Code (SAICA, 2023).

Unethical decisions made by professional accountants have significant consequences and impact a variety of stakeholders (Mvunabandi and Chonco, 2024). Seeing that the personal values of individuals influence the

decisions made in a work environment (Ariail et al., 2020), it is imperative to gain an understanding of the alignment of professional accountants' personal values to the fundamental principles of the Code. This study focuses on first-year accounting students who will become future professional accountants and will be required to adhere to the Code once they enter the profession. The purpose of this study is to identify first-year accounting students' perceived values (personal and professional values) and evaluate how well they align with professional ethics fundamental principles. This alignment is defined as the student-profession fit. First-year students do not have any previous exposure to the Code and this study aims to determine first-year students' perceived values, the alignment to professional ethics and to create awareness amongst students regarding professional ethics before it is introduced in later study years.

This paper fills a gap in existing literature as it creates awareness amongst first-year students not only of their own perceived values but also the alignment thereof to professional ethics. Students are required to know the Code as part of the "South African Institute of Chartered Accountants (SAICA) Competency Framework" upon entry to the profession (Fortuin and Lubbe, 2020; Terblanche, Shuttleworth, van Rooyen and Masela, 2023). Sheehan and Schmidt (2015) studied the preparation of students for ethical decision-making by instructing them to construct their own individual code of conduct based on their own core values. Papageorgiou, Fortuin, Shamsoodien, Mothelesi, Koza and Plant (2022) focused only on the personal values that guide students' ethical and professional behaviour, whilst Ariail et al. (2020) focused on qualified accountants in the United States of America and matching their personal values to the values of the Association of International Certified Professional Accountants (AICPA). The alignment of first-year students' perceived values to professional ethics fundamental principles has not yet been examined in a South African context and this study made a unique contribution which exists in literature. Ariail et al. (2020) focused on individuals already in the profession whilst this study focuses on first-year students who will become future professional accountants.

The following research questions were developed to address the purpose of this study:

1. What are accounting students' perceived values

(personal and professional values) and how were these values selected?

2. Are these perceived values aligned with professional ethics?

The following objectives of the study were formulated to address the research questions:

1. To identify accounting students' perceived values and how were these values selected.
2. To evaluate if the students' perceived values aligned with professional ethics.

STRUCTURE OF THE RESEARCH

The research paper is presented as follows: firstly, the literature review and theoretical framework, and thereafter the research methodology followed by the findings are presented and discussed. This is followed by the conclusion which includes how each research question was answered to address the purpose of the study including the value, limitations, and future recommendations of the study.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Recent high-profile ethical crises in South Africa highlight the dire repercussions of disregarding professional ethics (Etsula, 2024; Holtzblatt et al. 2020; Janse van Vuuren, 2020; Motau 2018; Obagbuwa, Kwenda and Akinola, 2021; Rossouw and Styan, 2019). Significantly, many of these businesses were listed primarily on the Johannesburg Stock Exchange (JSE), which raised questions about the involvement in unethical behavior participation of SAICA members (Maroun and Cerbone, 2024; Obagbuwa et al., 2021). According to research, ethics education provides accounting students with the skills they need to critically assess choices, resolve difficult moral conundrums, and behave in ways that are consistent with social and professional norms (Sebele-Mpofu, 2024). Students who are taught ethics at a university level will apply the knowledge of ethical principles and tools in their future careers (Lubbe, 2013). As in any economy, but specifically in South Africa, where the ramifications of these scandals highlight the pressing need for professionals who prioritise integrity, transparency, and responsibility, the inclusion of ethics in university curricula is especially important (Ramalepe, 2021; Okougbo, Elewechi and Amos, 2020).

The essential ethical principles that support the ethical conduct expected of professional accountants are outlined in the Code (SAICA, 2023), where it is referred to as the fundamental principles. The table below provides instances of how the fundamental principles were not complied with, and the consequences of these ethical breaches. This analysis highlights how adherence to SAICA's fundamental principles strengthens or weakens professional ethics in practice.

Table 1: Analysing corporate scandals in relation to the SAICA code of professional conduct and lessons drawn from these scandals

The "Code of Professional Conduct of SAICA" fundamental principles (SAICA, 2023).	Examples of non-compliance and consequences
"Integrity: to be straightforward and honest in all professional and business relationships" (SAICA, 2023).	The consequences that dishonesty can inflict are seen in the lack of transparency in incidents such as Steinhoff (Venter and Van Dyk, 2024; Rossouw and Styan, 2018; Rossouw, 2019)
"Objectivity – to exercise professional or business judgment without being compromised by bias, undue influence, and conflict of interest" (SAICA, 2023).	VBS executives had embezzled billions of rand through fraudulent activities with the help of external auditors. The auditors might have flagged concerns sooner if they had remained impartial (Maseko and Masinire, 2020).
"Professional Competence and Due Care" (SAICA, 2023). This implies that accountants must stay updated with the latest knowledge and skills, work carefully according to industry standards, and ensure their team is properly trained and supervised. This helps deliver high-quality services and maintains trust in the accounting profession.	Cases like the mishandling of South African Airways' finances, where inadequate supervision and disregard for legal requirements resulted in large losses, demonstrated the lack of skill and consideration. (Venter and Van Dyk, 2024).
"Confidentiality – to respect the confidentiality of information acquired because of professional and business relationships" (SAICA, 2023).	The Steinhoff case highlighted the importance of confidentiality in preventing unlawful behaviour, as whistleblowers had to navigate moral dilemmas to reveal wrongdoings without violating them. Furthermore, confidentiality violations were a component of the fraudulent operations in numerous fraud cases (Bezuidenhout and Rossouw, 2022).
"Professional Behaviour to comply with relevant laws and regulations,	The VBS Mutual Bank scandal involved extensive corruption including embezzlement from local

The "Code of Professional Conduct of SAICA" fundamental principles (SAICA, 2023).	Examples of non-compliance and consequences
behave in a manner that is consistent with professional responsibility to act in the public interest" (SAICA, 2023).	municipalities and depositors' funds. Adherence to professional behaviour would have prevented the malfeasance (Van Rensburg, 2020).

Source: Author's own

Understanding the role of personal values in ethics

Papageorgiou et al. (2022) investigated how first-year accounting students' values relate to moral judgment and professional behaviour emphasis in the South African Ubuntu setting. The study is noteworthy because it fills a gap in understanding how students' personal values shape their ethics at the beginning of their careers, which is essential for producing future moral accountants (Papageorgiou et al. 2022). This is in line with previous research that highlights the significance of individual values in preparing students for moral dilemmas (Andersson, Svensson, Frank, Rantala, Holmberg and Bremer, 2022; Gamage and Dehideniya, 2021). A review of ethics education supports this viewpoint by emphasising the importance of organised ethical training such as role-playing in developing ethical competency (Schwepker and Good, 2011). The results highlight how well-crafted educational interventions enhance the connection between one's personal values and professional ethical standards while also fostering moral reasoning (Mardawi, Seguí-Mas and Tormo-Carbó, 2021). Research highlights that the personal values of individuals significantly influence the decisions made in a work environment, underscoring the need for early integration of ethics education into professional development (Ariail et al., 2020; Voynich, 2005). Such an approach prepares students to navigate complex moral dilemmas effectively, as emphasized by studies that affirm the critical role of ethics in shaping decision-making frameworks within professional contexts (Cameron and O'Leary, 2015). The study by Sheehan and Schmidt (2015) surveyed 110 students to clarify their personal values and indicate their future professional selves to behave ethically. The paper found that the survey provided accounting students with an introduction to the importance of values on ethical behaviour and students had the opportunity to raise their opinions and were given a voice. These

studies' contributions demonstrate how crucial it is to comprehend how values align in professional development and ethics education at a young age to equip students to deal with challenging moral dilemmas. Furthermore, integrating the concept of professional ethics into ethics education creates a bridge between theoretical knowledge and real-world expectations of conduct in the workplace. Professional ethics, guided by codes such as those from the "International Ethics Standards Board for Accountants" (IESBA), offer frameworks that help individuals align their moral reasoning with industry expectations. Emerging literature further underscores the interplay between personal values and professional ethics, illustrating how early ethical orientations shape long-term professional behaviour. For instance, Schwepker and Good (2011) argue that personal moral frameworks developed during formative academic years serve as ethical compasses in professional settings. When embedded within ethics education, these values not only inform individual integrity but also influence adherence to structured professional codes, such as those outlined by the IESBA. The alignment of personal values with professional standards is not automatic; it requires intentional pedagogical interventions that contextualise abstract ethical principles within real-world scenarios. This fosters the internalisation of ethical norms, enabling students to evolve into ethically responsible professionals capable of critical moral reasoning in complex (Macintosh and Scapens, 1990). Thus, the transition from student to professional is deeply mediated by how well personal values are nurtured and integrated with the broader ethical expectations of the profession.

Accounting professional ethics

Integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour are fundamental principles that are emphasised in the Code, which offers a strong framework that complies with international standards (SAICA, 2023; Mbanjwa, 2019). With the definitions of the five fundamental principles, as included in Table 1, the Code acts as a cornerstone for ethical behaviour in the South African accounting industry (Mbanjwa, 2019). The inclusion of clear definitions for the five fundamental principles is significant because it ensures a shared understanding among professionals, educators, and regulators, thereby reducing ambiguity in ethical expectations and enabling consistent application and enforcement of

ethical standards across the profession (Mbanjwa, 2019). These definitions serve as both educational tools and accountability mechanisms, providing a concrete reference for ethical reasoning and disciplinary action when needed principles are more than just idealistic concepts; their fulfilment hinges on how well they link with the values that accountants, which are developed by intentional educational endeavours (Jasinska, 2024; Mbanjwa, 2019). The importance of personal values like honesty, accountability, bravery, and ability to influence professional conduct is indicated by Lubbe (2013), who also indicates how these values support and embody the ethical requirements of the Code. Given their importance, their alignment with an employee's values is crucial should an ethical dilemma occur.

Integrity, one of the key ethical principles as explained in the Code, is based on the principle of honesty, which calls for accountants to be direct and honest in all business and professional interactions. Kiradoo (2020) stated that the basic principles of ethics associated with the accounting profession are such as confidentiality and professional behaviour. Maseko et al. (2020) comment on the Code's role in the accounting profession and explain that to ensure aspiring accountants embrace this principle, education must place a strong emphasis on honesty as a fundamental personal virtue as well as a professional necessity. In a similar vein, according to the Code; objectivity requires a broad perspective devoid of prejudice or improper influence (Venter and De Villiers, 2013). In line with the Code, researchers have explained that ethical training that promotes ethical reasoning, critical thinking, and the capacity to resolve conflicts of interest without sacrificing professional judgment might assist in preparing students with ethical behaviour (Jasinska, 2024; Maseko et al. 2020). As a framework for directing accountants toward moral and professional excellence, the Code is crucial and has relevance to all professional accountants (Farrell and Cobbin, 2000; Paisey and Paisey, 2020). The idea of professional competence and due care, which emphasises the virtue of capability, is fundamental to the Code (Viedge, 2021). This professional's ability to exercise sound judgment by balancing technical expertise with practical wisdom, ethical sensitivity, and contextual awareness is referred to as "balance" in this context. Simply having technical abilities (capacity) is insufficient for an accountant; they also need to know how to apply that knowledge in a responsible, proportionate, and ethically relevant manner,

particularly when dealing with difficult or confusing situations. Such an understanding ensures that professional judgments are not only well-informed but also applied with appropriate caution and consistency, thereby protecting the public interest and upholding trust in the profession. These concepts ought to be taught as inherent values that influence accountants' work style rather than simply memorised, and thus, understanding how to align the Code of Ethics with personal and professional values is crucial (Pullen, 2024).

In conclusion, the literature supports the study's objective by highlighting how accounting students develop personal and professional values and how ethics education helps them adhere to the SAICA Code in their future roles.

RESEARCH METHODOLOGY

The study used a mixed method. Firstly, a quantitative

approach employing two questionnaires to accounting students (N=546) to identify students' perceived values, personal and professional values (Bryman and Bell, 2012). Secondly, a qualitative approach was used, conducting focus groups to obtain accounting students' (N=536) feedback on perceived values and reason(s) students rank their most important values as their first most important value.

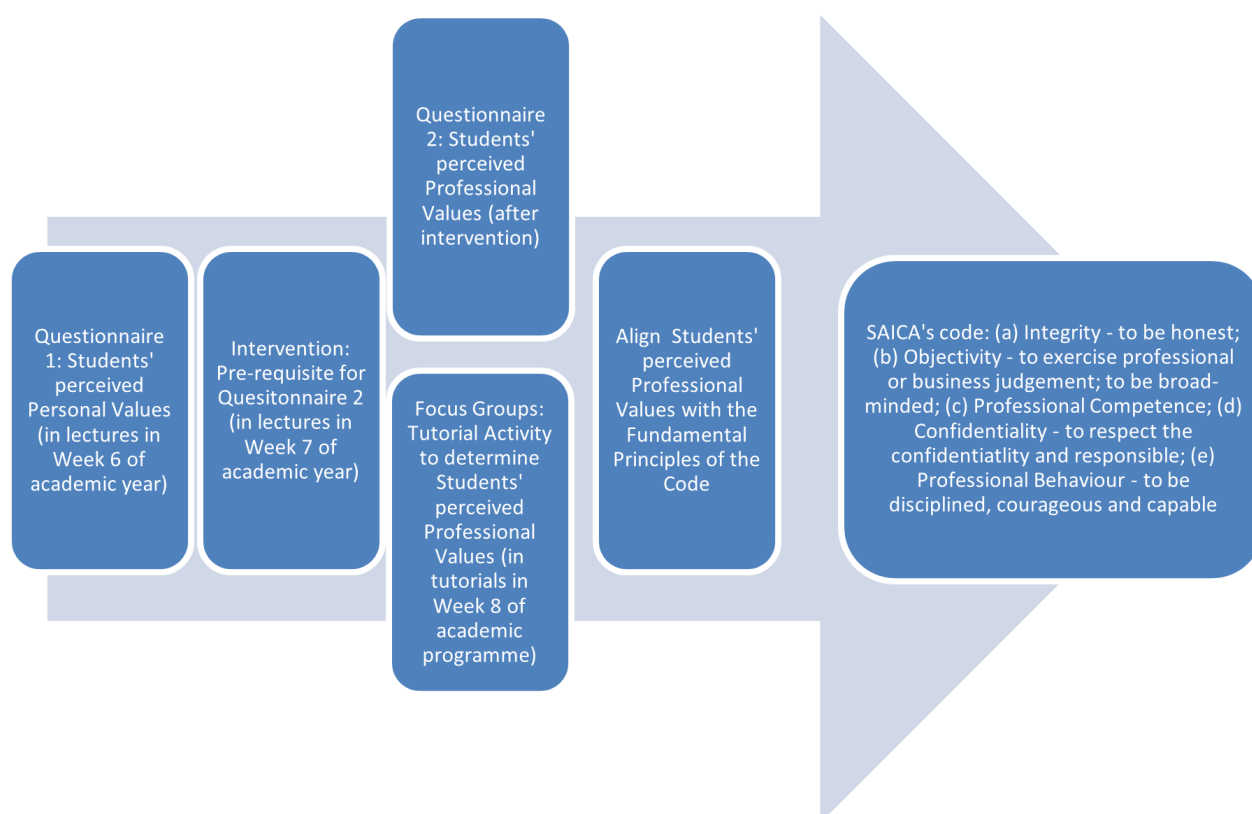
Respondents

The respondents were first-year students (N=546) registered for a Bachelor of Accounting Science Degree studying towards becoming a CA at a large South African university.

Data collection

Data was collected during the first semester of the academic year as Diagram 1.

Diagram 1: Data collection and research process



Source: Author's own

Links to questionnaires 1 and 2 were posted on the student portal and students were asked to participate in the study. Ethics clearance was obtained from the

university's ethics committee. The reliability of the collection of the data through the questionnaires and focus groups ensured that all data was treated

confidentially, and no individual data would be made available to compromise students' identities.

Research instruments

Two online questionnaires were used to measure which values students prioritise in their personal lives compared to those in a professional environment. The questionnaire was based on the measurement instrument used by Ariail et al. (2020), Papageorgiou, et al. (2022) and Sheehan and Schmidt (2015) to measure personal and professional values. The starting point for the questionnaires is a measurement instrument called the Rokeach Value Survey (RVS). RVS was originally developed by Milton Rokeach to measure which values are prioritised and have frequently been used in accounting-related research focused on values (Ariail, Abdolmohammadi, and Smith, 2012; Ariail et al., 2020; Rokeach, 1968; 1972; 1973). This study is focused on the perceived values that students identify with in the short-term that impact their actions and decisions. Consequently, the list of instrumental values as per the RVS was used as it relates to values individuals apply to achieve life goals in the short term.

The RVS was expanded and adapted to incorporate findings of the top ten values of South African first-year students as determined in the study of Papageorgiou et al. (2022). An additional two placeholders were added for students to add their own most important value if not on the list. The result and validation of the adaption of the questionnaire resulted in 28 values (Appendix 1). The next section describes how the research instrument was used in the study (see Diagram 1).

- *Step 1: Questionnaire 1:* The link to the questionnaire was posted on the student portal which consists of 28 values after the lecture introducing students to individual personal values.
- *Step 2: Intervention: Lecture exercise:* Next, the lecturer performed an exercise as an intervention on South African corporate scandals. The purpose of the intervention was to expose students to ethics in a professional environment, the consequences of making unethical business decisions, and lastly, the importance of values in making ethical decisions. Three South African corporate scandals were discussed: Tongaat

Hulett, Steinhoff and Venda Building Society (VBS) under the following headings: Background on corporate scandal, how it was executed, who was involved, Auditor's report, and how it could have been prevented.

- *Step 3: Questionnaire 2:* The link to the questionnaire was posted on the student portal which consists of 28 values after the lecture intervention, but the focus now was on the most important professional values. Students had to indicate why their first ranked value was most important to them in an open-ended question.

Focus Groups: The students were divided into smaller tutorial classes, about 25-30 students per class, which met weekly for two periods, 45 minutes each. Students were randomly allocated to their respective tutorial groups for the tutorial activity, with about 4-5 students per group.

The following steps were followed to execute the tutorial activity:

- *Step 1:* The course coordinator met with tutors to facilitate the tutorial activity. Tutors were final-year and postgraduate accounting students. A pilot study was conducted with the tutors to facilitate the tutorial activity. Each tutor received instructions on the execution of the activity.
- *Step 2:* Students were divided into groups of 4 to 5 students and to appoint a leader.
- *Step 3:* One of the scandals cards (see Appendix 2) was randomly distributed by the tutor to each group. Three corporate scandals were discussed in the lecture intervention as examples and therefore students were aware of how to approach the tutorial activity.
- *Step 4:* Groups discussed these cards and answered questions (see Appendix 3) and each group presented their selected scandal/dilemma by answering the questions.
- *Step 5:* Each group indicated their values, which were documented by the tutor. The same list of 28 values and descriptions were used to select three perceived professional values (Ariail, et al., 2020; Papageorgiou, et al., 2022; Sheehan and Schmidt, 2015).

your best and achieve your goals within the business environment.'

'Discipline' is the foundation of all the other values.'

'Honest' was ranked in second place as the most important value at 14,5%. 'Ambitious' ranked in third place as the most important value at 11,8%. Being 'Broad-minded' is ranked in the fourth place as the most important value at 8,1%. These values ('Disciplined,' 'Honest,' 'Ambitious,' 'Broad-minded') consistently featured in the top four places from the most important value to the fourth most important value. 'Family' did not feature as part of the students'

perceived professional values. The following verbatim quotes were noted:

'Honesty' is the foundation of ethics.'

'Honesty,' especially in the business environment, is key to any success. Without honesty and integrity, there is wrongful passion and motivation, leading to things such as theft and fraud.

Honesty needs to start from top to bottom and bottom to top within the business environment, and as an aspiring CA, honesty forms the basis of my career. '

Table 3: Students' top ten perceived professional values ranking: Questionnaire 2

Rank	1st Most Important value				2nd Most Important value				3rd Most Important value				4th Most Important value				5th Most Important value				6th Most Important value				7th Most Important value				8th Most Important value				9th Most Important value				10th Most Important value			
		F	%		F	%		F	%		F	%		F	%		F	%		F	%		F	%		F	%		F	%		F	%							
1	Disciplined	48	21.7	Ambitious	30	13.6	Disciplined	34	15.4	Disciplined	21	9.5	Broad-minded	16	7.2	Organised	19	8.6	Courageous	18	8.1	Helpful	20	9.0	Helpful	18	8.1	Responsible	22	10										
2	Honest	32	14.5	Disciplined	30	13.6	Broad-minded	26	11.8	Honest	17	7.7	Passionate	14	6.3	Intellectual	17	7.7	Ambitious	16	7.2	Organised	18	8.1	Responsible	18	8.1	Successful	18	8.1										
3	Ambitious	26	11.8	Broad-minded	27	12.2	Ambitious	22	10.0	Broad-minded	15	6.8	Helpful	13	5.9	Broad-minded	16	7.2	Honest	16	7.2	Honest	16	7.2	Passionate	15	6.8	Balance	16	7.2										
4	Broad-minded	18	8.1	Honest	17	7.7	Honest	14	6.3	Ambitious	14	6.3	Ambitious	12	5.4	Honest	16	7.2	Responsible	16	7.2	Passionate	15	6.8	Successful	13	5.9	Ambitious	12	5.4										
5	Family	13	5.9	Balance	15	6.8	Balance	13	5.9	Economic sec	13	5.9	Organised	12	5.4	Balance	14	6.3	Helpful	14	6.3	Motivated	13	5.9	Intellectual	12	5.4	Organised	12	5.4										
6	Balance	11	5.0	Family	12	5.4	Economic sec	12	5.4	Capable	12	5.4	Economic sec	11	5.0	Logical	14	6.3	Organised	12	5.4	Responsible	11	5.0	Logical	12	5.4	Logical	10	4.5										
7	Other Val 1	11	5.0	Capable	11	5.0	Organised	11	5.0	Helpful	12	5.4	Honest	11	5.0	Responsible	14	6.3	Logical	11	5	Successful	11	5.0	Organised	12	5.4	Obedient	10	4.5										
8	Purpose	8	3.6	Economic sec	8	3.6	Capable	9	4.1	Responsible	12	5.4	Balance	10	4.5	Disciplined	12	5.4	Broad-minded	10	4.5	Broad-minded	10	4.5	Capable	11	5.0	Purpose	10	4.5										
9	Responsible	8	3.6	Responsible	8	3.6	Intellectual	8	3.6	Balance	11	5.0	Capable	10	4.5	Economic sec	9	4.1	Polite	10	4.5	Conscientious	10	4.5	Purpose	11	5.0	Honest	9	4.1										
10	Successful	8	3.6	Courageous	7	3.2	Logical	8	3.6	Organised	11	5.0	Caring	10	4.5	Motivated	9	4.1	Capable	9	4.1	Disciplined	10	4.5	Motivated	10	4.5	Motivated	9	4.1										
	Total	183	83	Total	165	75	Total	157	71	Total	138	62	Total	119	54	Total	140	63	Total	132	60	Total	134	61	Total	132	60	Total	128	58										

*F= Frequency

Source: Author's own

Students' perceived group professional values and scandals/dilemmas are presented in Table 4. During the tutorial activity students discussed scandals/dilemmas and identified three perceived professional values related to the scandal/dilemma. The tutorial activity confirmed that students' perceived individual professional values, specifically 'Honest', 'Discipline' and 'Responsible' are aligned with students' group perceived professional values. As per Table 4, a total of 99 groups participated in the Tutorial Activity, 297 value counts were selected with 'Honest', 92 counts, being the highest, followed by 'Responsible', 57 counts and 'Discipline', 39 counts. The 'Other Value' count of 29, includes 'Accountability' with a count of 12, 'Transparency' with a count of 7 and a few other values with a count of one like, 'Respect', 'Compliance', 'Excellence', 'Competent' and 'Professionalism'.

The value, 'Honest,' had the highest count for the following scandals/dilemmas/collapses, Enron, KPMG South Africa Audit Failures and the VBS Collapse. In the VBS scandal, the registrar of banks and other stakeholders were misled to believe that VBS was financially stable whilst being looted (Motau, 2018). VBS also had the highest count for the value, 'Discipline' while the value 'Responsible' was the highest for Steinhoff and KPMG South Africa Audit Failures. Steinhoff was one of Africa's largest corporate scandals to date and indicated the significant financial impact irresponsible behaviour had on stakeholders (Naude, Ungerer, Hamilton, and Malan, 2018). KPMG South Africa's involvement in some of the audit failures has highlighted the responsibility auditors have in their oversight role (Daily Maverick, 2020).

Table 4: Crosstabulation: Students' perceived Professional Values versus scandals/dilemma

		African Bank Collapse	Enron Scandal	Eskom Coal Procurement Scandal	Eskom Financial Mismanagement	KPMG South Africa Audit Failures	Lehman Brothers Collapse	SAA Financial Mismanagement	SARS Rogue Unit Controversy	Satyam Computer Services Fraud	Steinhoff International Scandal	VBS Mutual Bank Collapse	WorldCom Accounting Fraud	Total
Ambitious	Count	1			2							2		5
	%	0.3%			0.7%							0.7%		1.7%
Broad-minded	Count	1						2	1		1		1	6
	%	0.3%						0.7%	0.3%		0.3%		0.3%	2.0%
Capable	Count							1					1	2
	%							0.3%					0.3%	0.7%
Caring	Count								1					1
	%								0.3%					0.3%
Conscientious	Count	2	2	4		5	3	2	1	2		3	2	26
	%	0.7%	0.7%	1.3%		1.7%	1.0%	0.7%	0.3%	0.7%		1.0%	0.7%	8.8%
Courageous	Count									1	1	1		3
	%									0.3%	0.3%	0.3%	-	1.0%
Disciplined	Count	0	3	4	4	3	4	4		5	4	6	2	39
	%		1.0%	1.3%	1.3%	1.0%	1.3%	1.3%		1.7%	1.3%	2.0%	0.7%	13.1%
Economic security	Count	1		1			1	2			1	1		7
	%	0.3%		0.3%			0.3%	0.7%			0.3%	0.3%	-	2.4%
Family	Count	0	1											1
	%		0.3%											0.3%
Friendly	Count				1									1
	%				0.3%									0.3%

		African Bank Collapse	Enron Scandal	Eskom Coal Procurement Scandal	Eskom Financial Mismanagement	KPMG South Africa Audit Failures	Lehman Brothers Collapse	SAA Financial Mismanagement	SARS Rogue Unit Controversy	Satyam Computer Services Fraud	Steinhoff International Scandal	VBS Mutual Bank Collapse	WorldCom Accounting Fraud	Total
Helpful	Count				1		1				1			3
	%				0.3%		0.3%				0.3%			1.0%
Honest	Count	5	10	4	8	10	8	6	8	7	9	10	7	92
	%	1.7%	3.4%	1.3%	2.7%	3.4%	2.7%	2.0%	2.7%	2.4%	3.0%	3.4%	2.4%	31.0%
Independent	Count	2				1								3
	%	0.7%				0.3%								1.0%
Intellectual	Count					1	1							2
	%					0.3%	0.3%							0.7%
Logical	Count	2					1	1						4
	%	0.7%					0.3%	0.3%						1.3%
Motivated	Count	1							1					2
	%	0.3%							0.3%					0.7%
Obedient	Count		1	1					2		1		2	7
	%		0.3%	0.3%					0.7%		0.3%		0.7%	2.4%
Organised	Count			2			1							3
	%			0.7%			0.3%							1.0%
Other value	Count	3	3	2	4	2	1	1	3	4	1	1	4	29
	%	1.0%	1.0%	0.7%	1.3%	0.7%	0.3%	0.3%	1.0%	1.3%	0.3%	0.3%	1.3%	9.8%
Passionate	Count			1				2						3
	%			0.3%				0.7%						1.0%
Responsible	Count	3	3	2	7	8	6	3	4	2	8	6	5	57
	%	1.0%	1.0%	0.7%	2.4%	2.7%	2.0%	1.0%	1.3%	0.7%	2.7%	2.0%	1.7%	19.2%
Successful	Count		1											1
	%		0.3%											0.3%
	Count	21	24	21	27	30	27	24	21	21	27	30	24	297
	%	7.1%	8.1%	7.1%	9.1%	10.1%	9.1%	8.1%	7.1%	7.1%	9.1%	10.1%	8.1%	100%

Source: Author's own

Research question 2 was addressed to evaluate if students' perceived professional values aligned with the fundamental principles of the Code. The fundamental principles as per the Code are integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour.

In questionnaire 2 the following values were ranked most important: 'Disciplined', 'Honest', 'Ambitious', and 'Broad-minded', of which 'Disciplined', 'Honest and 'Broad-minded' align to the Code. As per the description of values provided to students as part of

the questionnaire, 'Disciplined' entails being self-disciplined and restrained. This corresponds to the fundamental value of 'Professional Behaviour' of the Code that requires "a professional accountant to comply with relevant laws and regulations, behave in a manner consistent with the profession's responsibility to act in the public interest in all professional activities and business relationships, and avoid any conduct that the professional accountant knows or should know may discredit the profession" (SAICA, 2023: R115.1). 'Honest' was described to students as being sincere, truthful, to act with integrity. As per the Code

'Integrity' requires a professional accountant to be honest and straightforward in all professional and business relationships (SAICA, 2023: R111.1). '*Honest*' aligns with the fundamental principle of 'Integrity' as per the Code. '*Broad-minded*' was described to students as being open-minded and respecting those who differ from me. Being broad-minded entails being unprejudiced and unbiased (Thesaurus.com, 2025). Professional scepticism is core to the skill set required from professional accountants and requires professional accountants to have a questioning mind and act without bias (Agrawal, Birt, Holub, and van Zyl, 2021). In terms of the Code 'Objectivity' requires a professional accountant to exercise professional judgement and to not be compromised by bias, conflict of interest or undue influence or reliance (SAICA, 2023: R112.1). Once students have been introduced to professional scepticism, being broad-minded and acting without prejudice will align to 'Objectivity' as per the Code. Students entered '*Respect*', '*Professionalism*', '*Compliance*' and '*Accountability*' when selecting '*Other Value*' in questionnaire 2. '*Professionalism*', '*Compliance*' and '*Accountability*' align to 'Professional behaviour' as per the Code that requires a professional accountant to comply with relevant laws and regulations, behave in a manner consistent with the profession's responsibility to act in public interest, and avoid any that might discredit the profession (SAICA, 2023: R115.1). 'Confidentiality' requires a professional accountant to respect the confidentiality of information acquired as in the course of professional and business relationships (SAICA, 2023: R114.1). '*Respect*' entails showing honour and consideration for someone or something (Cambridge, 2025). Once students have been taught the confidentiality requirements expected of a professional accountant, '*Respect*' value will fall broadly under 'Confidentiality' as per the Code in terms of respecting client information and data.

The tutorial activity confirmed that students' perceived individual professional values are aligned with students' group perceived professional values. The values, '*Honest*' and '*Discipline*' were both ranked as the highest and the third highest respectively of all the 28 values. These core values are aligned with the Code (SAICA, 2023). The Code indicated that 'to be straightforward and honest in all professional and business relationships' (SAICA, 2023: 26) is aligned with students' perceived professional values. The student-profession fit is also aligned as students indicated that they are aligned with professional ethics, reflecting

their 'Professionalism' to the profession (Ariail et al., 2020).

The Code requires professional accountants to act with integrity, be objective, apply professional competence and due care and exhibit professional behaviour. The perceived professional values of '*Discipline*,' '*Honesty*,' '*Broad-minded*' and '*Ambitious*' identified by students align to these fundamental principles of the Code and the student-profession fit aligns.

CONCLUSION

The purpose of this study was to identify accounting students' values and their alignment with the fundamental principles of professional ethics. This study contributes to creating awareness among first-year students regarding the fundamental principles of the Code that professional accountants should adhere to. For the first research question, students' personal, perceived professional values and the reasons why these values were ranked as most important for each were determined using a mixed method that consisted of two questionnaires and a tutorial activity. Students ranked '*Family*' as the most important individual personal value whilst the following perceived professional values were ranked as the most important: '*Discipline*,' '*Honesty*,' '*Broad-minded*,' and '*Ambitious*.' The second research question, the students' perceived professional values were compared to the fundamental principles of the Code. The perceived professional values '*Discipline*' '*Honesty*' '*Broad-minded*' and '*Respect*' aligned with the fundamental principles of the Code. '*Discipline*' is aligned with 'Professional Behaviour' in which professional accountants are expected to act professionally. '*Honest*' is aligned with 'Integrity', which requires professional accountants to act honestly and be straightforward. '*Broad-minded*' aligned with 'Objectivity' which requires professional accountants to act without bias and avoid any conflict of interest. '*Respect*' aligned with 'Confidentiality' which requires professional accountants to respect the confidentiality of client information. The study explores the student-profession fit, which resembles the perceived student values and professional ethics (fundamental principles as per the Code) that contribute to job performance and satisfaction. This paper further contributes to an understanding of the relationship between students' values to professional ethics.

This study is limited to only first-year accounting students at a South African university. Another limitation is that some respondents may have been exposed to scandals/dilemmas/collapse of companies that could have influenced students in selecting their perceived professional values, but the study included students' perceived professional values as an individual and as a group to determine if there were any differences between the individual and 'perceived' professional values. In addition, the values selected may be based on students' ideas towards scandals/dilemmas that could have influenced their value choice. A future recommendation could be beneficial in the replication of this study to target CAs in audit firms and companies.

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APPENDIX A

Descriptives of values

Below is an understanding of values, ethics and decision-making. By increasing your knowledge of ethics and values, you may be able to develop your own values-based code of conduct to assist you to guide your future ethical decision-making and to guide you in making decisions in a professional working environment.

- Values are those beliefs, characteristics and behaviours that are most important to you in guiding your thoughts and actions.
- Values also influence your decision-making
- Decision-making can be ethical or unethical
- Values and ethics can be personal, business or professional

- 1) **Ambitious** (hard-working, aspiring)
- 2) **Balance** (to find a middle ground and avoid excesses)
- 3) **Broad-minded** (open-minded, to respect those that differ from me)
- 4) **Capable** (competent, effective)
- 5) **Caring** (to have compassion for and nurture others)
- 6) **Conscientious** (to carry out my duties and obligations well and thoroughly)
- 7) **Courageous** (standing up for your beliefs, to act in a manner that is genuine to yourself)
- 8) **Disciplined** (restrained, self-disciplined)
- 9) **Economic security** (to be financially comfortable)
- 10) **Family** (to have a happy, loving family)
- 11) **Forgiving** (willing to pardon others)
- 12) **Friendly** (light-hearted, joyful)
- 13) **Helpful** (working for the welfare of others, ready to offer help)
- 14) **Honest** (sincere, truthful, to act with integrity)
- 15) **Imaginative** (daring, creative)
- 16) **Independent** (self-reliant, self-sufficient)
- 17) **Intellectual** (intelligent, reflective, to learn and contribute valuable knowledge)
- 18) **Logical** (consistent, rational, practical)
- 19) **Motivated** (Driven, Focused, Determined, energetic)
- 20) **Obedient** (dutiful, respectful, to be accepting of authority and traditions and social norms)
- 21) **Organised** (neat, tidy)

-
- 22) **Passionate** (enthusiastic, want to do)
-
- 23) **Polite** (courteous, well-mannered, considerate)
-
- 24) **Purpose** (to have meaning and direction in my life)
-
- 25) **Responsible** (dependable, reliable)
-
- 26) **Successful** (to effectively achieve my goals)
-
- 27) Your other value
-
- 28) Your other value
-

APPENDIX B

Accounting Scandals: International and in South Africa

Enron Scandal:

Enron's executives manipulated financial statements, overstating profits and hiding debts, leading to the collapse of the company and affecting thousands of employees and investors.

WorldCom Accounting Fraud:

WorldCom engaged in one of the largest accounting scandals in history by inflating assets and understating liabilities, leading to a bankruptcy filing and significant losses for shareholders and employees.

Lehman Brothers Collapse:

Lehman Brothers employed questionable accounting techniques, such as the use of repo 105 transactions to temporarily move assets off balance sheet, misleading investors and regulators about the true financial health of the company, ultimately leading to its collapse during the 2008 financial crisis.

Satyam Computer Services Fraud:

Satyam's founder and chairman admitted to inflating the company's revenues and fabricating profits over several years, undermining investor confidence and leading to a significant loss of market value.

Steinhoff International Scandal:

Steinhoff, a multinational retail holding company based in South Africa, was embroiled in a scandal involving accounting irregularities and inflated financial statements. The company's stock value plummeted, resulting in significant losses for shareholders and damaging investor confidence.

VBS Mutual Bank Collapse:

VBS Mutual Bank collapsed due to a massive fraud scheme where executives looted billions of rand from the bank's depositors, including municipalities and other public entities. The scandal highlighted regulatory failures and weaknesses in the oversight of financial institutions.

KPMG South Africa Audit Failures:

KPMG South Africa faced criticism and lost clients due to audit failures and allegations of unethical conduct, including involvement in the Gupta family's corruption scandal. The firm's reputation was tarnished, and its credibility as an independent auditor was questioned.

Eskom Financial Mismanagement:

Eskom, South Africa's state-owned power utility, faced allegations of financial mismanagement, corruption, and irregularities in procurement processes, contributing to its financial instability and the country's energy crisis.

African Bank Collapse:

African Bank Investments Limited (ABIL) collapsed in 2014 due to poor lending practices, inadequate risk management, and a lack of transparency in financial reporting. The bank's failure resulted in significant losses for shareholders and depositors.

SAA (South African Airways) Financial Mismanagement:

South African Airways faced financial difficulties due to mismanagement, corruption, and unsustainable business practices, leading to repeated bailouts from the government and concerns about the airline's viability.

Eskom Coal Procurement Scandal:

Eskom, the state-owned power utility, faced allegations of corruption and irregularities in coal procurement contracts, leading to inflated costs and financial losses for the company and taxpayers.

SARS (South African Revenue Service) Rogue Unit

Controversy:

ARS faced allegations of establishing a rogue intelligence unit that engaged in illegal surveillance and other unlawful activities, raising concerns about the integrity of tax collection and enforcement processes.

APPENDIX C

Questions

1. What happened to that led to the dilemma/scandal/collapse?
2. Who were the key role players and what were they responsible for?
3. What measures would you put in place to prevent this from happening in the future?
4. Who was affected by the dilemma/scandal/collapse?
5. From your lecture on Ethics, Corruption and Values identify any 3 values which you would apply in the workplace – use the list of values as per your Ethics lecture. Do a brainstorm here in the group state the 3 most common values in your group and see how your group differ from other groups.
6. Were you and your family affected, directly or indirectly?

The effectiveness of ChatGPT to support threshold concepts knowledge in financial accounting – an exploratory study

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Purpose: This paper explores the effectiveness of using ChatGPT (an artificial intelligence text generator (AITG)) as a reliable source for accounting knowledge and skills.

Design/methodology/approach: This study follows a descriptive-interpretive approach to explore and evaluate the effectiveness of ChatGPT in explaining threshold concepts in Business Combinations and Consolidations and their application. ChatGPT text outputs are critically analysed in a descriptive-interpretive manner in relation to epistemic knowledge that supports disciplinary understanding (“knowing that”) and procedural knowledge (“knowing how”).

Findings: Our analysis revealed that ChatGPT effectively provides epistemic knowledge (“knowing that”) using accessible, human-like language, which can benefit students with language barriers. However, responses lacked depth and specificity. For procedural knowledge (“knowing how”), ChatGPT offered general steps but included irrelevant or misleading information, with significant errors and omissions in practical tasks like preparing consolidated financial statements. Educators can leverage these shortcomings to foster critical thinking and develop comparative learning exercises.

Originality/value: The use of AITG in education is a rapidly evolving field. Educators must continuously develop their understanding of these tools to reflect on how they may affect students' engagement. This study adds value by helping educators understand the effectiveness of AITG in correctly responding to questions related to accounting knowledge. The study highlights the beneficial explanation of challenging accounting concepts in easy-to-understand language and its limitations in application without supervision.

Keywords: Artificial Intelligence (AI); text generators; threshold concepts; financial accounting; accounting education; ChatGPT; large language models (LLMs); descriptive study

INTRODUCTION

The purpose of this study is to explore and describe how ChatGPT presents accounting knowledge and thereby supports academic work in accounting. Knowledge in accounting is often viewed as ‘technical’, referring to the technical application of theoretical knowledge (Lubbe, 2021). An accountant is required to be an expert (*knower*) in the technical (*how to*) of accountancy, while the dynamic nature of the business world requires accountants to possess specialised skills with contextual purposes, such as critical thinking, decision-making and ethical professional conduct (Ballantine, Boyce & Stoner, 2024). Professional accountants require disciplinary (“*knowing that*”) and procedural knowledge (“*knowing how*”) to prepare them for the practical application of their conceptual knowledge in complex scenarios. The descriptions of *knowing that* and *knowing how* are used to inform the posing of specialised accounting knowledge questions to ChatGPT.

Given the dense and specialised nature of knowledge in accounting, knowing threshold concepts supports students’ knowledge construction (Barradell, 2013; Zepke, 2013). Threshold concepts are concepts in a discipline that, when understood, provide or alter a student’s command of the given topic (Meyer & Land, 2005). Meyer and Land’s (2003, p. 1) description that a threshold concept is a portal “opening up a new and previously inaccessible way of thinking about something” is widely accepted as the definition of a threshold concept. Recognising the importance of threshold concepts enables lecturers to focus on concepts that are fundamental for students to grasp and comprehend in a specific and specialised section of the curriculum (Van Mourik & Wilkin, 2019). The technical nature and complexity of concepts in financial accounting may influence students facing language barriers to seek learning support from AITG, such as ChatGPT. This study uses threshold concepts in the specialised field of Business Combinations and

Consolidations (BCC) to investigate responses produced by ChatGPT and determine the relevance and reliability of AI-generated information as an academic learning resource.

OpenAI released a generative pre-trained transformer, ChatGPT, on 30 November 2022 (OpenAI, 2023c) as a research preview to the public and its large-scale adoption (Harris, 2022; Katz, Bommarito, Gao & Arredondo, 2024; Shewale, 2024) almost gave it a life of its own, surprising even the developers. Academic responses to the release of artificial intelligence text generators (AITG¹) such as ChatGPT were mixed (Sundkvist & Kulset, 2024), ranging from apprehension to curiosity to excitement. Although there is a rapidly growing body of literature on the impact of AITG on higher education, most research to date investigates its capabilities and misuse by students in assessments (academic integrity) (Alshurafat, Al Shbail, Hamdan, Al-Dmour & Ensour, 2024; Burney, Church & Dell, 2023; Cheng *et al.*, 2024; Eulerich *et al.*, 2024; Meckler & Verma, 2022; Wood *et al.*, 2023). Research on how AITG supports academic work and student learning in accounting is limited. This study contributes to this literature gap by exploring the reliability of a publicly available AITG, ChatGPT 3.5, to explain financial accounting concepts.

Using a descriptive-interpretive approach to analyse the ChatGPT outputs, our results show that the current free versions can be helpful as a learning resource for providing basic epistemic knowledge (*knowing that*), especially given the human-like language used. It may support gaining procedural knowledge because it can describe the task to be performed. However, it is still largely underdeveloped when required to apply concepts (*knowing how*). Students and academics should not rely on output responses from ChatGPT without critical investigation and analysis of the accuracy, validity, completeness, and relevance of the information provided.

This study contributes to the rapidly growing body of literature on the impact of AITG in accounting education. Given the pace at which AITG tools are progressing, accounting educators must accept that students will use these in their learning. The results provide insights to accounting educators on integrating

AITG into their pedagogical strategies.

LITERATURE REVIEW

The literature review commences with a review of the theory of knowledge and threshold concepts, followed by studies exploring AI tools' use in accounting education.

Theory of knowledge

Epistemology, also called the theory of knowledge, is concerned with the nature, sources and limits of knowledge, flagging two elements: the objective dimension (knowledge itself) and the subjective dimension (those who come to make and hold that knowledge). Originating from Gilbert Ryle's work in 1949 (Roland, 1958), a distinction is made between epistemic knowledge (*knowing that*) and procedural knowledge (*knowing how*) (Winch, 2013, 2014). Skills, in contrast to knowledge, refer to specific attributes such as time management, problem-solving, etc. Studies in sociology describe epistemic knowledge as declarative or propositional, thus knowing the facts, concepts and relationships between them (Young and Muller, 2014), while procedural knowledge refers to the ability to perform a particular task.

Winch (2014) recognises the importance of educating for professions, including propositional epistemic and procedural knowledge, as professional expertise relies on knowing the facts and the ability to carry out specific actions. This is emphasised by Young and Muller (2014), who identified the different terms of 'knowledge' and 'expertise' as critical to professions as they need both specialised knowledge and practical expertise. Accounting professionals require epistemic and procedure knowledge, also called specialised knowledge and competencies (Lubbe, 2021).

Examining the relationship between subject knowledge and the ability to validate and establish truths, Winch (2013) argues that education for a profession requires a comprehensive grasp of the relevant field ('knowing that'), making connections between these propositions ('knowledge by acquaintance'), and an understanding of how subject knowledge is tested, validated and acquired. Professional requires the "ability to understand how

¹ Cheng, Dunn, Holt, Inger, Jenkins, Jones, Long, Loraas, Mathis, Stanley & Wood (2024) refer to artificial intelligence text generators (AITG). The same reference is used in this paper.

knowledge within the subject area is validated, tested and acquired” (Winch, 2014, p. 49).

Threshold concepts

As mentioned above, accountants require specialised knowledge, competencies and skills to deliver quality services. Given the dense and specialised nature of knowledge in accounting, understanding threshold concepts supports students’ knowledge construction (Baradell, 2013; Zepke, 2013). Threshold concepts are concepts in a discipline that, when understood, provide or alter a student’s command of the given topic (Meyer & Land, 2005) and change how the learner thinks about a discipline (Schönfeldt, Hancock & Birt, 2020). Recognising the importance of threshold concepts enables lecturers to focus on fundamental concepts for students to grasp and comprehend in a specific and specialised section of the curriculum (Van Mourik & Wilkin, 2019).

Meyer and Land (2003, p.1) established that threshold concepts are transformative, shifting students’ perception within the discipline and allowing students to change from ‘not understanding’ to ‘understanding’. Students’ academic and professional progress in accounting requires mastery of threshold concepts (Schönfeldt, 2022). Students may, intentionally or unintentionally, rely on different supports as they develop a disciplinary understanding of threshold concepts.

AI tools and accounting education

Since the 1980s, accounting educators have used computer-based learning systems to incorporate advanced AI technologies (Brown, Baldwin-Morgan & Sangster, 1995; Baxter & Thibodeau, 2011; Hahn, Fairchild & Dowis, 2013; Jackson & Cossitt, 2015; Carenys & Moya, 2016; Chan, Song, Rivera & Trongmateerut, 2016). Recent AI advancements, including Generative AI and LLMs, are reshaping education. While initially focused on language and writing skills, LLMs have shown potential in generating ideas, study materials, and course structures (Burney et al., 2023). Oppenlaender et al. (2024) considered the new and emerging skills of prompt engineering (what and how to ask questions for generative responses) while, in a chemical education study, Tassoti (2024) found that students struggle with effective prompting,

suggesting guidance and development of “prompt engineering strategies to maximise the educational benefits of generative AI technologies” (p. 2475). AI tools like ChatGPT are widely accessible and generate content outside educators’ control. This raises opportunities and challenges, such as academic integrity concerns and inaccuracies in output (Burney et al., 2023; Jelen, 2023). Research shows mixed results: ChatGPT excels at explaining rules and ethical frameworks but struggles with practical accounting tasks like financial statements and journal entries (Cheng et al., 2024; Wood et al., 2023), while Sundkvist and Kulset (2024) found that accounting students are less likely to use ChatGPT due to the nature of the discipline.

Ballantine *et al.* (2024) identified potential threats and related opportunities that AI poses for accounting educators, calling for educators to learn how they can successfully harness the power of AI tools (Burney *et al.*, 2023). While ChatGPT uses a broad dataset, it lacks domain-specific depth, highlighting the importance of subject expertise for educators and students (Cousin, 2010). This study evaluates ChatGPT’s reliability in presenting financial accounting knowledge, focusing on its ability to handle threshold concepts in BCC.

METHODOLOGY

Drawing from qualitative research methods, this study adopts a descriptive-interpretive research approach to investigate the accuracy and reliability of output produced by an AITG, ChatGPT². Blending descriptive research (documenting what happens) with interpretive analysis (understanding why it happens and what it means) is useful for exploring the effectiveness of the responses by an AITG and evaluating the meaning behind those responses. This study uses the freely available ChatGPT 3.5 rather than the paid version 4.0. The use of the free version is motivated by the finding that, due to the cost of textbooks, students tend to use free or cheaper online resources (Martin *et al.*, 2017; Perris & Makoe, 2020). ChatGPT text outputs are critically analysed in a descriptive-interpretive manner in relation to epistemic knowledge that supports disciplinary understanding (*knowing that*) and procedural knowledge (*knowing how*), focussing on the specialised field of BCC.

² <https://chat.openai.com/>

Data collection started with constructing prompts within BCC to elicit responses from ChatGPT. The authors independently posed prompts to ChatGPT based on each threshold concept, including prompts without and with context³. The wording of threshold concepts was used to frame the questions relating to theoretical knowledge (*knowing that*), while BCC module exercises were used to determine the reliability and accuracy of responses (*knowing how*). The text output generated by ChatGPT was qualitatively analysed (with reference to International Financial Reporting Standards (IFRS)) to evaluate the accuracy and validity of the explanations. This allowed the authors to provide evidence of ChatGPT's ability to offer conceptual explanations to student learning relating to the meaning (*knowing that*) of these concepts in BCC. Thereafter, ChatGPT was asked a tutorial question related to BCC (Appendix A). The output was qualitatively analysed to evaluate its ability to offer procedural knowledge as a learning resource, thereby requiring a demonstration of *knowing how*.

RESULTS AND DISCUSSION

This study finds that the usefulness of an AITG as a learning resource varies depending on whether it is used to generate content *explaining* disciplinary concepts or is required to *apply* concepts. It demonstrates the ability to provide epistemic knowledge that supports disciplinary understanding (*knowing that*), providing easily understandable text, but the quality of the output varies depending on how the prompts are structured. On the other hand, when presented with practical questions associated with procedural knowledge (*knowing how*), the output produced appears reasonable, but further investigation often contains fundamental errors.

Disciplinary understanding of threshold concepts in BCC

The literature identifies four threshold concepts in the specialised field of BCC: (TC#1) the identification of assets and liabilities at the acquisition date; (TC#2) control; (TC#3) consolidation; (TC#4) the economic entity (Schönfeldt, 2022). These concepts inform the questions posed to ChatGPT, a publicly available AITG.

TC#1: The identification of assets and liabilities

Identifying assets and liabilities requires knowledge that is widely accessible, yet the application of this concept varies across different contexts and disciplines. Within accounting, the meaning of these concepts is more explicit, as demonstrated in this extract: "As of the acquisition date, the acquirer shall recognise, separately from goodwill, the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree" (IFRS 3, 2020, para. 10).

When prompted, "*What does the identification of assets and liabilities mean?*", OpenAI (2023b) ChatGPT identifies this as a

"fundamental aspect of financial accounting and management"

and then continues to describe assets and liabilities from the perspective of

"two key categories on a company's balance sheet".

When the prompt is refined as "*Within Business Combinations and Consolidations, what does the identification of assets and liabilities mean?*" OpenAI (2023a) ChatGPT responds:

"In the context of business combinations and consolidations, the identification of assets and liabilities refers to the process of determining and listing the individual assets and liabilities of the entities involved in the combination. This is a critical step in the overall accounting process to ensure that the financial statements of the combined entity accurately reflect the value and nature of the assets and liabilities acquired."

This is partially correct, as this step in the acquisition method involves the identification of assets and liabilities acquired in the business combination (from the acquiree) and not all the entities involved in the combination. ChatGPT continues to describe a business combination, stating that:

"The acquirer needs to identify all the tangible and intangible assets held by the acquiree(s). This

³ The output from ChatGPT reported in the next section reflects the exact wording (using American spelling), while some output is depicted as [...] in the discussion section. The full conversations are available from the authors.

includes property, equipment, inventory, intellectual property, and more. These assets are recorded at fair values on the acquisition date [...]. Similarly, the acquirer needs to identify all the liabilities of the acquiree(s). This includes obligations such as loans, accounts payable, contractual commitments, and other liabilities. These liabilities are also recorded at their fair values on the acquisition date."

ChatGPT then explains that:

"once the identification, recognition, and allocation processes are completed, the acquirer combines the financial statements of the acquiree(s) with its own financial statements. This results in consolidated financial statements that provide a comprehensive view of the financial position and performance of the combined entity",

which explains in layman's terms the purpose of preparing consolidated financial statements. However, these descriptions do not provide sufficient explanations to support student mastery of TC#1.

TC#2: Control

Control, within the specialised field of BCC, requires a critical understanding of the rights associated with shareholding, decisions relating to an entity's financial and operating activities and "the ability to affect those returns through its power over the investee" (IFRS 10, 2018, para. 6).

When prompted, "What is control in business combinations?" ChatGPT's response includes an accurate description of:

"Control in this context refers to the power to govern the financial and operating policies of an entity in a way that allows the entity to obtain benefits from its activities. The concept of control is particularly important when determining whether one entity should be considered the parent company and another entity as its subsidiary".

Students often struggle to understand that control does not necessarily mean majority shareholding, nor does majority shareholding necessarily imply control (Schönfeldt, 2022). ChatGPT makes a distinction:

"The definition of control in business combinations is often associated with owning more than 50% of

the voting rights of an entity. However, control can also be established through contractual arrangements or other factors that provide an entity with the ability to direct the activities that significantly impact the returns of another entity."

The response emphasises the importance of control:

"In accounting, the determination of control is crucial for consolidation purposes. Consolidation involves combining the financial statements of a parent company and its subsidiaries into a single set of financial statements. The purpose of consolidation is to provide a clearer and more accurate picture of the financial position and performance of the entire group of companies. [...] the assets, liabilities, revenues, and expenses of the subsidiary are included in the financial statements of the parent company."

Analysing ChatGPT's response, it is a reasonable explanation, in layman's terms, of the concept of control in the context of BCC. However, it lacks technical depth and won't suffice to support student mastery of threshold concepts. Related to understanding the concept of control, the following prompt to ChatGPT was "What is a parent company?". OpenAI (2023b) ChatGPT stated, amongst others, that (emphasis added)

"A parent company is a company that **owns** and controls another company or multiple companies, typically through the ownership of a significant portion of their shares or equity. The parent company, also known as the holding company, has the ability to influence and make decisions for its subsidiaries, which are the companies it **owns**".

This statement will mislead students relying solely on ChatGPT as a study resource, as **control** and not ownership are the criteria for establishing an investor as a parent (IFRS 10, 2018, para. 5).

TC#3: Consolidation

OpenAI (2023a) ChatGPT identified consolidation as the

"process of combining the financial statements of a parent company and its subsidiaries into a single set of financial statements that represent the financial position, performance, and cash flows of the entire consolidated entity [...] The goal of consolidation is to present the financial information as if the parent

and its subsidiaries are a single economic entity, rather than separate companies.”

This response is in line with the definition and descriptions provided in IFRS 10, which states that consolidation is the combination of assets, liabilities, equity, income, expenses, and cash flows of the parent and its subsidiaries in consolidated financial statements.

TC#4: The economic entity

The economic entity concept is not a concept that is specifically defined in the accounting standards, but it is assumed knowledge in the consolidation process and is the reason for most of the consolidation adjustments. IFRS 10 mentions economic entity in the definition for consolidated financial statements: “The financial statements of a group in which the assets, liabilities, equity, income, expenses and cash flows of the parent and its subsidiaries are presented as those of a single **economic entity**” (IFRS 10, Appendix A, 2018).

OpenAI (2023a) ChatGPT explains that an economic entity

“refers to a group of companies that are treated as a single economic unit due to their interdependence, shared control, and common financial interests”.

This description does not help a student understand the concept of a single economic entity and why consolidation adjustments are required. ChatGPT continued to list key points about the economic entity concept, some of which may lead to a better understanding of the economic entity threshold concept. These include:

- **Consolidation:** Consolidation involves combining the parent and its subsidiaries’ financial statements to present a unified picture of the economic entity. Intercompany transactions are eliminated, and non-controlling interests are reported to reflect the ownership structure accurately.
- **External Perspective:** Consolidated financial statements offer an external perspective of the economic entity, allowing investors, creditors, regulators, and other stakeholders to assess the

overall financial health, risks, and performance of the entire group.

- **Legal Separateness:** Despite being treated as a single economic entity for financial reporting purposes, each company within the group maintains its legal identity and separate legal obligations.

In conclusion, the responses generated by ChatGPT present information on the definitions and descriptions provided for these threshold concepts that are useful in that these are clearly articulated in a language that is easy to follow. For students to understand the meaning of these concepts, other terms and concepts included in these descriptions must be understood. Even though several of these responses are fairly accurate, for learners to understand the meaning and context of these propositions (*knowing that*) of the threshold concepts in BCC, framing within accounting contexts is necessary.

Application of threshold concepts in BCC

The responses generated by ChatGPT relating to questions that require the demonstration of the application of concepts (*knowing how*) to perform a particular skill or task were then considered. These responses include general descriptions of the procedures and processes of BCC and responses to practical questions that require the carrying out of specific actions or procedures.

TC#1: The identification of assets and liabilities

The following prompt was provided to test ChatGPT’s ability to apply TC#1: “*You are preparing the consolidated financial statements for P Group Limited. On 1 July 20X4, P Limited acquired all the issued shares of S Limited for CU1 200 000. P Limited identified at acquisition date a contingent liability related to a lawsuit where S Limited was sued by a former supplier and attached a fair value of CU20 000 to that liability. Explain how the contingent liability will be treated in the consolidated financial statements at acquisition date*”. OpenAI (2024) ChatGPT provides the following explanation:

- **“Recognition of Contingent Liability:** At the acquisition date (1 July 20X4), P Limited recognizes the contingent liability on the consolidated balance

sheet at its fair value. In this case, the fair value of the contingent liability is CU20 000.

- **Measurement and Initial Recognition:** The fair value of the contingent liability, CU20 000, will be recognized as part of the consideration transferred in exchange for acquiring S Limited. This amount will be included in the calculation of the cost of the investment in S Limited.
- **Consolidated Balance Sheet Treatment:** The CU20 000 contingent liability will be recorded on the consolidated balance sheet. It becomes part of the total consideration paid for the acquisition of S Limited.
- **Subsequent Adjustments:** If there are subsequent adjustments to the fair value of the contingent liability, those adjustments will be recognized in the consolidated financial statements. [...].

Disclosures: The consolidated financial statements should include appropriate disclosures regarding the contingent liability. This may include details about the nature of the contingency, the fair value assigned, and any subsequent changes in fair value."

Most of these responses provided by ChatGPT are in line with BCC knowledge, such as the recognition and disclosure of contingent liability. Mentioning that the "amount is included in the cost of the investment" and "it becomes part of the total consideration paid" is incorrect. Furthermore, when prompted to provide the consolidation adjusting entries for the contingent liability at the acquisition date, ChatGPT provides the following entry:

"Adjustment for the Contingent Liability:

Consolidated Statement of Financial Position
(Balance Sheet):

Dr. Contingent Liability	CU20 000
Cr. Goodwill (or consideration transferred)	CU20 000

This entry recognizes the contingent liability on the consolidated balance sheet. The credit side reflects a reduction in goodwill (or consideration transferred) as the contingent liability is considered part of the total consideration paid for the acquisition."

The recognition of a contingent liability at the acquisition date is correctly identified in the narration below the journal entry. The contingent liability is an obligation that is assumed by the group, which is a credit entry (not a debit entry). Here, the contradiction with the prior response that a contingent liability is recognised as a liability and then indicating a debit journal entry is evident. The other side of the journal entry is also incorrect, indicating a credit to goodwill (or consideration transferred). The consideration transferred relates to the acquirer's cost, such as assets transferred by the acquirer to the former owners (see IFRS 3, para 37), which is not the same as goodwill (implied in the response). Goodwill is the residual. These concepts are incorrectly demonstrated in these responses.

TC#2: Control

When prompted: *"Within Business Combinations and Consolidations, explain how to determine control?"*, OpenAI (2023a) ChatGPT referred to examples that may affect the control evaluation, such as agreements and contracts, potential voting rights, protective rights, practical ability to control, etc. Furthermore, applying the concept of control in BCC was demonstrated when the following prompt was entered into ChatGPT to evaluate: *"You are an accountant who has to evaluate whether P Limited controls S Limited: P Limited acquired 45% of issued shares of S Limited during the year. The remaining shares in S Limited are owned by a diverse group of investors who each hold a small percentage of shares. Historically, only a small number of the shareholders attended the general meetings or questioned the actions of the directors of S Limited. The current board of directors for S Limited has five members, of which three are retiring at the next annual general meeting. P Limited has nominated three new directors to replace the ones that are retiring and expects that they will be appointed at the next annual general meeting"*. OpenAI (2024) ChatGPT responded (extract only):

"To determine whether P Limited controls S Limited, we need to assess the concept of control as per accounting standards [...]:

- **Ownership of Issued Shares:** P Limited has acquired 45% of the issued shares of S Limited. While this is a substantial ownership stake, it does not necessarily represent control on its own [...].

- **Remaining Shares and Shareholder Structure:** The remaining shares in S Limited are owned by a diverse group of investors who each hold a small percentage of shares. This suggests that there is no concentrated ownership by other shareholders, and no single entity other than P Limited has a substantial stake.
- **Shareholder Engagement:** Historically, only a small number of shareholders attend general meetings or question the actions of S Limited's directors [...].
- **Board Composition and Changes:** The current board of directors for S Limited has five members, and three of them are retiring at the next annual general meeting. P Limited has nominated three new directors to replace the retiring ones and expects their appointment at the next meeting.

P Limited's 45% ownership, combined with the lack of concentrated ownership among other shareholders, gives P Limited a significant influence over S Limited. The nomination of three new directors by P Limited further strengthens its potential control over the board, especially if they are expected to be appointed. The lack of active participation by other shareholders at general meetings suggests that P Limited may have the ability to make key decisions without significant opposition. [...]."

Not only is this response fairly accurate, but the approach to answering the question is helpful for student learning.

TC#3: Consolidation

When prompted, *"Within Business Combinations and Consolidations, explain how to consolidate"* OpenAI (2023a) ChatGPT provided a list of relevant steps for the consolidation. Only selected steps from the acquisition method for business combinations (IFRS 3) and consolidation procedures for consolidated financial statements (IFRS 10, para. B86) were included and not in a logical order. Even though the response listed some steps for the consolidation process, there was no practical guidance, and, therefore, it will not support student mastery of the threshold concept.

The limitations of OpenAI (2023a) ChatGPT as a learning resource was visible when it was prompted to

prepare a consolidated balance sheet for P Group Limited (based on a tutorial question⁴). ChatGPT was prompted to prepare a consolidated balance sheet based on the details in the tutorial question, which involves carrying out specific actions or procedures. ChatGPT presented the balance sheet in the correct format (Assets = Liabilities + Equity). Upon further investigation, several fundamental errors were identified, including:

- The balance sheet did not balance, i.e., Assets did not equal Liabilities + Equity.
- Machinery and Accumulated Depreciation – Machinery was not adjusted for the difference in the acquisition fair value of the machinery acquired, nor the additional depreciation charge at the group level.
- The Investment in S Limited was not eliminated as stated in the notes, but the balance was shifted to the subsidiary's accounts and retained in the consolidated results.
- The Goodwill balance was not recorded in the consolidated results.
- The subsidiary's equity was not eliminated against the investment in the subsidiary and was, therefore, incorrectly included in the consolidated results (double accounting).
- P Limited's equity balances were not adjusted for their respective share of the subsidiary's profit after the acquisition, despite the notes stating that this was done.

In a second attempt to prompt ChatGPT to prepare a consolidated balance sheet for P Group Limited, using the same question, a balance sheet was produced in the format Assets – Liabilities = Equity, but it was still out of balance. In this case, Machinery was treated differently, with the fair value amount for machinery at the acquisition date being deducted incorrectly from machinery and no further adjustments to either machinery or accumulated depreciation to reflect the fair value difference at the acquisition date. The rest of the errors were repeated in this query, and ChatGPT's explanations were not reflected in the consolidated financial statements. Apart from the extent of the inaccuracies identified, these responses demonstrate

⁴ The tutorial question example is available from the corresponding author.

that students should not rely on answers provided that involve the carrying out specific actions or procedures.

TC#4: The economic entity

Lastly, the following question was posed to ChatGPT: *"Within Business Combinations and Consolidations, explain how to determine the economic entity"*. The following response was received (extract only):

"Determining the economic entity is a critical step in the process of business combinations and consolidations. The economic entity concept emphasizes treating a group of companies under common control as a single economic unit for financial reporting purposes. This concept is crucial for preparing consolidated financial statements that accurately reflect the combined financial position, performance, and cash flows of the group."

ChatGPT's response included a comment to 'follow accounting standards', highlighting a further challenge for using an AITG as a primary learning resource. Accounting is inherently complex as it requires the application of accounting standards and adherence to a range of country-specific regulations and taxation laws. While ChatGPT provides general explanations and guidance, as demonstrated in the ChatGPT output, its responses are limited and superficial. Educators and students should be aware that ChatGPT's generalised responses may include inaccuracies or oversimplifications due to not reflecting the applicable accounting standards, regulations, and taxation laws. This highlights the importance of not relying on it as the main learning resource.

CONCLUSION AND CONTRIBUTION

The rapid adoption of AITG, like ChatGPT, necessitates evaluating its accuracy and reliability as a learning tool. This study examines ChatGPT's ability to describe and apply threshold concepts in BCC. Threshold concepts are disciplinary concepts that can be difficult to grasp due to their transformative nature but are essential for knowledge-building. BCC is a technically challenging topic in financial accounting, and the threshold concepts are used as a proxy for specialised accounting knowledge.

Our analysis found that ChatGPT broadly provided epistemic knowledge (*"knowing that"*) using accessible, human-like language, which could benefit

students facing language barriers. The responses lacked the depth and specificity required to be transformative and did not support mastering the threshold concepts. For instance, ChatGPT incorrectly described assets and liabilities in TC#1, failing to capture key nuances such as the treatment of intangible assets not recognised by the acquiree.

When addressing procedural knowledge (*"knowing how"*), ChatGPT offered general steps but included irrelevant or misleading information. Its responses to practical tasks, such as preparing consolidated financial statements, contained significant errors and omissions, highlighting its limitations in applying concepts accurately.

These findings confirm that while ChatGPT can provide basic content and procedural outlines, it fails to deliver the accuracy and depth required for mastering complex skills. Students and educators should critically evaluate its output rather than rely on it as a primary learning resource. Its failure to address jurisdictional differences (e.g., US GAAP vs. IFRS) further underscores its limitations as a standalone tool. Although this is a significant limitation, it does create the opportunity for educators to develop activities to expose students to differences in accounting treatment between jurisdictions. From a pedagogical perspective, accounting educators may consider using incorrect responses to develop activities that enhance critical thinking, such as identifying and analysing errors.

Limitations and avenues for further research

This study has limitations that future research could address. Questions were posed to mimic typical student behaviour, but refined prompts might yield better responses. Different prompts may result in variations in the AI-generated responses. As academics become familiar with AITG, they can guide students in more effective use. The study focused on ChatGPT 3.5, as its free availability aligns with accessibility for students who may not afford paid tools. Additionally, the research examined BCC, a specialised accounting area requiring prior knowledge; AITG might perform better with general accounting topics, such as inventory accounting. Furthermore, as the use of AI in education is an emerging field, the validity and reliability of the current findings are limited to the time when this study was conducted.

Future research could explore how prompt engineering and training AITG with specialised knowledge might improve accuracy. This may include students as participants to reflect on the shortcomings and limitations of AITG. Investigating newer versions' ability to help students master threshold concepts or explain challenging topics like non-controlling interest, goodwill, and deferred tax in simple terms would be valuable. Finally, further work includes transforming ChatGPT's erroneous outputs into learning activities that require critical output analysis and identifying the correct accounting treatment.

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APPENDIX A – TUTORIAL QUESTION

P Limited acquired a 75% interest (and control) of the issued ordinary shares of S Limited at 1 July 20x2 for CU550 000. The non-controlling interest is measured at its fair value of CU180 000 at the acquisition date, when S Ltd had the following equity balances:

Ordinary share capital	CU300 000
Retained earnings	CU300 000

P Ltd considered the net assets of S Ltd to be fairly valued at the acquisition date, except for machinery, which was considered to have a fair value of CU300 000 (carrying amount of CU200 000). S Ltd estimated the remaining useful life of the machinery at the acquisition date at 5 years, and P Ltd agreed with this estimate. Ignore taxation.

Extracts from the respective trial balances of P Ltd and S Ltd for the year ended 30 June 20x5:

DR/(CR)	P Ltd CU	S Ltd CU
Ordinary share capital	(550 000)	(300 000)
Retained earnings at 30 June 20x5	(1 250 000)	(750 000)
Land	1 000 000	735 000
Machinery – cost	600 000	240 000
Accumulated depreciation – machinery	(120 000)	(160 000)
Investment in S Ltd	550 000	
Current assets	100 000	270 000
Current liabilities	(330 000)	(35 000)

YOU ARE REQUIRED TO:

Prepare the Group Statement of Financial Position for P and its subsidiary at 30 June 20x5. Comparatives are not required. You should show the individual balances making up Property, plant and equipment, including accumulated depreciation.

Thuthuka students' online learning experiences

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Purpose: The purpose of the study was to explore the online learning experiences of Thuthuka students at the University of Johannesburg (UJ), with a particular focus on identifying differences between first-generation university entrants (FGUE) and non-FGUE within the Thuthuka cohort.

Design/methodology/approach: Data was collected using a questionnaire that included both Likert scale items and open-ended questions.

Findings: The findings indicate that Thuthuka students, both FGUE and non-FGUE, generally had positive experiences with online learning, benefiting from its flexibility and accessibility. However, they faced significant barriers, including load shedding and unstable internet connectivity. Additionally, many students experienced difficulties with self-discipline, leading to procrastination in managing their academic responsibilities. Notably, no significant statistical differences were identified in the online learning experiences of Thuthuka FGUE and non-FGUE students.

Originality/contribution: This study contributes to understanding how structural, cultural, and agency factors in the socio-ecological framework shape the online learning experiences of Thuthuka students. It offers targeted recommendations to address online learning barriers such as load shedding, high data costs, and self-discipline, providing a pathway to reduce the digital divide in higher education.

Keywords: COVID-19; digital divide; first-generation university entrants; non-traditional students; online learning; Thuthuka students.

INTRODUCTION

In South Africa, the apartheid history resulted in an education system where preferential access to education was given to whites as a majority (Mdepa & Tshiwula, 2012). At the dawn of democracy in 1994, Black Africans constituted 80% of the total population in South Africa, but their participation rate in Higher Education (HE) was only 9%. Higher Education Institutions (HEIs) mainly served white Afrikaans and English-speaking students, thus excluding Black Africans (Mdepa & Tshiwula, 2012). To redress these inequalities, the post-apartheid government used policies such as the National Plan for Higher Education and the New Funding Framework to widen access to HE for all South Africans (Qakisa-Makoe, 2005). Furthermore, with the help of government funding (National Student Financial Aid Scheme), the South African Institute of Chartered Accountants (SAICA), as part of its strategy, set to transform the demographics of the accountancy profession to match the country's demographic profile (SAICA, 2024).

In 2001, only 1.06% of Chartered Accountants (CAs) were Black Africans (Sadler, 2002). To address the goal of transforming the accountancy profession, SAICA implemented several initiatives to support Black Africans in pursuing careers as CAs (Vandiar, 2010). One such initiative is the Thuthuka Bursary Fund (Thuthuka), launched in 2002 (Wiese, 2006). Initiatives such as Thuthuka have supported the government's efforts to widen access to HE by providing bursaries to previously disadvantaged Black Africans (Wiese, 2006). Widening access to HE has enabled many students from previously disadvantaged backgrounds to enter the system. This emerging cohort is often referred to as non-traditional students (McKay & Devlin, 2016). Scholars describe non-traditional students as individuals from lower socio-economic backgrounds, first-generation university entrants (FGUE), and those who often face challenges with English as the medium of instruction (McKay & Devlin, 2016; Van Zyl, Dampier & Ngwenya, 2020). Thuthuka students similarly exhibit these characteristics.

¹ This paper is partially based on the dissertation of Precious Nkosi (first author), presented for the degree of Master of Commerce in Accounting at the University of Johannesburg with supervisor Professor Monique Keevy.

FGUE are the first individuals in their families to attend university (Helmbrecht & Ayars, 2021). Many universities globally recognise FGUE as an equity category and monitor this group to understand their unique challenges and provide tailored support (Patfield & Fray, 2022). The University of Johannesburg (UJ) conducts annual studies on its first-year cohort to better understand the demographics of its students and adapt its teaching and learning strategies accordingly (Van Zyl, 2013). Since 2012, UJ's first-year cohort has consistently comprised over 60% FGUE (Van Zyl et al., 2020).

Studies indicate that FGUEs are often academically under-prepared for HE, lacking the necessary literacy, or mathematical proficiency for success in this environment (Van Zyl, 2013). Thus, these students may require additional support to succeed academically. Moreover, professional bodies such as SAICA have emphasised the need for aspiring CAs to develop digital acumen, inclusive of user competencies and emerging technologies ensuring they are better prepared for future careers (SAICA, 2025).

The sudden shift to online learning in 2020, prompted by the COVID-19 pandemic, marked the first exposure to online learning for many Thuthuka students at UJ (and other institutions nationwide). Research suggests that HEIs will continue to adopt online or blended learning models beyond the pandemic (Korkmaz & Toraman, 2020; Tharapos, 2021). However, this abrupt transition posed significant challenges for educators and students (Keevy, 2023). Therefore, it is important to understand FGUEs' online learning experiences to provide the necessary academic support and enhance their chances of success in this post-pandemic landscape.

The primary objective of this study is to explore Thuthuka students' experiences of online learning while also focusing on the differences between FGUE and non-FGUE. This will be achieved through a questionnaire that addresses the following sub-objectives.

1. Explore the benefits and barriers of online learning for Thuthuka students.
2. Explore the online learning devices, locations, and platforms used by Thuthuka students.
3. Explore the differences in experience with online learning between FGUE and non-FGUE Thuthuka students.

LITERATURE REVIEW

Online learning refers to education delivered via the Internet, utilising various technological devices (Means, Toyama, Murphy, Bakia, & Jones, 2009). Historically, online learning has been more widely adopted in developed countries compared to developing countries such as South Africa (Kotoua, Ilkan, & Kilic, 2015; Palvia, Aeron, Gupta, Mahapatra, Parida, Rosner, & Sindhi, 2018). The slower uptake of online learning in developing countries can be attributed to several barriers, including limited internet access, a lack of digital devices, and inadequate information technology (IT) skills for educators and students (Palvia et al., 2018). In 2020, despite the challenges associated with online learning in developing countries, many HEIs globally moved to online learning to continue academic activities during the COVID-19 lockdowns (Mhlanga & Moloi, 2020). Moreover, the end of the COVID-19 pandemic did not signify the conclusion of online learning, as some HEIs, including UJ, have continued to integrate online learning into their educational practices (Mahaye, 2020).

Gherheş, Stoian, Fărcaşiu, and Stanici (2021) analysed students' preferences between online learning and contact-based learning and found that students preferred contact-based learning. Similarly, Spencer and Temple (2021) reported that students achieved higher grades in contact-based learning than online learning. However, contrasting evidence from Clark, Nong, Zhu, and Zhu (2021) suggests that during the COVID-19 pandemic, emergency online learning slightly improved students' academic performance.

Research highlights that the primary advantage of online learning is flexibility, as it allows students to study at their convenience (Adedoyin & Soykan, 2020; Castro & Tumibay, 2021). Additionally, online learning allows students to access learning materials at any time, as these resources are available online (Secker, Reimers & Foley, 2022). Studies also indicate that students commonly have access to digital devices such as smartphones, tablets, and laptops, which further enhance the flexibility and accessibility of online learning (Akuratiya & Meddage, 2020; Gamage & Perera, 2021).

This accessibility is complemented using videoconferencing platforms such as Zoom, Microsoft Teams, Blackboard/Moodle, Google Classrooms, and

YouTube, which are often found to be beneficial for students in supporting their online learning experience (Zakareya, Qahtani, Hausawi, Alzahrani, Albarga, Almazher & Almusleh, 2021). The recording functionality of these platforms provides flexibility and accessibility of learning material for students (Yen & Nhi, 2021). The chat function allows for discussions in online classes (Totanan, 2022). Similarly, breakaway rooms in these platforms encourage discussions as students are more comfortable in smaller groups (Totanan, 2022). Besides videoconferencing platforms, students can also use social media such as WhatsApp and Facebook for online learning. For example, students can effectively share learning material with students and their educators on WhatsApp (Dutta, 2020). Social media platforms also allow students to form groups to discuss their learning online (Dutta, 2020).

However, despite these benefits, access to the internet remains a challenge, with only 37% of the population in Africa having internet access in 2023, compared to 91% in developed nations. (International Telecommunications Union, 2023). This digital divide presents a challenge for online learning, as limited internet access and insufficient technological devices hinder participation in online education, particularly in developing countries (Adedoyin & Soykan, 2020; Almendingen, Morseth, Gjølstad, Brevik & Torris, 2021; Keevy, Verhoef & Tharapos, 2023; Noori & Noori, 2021; Owusu-Fordjour, Koomson & Hanson, 2020; Pokhrel & Chhetri, 2021; Qiao, Zhu, Guo, Sun & Qin, 2021). An unforeseen consequence of online learning is mental health issues experienced by students (O'Dea & Stern, 2022). Furthermore, students also face challenges with self-discipline, often procrastinating on their academic activities (Trout, 2020).

THEORETICAL FRAMEWORK

This study utilises the socio-ecological framework developed by Pachler, Cook, and Bachmair (2010) to explore the online learning experiences of Thuthuka students. Originally designed to examine the use of mobile phones for socialising¹ and learning (Pachler, et al., 2010), this framework has since been adapted for various educational contexts. For example, Basu (2021) applied it in an exploratory study on the digital divide

and inequities in school education during COVID-19, while Mathrani, Sarvesh, and Umer (2021) expanded on it in their research on the digital divide in developing countries during the COVID-19 lockdown. The framework comprises three interconnected layers: structures, cultural practice, and agency. The layers are depicted in overlapping circles, with their intersection representing conversational appropriation activities, as depicted in Figure 1 (Basu, 2021; Mathrani et al., 2021; Pachler et al., 2010).

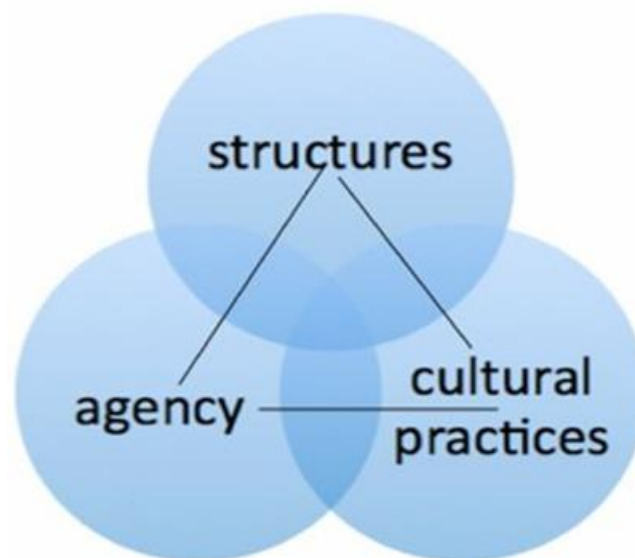


Figure 1: The socio-ecological framework

Source: Pachler et al., 2010:4

The structure layer encompasses factors such as the physical location, the infrastructure available at that location, the availability of digital devices for learning, the skills required to use these devices, internet quality, challenges like load shedding, and the learning platform utilised (such as Blackboard, Zoom, etc.). Cultural practices relate to socio-cultural and technological structures. These include, for example, parental demographics, lack of physical space for online study, disturbances at home, and financial constraints impacting access to digital devices (Basu, 2021; Mathrani et al., 2021; Pachler et al., 2010). Lastly, agency refers to the individual's ability to use technology to form new learning habits. This includes using e-books, participating in online classes and examinations, and engaging in social interactions

messaging, social media interactions, and voice or video calls.

¹ Socialising refers to the process of engaging in communication and building social relationships, which, in the context of mobile phone use, includes activities such as

through technological devices (Basu, 2021; Mathrani et al., 2021; Pachler et al., 2010). Applying Pachler et al.'s (2010) framework can help bridge the digital divide for Thuthuka students by guiding targeted interventions that align with its structural, cultural, and agency layers, thereby enhancing their online learning experience.

RESEARCH METHODOLOGY

The research methodology employed in this study was mixed (quantitative and qualitative), using a questionnaire² with open-ended and close-ended questions (Creswell, 2009). A mixed methods approach allows the researcher to answer research questions that could otherwise not be answered using one approach, thereby enhancing the findings of this study (Doyle, Brady & Byrne, 2009).

The design of a questionnaire significantly affects the validity and response rate (Leung, 2001). A well-structured questionnaire is concise, clear, and professionally presented, with unambiguous questions (Parajuli, 2004). In this study, the researchers carefully designed the questionnaire, incorporating Likert scale questions in the closed-ended section for their simplicity and clarity. The Likert scale was from 1

(strongly agree) to 5 (strongly disagree). Open-ended questions were included for descriptive information and to enrich the quantitative results (Creswell & Clark, 2017).³

One of the researchers, serving as a Thuthuka coordinator at UJ, had access to the email addresses of all Thuthuka students at the institution. After obtaining ethics approval, the questionnaire was distributed to all Thuthuka students at UJ via email following their exams in November 2023. The timing ensured that students could participate in the study without the added pressure of academic responsibilities. In 2023, Thuthuka UJ had 231 students in total: 40 first years, 50 second years, 38 third years, and 103 PGDA students. 139 respondents completed the questionnaire, including 76 FGUE and 63 non-FGUE, giving a response rate of 60%.

FINDINGS

Benefits of online learning

Table 1 presents statements regarding the benefits of online learning, with respondents required to indicate their level of agreement or disagreement

² A bespoke questionnaire was designed to reflect the online learning devices, platforms, and locations used by the institution under study. Additionally, the benefits and barriers were identified through a review of the literature.

³ Responses to the Likert-scale questions are included in the findings section. However, due to the large volume of

qualitative comments, not all could be incorporated into the paper. Please refer to the appendix for a comprehensive overview of all respondents' support for the qualitative feedback.

Table 1: Benefits of online learning

Benefits	1	2	3	4	5	N	M	M	M	P value
								FGUE	Non-FGUE	
Online learning allows me flexibility as I can study from anywhere at any time	0	1	2	42	94	139	4.65	4.59	4.71	0.19
	0%	1%	1%	30%	68%	100%				
Online learning allows me to study at my own pace	0	2	8	49	80	139	4.49	4.47	4.51	0.77
	0%	1%	6%	35%	58%	100%				
Online learning improves my IT skills	0	1	11	62	65	139	4.37	4.36	4.40	0.71
	0%	1%	7%	45%	47%	100%				
Online learning improves my self-discipline	7	15	27	40	50	139	3.80	3.82	3.78	0.85
	5%	11%	19%	29%	36%	100%				

Source: Authors' own

Table 1 indicates that the greatest benefit of online learning for Thuthuka students is its flexibility (mean = 4.65), enabling them to study at their convenience. This flexibility was rated highly by both FGUE (mean = 4.59) and non-FGUE (mean = 4.71). These findings align with the literature, highlighting flexibility as one of the most significant advantages of online learning (Adedoyin & Soykan, 2020). This sentiment is further supported by several respondents (Appendix B) and is illustrated in the comment; "online learning is flexible and convenient for everyone (Respondent 137)."

The second highest-rated benefit of online learning is that it enables students to study at their own pace (combined mean = 4.49; FGUE mean = 4.47; non-FGUE mean = 4.5), which further underscores the flexibility of online learning. This is further reflected in respondents' comments (Appendix B); "online learning offers flexibility and accessibility. The convenience of setting my pace and schedule allows for a tailored learning experience (Respondent 66)."

The third highest-rated benefit of online learning was its ability to improve IT skills for students (combined mean = 4.37; FGUE mean = 4.36; non-FGUE mean = 4.40). This sentiment was supported by respondents in this study (Appendix B), as illustrated below:

"With online learning, we get more exposure to using technological devices to study. It has improved our technological skills. We were able to learn how to use other resources to study, such as YouTube, and consulting

lecturers using Zoom or Microsoft Teams; this has ensured that we are also well-updated with technological advancements (Respondent 125)."

The lowest-rated benefit of online learning was the ability to improve self-discipline for students (combined mean = 3.80; FGUE mean = 3.82; non-FGUE mean = 3.78). Research suggests that self-discipline is a challenge for students in online learning (Trout, 2020). Several respondents (Appendix B) echoed this view, as underscored in the comment; "in terms of self-discipline, online learning can take away discipline as you can end up comfortable and not fulfill the target deadlines required (Respondent 75)."

Using Pachler et al.'s (2010) theoretical framework under the agency layer, respondents in this study showcased their ability to leverage technology, allowing them to benefit from online learning. FGUE and non-FGUE students mostly agreed with the listed benefits of online learning (mean > 3.5). Furthermore, no statistically significant differences were observed between the two groups ($p < 0.05$). However, it is noteworthy that online learning appeared slightly more beneficial for non-FGUE as they reported marginally higher means for the listed benefits.

Devices used for online learning

Table 2 presents statements regarding respondents' agreement or disagreement with using devices for online learning.

Table 2: Devices used for online learning

Devices	1	2	3	4	5	N	M	M	M	P value
								FGUE	Non-FGUE	
Laptop	0	2	1	18	118	139	4.81	4.80	4.83	0.79
	0%	1%	1%	13%	85%	100%				
Desktop	7	10	9	48	65	139	4.11	4.07	4.16	0.63
	5%	7%	6%	35%	47%	100%				
Smartphone /mobile phone	9	17	18	54	41	139	3.73	3.62	3.86	0.24
	7%	12%	13%	39%	29%	100%				
iPad/tablet	24	44	19	27	25	139	2.89	2.74	3.08	0.15
	17%	32%	14%	19%	18%	100%				

Source: Authors' own

From Table 2, the most used devices for online learning are laptops (combined mean = 4.81; FGUE mean = 4.80; non-FGUE (mean = 4.83). The second most used devices are desktops (combined mean = 4.11; FGUE mean = 4.07; non-FGUE mean = 4.16). The third most used devices are smartphones for online learning (combined mean = 3.73; FGUE mean = 3.62; non-FGUE (mean = 3.86). The least used devices are iPads (combined mean = 2.89; FGUE mean = 2.74; non-FGUE mean = 3.08).

Literature highlights that students primarily use laptops, smartphones, and tablets for online learning (Akuratiya & Meddage, 2020; Gamage & Perera, 2021). The findings of this study indicate that both groups of students in this study mostly use laptops and desktops for online learning, as reflected in the respondent's comments (Appendix B) below:

“Laptops are easier to use for online learning because of their flexibility and how one can have multiple windows open at one time

(unlike mobile phones). For example, students can have a question open in one window and could have a live class in another making it easier to follow the question being taught in the live class (Respondent 63).”

Applying Pachler et al.'s (2010) theoretical framework under the structures layer, the respondents in this study have access to digital devices for online learning. All students in this cohort receive a laptop during their first year of studies and reside in accommodation with access to desktop computers in a computer laboratory. While no statistically significant differences were observed between FGUE and non-FGUE students ($p < 0.05$), non-FGUE reported slightly higher means for using laptops, desktops, and smartphones.

Online learning platforms

Table 3 presents statements regarding respondents' agreement or disagreement with using platforms for online learning.

Table 3: Usage of online learning platforms

Online learning platforms	1	2	3	4	5	N	M	M FGUE	M Non-FGUE	P value
Blackboard	0	0	1	29	109	139	4.78	4.82	4.73	0.25
	0%	0%	1%	21%	78%	100%				
YouTube	1	6	10	47	75	139	4.36	4.36	4.37	0.95
	1%	4%	7%	34%	54%	100%				
Zoom	1	10	9	54	65	139	4.24	4.30	4.16	0.36
	1%	7%	6%	39%	47%	100%				
Microsoft Teams	2	21	16	47	53	139	3.92	3.88	3.97	0.65
	1%	15%	12%	34%	38%	100%				
WhatsApp	5	23	20	53	38	139	3.69	3.53	3.89	0.06
	4%	17%	14%	38%	27%	100%				

Source: Authors' own

From Table 3, the most used online learning platform is Blackboard (combined mean = 4.78; FGUE mean = 4.82; non-FGUE mean = 4.73). This is supported by several respondents (Appendix B) in the study who commented on the usefulness of Blackboard. According to respondents, YouTube is the second most used online learning platform (combined mean = 4.36; FGUE mean = 4.36; non-FGUE mean = 4.37). This was similarly evident in the respondents' comments (Appendix B). Zoom is the third most used online learning platform (combined mean = 4.24; FGUE mean = 4.30; non-FGUE mean = 4.16), followed by Microsoft Teams (combined mean = 3.92; FGUE mean = 3.88; non-FGUE mean = 3.97). Lastly, WhatsApp is the least used platform for online learning (combined mean = 3.69; FGUE mean = 3.53; non-FGUE mean = 3.89).

It is evident that both groups of students utilise all the listed online learning platforms for online learning and generally agree on their usefulness, as indicated by mean scores greater than 3.5. Furthermore, no statistically significant differences were observed between the two groups ($p < 0.05$). These findings align with existing literature, which highlights the benefits of

these platforms for students (Zakareya et al., 2021), and further summarised by a respondent:

"I use Zoom for online live lectures set by my lecturer. Teams have not been used; the only time I used it was during online meetings with entities outside the university. I use YouTube to get a different perspective on a topic I find difficult. Blackboard is where all my lecture material is loaded. I use WhatsApp to communicate with my classmates (Respondent 88)."

Using Pachler et al.'s (2010) theoretical framework under the structures layer, it is evident that respondents in this study were able to use online learning platforms, which enabled them to derive benefits from online learning.

Online learning location

Table 4 presents statements regarding respondents' levels of agreement or disagreement with using locations for online learning.

Table 4: Usage of online learning locations

Location	1	2	3	4	5	N	M	M FGUE	M Non- FGUE	P-value
The library on campus	1	10	12	39	77	139	4.30	4.26	4.35	0.60
	1%	7%	9%	28%	55%	100%				
University residence	3	5	16	51	64	139	4.21	4.16	4.27	0.49
	2%	4%	12%	36%	46%	100%				
Home	24	43	16	39	17	139	2.87	2.86	2.89	0.88
	17%	31%	12%	28%	12%	100%				
Internet café	22	48	34	22	13	139	2.68	2.68	2.68	0.99
	16%	35%	24%	16%	9%	100%				

Source: Authors' own

According to respondents, the most used online learning location is the library on campus (combined mean = 4.30; FGUE mean = 4.26; non-FGUE mean = 4.35). Several respondents (Appendix B) echoed the same view, as illustrated in the comment; "the campus library has a generator, so it is the best place to work even during load-shedding (Respondent 7)."

The university residence was the second most used online learning location (combined mean = 4.21; FGUE mean = 4.16; non-FGUE mean = 4.27). Several respondents have underscored the benefits of the university residence (Appendix B); "the university residence is a good place to study because there is secure internet there. The university residence's WIFI is unstable during load shedding (Respondent 125)."

The student's home is the third most used online learning location (combined mean = 2.87; FGUE mean = 2.86; non-FGUE mean = 2.89). The relatively low usage of this location can be explained by the following statement: "The home has no Wi-Fi, so the internet is costly due to data prices (Respondent 123)."

Lastly, the internet café is the least used online learning location, with a combined mean of 2.68 (FGUE mean = 2.68; non-FGUE mean = 2.68). The statement further illustrates this: "I also don't rely on Internet Cafés since they usually charge a fee (Respondent 96)."

Literature shows that developing countries face challenges such as the lack of stable internet connection for online learning (Noori & Noori, 2021; Pokhrel & Chhetri, 2021). In this study, both groups of students used the university library and residence for a stable internet connection for online learning. The two groups have no statistically significant differences ($p < 0.05$). However, the non-FGUE mainly reported higher means for the online learning locations.

Online learning barriers

Table 5 presents statements on the barriers of online learning, with respondents asked to indicate their level of agreement or disagreement.

Table 5: Online learning barriers

Barriers	1	2	3	4	5	N	M	M FGUE	M Non-FGUE	P value
The reliability of electricity presents a barrier for me to participate in an online environment	2	5	8	62	62	139	4.27	4.25	4.30	0.72
	1%	3%	6%	45%	45%	100%				
The cost of mobile data presents a barrier for me to participate in an online environment	9	24	20	32	54	139	3.71	3.79	3.60	0.41
	7%	17%	14%	23%	39%	100%				
My lack of self-discipline presents a barrier for me to participate in an online environment	12	28	19	48	32	139	3.43	3.30	3.59	0.19
	8%	20%	14%	35%	23%	100%				
My mental health presents a barrier for me to participate in an online environment	14	33	27	35	30	139	3.24	3.21	3.29	0.74
	10%	24%	19%	25%	22%	100%				
My internet access presents a barrier for me to participate in an online environment	11	42	23	35	28	139	3.19	3.22	3.16	0.77
	8%	30%	17%	25%	20%	100%				

Source: Authors' own

Studies show that the main barrier of online learning is the lack of access to the internet (Adedoyin & Soykan, 2020; Qiao et al., 2021). Similarly, Table 5 indicates that the greatest barrier of online learning for Thuthuka students is the reliability of electricity (combined mean = 4.27; FGUE mean = 4.25; non-FGUE mean = 4.30). The lack of electricity leads to unstable internet connections, preventing students from studying as they cannot charge their digital devices. Several respondents (Appendix B) have shared this perspective, as illustrated by the following comment:

“Electricity is one of the most common barriers because devices depend mostly on electricity, so if there is no electricity, it serves as an excuse for not participating in an online learning environment, as electricity also affects connectivity (Respondent 6).”

The second highest indicated barrier was the cost of mobile data (combined mean = 3.71; FGUE mean = 3.79; non-FGUE mean = 3.60). Several respondents (Appendix B) have echoed this view, as illustrated in the comment below:

“Mobile data is very expensive and does not last long, so it creates a barrier for me since I sometimes need it to study whenever the university's Wi-Fi is down due to a technical error or other damages, and the

maintenance sometimes takes more than a day (Respondent 96).”

The third highest indicated barrier was the lack of self-discipline (combined mean = 3.43; FGUE mean = 3.30; non-FGUE mean = 3.59). Several respondents (Appendix B) have expressed similar sentiments, as demonstrated in the comment; “online learning requires a lot of self-discipline, which, if you don't have, you will fall behind and feel pressure (Respondent 10).”

Respondents indicated mental health as the fourth highest barrier in an online learning environment (combined mean = 3.24; FGUE mean = 3.30; non-FGUE mean = 3.59). Respondents elaborated on why this is the case; “mental health is very critical in studying, especially online. If your mental health is not at its best, it will affect your academic performance and coping with UJ in an online environment (Respondent 139).”

Lastly, the fifth highest indicated barrier was the lack of internet access (combined mean = 3.19; FGUE mean = 3.22; non-FGUE mean = 3.16). Respondents elaborated on why this is the case, as seen in the comment; “not having access to internet connection causes a barrier for online learning (Respondent 99).”

Moreover, there were no statistically significant differences between the two groups ($p < 0.05$) for the barriers experienced during online learning.

Using Pachler et al.'s (2010) theoretical framework, respondents of this study mainly struggled with unstable electricity in the structures layer. The lack of electricity (load shedding) resulted in an unstable internet connection. The high cost of data, combined with unstable Wi-Fi connections, challenged respondents' ability to participate in online activities, as they often had to purchase expensive data when the Wi-Fi was unreliable.

Under the cultural practice layer, respondents mainly studied at university residences and the campus library. However, they experienced unstable internet connection at university residences during load shedding. Respondents primarily used laptops and desktop computers, as these were the digital devices they preferred and had access to.

Lastly, in the agency layer, respondents could utilise the online learning platforms available to them. However, some struggled to attend live online classes due to a lack of self-discipline, with students procrastinating on academic activities, compounded by the issue of unstable internet connections.

CONCLUSION

This study aimed to investigate the online learning experiences of Thuthuka students, specifically examining potential differences between FGUE and non-FGUE students in the context of the transition to online learning following the COVID-19 pandemic. While the study revealed no statistically significant differences in the experiences of FGUE and non-FGUE Thuthuka students, it highlighted the overall positive impact of online learning on this cohort, underscored by the flexibility and accessibility it provides. Using Pachler et al.'s (2010) framework, the findings demonstrated how structural, cultural, and agency layers influence students' online learning journeys, presenting opportunities and certain barriers.

In the structure layer, students benefited from access to digital devices, a stable university-provided internet connection, and digital literacy skills supporting their online platform engagement. However, load shedding and high data costs persist, disrupting connectivity and device functionality. To mitigate these barriers, it is recommended that HEIs prioritise the recording of online classes and the provision of offline access to learning materials. This ensures students can continue their studies despite power interruptions. Additionally,

investments in backup power solutions at university libraries and residences would provide more stable internet access during load shedding, enhancing the consistency of the online learning experience.

In the cultural practice layer, students' reliance on university libraries and residences for internet access underscores the importance of these locations as hubs for academic engagement. Recognising this, HEIs must ensure these spaces have robust infrastructure, including stable networks and backup power systems. Furthermore, since Thuthuka students primarily use laptops and desktop computers provided by the program, institutions should continue providing and maintaining these essential devices while exploring opportunities to expand digital device provision to future cohorts.

In the agency layer, students demonstrated the ability to leverage digital platforms effectively, benefiting from the flexibility of online learning. However, HEIs should play a role in developing digital acumen, equipping students with the skills to navigate existing platforms and adapt to emerging technologies. Students faced an online learning agency barrier, as procrastination was evident due to a lack of self-discipline. To address this, HEIs should offer tailored academic support, such as time management and self-regulation workshops, to help students navigate the demands of online learning effectively. Additionally, implementing systems to encourage regular engagement, such as progress-tracking tools and peer support groups, could foster greater accountability among students.

LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

This study is limited to Thuthuka students at UJ. Given SAICA's significant investment in Thuthuka students, future research could extend this study to Thuthuka students across South Africa to develop a comprehensive support framework for online learning and enhancing digital acumen. Furthermore, the study's findings may not be transferable for all FGUE, as Thuthuka students benefit from academic and financial support. Thuthuka students receive laptops in their first year of study, which is not true for all FGUE. The research could, therefore, be expanded to include FGUE across the country to help develop a nationwide support framework for online learning. However, this study offers proactive measures to address

infrastructure, cultural practices, and self-agency challenges, enabling HEIs to foster a more equitable and supportive learning environment that empowers a cohort of non-traditional students to thrive in the new post-pandemic digital age.

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APPENDIX A: QUESTIONNAIRE

Section A: General Information

What is your gender?

Male		Female		Mx		Prefer not to say	
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What is your 1st language?

What is your 2nd language?

What is your 3rd language?

Are you a first-generation university entrant (the first person to go to university in your immediate family)?

Yes		No	
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Indicate your Thuthuka year group:

1st year	2nd year	3rd year	PGDA
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Section B: Online learning

Online learning refers to learning through the internet with the use of technological devices. Examples of online learning include attending a live class (using Zoom, Microsoft Teams, Blackboard etc), watching a recorded class (using Zoom, YouTube etc), browsing learning material on Blackboard, completing online activities (quizzes, polls), or using break-away rooms (in Zoom, Microsoft Teams).

1. Indicate the extent to which you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Online learning allows me flexibility as I can study from anywhere at anytime					
Online learning allows me to study at my own pace					
Online learning improves my Information Technology skills					
Online learning improves my self-discipline					

Provide any comments to the statements above:

.....

2. Indicate the extent to which you agree or disagree that you use the following devices for online learning:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly disagree
Smartphone/Mobile phone					
IPAD/Tablet					
Desktop					
Laptop					

Comment on these devices and/or provide any additional devices you use for online learning:

.....

3. Indicate the extent to which you agree or disagree that you use the following platforms for online learning:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Zoom					
Microsoft Teams					
YouTube					
Blackboard					
WhatsApp					

Comment on these platforms and/or provide any additional platforms you use for online learning:

.....

4. Indicate the extent to which you agree or disagree that you use the following locations for a stable internet/WIFI connection for online learning:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The library on campus					
University residence					

Internet café					
Home					

Comment on these places and/or provide any additional places you use to have a stable internet/WIFI connection for online learning:

.....

5. Indicate the extent to which you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
My internet access presents a barrier for me to participate in an online environment					
The cost of mobile data presents a barrier for me to participate in an online environment					
The reliability of electricity presents a barrier for me to participate in an online environment					
My lack of self-discipline presents a barrier for me to participate in an online environment					
My mental health presents a barrier for me to participate in an online environment					

Elaborate on these statements and/or provide any additional barriers in an online environment:

.....

REPRESENTATION OF RESPONDENTS

Responses to the Likert-scale questions are included in the findings section of the paper. However, due to the large volume of qualitative comments, not all could be incorporated into the paper. This table serves to provide the number of respondents who supported the qualitative views presented in the research findings.

Findings	Respondents who supported the qualitative view
Online learning benefits (flexibility).	1, 2, 3, 5, 7, 10, 12, 18, 19, 20, 22, 23, 25, 29, 30, 33, 35, 36, 43, 46, 48, 50, 52, 55, 58, 59, 60, 61, 63, 66, 76, 68, 69, 71, 72, 73, 74, 75, 84, 86, 87, 90, 92, 94, 96, 98, 100, 101, 102, 103, 104, 108, 110, 112, 113, 115, 118, 122, 124, 127, 129, 132, 135, 137, and 139.
Online learning benefits (IT skills).	70, 125, and 138.
Online learning benefits (Self-discipline).	2, 9, 10, 39, 41, 66, 81, 94, 127, 133, and 138.
Online learning devices (laptops).	1, 6, 10, 11, 15, 16, 23, 33, 34, 35, 38, 40, 41, 43, 44, 45, 47, 51, 59, 60, 63, 67, 71, 74, 77, 80, 81, 82, 86, 88, 92, 94, 96, 100, and 102.
Online learning devices (desktops).	6, 11, 35, 40, 59, 82, 86, 88, 95, 129, and 135.
Online learning platforms (Blackboard).	16, 43, 45, 47, 51, 71, 72, 74, 77, 80, 88, 100, 113, 128, 135, and 138.
Online learning platforms (YouTube).	51, 84, 89, 92, 94, 110, 127, 128, and 138.
Online learning location (university library).	7, 8, 17, 39, 45, 59, 72, 83, 88, 94, 95, 96, 100, 102, 113, 115, 125, 127, 132, and 139.
Online learning location (university residence).	7, 14, 72, 96, 100, 102, 125, and 139.
Online learning barriers (load shedding).	2, 3, 4, 6, 7, 8, 11, 20, 25, 34, 35, 47, 50, 52, 66, 74, 84, 68, 90, 91, 94, 101, 110, 112, 132 and 135.
Online learning barriers (cost of mobile data).	31, 51, 58, 72, 74, 88, 92, and 123.
Online learning barriers (lack of self-discipline).	23, 38, 67, 74, 109, 115, 127, and 139.

Assessing organisational ethics: An internal audit perspective

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Purpose: In recent years, the business world has experienced rising business failures associated with the unethical behaviour of executives and employees. Organisations appear to have weak ethics frameworks to prevent unethical behaviour. The purpose of this research is to develop an ethics maturity framework that can be used by internal auditors to assess the effectiveness of the ethics framework within an organisation.

Methodology: The study was done through a general review of the literature on the different components of ethics frameworks and the role of internal audit in assuring its successful implementation and performance. Furthermore, maturity frameworks and specifically ethics maturity frameworks are highlighted. Based on the general review of the literature, an ethics maturity framework is developed.

Findings: The adoption of a maturity framework is a feasible choice for internal audit and other assurance providers to evaluate the adequacy and effectiveness of ethics frameworks within their organisations. It was found that the components of ethical leadership, an ethical organisational culture, ethics communication, ethics codes and related policies, and above all, living the values, are all thought to contribute to the maturity of ethics frameworks in any organisation.

Contribution: This study contributes to the body of knowledge on the assessment of ethics frameworks in organisations by the internal audit function.

Keywords: codes of ethics, ethical culture, ethical leadership, ethics communication, internal audit, maturity framework, organisational ethics

INTRODUCTION

The unethical actions of organisations are a leading cause of business failure around the world (Cronje, 2018; Hanzer, 2022). PwC (2017:2) indicates that executive management has attracted significant media attention for engaging in unethical or illegal behaviour, including but not limited to misleading regulatory bodies and shareholders, taking shortcuts, and neglecting to detect, manage, or hinder unacceptable or illicit activities within their respective organisations. Furthermore, stakeholders including regulators, government agencies and investors are concerned about the increased number of corporate failures that have been directly attributed to unethical business practices (PwC, 2017:2). Issues pertaining to ethics in business have featured prominently in news articles, causing a loss of trust in several organisations among the general public (Arel, Beaudoin & Cianci, 2012:364).

The heightened scrutiny from the media and regulatory bodies in the wake of recent corporate scandals has intensified the expectation for companies

and their executives to uphold ethical standards (Den Hartog & Belschak, 2012:35). With an upsurge in scandals that have been publicly reported, the question of how they may have been averted has emerged (Frisch & Huppenbauer, 2014:23). In the PwC's annual Strategy and CEO Success Study, which has been conducted for 19 years, more CEOs lost their positions in 2018 due to ethical failings than to bad financial performance or conflicts with their boards (PwC, 2019:4). The increase in these types of terminations is indicative of various societal and governance patterns including heightened intervention by regulatory and law enforcement agencies, rising demands for duty of care, the influence of activist investors and a growing inclination among boards of directors to adopt a zero-tolerance approach to executive wrongful conduct (PwC, 2019:4).

Considering the higher frequency of corruption reported in countries worldwide, (Omidi, Min & Omidi, 2017:268) the auditors' assessment of the efficacy of ethics frameworks implemented in organisations is needed (Jaffer, Odendaal & Theron, 2022:6). The

implementation of effective ethics frameworks can provide organisations with a structured framework to assess and enhance their ethics practices and prevent unethical conduct (IIA, 2012:1). By evaluating key components such as an ethical culture, ethical leadership, ethics codes, ethics governance, ethics training programmes and ethics disciplinary processes, organisations can identify areas for improvement, benchmark their practices and promote a culture of continuous improvement (Johnson, 2019:53; Maak & Pless, 2006:108; Voegtlin & Greenwood, 2016:190). The effective implementation of ethics frameworks contributes to fostering an ethical culture, building trust with stakeholders and reducing the risk of ethical misconduct within organisations (Roy, Newman, Round & Bhattacharya, 2023:1 and 19).

A key role-player in an organisation that can provide assurance on the effectiveness of the ethics framework, is the internal audit function (IIA, 2012:1-2; Sinason, 2005:8). The internal audit function can provide assurance on the effectiveness of the various components of the ethics framework within an organisation or alternatively provide consulting services and provide advice in terms of the implementation of the various components of the ethics framework (Plant, 2008). The internal audit function plays a key role in assessing and making appropriate recommendations for improving an organisation's ethical culture by evaluating the effectiveness of the organisation's ethics-related objectives, programmes and activities (IIA, 2016a). The second King Report on Corporate Governance recommends that internal audit evaluates the ethical culture in an organisation including the tone at the top (IoDSA, 2009:93). Furthermore, the internal audit function can utilise an ethics maturity framework to assist in assessing the effectiveness of an organisation's ethics framework (IIA, 2012:13). Developing an ethics maturity framework that demonstrates how to evolve the maturity of ethics performance from initiation to optimisation may help improve the ethics assurance practices, as well as the organisation's ethics processes (Krijger, Thuis, de Ruiter, Ligthart & Broekman, 2023:358; Vakkuri, Jantunen, Halme, Kemell, Nguyen-Duc, Mikkonen & Abrahamsson, 2021).

The purpose of this research study is to examine ethics frameworks and discuss how the internal audit function can assess the various components of the ethics frameworks. The question however remains:

How should the internal audit function assess the effectiveness of these ethics frameworks? By conducting a general literature review, the paper proposes an ethics maturity framework that can be utilised by the internal audit function and other assurance providers to assess an organisation's ethics framework. The key benefits of using an ethics maturity framework are that it provides a framework for assessing the organisation's ethical culture, practices and leadership behaviours, helping to identify strengths, areas for improvement, and specific actions to enhance the ethics framework (Demidenko & McNutt, 2008; Krijger *et al.*, 2023:357; Vakkuri *et al.*, 2021). Ethics is such a subjective topic that conventional audit rating methods may not always work well in this area. It might be less contentious and more helpful to evaluate the various attributes of the ethics maturity framework to determine an organisation's ethics maturity rather than providing a traditional audit opinion on ethics.

This paper is structured as follows: first, a general literature review provides an overview of the components of ethics frameworks, namely, an ethical culture, ethical leadership, ethics communication and ethics codes and related policies. Internal audit's approach to providing assurance on each component of the ethics framework is also discussed. Furthermore, the purpose, characteristics and benefits of maturity frameworks are highlighted. Second, the research methodology applied to address the research question is described. Finally, an ethics maturity framework is provided and a conclusion is reached.

LITERATURE REVIEW

This literature review examines ethics frameworks implemented within organisations and the assessment of the adequacy and effectiveness of these frameworks by the internal audit function. Furthermore, maturity frameworks and specifically ethics maturity frameworks are discussed.

Overview of ethics frameworks

Ethics frameworks consist of a set of principles and values that serve as guidelines for individuals or organisations in their day-to-day decision-making processes (Roy *et al.*, 2023:65). An organisation's ethics framework for purposes of this study, refers to its ethical culture, the tone-at-the-top (ethical leadership) and ethics communication and its ethics codes and

related policies (Treviño, Weaver, Gibson & Toffler, 1999:140). A sound ethics framework includes strong board oversight, a well-established tone-at-the-top, active participation of senior management, a commitment to ethical conduct throughout the organisation and a customised code of conduct (IIA, 2012:1).

Ethical culture

Ethical culture refers to a specific aspect of organisational culture that encompasses the collective values, norms and beliefs which inform what is considered as acceptable behaviour, thus influencing how employees make ethical choices within an organisational setting (Kaptein, 2020:2; Roy *et al.*, 2023:3; Vorster & van Vuuren, 2022:8). Although it is the main responsibility of the organisation's executive management team to establish an ethical culture (Arel *et al.*, 2012:351; IoDSA, 2016:44), the establishment of an ethical culture is a result of the collective efforts of both senior management and other employees, as it is fostered through both top-down and bottom-up approaches (Vorster & van Vuuren, 2022:56).

An ethical culture might take a dictatorial approach, like using punishments to ensure compliance with behavioural standards, or it might try to motivate employees to align themselves with the organisation's goals and values (Adler & Borys, 1996:71). However, an ethical culture that prioritises self-interest and unquestioning obedience to authority, while also promoting the idea that ethics and compliance solely serve to protect senior executives from accountability, can have significant detrimental effects on the organisation (Treviño *et al.*, 1999). The ethical culture of an organisation is shaped by interactions between employees, leaders, actions and customs, and it affects how people act in an organisation as a result (DeBode, Armenakis, Feild & Walker, 2013:461). Decision-makers can evaluate the effectiveness of an organisation's ethical culture and capitalise on a company's strengths while identifying problems before they become significant by undertaking regular and systematic assessments (DeBode *et al.*, 2013:461). Furthermore, when referencing to Enron's case, Sims and Brinkmann (2003:243), conclude that a "deeply" entrenched organisational ethical culture is required rather than traditional artifacts like codes of ethics, ethics officers and similar items, governing organisational ethics. Ethical culture cannot be divorced from organisational culture and embodies

what the organisation deems as acceptable and unacceptable actions and decisions which tend to be a reflection of the "tone at the top" (Jaffer *et al.*, 2022:6-7; Vorster & van Vuuren, 2022:8).

In summary, ethical culture encompasses the collective values, norms and beliefs that guide acceptable behaviour within organisations. It is therefore more than just codes of ethics and associated rules and is an integral aspect of organisational culture. It must become deeply entrenched in the organisation and inspire stakeholders to share its objectives and core values.

Ethical leadership (the tone at the top) and ethics communication

Ethical leadership, also referred to as the "tone at the top" describes the ethical conduct and values that senior executives in an organisation exhibit. It depicts the moral tone of an organisation's leadership and serves as a benchmark for moral behaviour throughout the organisation (Brown & Treviño, 2006:331; Cohen, Pant & Sharp, 2001; IoDSA, 2009). Ethical leadership fulfils an important role in how an organisation acts, especially when it comes to ethics and morality (Finkelstein & Hambrick, 1990:501). When top-level leaders always act in an ethical way and put ethics first, it sends a strong message to employees about the values and standards of the organisation (Sims & Felton, 2006:297). Leaders who set a good example and stick to high ethical standards, help build an atmosphere of trust, openness and responsibility (Cohen *et al.*, 2001:331-332; Sims & Felton, 2006:303). This is because employees watch their superiors' behaviour and seek to emulate it. When leaders exhibit ethical conduct, it serves as a catalyst for employees to emulate such behaviour.

If, on the other hand, leaders put their own interests ahead of moral considerations, they risk undermining employees' confidence and create a climate where dishonest behaviour is accepted (Arvate, Galilea & Todescat, 2018:6). It is important to realise that the behaviour of those in charge is the principal determinant of the ethical tone of their organisations (Posner & Schmidt, 1992:86). Organisational leaders who exhibit a strong dedication to ethical principles are likely to encourage the implementation of structured ethics initiatives within their respective organisations (Weaver, Trevino & Cochran, 1999a:44). Consequently, if an organisation's decision-makers act unethically,

this will be mirrored in its structures, routines, rules and customs, and influence how everyone else behaves, creating a culture of unethical behaviour (DeBode *et al.*, 2013:461). Top leaders' commitment to values are especially important because they have the power to change how an organisation acts (Finkelstein & Hambrick, 1990:501).

An important element of ethical leadership is ethics communication (Staicu, Tatomir & Lincă, 2013:76). The IIA (2020:5) suggests that organisations have a robust internal ethics communications strategy that ensures regular communication of the goals and accountability for the effective operation of ethical standards. Senior leadership have a responsibility to be continually open, intentional and transparent in their communication with stakeholders about all aspects of an organisation but, in particular, when establishing ethics initiatives (Rossouw, 2023:29). The communication style of top management must convey a strong and clear message about the organisation's ethics to various parties, including employees, customers and other stakeholders (Staicu *et al.*, 2013:76). This communication style influences the organisational ethos that senior management and the board of directors disseminate throughout the organisation (Staicu *et al.*, 2013:76). The ethics communication disseminated by an organisation's tone at the top should be regular, clear, directly address the culture, values and ethical standards of the organisation, and should be communicated to employees, customers and other stakeholders, which may include annual reports, reports to society and internal communication (Staicu *et al.*, 2013:76).

It has been shown that most of the top executives would probably acknowledge their dedication to ethical principles (Weaver *et al.*, 1999a:44). However, the pursuit of greater returns for shareholders and the need to maintain a competitive edge can create an atmosphere in which ethical commitments may become compromised (Weaver *et al.*, 1999a:44). Principles 1 and 2 of the King Report on Corporate Governance recommends that the executive team display ethical leadership and oversee the organisation's ethical practices to foster a culture of ethics (IoDSA, 2016:40). External factors such as standards and established guidelines have less influence on ethics compliance than top management; moreover, the stronger an organisation's top management's commitment to ethics, the more values- and compliance-oriented its ethics programme

will be (Weaver *et al.*, 1999a:46). It is widely accepted that a robust tone at the upper echelons of an organisation plays a crucial role in fostering and sustaining an effective ethics framework (Staicu *et al.*, 2013:76). The tone at the top in an organisation weakens when employees fear the repercussions of top management and management appears more concerned with results than ethics (IIA, 2016b:3).

It is essential for executive leadership teams to comprehend the significance of ethics and demonstrate it through robust policies and conduct (IIA, 2020:3). This is because a solid reputation for integrity and high ethical standards may strengthen brand value and improve relationships with stakeholders (IIA, 2020:3). According to the findings of Webley and Werner (2008:406), there appears to be a significant gap between the code of ethics of an organisation and the actual ethical behaviour that is exhibited by the members of that organisation. The lack of commitment from top management is one of the factors identified by Webley and Werner (2008:408) for this gap, supported by other authors (Brown & Treviño, 2006; Brown, Treviño & Harrison, 2005), that executives have a significant impact on the moral behaviour of their subordinates.

In conclusion, ethical leadership depicts the moral tone of an organisation's leadership and serves as a benchmark for moral behaviour throughout the organisation. When executives act morally and prioritise ethics, they transmit the company's ideals to subordinates. In the organisation, leaders who set an example and uphold the highest moral standards promote transparency, accountability and trust. Consistent and open communication conveying ethical expectations and inspiring ethical behaviour, can facilitate ethical leadership reaching all stakeholders.

Ethics codes of conduct

The code of ethics or conduct is a document that outlines the ethical principles, values and standards of behaviour expected from employees working for an organisation (Grigoropoulos, 2019:168; Rossouw & van Vuuren, 2020:6; Rossouw, 2020:192; Webley & Werner, 2008:406). Conceptually, formal ethics codes of conduct are control systems implemented within an organisation to establish a standardisation of employee conduct in the areas of ethics and legal compliance (Weaver *et al.*, 1999a:42). In order to endow the ethics code with effectiveness and the

ability for enforcement, it is imperative that it be subjected to approval and oversight by the board and be included in organisational objectives and employee performance targets, although this may vary depending on the maturity of the organisation and the diversity of its stakeholders (IIA, 2020:4). Mendonca (2001:267) suggests that the code of ethics serves as an important reminder that individuals, not the organisation, engage in ethical or unethical conduct and that ethics codes need to be more than mere window-dressing. In order to ensure effectiveness, a typical code of conduct must incorporate a mechanism for "whistleblowing" that allows individuals to express their concerns with confidence. (IIA, 2020:4).

Codes of ethics should be comprehensive and set high standards to effectively direct the decision-making of employees and other stakeholders in unexpected situations (IoDSA, 2002:108). In most organisations, codes of conduct and other policy documents codify ethical values and expectations which establish moral standards that should guide leaders' choices and actions so that they can fulfil their responsibility to improve the moral climate of the organisation (Mendonca, 2001:267; Weaver *et al.*, 1999a:42). Furthermore, they should also be sufficiently contextualised to provide pragmatic guidance and be easily accessible to all stakeholders (IoDSA, 2002:108). Earlier sources such as Treviño *et al.* (1999:132), indicate that formal codes of ethics may be associated with decreased unethical behaviour, whereas others suggest that they have little effect if not integrated into the organisation's daily activities.

Ethics codes can foster financial and ethical performance and help create barriers to prevent employees from straying (Andrews, 1989:99). Although the board and senior management have a significant role in upholding the organisation's ethics standards, it is crucial that they continually involve all stakeholders in boosting ethical decision-making and encouraging stakeholder participation and input (Plant, 2008:18). It is this realisation of their moral obligations to the larger society, that encouraged organisations to implement codes of ethics (Weaver *et al.*, 1999a:41). It is essential to consistently evaluate and update these codes to ensure their continued relevance and alignment with prevailing best practices (Rossouw & van Vuuren, 2020:30; Webley & Werner, 2008:410).

In conclusion, it is apparent, based on the existing body of literature, that ethics codes play a crucial role in fostering an ethical culture within an organisation. Thus, these codes must be regularly assessed and updated to remain relevant and in line with best practices.

THE INTERNAL AUDIT FUNCTION'S ASSESSMENT OF THE ORGANISATION'S ETHICS FRAMEWORK

The internal audit function should assess the adequacy and effectiveness of all the components of an organisation's ethics framework, by performing value-adding ethics audits.

The internal audit function's considerations for ethics audits

Internal audit can provide assurance on the ethics framework by evaluating the effectiveness of the organisation's ethics framework, which includes the ethical culture, ethical leadership, code of ethics and related policies, ethics governance, ethics training programmes, ethics reporting mechanisms and disciplinary processes.

By doing this, the internal audit function can assess the extent to which the ethics framework has been implemented and embedded within the organisation and identify areas of improvement (IIA, 2021). The main aim of ethics audits is to verify that an organisation's code of ethics and standards are implemented and followed, that prohibited behaviour is detected and that conflicts of interest, access to company information, tendering and awarding methods, the exchange of gifts, and discrimination against employees, are analysed (Krell, 2010).

Ethics audits do not need to be stand-alone reviews but should rather be incorporated into every audit to provide an accurate picture of the ethical climate within an organisation (Sinason, 2005:3). Accordingly, in order to successfully carry out an effective ethics audit, the internal audit function needs to have a thorough understanding of the organisation's ethics framework and related processes (Plant, 2008:16-17). It may be appropriate, based on the size of the organisation, to establish a dedicated internal audit team and create a comprehensive ethics audit work programme. This programme should include compliance and integrity assessment tests to ensure

that the audit procedures provide assurance regarding both the existence as well as the effectiveness of the ethics framework (Plant, 2008:23).

Assessing the ethical culture of an organisation

IIA standard 2110.A1 stipulates that the internal audit function must evaluate the design, implementation and effectiveness of the organisation's ethics-related objectives, programmes and activities in order to promote appropriate ethics and values throughout the organisation (IIA, 2016a). It is important that the internal audit function's assessments of the organisation's ethical culture be performed systematically and as a component of almost every audit, which can also assist in limiting audit fatigue and disruptions to the organisation (IIA, 2016b:3; Krell, 2010).

The assessment of ethical culture seeks to improve an organisational-wide understanding of ethics (Vorster & van Vuuren, 2022:47). Consequently, it cannot be evaluated through only a single technique or result in a conclusive assessment, therefore the internal audit function should use a variety of techniques, including qualitative and quantitative methods when performing the evaluations (Roth, 2019:5). The internal audit function can make a substantial contribution to long-term organisational value by performing audit procedures which ensure that the actual ethical culture is aligned with the desired culture (IIA, 2016b:3). When evaluating ethical culture, the internal audit function may examine governance documents, such as the code of conduct, vision and mission statements and organisational values, bearing in mind that these documents reflect the desired culture of the board and management rather than the actual culture (Roth, 2019:4).

The internal audit function should be aware that gathering truthful expressions of the individual employee's beliefs regarding the culture can prove to be a difficult task, mainly because the perception of culture depends on the opinions of individuals (Roth, 2019:4). Consideration should be given to the use of self-assessment techniques to gather information, which have proven to be the best way of assessing ethical culture. When the internal audit function determines that employees believe that an ethical organisational culture exists, they may assume the role of facilitator in ethical culture workshops

rather than remain independent observers, to inspire candid discussions about ethics (Roth, 2019:4).

Another option for gathering information about the ethical culture could be the utilisation of employee surveys. In this case, it is not advisable to formulate questions in a manner that prompts employees to evaluate their own conduct or managers to evaluate their own department, as this approach lacks reliability (Roth, 2019:4). Requesting employees to evaluate the elements of the work environment established by top management can yield dependable results, if they are at ease providing honest input. The internal audit function typically should ensure the reliability of the survey process by subsequently verifying the survey findings through obtaining and examining supporting evidence (Roth, 2019:4-5).

Additionally, the internal audit function could benefit from building a cross-functional team that includes human resources, compliance and legal managers who are also familiar with the employees in the business unit being audited, to ensure proper scope coverage of ethical culture (Krell, 2010).

In conclusion, the internal audit function's assessment of ethical culture can significantly contribute to long-term organisational value by improving organisational appreciation of ethics, while ensuring alignment between actual and desired culture. The internal audit function's assessments of the organisation's ethical culture must be incorporated in all audit reviews to ensure broad coverage and audit efficiency.

Assessing ethical leadership (tone-at-the top) and ethics communication

Assessing the level of dedication exhibited by senior management towards ethical behaviours and ideals within an organisation can serve as a reliable indicator of the robustness of the ethics framework established within an organisation (Kassem, 2018:A31). The senior management of an organisation should be aware of the contents and functioning of the ethics framework and provide the necessary oversight to ensure its successful implementation and effectiveness (IIA, 2020:4).

To assess ethical leadership, the internal audit function needs to obtain evidence that directors approve the code of ethics annually to demonstrate their exemplary leadership and commitment to ethical standards (IIA, 2020:4). Kassem (2018) recommends that, to assess the integrity of senior management, the

internal audit function should review and assess the company's code of ethics and the overall message it conveys to employees regarding management's stance on unethical conduct and obtain an understanding of how much management is involved in deals with connected parties that affect the organisation. Staicu *et al.* (2013:76) and Kassem (2018), suggest that the internal audit function needs to evaluate the communication disseminated by an organisation's top management and assess whether it is regular, clear, directly addresses the culture, values and ethical standards of the organisation and is communicated to employees, customers and other stakeholders. Some of the communication to stakeholders may include annual reports, reports to society and internal communication. Additionally, the internal audit function needs to confirm, through inspection of a sample of ethics communications, that previously reported ethical issues are recognised as learnings and are later included in communications and training pertaining to ethics (Krell, 2010).

It can be concluded that evaluating the level of commitment and oversight demonstrated by senior management towards ethical practices and principles within an organisation can serve as a reliable indicator of the robustness of the ethics framework established within an organisation. The internal audit function should examine and evaluate the company's code of ethics, as well as the overall message it sends to employees about management's attitude on unethical behaviour.

Assessing ethics codes and related policies

Several high-profile events have suggested that auditors have followed compliance-based or traditional rules-based methodologies in their endeavours to assure ethics frameworks and this has helped to perpetuate unethical conduct in organisations such as Enron and Arthur Andersen (Kgomo & Plant, 2015:85; Satava, Caldwell & Richards, 2006:271). To assess the organisation's code of ethics, various sources (IIA, 2012; Kassem, 2018; Krell, 2010; Roth, 2019; Sinason, 2005; Watts, 2020), suggest that the internal audit function performs the following procedures:

The internal audit function should verify that the organisation has developed and implemented ethics metrics and test the design adequacy of the metrics for applicability and meaningfulness (Krell, 2010). They

should conduct a review of the code of ethics' design by evaluating its applicability and the extent to which it comprehensively covers all necessary areas (IIA, 2012:11). Furthermore, the internal audit function should examine the code of ethics, comparing it against relevant laws, regulations, industry standards and best practices, to ensure that the code is comprehensive and up to date (IIA, 2012:10; Sinason, 2005:3).

In addition, the internal audit function should evaluate the code of conduct to ensure that it is written in clear and concise language, such that all employees can comprehend each clause without any vagueness in its interpretation (Sinason, 2005:3). The internal audit function should also review the minutes of the board of directors' meetings to ensure that the written code of conduct, along with any updates, is subject to regular review and approval or reaffirmation by senior management (Sinason, 2005:3). The internal audit function should also scrutinise documentation from human resources to determine whether all employees reaffirm the code of ethics regularly, at least annually (Sinason, 2005:6).

The internal audit function should conduct interviews and surveys with key stakeholders, such as senior management, employees and ethics officers, to gather insights on the code's implementation, effectiveness and areas for improvement (IIA, 2012:10; Roth, 2019:3; Watts, 2020:7). Through inquiries with both management and employees, as well physical observations of specific areas, the internal audit function should review the reinforcement of the code of ethics and how it is displayed or published internally and externally, to ensure that the code of ethics is always prominently displayed and promoted in public areas throughout the organisation (Satava *et al.*, 2006:279; Sinason, 2005:7). The internal audit function should also acquire and evaluate the job descriptions of key officers, such as the ethics officers and line managers, to verify that ethics roles and responsibilities have been designated and are consistent with the organisation's mission and objectives (IIA, 2012:10; Sinason, 2005:4). Additionally, the internal audit function's procedures should include conducting interviews to verify that the key officers have a comprehensive understanding of their duties and obligations as contained in the code of ethics (Sinason, 2005:4).

The internal audit function should also consider engaging with human resources personnel to ascertain

the extent to which the code of ethics is utilised in the recruitment and hiring process (IIA, 2012:4; Sinason, 2005:6). This should involve ensuring that the recruitment packages include the codes of ethics, that ethics-related questions are incorporated into all background checks, and ethics is discussed in relation to the position's duties and job specifications (Kassem, 2018:31; Sinason, 2005:6).

The internal audit function should systematically evaluate employee conduct in relation to the ethics policies and procedures as outlined in the organisational code of ethics by inspection of reports of unethical conduct, such as customer complaints, disciplinary cases, feedback from hotlines and other reporting platforms (Sinason, 2005:7). The internal audit function should review the annual employee/management conflict of interest disclosures, mission statement, policies over sales, customer service, financing, e-media ethics, investing, strategic plans, including business goals, and values (IIA, 2012:10). Further reviews to be conducted by the internal audit function should include employee contracts, collective bargaining agreements, employee onboarding processes, ethics officer job descriptions, as well as employee ethics survey results, to confirm that the code of ethics is adequately incorporated (IIA, 2012). Although the audit of the code of ethics and policies may not be as straightforward as financial or operational audits, its effectiveness can be enhanced by implementing concrete ethics reporting metrics (Krell, 2010).

To conclude, the internal audit function should evaluate the code of ethics against relevant laws, regulations, industry standards and best practices to ensure it is complete, current and written clearly. The internal audit function should ensure that appropriate ethics metrics have been developed to measure the code of ethics' enforcement.

DEVELOPMENT OF AN ETHICS MATURITY FRAMEWORK

This study proposes an ethics maturity framework as a contribution to the existing body of literature on maturity frameworks and models. While previous research has primarily concentrated on areas such as risk management, IT, project management, quality management, governance and artificial intelligence, this framework aims to address the ethical dimension within organisations. Currently, there exists a limited

body of research pertaining to ethics maturity frameworks.

For example, with reference to risk management maturity, the level of risk management maturity reveals how well a business understands its risk portfolio and can effectively manage those risks. Organisations must have a thorough awareness of their current risk management practices in order to set goals, define procedures and successfully track progress in improving their maturity (IoDSA, 2009:73; Zou, Chen & Chan, 2010:854). Most maturity frameworks outline a projected, ideal or typical progression of development for these entities in the form of distinct stages, such as initial, basic, defined, managed, and optimised (Krijger *et al.*, 2023:357). This section defines a maturity framework and examines the attributes of an ethics maturity framework, as well as the benefits of utilising an ethics maturity framework as a tool to assess the organisation's ethics performance.

What is a maturity framework?

An ethics maturity framework is a tool used to evaluate the level of effectiveness of an ethics framework within an organisation (Johnson, 2019:53; Maak & Pless, 2006:108; Voegtlin & Greenwood, 2016:190). It provides a framework for assessing the organisation's ethical culture, practices and leadership behaviours, helping to identify strengths, areas for improvement and specific actions to enhance the ethics framework (Maak & Pless, 2006:108; Vakkuri *et al.*, 2021:4; Voegtlin & Greenwood, 2016:190). Ethics is such a delicate subject that conventional audit rating methods may not always work well in this area (IIA, 2012:6). It might be less contentious and more helpful to evaluate the various attributes of the ethics maturity framework to determine an organisation's level of ethics maturity rather than providing a traditional audit opinion on ethics (IIA, 2016a:13).

RESEARCH METHODOLOGY

This study used a general literature review to examine the literature on the components of an ethics framework, namely, ethical culture, ethical leadership, ethics communication and ethics codes as well as associated internal audit assurance practices. Furthermore, maturity frameworks and specifically ethics maturity frameworks were highlighted. The purpose of a general literature review is to

systematically collect, analyse and synthesize information from many scholarly sources in order to address a specific research question or problem (Linnenluecke, Marrone & Singh, 2019:176-177; Tawfik, Dila, Mohamed, Tam, Kien, Ahmed & Huy, 2019:1; Xiao & Watson, 2017:102). A preliminary investigation was undertaken to identify scholarly literature pertinent to the research question in order to ascertain the validity and significance of the proposed research topic and its associated components that require investigation. For this purpose, Google Scholar, ProQuest and EBSCOhost databases were mainly used using key words such as ethics, frameworks, maturity, ethical culture, ethics assessment, ethics codes and ethical leadership. All relevant sources were imported into EndNote library for inclusion in the study (Linnenluecke *et al.*, 2019:178-179; Tawfik *et al.*, 2019:3-5; Xiao & Watson, 2017:94).

The aim of the study is to develop an ethics maturity framework that can be used by the internal audit function to assess the effectiveness of an organisation's ethics framework. The main shortcoming of this study is that it is anchored on a literature review without empirical evidence to

substantiate the findings. This has also been identified as a topic for further investigation (Kgomo & Plant, 2015).

PROPOSED ETHICS FRAMEWORK

Based on the general literature review conducted on the components of an ethics framework, the following ethics maturity framework is proposed. The internal audit function can use this ethics maturity framework either to provide assurance on the effectiveness of an organisation's ethics framework or to provide consulting services where no or a limited ethics framework exists.

While ethics frameworks may encompass a more extensive range of elements, the proposed ethics maturity framework focuses on the fundamental components as described in Table 1 below. The journey from an immature state, indicated by the "Initial" rating, to a fully mature state, shown by the "Optimised" rating, is characterised by a logical sequence at each maturity level.

Table 1: Proposed ethics maturity framework

Attribute	Initial	Basic	Defined	Managed	Optimised
1.Ethical culture	Ethical values have not been established.	Ethical culture is established within the corporate centre but not clearly articulated. Integrity is based on trust.	Ethical culture is established across the organisation but not fully understood.	Ethical culture is well-established, aligned to organisational culture and consistently demonstrated. Rewards for ethical conduct are in place.	Ethical culture is well-established and fostered through both top-down and bottom-up approaches. A robust ethical culture is reflected in the conduct exhibited across all levels of an organisation.
2.Ethical leadership (tone-at-the-top)	Ethical leadership and oversight not evident and not defined.	Ethical leadership and oversight evident in some pockets of the organisation.	Ethical leadership and oversight defined and evident in most parts of the organisation.	Ethical leadership and oversight evident across the organisation and employees are encouraged to follow their example. Board and senior management agendas include ethics.	Ethical leadership and oversight evident across the organisation and leaders clearly “walk-the-talk” in communication and in living the values.
3.Ethics communication	No formal ethics communication.	Ethics communication but not consistent and unclear.	Consistent communication from top management but limited to the organisation.	Ethics communication is in place for all stakeholders of the organisation.	Clear and strong ethics communication and a communication strategy is in place and regularly monitored.
4.Ethics codes and related policies	No formal code of conduct.	Basic code of conduct but no related policies to drive implementation.	Basic code of conduct and related policies approved by the Board and implemented but no monitoring of implementation and adherence.	Code of conduct and related policies are institutionalised and consequences for unethical behaviour are in place, regularly reviewed and updated and signed-off by senior executives. Code of conduct and related policies published on the organisation’s website.	Code of conduct fully institutionalised and regularly reviewed, updated and benchmarked to best practices. Related policies and consequences for unethical behaviour fully implemented and regularly monitored.

Source: Author’s own

CONCLUSION

This study aimed to develop an ethics maturity framework that can be used by internal auditors to assess the effectiveness of an organisation’s ethics framework. This was done through a general literature review of ethics frameworks and how internal audit can provide assurance on the effectiveness of these

ethics frameworks. Ethics frameworks were discussed with reference to ethical culture, ethical leadership (tone-at-the-top), ethics communication and codes of ethics. The role of internal audit in assessing all the components of the ethics framework was also discussed. Furthermore, maturity frameworks and specifically ethics maturity frameworks, were highlighted.

First, it was found that ethical culture is more than just codes of ethics and associated rules - it is an integral aspect of organisational culture. It must become deeply entrenched in the organisation and inspire stakeholders to share its objectives and core values. Second, ethical leadership affects an organisation's morality and ethics, so when executives act morally and prioritise ethics, they transmit the company's ideals to subordinates. Ethical leaders convey consistent and open communication transmitting ethical expectations and inspiring ethical behaviour from all stakeholders. Finally, ethics codes play a crucial role in fostering an ethical culture within an organisation, thus, they must be regularly assessed and updated to remain relevant and in line with best practices.

It was further found that the internal audit function's assessment of ethical culture can significantly contribute to long-term organisational value by improving organisational appreciation of ethics while ensuring alignment between actual and desired culture. Internal audit should evaluate the level of commitment and oversight demonstrated by senior management towards ethical practices and principles within an organisation which can serve as a reliable indicator of the robustness of the ethics framework established within an organisation. An evaluation of the code of ethics against relevant laws, regulations, industry standards and best practices to ensure it is complete, current and written in clear language is imperative.

Furthermore, an ethics maturity framework provides organisations with a structured framework to assess and enhance their ethics practices. By evaluating key components such as ethical culture, ethical leadership, ethics communication and ethics codes, organisations can identify areas for improvement, benchmark their practices, and promote a culture of continuous improvement. The use of an ethics maturity framework contributes to fostering ethical cultures, building trust with stakeholders and reducing the risk of ethical misconduct within organisations.

It is concluded that the ethics framework is a key ingredient of any organisation and internal audit has a vital role to play in assessing the effectiveness of the ethics framework, utilising an ethics maturity framework. Future research could investigate the extent to which internal auditors currently evaluate the control environment and ethics frameworks as part

of their assurance activities. It is also essential to determine whether internal auditors have the necessary skills to assess the control environment beyond compliance, namely, the ethical climate and the existence of ethics frameworks within organisations.

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Conceptualising “added value” and its association with the internal audit value proposition

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Purpose: To conceptualise the term “added value” in accordance with the Institute of Internal Auditors’ value proposition, with the main intent to clarify its association with the discipline of Internal Auditing (IA) and its relevance in an organisation’s Internal Audit Function (IAF).

Design/Methodology: Non-empirical, qualitative research was conducted in the form of a narrative literature review. A total of 102 sources were identified from a variety of academic repositories, of which 69 (68%) were used for the narrative literature review.

Findings: The IAF adds value by actively integrating into strategic decision-making, fostering risk intelligence, engaging stakeholders, and driving continuous organisational improvement. Through strategic integration and leadership, internal audit aligns with organisational goals, promoting ethical leadership and transparency. The IAF goes beyond traditional risk mitigation to identify emerging opportunities by advancing risk intelligence and opportunity management. Stakeholder engagement ensures audit insights are tailored to specific needs, enhancing value. Continuous organisational learning strengthens governance, risk management, and control environments, fostering ongoing improvements. This conceptual model demonstrates how internal audit drives organisational success, sustainability, and strategic alignment.

Originality/Value: The study provides a fresh perspective on the term “added value” which can be explored through further research endeavours.

Keywords: *Internal Audit, Value Proposition, Added Value, Conceptual Model, Agency Theory, Assurance, Insights, Objectivity*

INTRODUCTION

In today’s dynamic and competitive business landscape, Internal Audit Functions (IAFs) must perform over and above their traditional roles in order to add value, which includes, but is not limited to, the provision of consulting services, strategic insights and proactive risk management services (Austin, Carpenter, Christ & Nielson, 2021:1892; Christ, Eulerich, Krane & Wood, 2021:494; Joshi, 2021:13; Weimann, Gerken & Hulsbeck, 2020:369). The latter reasonably ensures that IAFs contribute meaningfully to organisational success, adaptability, and long-term sustainability (Eulerich, Georgi & Schmidt, 2020:141; Roussy, Barbe & Raimbault, 2020:339).

Being a “Value Partner” requires Internal Auditors to be forward-thinking and proactive in seeking innovation to both add value and assist organisations in achieving their strategic objectives (KPMG, 2014:2). The latter approach is strongly associated with value-

based auditing, which is the direction in which the Internal Auditing (IA) profession should be heading, even though the concept of “added value” is currently hazy (Eulerich & Lenz, 2020:7; The Institute of Internal Auditors - Australia, 2022:2).

The haziness surrounding “added value” is not surprising, considering the subjective nature of the term, even prior to the amendment of the definition of IA (Amit & Schoemaker, 1993). PwC (2014:12) explains that the term “added value” in an IA dispensation is stakeholder specific. Alternatively stated, every stakeholder that is involved with IA will have different views and/or expectations on what constitutes “value” and whether (and how) it was “added”. Ultimately, the expectations and perceptions of those receiving IA services will be the most significant in determining whether value has been added or not (Botha & Wilkinson, 2019:418).

As a result of the uncertainty among stakeholders with regard to whether IA are value partners or not, it prompted the IIA to create a user-friendly communication tool to assist IA activities to effectively demonstrate the value of their work (The Institute of Internal Auditors, 2023e). This tool is better known as the IIA's "Value Proposition" and is presented visually through three intersecting circles based on the three fundamental components of IA that deliver value to an organisation, namely: 1) assurance, 2) insight, and 3) objectivity (The Institute of Internal Auditors, 2023e). Emphasising these three core elements in communication with applicable IA stakeholders will enable them to grasp the fundamental value that IAFs provide in their relevant organisations (The Institute of Internal Auditors, 2023e).

Hence, even though the term "added value" is highly subjective and the efforts of the IIA to provide a measuring tool to help ascertain whether IAFs have added value in their relevant organisations, there exists no clear conceptualisation of the term. This becomes problematic since "one cannot manage what one cannot measure, and one cannot measure what one cannot describe" (Hoa, 2011). Otherwise, the ambiguity in the interpretation of the term "added value" has the potential to impede the effectiveness of IAFs in achieving their goal of providing reasonable assurance to management surrounding the achievement of their relevant objectives in the foreseeable future. To this end, the primary aim of this study was to conceptualise the term "added value" in accordance with the IIA's Value Proposition to, in turn, clarify its association with the discipline of Internal Auditing (IA) and its relevance in an organisation's Internal Audit Function (IAF). For the remainder of this manuscript, relevant discussions will be covered under the following headings: 1) Research Methodology, 2) Narrative Literature Review, 3) Discussions, 4) Conclusion, and 5) Avenues for Further Research.

RESEARCH METHODOLOGY

The research conducted constituted non-empirical research, was deemed as qualitative research, and fell within the phenomenological research paradigm. The latter was selected as the best combination of research design and research methodology to conduct a narrative literature review. A total of 102 sources were identified, and 68 were used during the narrative literature review, contributing towards the discussion and conclusion. Narrative literature reviews serve as

valuable educational pieces as they gather numerous bits of information into an easily understandable layout (Ferrari, 2015:231; Green, Johnson & Adams, 2006:103). This approach was deemed the most appropriate research design because these types of reviews aim to uncover and deliberate on information from diverse sources regarding broad subject matters, topics that haven't received adequate attention yet and/or pertain to topics for which quantitative meta-analysis would not be suitable for (Baumeister & Leary, 1997:311-313; Eulerch & Lenz, 2020:5; Ferrari, 2015:231-233; Heijdra Suasnabar & Hipple Walters, 2020:4; Lenz & Jeppesen, 2022:7). The narrative literature review aims to condense or combine existing literature about a specific subject(s) or topic(s) of interest, but it doesn't aim to draw major conclusions or build upon the collective knowledge found within the reviewed material (Davies, 2000:367; Juntunen & Lehenkari, 2021:106; Sukhera, 2022a:418). Furthermore, a narrative literature review tends to emphasise a qualitative understanding of the literature (Rother, 2007:1; Sukhera, 2022b:414; Sylvester, Tate & Johnstone, 2013:1200) since it strives to identify the variety and diversity of available literature to find a gap in a current body(ies) of knowledge (Ali, 2018:237; Davies, 2000:367).

In this study, literature review sources were identified to gain an understanding of what "added value" entails and the role of IA in adding value to organisations. Searches were conducted in academic repositories, including EBSCOhost, Emerald Insight, ProQuest and Google Scholar for a combination of keywords and phrases which included "Internal Audit", "Internal Audit Mission", "Internal Audit Purpose", "Role of Internal Audit", "Added Value", "Value", "Value Added", "Customer Value", "Customer Satisfaction", "Value Creation", "Internal Audit Added Value", "Measuring Value Added by Internal Audit". Preference was given to literature sources published in English between 2000 and 2023 since the internal audit definition changed in 1999, and reference to the requirement of "adding value" was made for the first time (Krogstad, Ridley & Rittenberg, 1999:28; Ramamoorti, 2003:12).

Following the broad inclusion criteria above, the selection of the literature sources to be included in the narrative literature review was based on a detailed analysis of the abstract and introduction in terms of their relevance to the primary research aim (Derish & Annesley, 2011:389; Henry, Skinningsrud, Vikse,

Pękala, Walocha, Loukas, Tubbs & Tomaszewski, 2018:366; Mashamba-Thompson, 2022:9-13; Xiao & Watson, 2019:93). Sources were prioritised based on their relevance of added value in internal audit, the quality of the publication (with a preference for peer-reviewed articles and reputable texts), and the clarity of their methodology. By carefully evaluating abstracts and introductions, the review ensured that each selected source contributed meaningfully to addressing the research question, thereby providing a transparent rationale for the inclusion of literature and supporting the robustness of the findings.

NARRATIVE LITERATURE REVIEW

The purpose of this narrative literature review is to explore existing academic and professional discourse relevant to the research question, which investigates how the term ‘added value’ can be conceptualised within the context of Internal Auditing, in alignment with the Institute of Internal Auditors’ value proposition. As the literature was examined, four dominant and recurring themes emerged that provided the foundation for this review. These themes were not predetermined but rather evolved inductively through engagement with the literature. They also align closely with the overarching research objectives and collectively contribute to building an integrated understanding of the topic.

The themes are discussed in the following sequence:

1. **Internal audit mission and purpose** – setting the foundation by outlining the core responsibilities and mandate of internal audit functions.
2. **Unpacking the term “added value”** – exploring various interpretations and metrics of value in the context of internal audit.
3. **The IIA value proposition** – linking professional standards and expectations with perceived value.
4. **The agency theory** – providing a theoretical lens through which the internal audit’s value contribution can be contextualised and analysed.

These groupings are interconnected, with each one building on the previous to provide a more

comprehensive understanding of the role and value of internal auditing. The structure was designed to progressively narrow the focus from broad foundational concepts to a conceptual model.

The mission and purpose of the internal audit function

The term “mission” can be defined as “someone’s duty or purpose in life”, while the term “purpose” can be defined as “why you do something or why something exists” (Cambridge Dictionary, 2023b; Cambridge Dictionary, 2023c). The IIA defines the mission of IA as “enhancing and protect(ing) organisational value by providing risk-based and objective assurance, advice and insight” (The Institute of Internal Auditors, 2023c). The IIA further explains that “the purpose of internal audit is to provide independent, objective assurance and consulting services designed to add value and improve the organisation’s operations” (The Institute of Internal Auditors, 2019:4). Understanding the purpose and mission of something involves gaining a comprehensive grasp of its fundamental objectives and its broader reason for existence (Kashdan & McKnight, 2009:303; Khalifa, 2012:246-247). The profession of internal audit is dynamic as it serves to add value to two distinct stakeholders, e.g. audit committee and senior management (Caratas & Spatariu, 2014). The audit committee require independent assurance on the organisation’s governance, risks and controls contrast to management’s needs for operational insights and advice regarding business processes (Newman & Comfort, 2018). Internal auditing is a crucial resource for an organisation’s executive management, governing bodies (such as audit committees), and other stakeholders, as it aids in achieving business goals and objectives while enhancing internal control and governance (The Institute of Internal Auditors, 2024). Therefore, it can be inferred that the core purpose of internal audit, according to its mission, is to add value to an organisation by enhancing its operations and aiding in the achievement of its objectives through effective assurance, advice, and insights. The latter is encapsulated within the definition of IA, which, in turn, consists of various interrelated elements. An overview of each interrelated element is discussed in Table 1:

Table 1. Expanding on the definition of internal audit

Definition extract	Synopsis	Source(s)
"Internal auditing is an independent, objective assurance and consulting activity ..."	Independence is the freedom from conditions that hinder the internal audit activity's ability to perform its duties impartially. Objectivity is an unbiased mindset that enables internal auditors to conduct engagements with confidence in their work, ensuring no compromises in quality. To promote independence, the chief audit executive must report to a level within the organisation that enables the internal audit function to effectively fulfil its responsibilities. To enhance objectivity, Internal auditors must maintain a neutral and unbiased attitude, avoiding any conflicts of interest. Assurance activities in internal auditing involve processes and procedures aimed at assessing and enhancing the effectiveness of an organization's risk management, control, and governance practices. These activities include the objective review of evidence to provide independent evaluations of the adequacy and efficiency of the organisation's operations. Consulting activities in internal audit provide advisory services to help an organisation enhance its risk management, control, and governance processes. These services are customised to the organisation's needs and aim to add value by offering insights and recommendations.	(Anderson, 2003:105; Caratas & Spataru, 2014:532; Stewart & Subramaniam, 2010:330; The Institute of Internal Auditors, 2016:21-24)
"... designed to add value and improve an organisation's operations ..."	Internal audit offers organisations valuable insights into their operations, providing recommendations to enhance process effectiveness and efficiencies. By implementing these improvements, organisations can derive greater value from their operations and better align themselves with their objectives.	(Newman & Comfort, 2018:16; Tang, Norman & Vondrzyk, 2017:1128; The Institute of Internal Auditors, 2016:21-24)
"... it helps an organisation accomplish its objectives by bringing a systematic, disciplined approach ..."	Systematic approach refers to following an established set of methods and an organised plan (as outlined in the IIA performance standards). "Disciplined" is characterised by displaying controlled behaviour. The IIA standards and Code of Ethics outline the conduct expected from the IAF, including the required attributes, competencies, and accountability towards the IIA Code of Ethics.	(Cambridge Dictionary, 2023a; Cambridge Dictionary, 2023d; The Institute of Internal Auditors, 2016:1-26; The Institute of Internal Auditors, 2023a)
"... to evaluate and improve the effectiveness of risk management, control and governance processes."	To methodically assess and improve the systems and procedures an organisation employs to identify and manage risks, maintain effective internal controls, and uphold robust governance practices. This includes evaluating the effectiveness of these processes and suggesting enhancements to promote efficient operations, regulatory compliance, goal achievement and added value.	(Anderson, 2003:103-107; Dionne, 2013:154; Oxford Dictionary, 2023; The Institute of Internal Auditors, 2016; The Institute of Internal Auditors, 2023b:61)

Source: Authors' own

IAFs are tasked to add value to their organisations through their assurance and consulting activities; however, the term "added value" is subjective in nature, and Internal Auditors have struggled to obtain convincing answers to what exactly entails "added value" (Eulerch & Lenz, 2020:7). To thoroughly grasp a specific word/phrase within a sentence, it is essential to explore that word/phrase in isolation first (Gibson & Pearlmutter, 1998:262). By examining the word/phrase independently, one can gain insights into

its definition, possible meanings, context, and any related nuances (Gibson & Pearlmutter, 1998:263). This preliminary exploration allows for a deeper understanding of the significance of the word/phrase and aids in its interpretation within the given sentence (MacDonald, Pearlmutter & Seidenberg, 1994:676).

¹ The remainder of this definition is most relevant to the aim of this paper.

Unpacking the term “added value”

An organisation’s resources encompass various assets, capabilities, processes, technology, information, and knowledge under its control, all aimed at improving effectiveness and efficiency (Duschek, 2004:68). Prajogo, Oke and Olhager (2016) noted that organisations that achieve effectiveness and efficiency gain a competitive advantage in their respective markets. To create such a competitive advantage, an organisation’s resources must be valuable in the sense of providing insights into opportunities while also nullifying external threats as far as possible (Bowman & Ambrosini, 2007:327). Bowman and Ambrosini (2000) found it challenging to define value, but they differentiated between two types of value, namely perceived value and exchanged value. Perceived value pertains to customer perception of the service(s) and/or product(s) received, while exchanged value is said to be realised when a product is sold and used – the sum paid by the purchaser to the producer for the perceived value in use (Bowman & Ambrosini, 2000:5).

The uncertainty surrounding value is also supported by Lenz, Sarens and Jeppesen (2018), who noted that value gained is not often visible or measurable and depends on customer satisfaction. In turn, Elliott, Dawson and Edwards (2007) argue that value can be measured in monetary terms, and that value is added

to the business through advances in the effectiveness and efficiency of processes and/or cost savings. Furthermore, Raval and Gronroos (1996) suggest that the perceived value of a service can be increased by improving the quality of service delivery or lowering customer expectations. It is thus deemed vital to manage the expectations of those receiving a service or product to allow for the adequate determination of perceived value received (Tam, 2004:901-910).

The term “added value” has also been used in conjunction with the phrase “competitive advantage”, as it is believed that through value-adding services, an organisation creates a competitive advantage within their industry (Novita & Husna, 2020:14-15). Regardless of the latter, the meaning and roles of added value are still vague, and the sustainability thereof remains hazy (De Chernatony, Harris & Dall’Olmo Riley, 2000:39). Exploratory research conducted by De Chernatony, Harris and Dall’Olmo Riley (2000:44) revealed that the term “added value” is not specific enough. The respondents interviewed in the study suggested that the term needs to be used in conjunction with a specific topic and/or a meaningful activity. De Chernatony *et al.* (2000:45) concluded that added value plays diverse roles and is subject to the interpretation of the stakeholders involved. To place the latter in perspective, Table 2 is provided.

Table 2: The subjective nature of “added value”

Definitions/meaning of added value	Source
“A phenomenon where one considers something as important and worth having”	(Cambridge Dictionary, 2023e)
“Relative worth, utility”	(Merriam-Webster, 2023)
“Usefulness or importance”	(The Britannica Dictionary, 2023)
“Circumstantial dependent, determined by customer cognition”	(Kok, Mobach & Omta, 2011:252)
“Added value is a multifaceted concept, serving various functions and subject to varying interpretations among individuals”	(De Chernatony <i>et al.</i> , 2000:39)
“The “added value” a customer gains derives from both the final product and its surrounding elements. The “added value” is the benefit customers obtain from the product or service, which solves their problems”	(Angelova & Zekiri, 2011:237)
“Added value refers to the worth of a product or service beyond its basic cost of production and input”	(Fang, Palmatier & Steenkamp, 2008:1-3)

Source: Authors’ own

The content in Table 2 is by no means exhaustive, but it showcases that the term “value” or “added value” is extensively diverse and carries diverse connotations in various contexts (Barac, Plant & Nebbel Motubatse, 2009:980-982). Within the dispensation of internal audit, it is crucial to grasp the specific interpretation

and magnitude of the term “added value” within the profession (Barac *et al.*, 2009:980-982).

To simplify added value and how it relates to internal audit, the IIA created a value proposition to allow IAFs to demonstrate the value they add to the organisations

they serve (The Institute of Internal Auditors, 2010:1-12).

The IIA value proposition

The value proposition is presented through a visual representation of three intersecting circles and is based on the three fundamental components of internal auditing, which deliver value to an organisation: assurance, insight, and objectivity (refer to Figure 1: (The Institute of Internal Auditors, 2010:3-10). Emphasising these three core elements in the communications of IAFs with relevant stakeholders may enable them to grasp the fundamental value which was provided and/or is to be provided (The Institute of Internal Auditors, 2023d:1-2). The IIA value proposition is depicted in Figure 1 below.



Figure 1: The value proposition of the IIA

Source: Adapted from (The Institute of Internal Auditors, 2023e)

The IIA’s value proposition comprises three main elements: assurance, insights, and objectivity. A high-level overview of the IIA value proposition is shown in Table 3 below.

Table 3: High-level overview of the IIA value proposition

Assurance
Assurance of governance, risk management, and controls. Assist in attaining strategic, operational, fiscal, and regulatory goals. One of the four fundamental pillars of sound corporate governance.
Insights
Improving the effectiveness and efficiency of processes through recommendations. Continuous enhancement of knowledge and skill. Able to identify opportunities and emerging risks. Ability to persuade others to improve/a catalyst/change agent. Consulting on projects to provide guidance.

Objectivity
Integrity and accountability. Position in the organisation to enhance independence. The Head of Internal Audit holds a dual reporting obligation, reporting administratively to executive management and functionally to the Audit Committee (AC). Complying with the IPPF standards and Code of Ethics/ quality of work.

Source: (Eulerich & Eulerich, 2020; Lenz & Jeppesen, 2022; Lenz & Sarens, 2012; Lenz, Sarens & Jeppesen, 2018; The Institute of Internal Auditors, 2010; The Institute of Internal Auditors, 2023e)

The IAF serves different stakeholders, each of whom has a different expectation of added value in relation to the IIA value proposition (Prasad, Hay & Chen, 2021:476). Demystifying the IIA value proposition is imperative, as the current hazy state of the value proposition places internal audit at risk of overpromising and/or under-delivering (Lenz & Jeppesen, 2022:5). The IAF is a critical function within the organisation as it serve to provide independent assurance and value to such an organisation’s operations (Lenz *et al.*, 2018:14). Although the IIA value proposition is widely recognised, the value derived from it, and especially the measurement thereof, remains challenging (Prasad *et al.*, 2021:477). The IIA value proposition is a valuable tool to allow for a better understanding of how internal audit adds value to their stakeholders, e.g. management and the audit committee (The Institute of Internal Auditors, 2023e:3-10).

The agency theory

The contemporary structure of organisations has led to a division between ownership rights and decision-making authority, creating an agency relationship (Faiteh & Aasri, 2022:669). The Agency Theory specifically addresses the common agency relationship where one party (the Principal) delegates tasks to another party (the Agent) who carries out the work (Eisenhardt, 1989:58). At the core, the Agency Theory encounters two main challenges: 1) conflict of interest, where Agents might prioritise their own goals over those of the Principal, and 2) information asymmetry, where Agents possess more information than Principals, resulting in a power imbalance that impedes effective monitoring and assessment of the agent’s actions (Eulerich, Velte & Theis, 2015:141-143; Faiteh & Aasri, 2022:670-671; Panda & Leepsa, 2017:74-76).

The IAF adds value by conducting independent evaluations, increasing transparency, and ensuring policy compliance (Faiteh & Aasri, 2022:670-671). This alignment of Agents' actions with Principals' interests helps mitigate conflicts of interest and reduce information asymmetry, thereby addressing key issues in the Agency Theory (Eulerich *et al.*, 2015:141-145). IA addresses the Agency Theory through management oversight, risk assessment, transparency enforcement, and stakeholder education, fostering aligned interests, minimising conflicts, and improving corporate governance (Endaya & Hanefah, 2013:92-94; Mihret, 2014:772-773). In this context, IA functions as a crucial governance tool benefiting owners and agents alike (Sarens & Abdolmohammadi, 2011:2). Agents benefit by showcasing responsible behaviour to owners, adhering to employment agreements, and reducing the likelihood of owners making unfavourable changes to executive benefits (Adams, 1994:8-12).

DISCUSSION

The term "added value" has been explored and researched by various authors, and the results, although they vary, had two concepts in common: 1) enhancement of performance and outcomes, and 2) stakeholder benefits and satisfaction. However, the conceptualisation of the term "added value" in relation to the IIA value proposition and the internal audit profession is unexplored. The results below are based on sections of the narrative literature review.

The internal audit profession has evolved into a critical function within organisations, leveraging specialised expertise to enhance value creation, risk management, and strategic decision-making. Rather than limiting its role to compliance, the IAF now offers both assurance and consulting services, acting as a trusted advisor and safeguarding organisational value. IIA's value proposition was developed to clarify the often-ambiguous concept of "added value" and organisation's success. Key to achieving this added value is the internal auditor's independence and objectivity, ensured through strict adherence to IIA standards and ethics. This systematic approach allows auditors to provide unbiased insights, which are essential for addressing governance, risk management, and control issues—areas widely recognised in the literature as central to the IAF's mandate. However, defining and measuring "added value" remains challenging, as stakeholder perceptions vary. This subjectivity requires internal auditors to tailor their

communication to demonstrate how their services contribute to operational improvements and strategic outcomes.

It was further noted that the IAF contribute positively to the agency theory. When conceptualising "added value" in Internal Auditing, an important aspect is the influence of varying stakeholder perceptions. Different stakeholders—such as management, the board of directors, auditors, and external stakeholders—each have unique expectations and views on what constitutes "value." These differences in perspectives can significantly shape how "added value" is perceived and evaluated. For instance, management may prioritise risk mitigation and operational efficiency, while the board might focus more on strategic alignment and governance. As a result, the perception of whether Internal Auditing has added value may vary across these groups, which can create challenges in measuring and demonstrating the impact of the IAF. Understanding these differing viewpoints is essential, as it highlights the subjective nature of "added value" and the need for Internal Auditors to effectively communicate their contributions to each stakeholder group in terms that resonate with their specific objectives and concerns. Agency theory highlights the conflict between the Board (principals) and management (agents), where agents run daily operations but may pursue different goals and hold more information than the Board. This can be problematic to the survival of the organisation. The literature reveals that the IAF increases value through their independent assessments and policy compliance verification. Through these actions, the IAF can align the principal's and the agent's interests. Hence, IA enhances performance, outcomes and stakeholder satisfaction through various "value adding" elements.

"Added value" manifests in various forms and sizes. The key elements of "added value" can be described as follows:

- 1) Perception-based (Based on individual, e.g. stakeholder perception of value)
- 2) Financial improvements (Monetary improvements)
- 3) Quality enhancements (Improving the quality of output to increase customer satisfaction)
- 4) Innovation (New ideas to perform processes, providing competitive advantages)
- 5) Systematic (Added value not always relates to the product, but the process of delivering the product).

Relative to the above, the IIA value proposition elaborates on how the IAF add value by providing assurance and insight in an objective manner to stakeholders. To grasp “added value” and its relationship with the IIA value proposition, it is worth exploring a system/process which assists in understanding, explaining and predicting how several components or variables interact. To achieve this, a conceptual model is created to conceptualise the term “added value” in relation to the IIA value proposition:

Table 4: “Added value” conceptual model

Dimension	Description
Strategic Integration and Leadership	Internal audit becomes an active participant in strategic decision-making rather than a mere gatekeeper. This dimension emphasises the audit function’s role in providing forward-looking advice, aligning its activities with strategic goals, and fostering a culture of ethical leadership and transparency at the board and executive levels.
Risk Intelligence and Opportunity Management	Moves beyond traditional risk identification and mitigation by promoting a ‘risk intelligence’ culture. Internal audit assesses risks while identifying emerging opportunities for improvement and competitive advantage. It supports proactive and agile decision-making by understanding the interplay between risk and opportunity.
Stakeholder Engagement and Communication	Recognises that value is stakeholder-specific. This element promotes integrating diverse perspectives into the audit process and employing tailored communication strategies. Engaging key stakeholders—such as management and the audit committee—ensures audit insights are relevant, contextualised, and enhance both perceived and actual value.
Governance and Ethical Stewardship	Positions internal audit as a guardian of ethical conduct and good governance. This dimension emphasises the audit’s role in promoting transparency, accountability, and ethical behaviour across the organisation, thereby reinforcing stakeholder trust and organisational integrity.

Source: Author’s own

This conceptual model presents an integrated view of how internal audit can add value within an organisation, based on a critical synthesis of academic and professional literature. Each dimension—Strategic Integration, Risk Intelligence, Stakeholder Engagement, and Governance and Ethical Stewardship was identified through a narrative literature review

and reflects key themes that emerged from the broader discourse on internal audit’s evolving role. Together, these components form a holistic framework that goes beyond traditional compliance and assurance functions to position internal audit as a strategic enabler.

The model emphasises that value is co-created through proactive engagement, forward-looking insights, and alignment with stakeholder expectations and strategic priorities. For instance, by embedding internal audit into strategic decision-making processes, organisations benefit from more informed, ethical, and agile responses to risk and opportunity. Likewise, enhanced communication with diverse stakeholders helps tailor audit activities to what matters most, reinforcing both actual and perceived value. Rather than focusing solely on known concepts like accountability and control effectiveness, the model introduces a new conceptual framing, demonstrating how internal audit can act as a dynamic, responsive, and context-sensitive function that meaningfully contributes to organisational performance, governance maturity, and long-term sustainability. This model, therefore, serves as a lens through which stakeholders can understand and evaluate how internal audit adds value in practice, particularly within increasingly complex and fast-changing environments.

CONCLUSION

The primary aim of this study was to conceptualise the term “added value” in accordance with the IIA’s Value Proposition, with the main intent of clarifying its association with the discipline of IA and its relevance in an organisation’s IAF. The current economic climate in the world is challenging, with businesses facing numerous obstacles in achieving their strategic, operational, compliance and financial objectives.

One function that is strategically positioned to assist in meeting these objectives is the IAF. It is increasingly expected to operate as a value partner—one that is forward-thinking, responsive, and proactive in seeking out innovative ways to support the organisation. This aligns with the IAF’s purpose and mission to add value. However, the term “added value” is inherently subjective and may be interpreted differently by various IAF stakeholders. To aid in this, the Institute of Internal Auditors (IIA) developed a value proposition framework that conceptualises value through the lenses of assurance, insight, and objectivity.

This study acknowledges the IIA value proposition as a foundation but extends the conceptualisation further. Drawing from a narrative literature review and a synthesis of academic and professional perspectives, a refined conceptual model was developed to present a more holistic and multi-dimensional understanding of how internal audit adds value. The new model introduces four integrated dimensions: Strategic Integration and Leadership, Risk Intelligence and Opportunity Management, Stakeholder Engagement and Communication, and Governance and Ethical Stewardship. These components reflect current thinking on internal audit's evolving role and respond to gaps in how "value add" has traditionally been defined.

Furthermore, the study considered the relevance of Agency Theory, which addresses the inherent challenges between principals and agents within an organisation. The IAF occupies a unique and independent position, providing assurance and insight that benefits both parties. Doing so plays a vital role in mitigating agency-related risks and improving transparency and trust.

The outcomes of this study—and the opportunities it opens for future research—have academic and practical relevance. The findings confirm that "added value" is a subjective, multi-faceted concept that benefits from being grounded in a structured conceptual framework. By offering a model that moves beyond existing definitions and incorporates broader strategic and relational elements, this study enables a deeper understanding, clearer communication, and potentially, a more robust demonstration of how internal audit adds value in the modern organisation.

AVENUES FOR FURTHER RESEARCH

An avenue for future research involves exploring the influence of organisational maturity on the internal audit function's ability to add value. Building on the findings of this study, such research could investigate how different levels of governance, risk management structures, and cultural development within organisations shape the effectiveness and perceived value of internal audit activities.

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Exploring the association between occupational fraud risk and the financial sustainability of South African Small Medium Micro Enterprises

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Purpose: To explore the association between specific occupational fraud risk and the financial sustainability, represented by profitability, liquidity, and solvency, of South African SMMEs.

Design/methodology: For this exploratory research study, data were obtained from 120 South African SMMEs owners and/or managers operating in the fast-moving consumer goods (FMCG) industry using a survey. All respondents adhered to strict delineation criteria.

Findings: Chi-square tests of independence were performed. Of the 78 tested associations, ten were statistically significant (12.82%) of which eight were very strongly associated with profitability, liquidity and solvency.

Original/contribution: Though the number of statistically significant association was small, the probability exists that certain occupational fraud risk may be responsible for adversely affecting specific aspects of South African SMMEs' financial sustainability more than others, which may warrant further research.

Keywords: SMMEs, South Africa, financial sustainability, solvency, liquidity, profitability, occupational fraud risk

INTRODUCTION

In South Africa, Small, Medium, and Micro Enterprises (SMMEs) were first introduced through the promulgation of the National Small Business Act No. 102 of 1996 (South Africa, 1996). These businesses play a pivotal socio-economic value-adding role as they contribute significantly to the growth of the economy, eradication of poverty, and the creation of work (employment) opportunities for the national workforce (Swart, 2011; Ngary, Smit, Bruwer, & Ukpere, 2014; Nxele & Hoque, 2023). Despite the latter, prior research found that these business entities have very high failure rates (Van Eeden, Viviers & Venter, 2003; SED, 2010; Mukata & Swanepoel, 2017; Statistics South Africa, 2017a; Bruwer & Petersen, 2022). The aforesaid is supported by studies where it was found that the overall sustainability rate of South African SMMEs is among the worst in the world, with approximately 75% of these business entities failing after being in operation for three years (Moloi, 2013;

Adelakun, 2014; Mthabela, 2015; Bruwer & Van Den Berg, 2017; Bruwer & Petersen, 2022).

The high failure rate of South African SMMEs is often pinned on their inability to manage risks, one of which is that of occupational fraud risk (PWC, 2016; Sitharam & Hoque, 2016; Masama & Bruwer, 2018; Petersen, 2018; Bruwer, 2023a). For clarity, occupational fraud risk refers to the phenomena in which personnel intentionally misuse and/or abuse their employers' resources for personal enrichment and/or self-satisfaction (ACFE, 2016; Shao, 2016). According to previous studies (Musarurwa, 2012; Hosken, 2014; Petersen, 2018), South African SMMEs have among the highest cases of occupational fraud risk compared to SMMEs in the rest of the world. This stance is supported by prior research (Kassem, 2014; Lubisi & Bezuidenhout, 2016), who share that illicit tax evasion, bribery, corruption, procurement fraud, and asset misappropriation are among the most prevalent in South African SMMEs. With the above in mind, it is unsurprising that unmanaged occupational fraud risk

¹ This paper is partially based on the dissertation of Ashwin Petersen (first author), presented for the Master of Technology (Internal Auditing) degree at the Cape Peninsula University of Technology with supervisor and co-author Jean-Pierre Bruwer.

has been found to have an adverse impact on these business entities' financial sustainability (Valdiserri & Wilson, 2010; Bruwer & Coetzee, 2016; Sitharam & Hoque, 2016; Petersen, 2018; Petersen & Bruwer, 2020; Bruwer, Smit & Siwangaza, 2024).

For any business entity to remain in operation for the foreseeable future, it must have sound financial sustainability (Jeon, Amekudzi & Guensler, 2010). The term financial sustainability, in this study, is regarded as the ability to generate and maintain positive short-term and long-term returns to, in turn, provide reasonable assurance regarding the attainment of profitability (total income exceeds total expenses), solvency (total assets exceed total liabilities), and liquidity (sufficient cash on hand to pay short-term debt) (Goel, 2010; Alhaddi, 2015; Petersen, Bruwer & Mason, 2022).

Although unmanaged occupational fraud risk has been found to adversely influence the financial sustainability of South African SMMEs, it remains unclear whether there is an association between the latter phenomena. Alternatively stated, no research exists that speaks to whether specific occupational fraud risk is more associated with specific elements of the financial sustainability of South African SMMEs than others. As such, this study aimed to determine whether there is an association between occupational fraud risk and the financial sustainability of South African SMMEs.

CONCEPTUAL FRAMEWORK

Under this heading, relevant discussion takes place to contextualise relevant content within the ambit of this study. This is done under the following sub-headings: 1) occupational fraud risk, 2) financial sustainability of South African SMMEs, and 3) the liability of newness.

Occupational fraud risk

Occupational fraud risk is defined as a fraudulent activity carried out by someone employed by the organisation with the intent to enrich themselves (Fagerberg, 2008). Alternatively stated, occupational fraud risk alludes to the intention of employees misusing the resources of their employer for personal satisfaction and/or personal enrichment (Steckel, 2011; Milyutina, 2013). Moreover, occupational fraud risk encompasses three classes, namely, 1) asset misappropriation, 2) corruption, and 3) financial statement fraud – each of which are briefly elaborated

on below (Wijayanto, 2007; Saksena, 2010; Harrison et al., 2011; Gupta & Gill, 2012; ACFE, 2014; Dunne, 2014; Kassem, 2014; Carroll, 2015; Suh, 2018 & Macailao, 2020).

Asset misappropriation: Where employees who are in a position of trust to manage the resources of their employer to intentionally utilise it for personal gain and/or self-satisfaction. Examples include employees using work time to do personal work, theft of stationery, embezzlement, and/or misuse of inventory.

Corruption: Where employees who are in a position of trust to make sound business decisions choose to exploit their authority for personal gain and/or self-satisfaction by conducting themselves in a dishonest and/or fraudulent manner. Examples include conflict of interest, bribery, and/or illegal gratuities.

Financial statement fraud: Where employees who are in a position of trust intentionally distort financial statement information and/or misrepresentation to delude stakeholders (by omission, overstatement, and/or understatement) to present a business entity's financial sustainability in a more favourable light. Examples include creditors, being paid late, invoices received from made-up vendors, credit being made to unauthorised customers, purchases not being recorded, and/or payments not being recorded.

Given the suboptimal sustainability metrics observed in South African SMMEs, research also indicates that these business entities operate within a challenging economic landscape (Masama & Bruwer, 2018; Petersen, Bruwer & Mason, 2022). This, in turn, establishes an opportunity for diverse risks, such as occupational fraud risk, to appear and realise (Mutarurwa, 2012; Hosken, 2014; Kassem, 2014).

Using the above as a basis, research (Petersen, 2018) found that occupational fraud risk has a significant adverse influence on the financial sustainability of South African SMMEs (Bruwer, 2018). Derived from the research conducted by Woodard (2008), Shao (2016), and Bruwer and Petersen (2022), it has been observed that South African SMMEs are susceptible to occupational fraud risks, a circumstance that frequently leads to substantial financial ramifications and, in certain instances, culminates in bankruptcy.

Financial sustainability of South African SMMEs

According to Mia, Nasrin, and Cheng (2016), the term “financial sustainability” refers to the achievement of financial objectives through being financially viable in order to have a positive financial performance. In turn, Petersen, Bruwer and Mason (2020) take the stance that this term has to do with the situation when an entity’s income exceeds its expenses, assets exceed its liabilities, and where it has sufficient cash on hand to pay short-term debt. As such, considering the foregoing views, within the ambit of this study, the term “financial sustainability” was conceptualised as follows: *“The viability of a business entity in terms of its income compared to expenses (profitability), assets compared to its liabilities (solvency), and the availability of cash to settle short-term debt (liquidity)”*.

For business entities to remain in operation for the foreseeable future, a sound financial position (i.e. liquidity and solvency) and financial performance (i.e. profitability) are required (Lebacqz, Baret, & Stilmant, 2013; Alhaddi, 2015). In a South African SMME dispensation, and over the years, research (SEDA, 2010; Fatoki, 2014; Wiese, 2014; Bruwer et al., 2024) shows that South African SMMEs, over the years, continued to have one of the worst sustainability rates in the world when compared to business entities operating in other countries around the globe. The latter sentiment is supported by prior studies, which found that an estimated 75% of South African SMMEs fail after being in operation for approximately three years. Also these business entities often operate in a harsh economic environment¹, which makes South African SMMEs susceptible to various inherent risks including that of occupational fraud risk.

The liability of newness

In 1965, Arthur Stinchcombe developed the liability of newness (Ettenson & Knowles, 2008). At the core, the liability of newness is an organisational theory that explains why newly established business entities fail. The theory lists four key reasons why newly established business entities fail, namely 1) limited client database (be it potential clients or actual clients), 2) limited resources (be it financial or non-financial), 3) diverse

internal stakeholders with disparate views and values, and 4) changing or unclear roles in terms of responsibility (stakeholders required to wear many “professional hats” at a given time) (Abatecola, Cafferata & Poggesi, 2012; Bruwer, Mabesele, Brown, Charles, Coulter, Williams & Witbooi, 2021; Bruwer, 2023b).

Considering the context of South African SMMEs, and within the ambit of this research, a local study (Bruwer, 2023b) suggests that the first two components are more relevant than the last two components. To this end, occupational fraud risk may probably be associated with the resource availability of South African SMMEs and/or the size of their client databases, but these are avenues for further research that fall beyond the scope of this study.

RESEARCH DESIGN, METHODOLOGY AND METHODS

This study entailed empirical research, specifically emphasising exploratory research as it *“entailed the discovery of new insights on a phenomenon”* on which limited and/or no prior research has been conducted (Collis & Hussey, 2009; Leedy & Ormrod, 2010). Survey research was also used in this study considering that it entailed “the collection of information from a sample of individuals through their responses to questions” (Check & Schutt, 2012). The above design is also best suited for nascent research.

Moreover, this research study fell in the positivistic research paradigm which justified the use of a quantitative research methodology. The latter is substantiated by Botha (2021) since this study relied on the gleaning of primary data from participants (i.e. SMME owners and/or managers) through the administering of a structured questionnaire tool.

The questionnaire tool used stemmed from a larger postgraduate study (thesis), which, in turn, was substantiated by a thorough literature review (Petersen, 2018). Relevant variables to aid in the measurement of “occupational fraud risk” and “SMME financial sustainability” were both conceptualised and contextualised. For the sake of transparency, the questionnaire was piloted by a qualified statistician

regulations, crime and load shedding), contributing to high failure rates, especially among SMMEs.

¹ A variety of systemic and external challenges make it difficult for SMMEs to make ends meet and thrive in South Africa (e.g. high interest rates, high unemployment rates, increased inflation, taxation rates, stringent government

(with a doctorate), two academics (one with a master's degree and one with a doctorate), and two representatives from the general public before the administering thereof. Furthermore, content validity and construct validity assisted in the fortification of the questionnaire, while internal consistency provided reasonable assurance surrounding the reliability of the questionnaire.

Two non-probability sampling methods were used to obtain data, namely purposive sampling (respondents had to adhere to predetermined delineation criteria) and convenience sampling (respondents had to be closely situated to where the authors resided). This was mainly decided on since no formal databases existed that indicated the registered number of South African SMMEs with their owners and/or managers. In turn, for this study, the targeted population was South African SMME owners and/or managers, mainly due to their decision-making abilities. Alternatively stated, SMME owners and/or managers are charged with governance and have the "majority strategic and operational influence" in their respective organisations surrounding strategic matters and operational matters.

The selected delineation criteria for this study stemmed from a larger study where focus was placed on South African SMMEs and the discipline of Internal Auditing. Furthermore, Fast Moving Consumer Goods (FMCG) refers to consumable products that can be sold quickly at a relatively low mark-up. Such business entities include those that operate in the wholesale and retail industry (Forsberg & Löfvenberg, 2011). A total of 120 respondents, adhered to the following delineation criteria:

- Respondents should have had decision-making power(s) in their respective SMMEs;
- Respondents should have been owners and/or managers of their respective SMMEs;
- Respondents should have been actively involved in the daily operations of their respective SMMEs;
- Respondents should have owned/managed SMMEs that operated in the FMCG industry;
- Respondents should have owned/managed SMMEs that were physically based in the Cape Metropole;
- Respondents should have owned/managed SMMEs that were non-franchised;
- Respondents have owned/managed SMMEs that employed between one and 50 full-time employees.

This study received ethical clearance from the Cape Peninsula University of Technology through ethical clearance certificate reference number 2016FBREC416. Throughout this study, relevant ethical considerations were taken into account (Saunders, Lewis & Thornhill, 2000; Collis & Hussey, 2009, Blumberg, Cooper & Schindler, 2011) which include informed consent, protection from harm, voluntary participation, right to privacy, and confidentiality of information.

RESULTS AND DISCUSSION

First, respondents were asked a range of demographical questions – most of which pertained to the delineation criteria of the study. A summary of the responses is evident in Table 1 below:

Table 1: Summary of the demographic information provided by respondents

Question (n = 120)	Result
SMME-related	
Is your business operating in the FMCG industry?	Yes: 100%
Is your business regarded as a Small, Medium, and Micro Enterprise (SMME)?	Yes: 100%
How would you describe your business?	Convenience store: 13.3% Fast food joint: 38.3% Restaurant: 22.5% Caterer: 2.5% Tuck shop: 0.8% Pharmacy: 1.7% Liquor store: 3.3% Fruit and vegetable store: 0.8% Other*: 16.7%
Is your business non-franchised?	Yes: 100%
Is your business situated in the Cape Metropole?	Yes: 100%
How long has your business been in existence?	Mean: 12.0 years Median: 8.0 years Mode: 3.0 years Minimum: 0.17 years Maximum: 50.0 years
How many full-time employees does your business employ?	Mean: 7.85 $\approx$ 8.0 employees Median: 6.0 employees Mode: 4.0 employees Minimum: 1.0 employee Maximum: 35.0 employees
Respondent-related	
Do you have decision-making power in your business?	Yes 100%
Are you involved in the daily operations of your business?	Yes: 100%
What is your position in the business	Owner 18.3% Manager 60.8% Owner-manager 20.8%
How long have you been in this position?	Mean: 7.39 years Median: 5.0 years Mode: 3.0 years Minimum: 0.8 years Maximum: 43.0 years
What is your highest qualification?	Completed primary school: 19.2% Completed high school: 41.7% Certificate: 12.5% Diploma: 18.3% Bachelor's degree: 6.7% Honours degree: 0.8% Master's degree: 0.8%

*Other included tobacconists (3.3%), bakeries (5.8%), ice cream parlours (2.6%), and coffee shops (5.0%).

Source: Author's own

Taking into account the responses above, it appears that all respondents were owners and/or managers of non-franchise SMMEs that physically operated in the Cape Metropole. Moreover, on average, a sampled non-franchised FMCG SMME that operated in the Cape Metropole was a fast food joint/restaurant that employed approximately 8 employees while being operation for 12 years. Furthermore, also from the responses above, all respondents were either owners and/or managers in their sampled SMME with full

decision-making power and were actively involved in the daily operations. The average South African FMCG SMME owner and/or manager had a little more than seven years of experience in his/her position with a highest qualification of "completed high school", at least.

Next, respondents were asked to provide their perceptions of statements surrounding their SMMEs' financial situation and sustainability. This was done

through means of a 5-point Likert scale [1 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree]. A summary of the results is shown in Table 2 below:

Table 2: Perceptions of respondents on their SMMEs' financial sustainability

Statement: "In my business ..." (n = 120)	Result
Income is greater than expenses (is profitable)	Strongly disagree: 3.3% (n=4) Disagree: 4.2% (n=5) Neutral: 15.8% (n=19) Agree: 35.0% (n=42) Strongly agree: 41.7% (n=50)
There is sufficient cash on hand to pay short-term debt (is liquid)	Strongly disagree: 1.7% (n=2) Disagree: 7.5% (n=9) Neutral: 17.5% (n=21) Agree: 34.2% (n=41) Strongly agree: 39.2% (n=47)
Assets are greater than liabilities (is solvent)	Strongly disagree: 4.2% (n=5) Disagree: 5.0% (n=6) Neutral: 15.8% (n=19) Agree: 36.7% (n=44) Strongly agree: 38.3% (n=46)

Source: Author's own

Stemming from the above, it becomes apparent that 76.7% of respondents perceived their SMMEs as profitable; 73.4% of respondents perceived their SMMEs as liquid; 75% of respondents perceived their SMMEs as solvent. Although a large proportion of SMMEs fail after being in operation for only three years, these results are sensible considering that the average number of years that sampled businesses were in operation amounted to 12 years (mean-score).

Considering that all business entities are susceptible to risks, respondents were also asked to provide their perceptions of statements surrounding occupational fraud risk that are evident in their SMMEs. The results are summarised in Table 3 on the next page.

From the list of occupational fraud risk items in Table 3, as perceived by respondents, the "theft of inventory" (53.3% agreement), "employees using work time to do personal work" (42.5% agreement), "conflict of interest" (40.8% agreement), and "corruption" (34.2% agreement) were the most prevailing. It should be noted that although other occupational fraud risk items had low agreement scores, it is probable that there may be associations

between occupational fraud risk items and the financial sustainability of SMMEs located in South Africa. This was determined by performing a Chi-square test.

According to Nihan (2020), a Chi-square test can serve as a test of 1) goodness of fit, 2) independence, and 3) homogeneity. Although the Chi-square formula remains consistent – regardless of what it is used to test – considering that associations were tested, the Chi-square test that was performed in this study was regarded as a test of independence (Franke, Ho & Christie, 2012). For the sake of clarity, a Chi-square test with an asymptotic significance of < 0.05 justified a legitimate and significant assumption. In addition, to show a "strength statistic" for a Chi-square's asymptotic significance statistic, a Cramer's V score is generally calculated (McHugh, 2013). Strength is usually measured as > 0.25 (very strong); > 0.15 and ≤ 0.25 (strong); > 0.10 and ≤ 0.15 (moderate); > 0.05 and ≤ 0.10 (weak); > 0 and < 0.10 (very weak / no strength). A summary of the statistically significant results is shown in Table 4, following Table 3 on the next page:

Out of the 78 Chi-square tests performed, only 10 were found to be statistically significant ($p < 0.05$) and very strong (i.e. a Cramer's V score of > 0.25). Technically, 87.18% of all Chi-square tests were not statistically significant; this may be due to the fact that applicable occupational fraud risk items were not evident in sampled South African SMMEs. Regardless of the latter, very strong statistically significant associations were found between:

- Employees use work time to do personal work and profitability,
- Theft of stationery and liquidity,
- Creditors being paid late and liquidity,
- Invoices received from made-up vendors and liquidity,
- Credit being made to unauthorised customers and liquidity,
- Embezzlement and liquidity,
- Employees use work time to do personal work and liquidity,
- Theft of stationery and solvency,
- Purchases not being recorded and solvency, and
- Payments not being recorded and solvency.

Table 3: Perceptions of respondents on occupational fraud risk evident in their SMMEs

Statement: "In my business, there are/were cases of ..." (n = 120)	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Corruption	44.2% (n=53)	15% (n=18)	6.7% (n=8)	17.5% (n=21)	16.7% (n=20)
Conflict of interest	36.7% (n=44)	10% (n=12)	12.5% (n=15)	18.3% (n=22)	22.5% (n=27)
Bribery	54.2% (n=65)	15.8% (n=19)	5.8% (n=7)	11.7% (n=14)	12.5% (n=15)
Theft of stationery	60.8% (n=73)	12.5% (n=15)	9.2% (n=11)	10.8% (n=13)	6.7% (n=8)
Theft of money	48.3% (n=58)	10% (n=12)	12.5% (n=15)	15.8% (n=19)	13.3% (n=16)
Theft of inventory	24.2% (n=29)	9.2% (n=11)	13.3% (n=16)	33.3% (n=40)	20% (n=24)
Sales not being recorded	42.5% (n=51)	13.3% (n=16)	15.8% (n=19)	16.7% (n=20)	11.7% (n=14)
Purchases not being recorded	49.2% (n=59)	14.2% (n=17)	13.3% (n=16)	15% (n=18)	8.3% (n=10)
Receipts not being recorded	46.7% (n=56)	12.5% (n=15)	17.5% (n=21)	14.2% (n=17)	9.2% (n=11)
Payments not being recorded	50.8% (n=61)	14.2% (n=17)	14.2% (n=17)	14.2% (n=17)	6.7% (n=8)
Incorrect sales amounts being recorded	41.7% (n=50)	15% (n=18)	17.5% (n=21)	19.2% (n=23)	6.7% (n=8)
Incorrect purchase amounts being recorded	45.8% (n=55)	14.2% (n=17)	12.5% (n=15)	21.7% (n=26)	5.8% (n=7)
Incorrect receipt amounts being recorded	45% (n=54)	15.8% (n=19)	11.7% (n=14)	21.7% (n=26)	5.8% (n=7)
Incorrect payment amounts being recorded	43.3% (n=52)	15.8% (n=19)	14.2% (n=17)	20.8% (n=25)	5.8% (n=7)
Payroll aspects not being validated	59.2% (n=71)	15.8% (n=19)	7.5% (n=9)	11.7% (n=14)	5.8% (n=7)
Personal expenses being paid with business funds	61.7% (n=74)	14.2% (n=17)	8.3% (n=10)	12.5% (n=15)	3.3% (n=4)
Creditors being paid late	54.2% (n=65)	10.8% (n=13)	11.7% (n=14)	20% (n=24)	3.3% (n=4)
Debtors making late payments	52.5% (n=63)	10.8% (n=13)	11.7% (n=14)	19.2% (n=23)	5.8% (n=7)
Payments being made to made-up vendors	70% (n=84)	10.8% (n=13)	5% (n=6)	10% (n=12)	4.2% (n=5)
Invoices received from made-up vendors	72.5% (n=87)	10% (n=12)	5% (n=6)	10% (n=12)	2.5% (n=3)
Invoices being paid twice	65.8% (n=79)	12.5% (n=15)	6.7% (n=8)	10.7% (n=12.8)	4.2% (n=5)
Payments made for no items received	66.7% (n=80)	10% (n=12)	4.2% (n=5)	10.8% (n=13)	8.3% (n=10)
Credit being made to unauthorised customers	65.8% (n=79)	12.5% (n=15)	2.5% (n=3)	13.3% (n=16)	5.8% (n=7)
Embezzlement	69.2% (n=83)	10.8% (n=13)	3.3% (n=4)	10.8% (n=13)	5.8% (n=7)
Employees using work time to do personal work	36.7% (n=44)	13.3% (n=16)	7.5% (n=9)	21.7% (n=26)	20.8% (n=25)
Inventory being tampered with by employees for their personal benefit	55.8% (n=67)	10.8% (n=13)	9.2% (n=11)	13.3% (n=16)	10.8% (n=13)

Source: Author's own

Table 4: Summary of statistically significant Chi-square results

Occupational fraud risk item	Financial sustainability item	Chi-square sig.	Cramer's V	Interpretation
Employees using work time to do personal work	Profitability	0.019	0.499	Very strong association
Theft of stationery	Liquidity	0.028	0.487	Very strong association
Creditors being paid late		0.043	0.473	Very strong association
Invoices received from made-up vendors		0.007	0.524	Very strong association
Credit being made to unauthorised customers		0.001	0.566	Very strong association
Embezzlement		0.002	0.563	Very strong association
Employees using work time to do personal work		0.000	0.605	Very strong association
Theft of stationery	Solvency	0.026	0.489	Very strong association
Purchases not being recorded		0.020	0.497	Very strong association
Payments not being recorded		0.034	0.481	Very strong association

Source: Author's own

From the results in Table 4, it becomes apparent that there were very strong associations between employees using work time to do personal work and profitability, theft of stationery and liquidity, creditors being paid late and liquidity, invoices received from made-up vendors and liquidity, credit being made to unauthorised customers and liquidity, embezzlement and liquidity, employees using work time to do personal work and liquidity, theft of stationery and solvency, purchases not being recorded and solvency, as well as payments not being recorded and solvency. Alternatively stated, the 10 listed occupational fraud risk were very strongly associated with the financial sustainability of sampled SMMEs. Although the association cannot confirm causation, the probability exists that these listed occupational fraud risk items are critical items that may adversely affect the financial sustainability of sampled South African SMMEs and/or trigger the realisation of other occupational fraud risk that can transpire in the foreseeable future. For the abovementioned risks to be addressed and mitigated, South African SMMEs should develop and implement controls in order for these businesses to remain sustainable and operational. Building upon the identified occupational fraud risk items and their potential impact on financial sustainability, the subsequent recommendations offer actionable strategies for South African SMMEs to proactively prevent, detect, and correct these risks, thereby fostering their long-term viability and operational resilience.

RECOMMENDATIONS

For South African SMMEs to be financial sustainable and viable, it is paramount to be aware of adverse risks specifically occupational fraud risk and mechanisms and strategies to prevent, detect and correct these risks must be implemented and enforced by SMME owners and/or managers. Stemming from the results of the study, the following recommendations are provided but are not limited to:

- Implement access controls by restricting unauthorised access to stationery storage areas.
- Allocate only authorised personnel to have access to the locations.
- Establish robust governance and tone at the top processes.
- Implement a sign-out process and/or system for stationery.
- Install security surveillance cameras in key areas.
- Consider offering flexible work schedules.
- Implement and/or set up reminders for payment deadlines.
- Designate a responsible person to manage the payment function.
- Establish and adopt a credit management policy.
- Implement routine (monthly or quarterly).
- Establish a vendor verification process.
- Establish and maintain a vendor master list.
- Implement segregation of duties.

- Establish a whistleblowing mechanism.
- Establish and adopt a code of ethics policy.
- Conduct periodic reconciliations.

CONCLUSION

South African SMMEs are prominent vehicles used to add socio-economic value to the national economy by alleviating poverty, creating job opportunities, and/or boosting the overall national economy. Despite the value added by South African SMMEs, they operate in a harsh economic environment which makes it difficult for them to remain in operation in the foreseeable future. It is thus of no surprise that scholarly literature hails these business entities as having the highest failure rate in the world. One of the inherent risks to which South African SMMEs are susceptible is that of occupational fraud risk.

From the research conducted, it was found that SMMEs are negatively affected by occupational fraud risk which in turn has a severe impact on the overall financial sustainability and viability. To better understand how occupational fraud risk may affect the financial sustainability and viability of South African SMMEs, a Chi-square test was performed. From the results, it is evident that out of the 78 tested associations, only 10 were found to be statistically significant – six occupational fraud risk items were associated with liquidity, three occupational fraud risk items were associated with solvency, and one occupational fraud risk item was associated with profitability. Thus, the inference can be made that since certain occupational fraud risk items are more associated with the financial sustainability of sampled South African SMMEs than others, it may be that these occupational fraud risk items may be more influential on the financial sustainability and viability.

To mitigate the adverse impact of occupational fraud risk on the financial sustainability of sampled South African SMMEs, it is imperative to develop and establish robust mitigating mechanisms and strategies. The study recommends specific mechanisms and strategies for preventing, detecting, and correcting occupational fraud risk within South African SMMEs to enhance their financial sustainability and viability in the foreseeable future. Recognising the uniqueness of each South African SMME, it is essential to acknowledge that these mechanisms and strategies are not universally applicable, however, it should be utilised using a customised implementation approach

and development structure by SMME owners and/or managers (tone at the top).

LIMITATIONS AND AVENUES FOR FURTHER RESEARCH

As the study relied on non-probability sampling techniques (purposive and convenience sampling), traces of sampling bias may be possible (particularly in relation to physical proximity between the researchers and respondents). The latter was limited by the development of strict delineation criteria to which every respondent had to adhere to. Furthermore, the results from this study are not generalisable as the data stem from a specific selection of South African SMMEs in the Fast-Moving FMCG industry. Lastly, although statistically significant associations were found to exist between variables, associations does not imply causation.

This paper thus sets a foundation for future empirical research to be conducted which may include, but is not limited to:

- Associations between occupational fraud risk and the financial sustainability of non-FMCG South African SMMEs.
- Strategies for mitigating occupational fraud risk in FMCG South African SMMEs toward sustainable business practices.
- Qualitative perception of owners/managers surrounding occupational fraud risk and financial sustainability in FMCG SMMEs.
- Qualitative perception of owners/managers surrounding occupational fraud risk and financial sustainability in non-FMCG SMMEs.

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Key audit matters in Indian companies

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Purpose: This study focuses on Key Audit Matters (KAMs) in audit reporting for Indian-listed companies for the years 2021 to 2023. Since the issuance of ISA 701, KAMs have gained significant importance in increasing audit transparency and increasing stakeholders' understanding of issues that affect the financial statements. This study seeks to fill this research gap that relates to KAM reporting in developing economies such as India considering current corporate governance issues and recent financial scams.

Methodology: The data was collected from the audit reports of the selected 40 firms from their annual reports or websites. The study adopted thematic analysis to determine the common themes in KAM disclosures, including visionary leadership, innovation culture, and compliance monitoring. The agency theory can be used to explain how KAMs mitigate the problem of the principal agent by improving the flow of information between the shareholders and the managers on the risks and judgments involved in the financial reporting process. The signalling theory was used to support the functioning of KAMs as they serve as a signal of the audit firm's dedication to identify matters and perceived quality of financial statements.

Findings: The study results indicated that there was a variation in the type and incidence of KAMs across different industries, thereby showing that regulatory requirements and conditions influence audit practices. It also showed the usefulness of KAM reporting for investors, regulators, and auditors, suggesting that KAM enhances audit quality and boosts transparency.

Contribution: This study extends the present knowledge on KAMs in the context of India and provides useful information to policymakers, practitioners, and scholars who want to improve the corporate governance and financial reporting environment in India.

Keywords: Key Audit Matters; ISA 701; Corporate Governance; Disclosures; Compliance; India

INTRODUCTION

KAMs is a significant aspect of audit reporting, especially after the adoption of new auditing standards and guidelines in ISA 70 (Fera et al., 2022). KAMs are matters that, in the auditor's opinion, hold the greatest importance in the audit of the financial statements for the current period (Elmarzouky et al., 2022). This, in turn, would assist in increasing the understanding among stakeholders about matters that are most important in an audit. The importance of KAMs is especially amplified in the context of India as the country has a distinct and evolving economy and policies and procedures. The economic context in which Indian firms, especially the firms listed on the stock exchanges, operate is a dynamic one, and issues such as corporate governance, transparency, and investor protection are critical (Sridhar and Jasrotia 2021). Analysing KAMs, one gets an insight into the difficulties experienced by auditors in providing

assurance on financial statements and the matters that require additional focus on the audit (Klevak et al., 2023). There are limited studies on the use and effectiveness of KAMs in developing countries, including India (Alrashidi et al., 2021). India has partially adopted the ISAs, with other standards largely aligned with the ISAs. Specifically, ISA 701 is aligned with the reporting practices in India. Most of the earlier research on KAMs has been conducted in developed countries, thereby creating a research void concerning how such matters are cascaded in countries with varying legal, economic, and cultural profiles (Liu et al., 2023). In the Indian context, especially after the series of corporate scams and frauds that had a severe impact on the economy, the role of KAMs is a significant one (Alrashidi et al., 2021). However, studies on the extensity and the frequency of KAMs disclosed by the Indian listed firms and the nature of accounting problems dealt with by these KAMs are indeed scarce (Alrashidi et al., 2021). This study addresses this

challenge by extracting and analysing the KAMs of 40 Indian-listed firms for the years 2021 to 2023.

The aim of the study was to investigate the number of KAMs reported and the themes/issues reported in Indian-listed companies during this period. It also aims to categorize the accounting themes and issues covered by KAMs and hence provides a basis for understanding the key areas of concern as highlighted by the auditors. In addition, the research aims to analyse the differences in the disclosures of KAM reporting across different sectors within the sample to determine sector-specific influences on the nature and frequency of KAM disclosures.

While India moves closer to the global economy, the comprehensiveness and credibility of its corporate financial reporting received growing concerns from international investors and standard-setting bodies (Taneja et al., 2022). The prominent problems identified during audits, KAMs significantly influence stakeholder perceptions of a firm's economic condition and corporate conduct (Sharma et al., 2020). The findings of this research can be significant for the auditing profession, regulators, investors, and academics due to the understanding of indices of auditing in India and the impact of KAMs on audit quality and transparency (Varma et al., 2023). This research could impact the audit practices and policies within India and, therefore, improve the country's general financial reporting system. By analysing the findings derived from the number and type of KAMs reported and their relevance to the stakeholders, this study will add value to the existing literature in the context of audit reporting and corporate governance in developing countries.

LITERATURE REVIEW

According to Elmarzouky et al., (2022), the important aspects of the audit related to risks in an organization's financial statements are defined as Key Audit Matters (KAMs). Implemented internationally through ISA 701, KAMs are meant to increase the audit process's clarity through reporting about the most difficult, subjective, or intricate observations made by the auditor during his/her audit (Klevak et al., 2023). According to (Klevak et al., 2023), this practice partially moves the attention away from the clear pass/fail dichotomy of the audit opinion to the factors that gave rise to it and provides stakeholders with more information about the auditor's thinking process. KAMs are chosen depending

on some factors such as the sectors, which are considered riskier in the assessments of material misstatements, where much of the auditor's judgment is applied to the accounting practices or standards (Joshi, 2021). According to Joshi (2021), this helps in coming up with the right decisions within the organization and in addition, escalates the perceived quality of the audit. Thottoli and KV (2022) state that KAMs is an aspect of audit reporting that is a very important approach because it brings the auditor's communication nearer to the needs of the financial statement users. Despite the technicality of their content, KAMs are germane to the specific statement, elucidating the conditions and concerns surrounding the preparation of the audited entity's financial statements (Thottoli and KV, 2022). According to Ayinde et al., (2021), this approach can be said to offer the stakeholders a better understanding of the decision-making process of the auditor, which enables them to offer a better judgment of the statements. When these specific areas of emphasis are achieved, these KAMs enhance the quality of the audit and exponentially increase investors' confidence and regulators' supervision. Almaqtari et al. (2020) state that the reporting of high-risk and complex areas allows for a review in case the audit opinion is misunderstood, providing additional information to assess the company's financial status and operational issues.

(Kashirskaya et al., 2020) state that the KAMs are considered to have revolutionized the structure of audit reporting at the international level through the introduction of a new method of presenting important issues arising from audits. Due to the implementation of ISA 701 by the International Auditing and Assurance Standards Board (IAASB), audits have become more informative and transparent in the different jurisdictions. Thottoli and KV (2022) state that KAMs have had a large rollout impact in developed economies, including the U.S. and countries in the European Union, through improving audit quality as well as stakeholders' confidence. Maltby and Chandler (2020) state that the extent of adoption of ISA 701 in these areas depends on the maturity of regulations and practice in audit in different regions. Thottoli and KV (2022) state that for challenges identified in countries such as India, the inclusion of KAMs in audit reports attempts to provide the solutions mentioned above because, when analysing financial statements, it is essential to consider the specifics of the countries' economic environment. Internationally, the

introduction of KAMs has led to debate on the issue of audit firm models and the need to have a set practice to accommodate the variances of different economies. According to Suman and Singh (2021), India has recently amended the Rules to incorporate KAMs as a new form of audit reporting. (Goh et al., 2023) state that India's weak financial reporting in the past added to the number of corporate failures, and governance concerns have escalated the demand for KAMs. It is also important to note that the practices of KAM reporting vary depending on the sectors where the firms operate, and the difference could be because of other factors such as the regulatory requirements in the respective sector, or industry norms and the structure of business activities in the firms. For instance, industries that are heavily engaged in the research and development process, including the technology and pharmaceutical industries, could include KAMs touching on intangible assets' valuation and research costs.

According to Musleh et al. (2022), the success of KAMs in India depends upon the ability of such auditors in maintaining consistency in the application of such standards, other than the willingness of companies to respond to the enhanced regime of reviewing which KAMs offer. Akther and Xu (2021) state that KAMs can be useful in enlightening investors, regulators, and other members of society having claims on the firm's financial statements on the most sensitive and risky areas of reporting, which makes it easier to understand the challenges and risks faced by firms. KAMs can strengthen corporate governance because KAMs draw attention to the important matters that should be addressed by the management and the board of directors (Akther and Xu.,2021).

(Almaqtari et al., 2022) state that with the use of KAMs, major differences are observed in terms of content and frequency across different sectors of audit, due to the differences in risk factors. In the banking sector, KAMs would prioritize loan impairment, financial asset revaluation, and regulatory compliance. Thottoli and KV (2022) state that these sectors tend to bear more financial risk and attract more regulatory control, which results in a higher association of KAMs with the aspects of financial risk and evaluation. According to Dakhli et al. (2021), KAMs operating in sectors such as manufacturing or retail might focus on aspects such as the valuation of inventories, revenue recognition, or risks in the supply chain. In these industries, competitive and environmental issues are mostly

management of operations and the effects of the business's cyclic nature on its financial performance. Mardessi (2021) states that the nature of KAMs in these types of industries can shed some light on how the companies are concerned with operational risk, inventory fluctuation, and overall revenue interconnection.

Kateb and Belgacem (2024) state that the improvements of KAMs are one of the severe problems in the potential variability of the KAMs disclosure and reporting between the firms and auditors involved. This may result from differences in the auditors' judgment and in their understanding of what the company should include in KAMs, resulting in differences in the level of detail and precision in disclosures. According to Maji and Saha (2021), consequently, there may be variability in the amount of information delivered to stakeholders about the crucial concerns taking place during audits, which goes counter to the basic principle of operations of KAMs. Zhou (2022) states that although KAMs are aimed at offering a detailed understanding of the high-risk zones, the language used and the descriptions are often complicated. Such a situation may also hamper the efficiency of KAMs in increasing the clarity of financial statements and may cause misunderstandings among investors and other users of the statements. Thottoli and KV (2022) state that at other times, the disclosures may simply become very routine, and what firms deliver is often standardized and very general information that does not reflect on the actual nature of the risks that the firm must confront or the actual difficulties that it experiences. According to (Elmarzouky et al., 2022), this could perhaps reduce the effectiveness of KAMs as an instrument for transmitting key audit considerations as well as identifying the needs of the stakeholders.

According to Ayinde et al. (2021), this is based on the background that theoretical frameworks are important assets as they build up a tile framework to understand the picture of KAMs and their impact on audit reporting. The agency theory can be used to explain how KAMs mitigate the problem of principal-agent by improving the flow of information between the shareholders and the managers on the risks and judgments involved in the financial reporting process. Stakeholder theory also notes that KAMs are required to address the needs of other stakeholders, such as regulators and the public, which means that KAMs indeed serve the needs of more than the shareholders.

According to (Elmarzouky et al., 2022), signalling theory also offers support to the functioning of KAMs as they serve as a signal of the audit firm's dedication and the perceived quality of financial statements. These theories support the role of KAMs in raising the quality of audit reporting, managing conflicts of interest and communication, contributing to better financial monitoring, and increasing stakeholders' confidence. If properly developed to suit regional and legal systems, KAMs can benefit audit quality and corporate governance, even though the methods of applying them are not perfect since they are not fully standardized and might be ambiguous Kend & Nguyen, (2022).

METHODOLOGY

This research on KAMs adopts a qualitative content analysis approach, using a deductive method to analyse KAM disclosures from auditor reports, with data systematically collected from publicly available annual reports, coded using thematic categories, and managed through a thematic table for consistent and replicable analysis.

Data collection

The data for this study were obtained from annual reports of the Indian-listed companies for the years 2021 to 2023. Within the large firms represented in the main shares of the BSE and NSE in India, the sample consisted of 40 companies. Factors such as size or market capitalization, kind of industries, and firms' availability of a complete data set of financial and audit records for the specified fiscal years were considered in selecting these firms. The target was to obtain a sample of diverse KAMs because sector-specific conditions were anticipated to affect the type and regularity of KAM disclosures. The sample included companies from the banking, healthcare, government, infrastructure, and manufacturing industries as part of the selection. Those corporations from the top of market capitalization were chosen since their annual reports usually contain more detailed KAMs than companies with less informative financial statements. The total number of companies listed on the BSE and NSE is over 4000 Companies. The sample selected was therefore judgmental based on the criteria mentioned above.

Data analysis

The reports were downloaded from the public domain as information from BSE and NSE, as well as individual company websites. Both the annual reports and accounts and the strategic reviews were then examined to determine where KAMs were reported. The audit reports showed the KAMs according to the definition of the auditors and explained why these matters were deemed important (Rahaman et al., 2023). Emphasis was placed on the credibility and generalizability of the data, which helped us understand the KAM reporting practices in the Indian environment. The chosen sample enabled analysis of the KAMs of various industries and company groups, which gave exhaustive information about how KAMs were reported in India during the period of the research, characterized by crucial economic and regulatory shifts. This facilitated the carrying out of the analysis of the KAMs for the period and provided insights into the trends and shifts in audit reporting practices therein as a result of the dynamism of economic conditions and compliance with the set requirements (Abdullatif and Al-Rahahleh 2020).

The source of data was the KAM disclosures made in the audit reports, for which the research adopted a qualitative content analysis method for analysing textual and descriptive data. The main purpose of the method used in the research was to categorize and understand what KAMs are and what kind of accounting topics and issues the auditors considered relevant in the Indian context. The process commenced with the compilation of the audit reports, which were extracted from the annual reports of the companies in question. Every identified KAM was recorded, accompanied by the auditor's description of why the issue at hand was relevant and the processes used in the audit to deal with the issue. The qualitative content analysis concerned coding these KAMs into various categories, arguably in terms of the accounting themes or issues they covered, including revenue recognition, asset valuation, tax liabilities, compliance with the requirements, etc. (Ecim et al., 2023).

The framework was structured by reference to themes derived from previous literature regarding KAMs, in particular, the Ecim study was used, yet also remaining open to new themes or both sub-categories and super-ordinate categories if identified during the study. The coding was done manually, and this was aimed at capturing as much information as possible regarding

the context of the identified KAMs. To address these potential sources of bias and improve the rigor of the analysis, the authors engaged in the coding process separately. The codes were then reviewed several times by the first and second authors. The authors compared these codes, and any discrepancies were discussed to reach a consensus. Besides categorizing the KAMs, the methodology also entailed determining the number of examples of each type of KAM in the sample. Such quantification made it possible to determine KAM reporting trends within the three years and compare them with sector differences. The frequency analysis gave an understanding of the current and potential shifts in the areas of concern for Indian auditors since the economic calamity and other prevailing economic or regulatory circumstances (Prasad and Webster, 2022).

The sample included various industries since industry classification allowed for the identification of a firm's sector, it was possible to evaluate the extent to which industry factors impacted the type and number of KAMs identified. This sectoral analysis also supplemented the auditors' perception of the challenges and risks in different industries (Teucher and Ratzinger-Sakel, 2023). The method employed assessed the relevance of KAM reporting to different stakeholders. This type of assessment calls for a judgment made by the researchers of the KAMs within the context of India's financial and regulatory environment. Every identified KAM was recorded, accompanied by the Auditor's description of why the issue at hand was relevant and the processes used in the Audit to deal with the issue. In addition, as a part of this study, the researchers examined how current reported KAMs might prove useful and relevant to investors, regulators, and auditors in connection with risk assessment as well as corporate governance decision-making. The research methodology was designed to provide the most comprehensive and rich description of KAM reporting in the Indian-listed firms. When performed and complemented by the subsequent quantitative frequency analysis and intersectoral analysis, this kind of qualitative content analysis proved to be a rather robust method to analyse the data; this has been used to reason about the topic of audit practice and financial reporting in the Indian context (Moses and Hopper, 2022).

RESULTS AND DISCUSSION

The analysis of the data identified the following key themes in the disclosures of KAMs.

Visionary leadership

Several of the KAMs reported by companies over the review period featured Visionary leadership as one of the most recurrent themes. These areas of concern that the auditors brought out included leadership areas that may have ramifications on the financial reporting and performance of the firms. Some firms reported KAMs pertinent to the reliability of the forecasts and budgets developed by top management. The timing and sequencing of financial decisions as well as expectations in longstanding global economic conditions by the corporation's leaders, were paramount during uncertain markets (Akther and Xu, 2021). They looked at whether all risks to the business were contained in the forecasts arising from external factors such as the COVID-19 pandemic and economic slowdown, among others. In addition to the elements of forecasting, KAMs addressed threats that were related to excessive reliance on key managers. Some of the companies owned by families or promoted by key individuals placed great importance on the strategic positions held by some individuals regarding sustaining business relations, dealing with operational concerns, and implementing expansion measures (Al-Homaidi et al., 2021). They inquired on matters concerning succession planning and preventive/ corrective measures against tendencies of overreliance on some people (Almaqtari et al., 2021).

Leadership changes can slow down business operations and hamper the achievement of continuity, profitability, and the future. Some of the companies from very sensitive industries reported KAMs relating to integrity and compliance monitoring by boards and other top executives. Investigations were also carried out into the structures that were put in place to monitor the company's compliance with regulations and internal policies. Situations in which either the officials failed to follow the standards or acted intentionally to deviate from them were identified when there was no proper leadership or when the leadership was negligent (Almaqtari et al., 2022). Any of these kinds of compliance failures may draw monetary penalties, litigations, or reputational risks for the companies. It seemed that auditors were questioning the companies' reliance on key people, the

assumptions made in the forecast, and examining the general integrity and monitoring controls implemented by the management. This corroborated the contingency of emphasis by auditors on the presence of competent and accountable leadership in the reduction of risks to financial reporting (Almaqtari et al., 2020).

Fostering a culture of innovation

Several KAM disclosures were about matters touching on the concerns of companies looking to promote an innovative culture. Innovation was perceived by senior management as the driver of competitive advantage that would help them to decrease their dependence on current sources of revenue and increase future growth prospects. Consequently, a large amount of money was being spent on research & development programs and modernising plant & machinery, and in other business expansion ventures. Still, there were some concerns raised about maintaining and innovating measurement systems such as the risks associated with uncertainties and execution problems related to such innovation drives (Ayinde et al., 2021). R&D projects were tied up with technical barriers, shifting customer trends, regulatory/government clearances, and other contingency factors. Any disruption of the project schedules might lead to problems in the company's cash flow. The following controls were evaluated: the appropriateness of controls concerning budgeting, tracking of progress, and contingency planning for new ventures. They also looked at carrying value, exercise, and impairment signs for continuing dormant research and development projects (Dakhli, 2022).

In initiating a new product/service, the following risks were associated with customer acceptance, problems in supply chain management, and better/cheaper production/ pricing issues in the initial phases. Policies on testing of demand for customers, processes of order handling, and monitoring of quality-related complaints were examined by auditors. They examine the recoverability of assets corresponding to innovations experiencing some forms of commercialization challenges. The audits carried out focused on assessing the efforts made to analyse risks particular to countries before signing expansion deals. The treatment of accounts and appearances of subsidiaries/branches established in foreign countries were also examined (Elmarzouky et al., 2022).

Building partnerships and alliances

Most firms realized that alliances as well as strategic collaborations were critical for realizing economies of scale and aggregating resources that were complementary and for diversifying into related and unrelated markets. To implement such strategic partnerships, KAMs pointed to several audit risks related to various collaborative business models. One of the regions of interest was the recognition of revenue and profits from contracts with more than two parties. The auditors also assessed the treatment of various supply chain contracts, project implementation, and outsourced service contracts. They evaluated the allocation of tasks accountability, the scheduling of payments, and the method of distribution of profits of the alliance partners (Goh et al., 2023). Such agreements contained certain grey areas and contradictions and any of such could raise questions over the division of revenues. KAMs exposed the working difficulties that arose from the reliance on other organizations. While some of the manufacturers decided to outsource some of their production activities, others relied on vendors in the networks for the supply of raw materials or components. On supply disruption by vendors and auditors checked on the list of alternate sourcing strategies, quality assurance, and inventory buffer to sometimes establish their adequacy and appropriateness.

Auditors scrutinized contracts for commitments resulting from delay or quality variance by the vendor. Both joint ventures and acquisitions were looked at carefully when it came to possible post-M&A integration risks. Responsible officers addressing items for audit determined financial consequences of reorganization costs, as well as impairments of acquired goodwill and other acquired intangible resources resulting from synergism not accomplished as planned (Joshi, 2021). They considered commitments made for capital expenditure, by way of guarantees and the contingent liabilities taken on in acquiring other enterprises. While a new opportunity opened with alliances, they also posed audit issues with respect to splitting of profit/loss, reliance on another entity, and contractual obligation on companies. It pointed to the KAM disclosures where auditors had factored out partnership risk implications in an extensive manner (Kashirskaya et al., 2020).

Navigating disruption and change

The business environment in India has experienced some drastic changes in the structure and dynamics over the chosen period, owing to external factors such as the COVID-19 crisis, inflation trends, global tensions, and policies or standards liberalization. Several of the KAMs pointed to the audit risks arising from companies' attempts to operate under the changing conditions. An issue raised was the effect of variability of demand on revenues and the business's working capital cycle. Specific areas looked at included the soundness and justification of changes in sales forecasts, price lists, customer credit policies, etc., that were done in the light of market risks. They also focused on the inventory provisions and estimates that have been made while determining the net realizable value of finished goods and work-in-progress. Many sectors were forced to adopt new ways of operating, cost management initiatives, workforce reduction schemes, or programs toward repositioning of product portfolios (Kateb and Belgacem, 2024).

Non-recurring charges/gains recorded were supported through making assessments of the restructuring reserves and re-skilling expenditures incurred, and the useful lives and recovery of the assets. Regarding change control review, auditors were concerned with issues related to migration to new platforms, access rights authorization, and cybersecurity risks. Any implementation problem regarding data integrity or system reliability may affect the financial reporting. Where companies were diversifying into allied sectors and newer markets, these required cautious monitoring of impairment indicators for diversification assets (Klevak et al., 2023). It was also found that auditors had investigated aspects of accounting for start-up costs, determining the accounting value of intangible assets and the tax and working capital implications of such managerial decisions. In other words, the KAMs pointed out the manifold consequences that disruptions held for companies, which required careful review of change, provisions, asset valuations, and notification of once-off effects to the interested parties promptly (Maji and Saha, 2021).

From the results that have been obtained, the following general observations can be made. The themes revealed that the auditors incorporated the financial as well as non-financial factors while assessing the audit risks. Both transactional and strategic risks, accounting and operational, compliance, and

sustainability risks were assessed (Kashirskaya et al., 2020). This suggests the beginning of a transformation towards the framing of enterprise risk management in the contemporary business environment. In this way, through KAMs, auditors are making an effort to provide a more qualitative and overall view of a company's prospects to different stakeholders, apart from the traditional method of Consolidated Financial Statements. The areas concerning leadership aspects, innovation culture, strategic partners, disruption management, etc., highlighted the extent to which auditors appreciated organizational factors and processes impacting the risk profile of organizations (Goh et al., 2023). Conventional accounting standards were more inclined toward the legal or more specifically, toward the transactional notions. With KAM reporting, auditors are enhancing the reporting of financial statement audits with a valuable perspective on the quality of leadership, structure, and robustness of risks affecting a business model. This adds more meaning to the financial results and assists stakeholders in evaluating the future better (Joshi, 2021). Leadership integrity emerged significantly in the regulated areas, while innovation culture and innovation risk were most closely correlated with manufacturing and the fast-evolving consumer sector. Auditors adapted the concentration areas based on different industries (Akther and Xu, 2021).

Under leadership risks, auditors looked at the succession plan together with the earnings forecast (Kashirskaya et al., 2020). While evaluating the risks of the alliances, they also validated underlying contracts and dependency characteristics. These examples highlight how KAMs give attention to specific risks at a detailed level. The findings show how KAM disclosures have gone a long way in enriching the value addition of auditors over and above historical records (Joshi, 2021). With the provision of a balanced risk perspective that covers the strategic, operational, and compliance elements, auditors are adding value within the decision-making frameworks embraced by these decision-makers. In the future, as KAM practices advance, they can stimulate quicker and more effective risk management by companies and assessment by external parties (Akther and Xu, 2021). There was evidence of cross-reference of KAMs to other sections of the annual report, for example, where leadership KAMs were linked to remuneration details or where governance KAMs were linked to board composition. Reporting by the banking sector provided above-average KAM reports, while other regulated sectors,

for instance, the healthcare sector, provided skewed KAM reports that were relatively restricted in coverage. Some specific sectors' rules might elicit better reporting from such areas (Elmarzouky et al., 2022).

In the future, as business risks are associated with ESG factors, audit standards could consider integrating sustainability-related risks in an integrated manner within KAMs. Since it is possible to trace the connections between operational resilience and climate/social responsibilities, one can incorporate these views to support comprehensive evaluations. Regulatory backing, combined with internal cooperation and market leader promotion, improvement of frameworks of reporting and auditing in the next decade could be made (Akther and Xu, 2021).

CONCLUSION

There is scope for organizations to be more precise on the contents of KAMs discussed to benchmark them over time or against other companies. This will assist stakeholders in making a better assessment of the risks and the progress being made. Management should present how these KAMs have been handled each year so that they can be evaluated. Since leadership was central to the decision of strategy and financial outcomes, companies would value enhanced standards for identifying talent and debating the integrity of top executives (Abdullatif and Al-Rahahleh, 2020). Management requires strict accountability of strategic planning, assumptions, processes, and controls. Given the increasing significance of partnerships and alliances, such items as more standardized disclosure of contractual terms, backup strategies in case of disruption, and the criteria for measuring partnerships' performance would help investors comprehend reliance and risks. Evaluation of cultural compatibility during acquisitions also deserves some consideration. Disclosing innovation initiatives can encompass more detailed qualitative information on new product development processes, risk management practices, and stage gate approval controls (Ecim et al., 2023). Accounting for commercialisation successes and failures in the tracking of performance metrics would communicate management of change to the organization. Regulators should be thinking about making it compulsory to incorporate sustainability risk in the reporting of KAMs as a way of enhancing the resilience assessment, given

the growing ESG matters. The consistent practice enhances the standards and decision value of reporting quality across the different sectors. In general, more focus should be given to long-term strategic risks versus annual results (Moses and Hopper, 2022).

Auditor's efforts to provide a broader perspective beyond annual financials and KAMs disclosures offered valuable qualitative risk insights, however, some limitations were noted. Historical data and closure updates on ongoing KAMs were generally lacking. Linkages to other report sections and the prominence of stakeholder perspectives could also be strengthened. Overall, the study findings indicate that KAMs reporting in India is enhancing auditor value and can be further developed (Moses and Hopper, 2022).

A limitation of the study was that it was not over a long period. Examining reports over multiple years could provide greater insight into evolving trends. The study also had a small sample size drawn from large, listed companies, so findings may not be generalized to smaller private firms. Another limitation was that content analysis of published reports alone was conducted, without primary data collection through interviews with company management and auditors. This did not allow for clarification of disclosure rationale or exploration of firm-specific circumstances in more depth. Reliability of findings could also be impacted because KAM reporting practices continue to develop with no standardized disclosure framework currently (Rahaman et al., 2023). Comparability across sectors may be limited given flexibility in report formats and depth of information provided. The study only analysed information presented within KAMs disclosures themselves, without considering correlations to other parts of annual reports or financial performance outcomes over time. A more integrated evaluation approach could provide a fuller picture. These limitations note opportunities for broader sampling, primary data sources, and longitudinal analysis to further validate and expand on the conclusions of this research (Rana et al., 2021). Future research possibilities to use a purposive or a random sample of organizations with a greater number of cases, industries, and over time to enable more detailed findings of changes over time. Interviewing reporting firms and auditors would give an appreciation of certain disclosures that otherwise can only be given an interpretation from the published reports. Cross-country research examining other emerging economies or even international KAM

practices could uncover best practices as well as convey lessons to be learnt both for the applying organizations as well as for the standard setters (Teucher and Ratzinger-Sakel, 2023). Increased attention to sustainability-related risks, incorporating environmental, social, and governance themes into KAMs, could be a future study.

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The assurance role of internal auditors in environmental, social, governance and sustainability reporting

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Purpose: The purpose of this study is to unpack the factors shaping the assurance role of internal auditors in environmental, social, governance and sustainability reporting.

Research context: The internal auditors' role was considered in the context of multiple environmental, social, governance and sustainability reporting frameworks and standards in the context of the definition of internal auditing and combined assurance. The guidance of the Institute of Internal Auditors informed the normative assurance role of internal auditors in a context where sustainability-related assurance roles follow various practices with different levels of assurance.

Research method: A structured search was performed in Scopus and Google Scholar using a systematic review process that centres on research articles and conference papers across all years. The advantage of a structured search is that it helps to uncover areas of future research and enables the identification of factors shaping the assurance role of internal auditors.

Results: The results highlight a mix of internal and external factors shaping the internal auditors' assurance role in environmental, social, governance and sustainability reporting. The internal factors include expectations from the audit committee and management, the level of resourcing of the internal audit function the size of the function, its charter and involvement in risk management. The industry type and sustainability-related regulations are external factors.

Contribution: This study shows that the emerging sustainability-related assurance role of internal auditors is shaped by several role-defining, role-enabling and role-limiting factors originating internally and from the entity's industry. Considering these factors may be valuable for boards, audit committees and management when unpacking the assurance role of internal auditors in environmental, social, governance disclosures, specifically in the context of a combined assurance arrangement. While role-enabling factors could be leveraged, the role-limiting factors could be supported and enhanced by other assurance providers. The study also highlights a need for further research on the assurance role of internal audit in supporting the credibility of environmental, social, governance and sustainability reporting.

Keywords: *Role of internal audit, ESG assurance, sustainability assurance, internal assurance factors, shaping the internal audit role*

INTRODUCTION

The internal auditors' (IAs) assurance role evolved to include assurance over environmental, social and governance (ESG) and sustainability reporting (Eulerich, Bonrath & Lopez Kasper, 2022). As companies are embracing the notion and practice of sustainability following the 2015 Paris Agreement (Sindico, 2016), it is not unexpected that the internal assurance role of IAs is extended to ESG and sustainability (Eulerich *et al.*, 2022). The role of external assurance in ESG and sustainability is well documented (Boiral, Brotherton & Talbot, 2024; Maroun, 2022; Venter & van Eck, 2021). These external assurance providers include accounting firms (Babington, Hodge, Maroun, Mytton & Simnett, 2025) and contractors with expertise in ESG and

sustainability disclosures. However, unlike in financial audits, the external assurance role varies widely with differing levels of assurance and a range of metrics (Gipper, Ross & Shi, 2024), given a lack of standardisation. This study aims to unpack the IA assurance role and factors shaping the internal audit role in ESG and sustainability assurance, using a structured literature review.

The need for ESG reporting is anchored in climate change challenges. 2024 recorded unprecedented global temperatures and greenhouse gas levels, that contributed to extreme weather events, including floods, droughts, heatwaves and wildfires (Copernicus, 2025). As such, entities should "be seen to be responsible corporate citizens" (IoDSA, 2016:45), and report on ESG and sustainability matters. The Institute

of Internal Auditors (IIA) note that the demand for ESG disclosure are driven by demands from stakeholders and governing bodies (IIA, 2022), including investors (Kim & Park, 2023). In this context the *Global Internal Audit Standards* (GIAS) issued in 2024 emphasised that IAs need “to serve the public interest” (IIA, 2024:7), which supports the need to assure ESG reports (Gipper *et al.*, 2024). As ESG reports disclose an entity’s sustainability performance against the ESG initiatives to inform decision-making (IIA, 2021), assurance over the process is in line with the definition of internal auditing. Internal auditing is defined as “an independent, objective assurance and advisory service designed to add value and improve an organization’s operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of governance, risk management, and control processes” (IIA, 2024:12).

However, the variety of ESG practices and requirements coupled by jurisdictional information needs from different stakeholders complicate ESG reporting as noted by the International Federation of Accountants (IFAC, 2024). Entities in the European Union (EU) are mandated to report sustainability information (EU, 2024), whereas in other areas, there can be voluntary reporting or even dual-levels of reporting to abide by the demands of multiple ESG-related frameworks (IFAC, 2024). Unfortunately, ESG reporting is also tainted by false reporting called greenwashing.

Greenwashing is “the dissemination of misleading or deceptive publicity by an organization with the aim of presenting an environmentally responsible public image” One of the adverse financial consequences of greenwashing is a reduced ability to attract investment (leading to underinvestment) and higher financing costs (Xue, Wang, Yang, Linnenluecke, Jin & Cai, 2023). Multiple stakeholders suffer the consequences of greenwashing, including investors and financial institutions (Sabauri, 2024). Santos, Coelho and Marques (2024:655) found that addressing greenwashing improves corporate reputation by reducing the perception of green risks with improved environmental performance. As such there is a need to assure ESG reporting to add credibility to the ESG report and address the risk of green washing.

A structured search was performed in Elsevier Scopus and Google Scholar to identify literature that addresses

the following research question: What are the factors shaping the assurance role of IAs in ESG and sustainability reporting? Search terms used include “internal audit” and “reporting”, without a period limitation. A total of 277 studies were found and screened ending in 13 studies. The research found instances where IAs were required to fulfil management functions (Aureli, Del Baldo, Lombardi & Nappo, 2020), which are in conflict with the IAs role in the GIAS (IIA, 2024). In addition, the study contributes by identifying factors that define, enable and limit the IAs assurance role in ESG reporting.

The remainder of the article is structured as follows. The next section includes the background on ESG reporting, followed by the normative role of IAs in external ESG reporting. The following section describes the research method followed by a presentation of the results ending with a conclusion.

BACKGROUND ON ESG REPORTING

Sustainability is defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (UN, n.d.). In this context, sustainability reports inform investors and stakeholders of the impact of their activities on people and the environment (EU, 2024). Conversely, sustainability reporting is also used to inform investors and stakeholders about sustainability related risks and opportunities, enabling them to make informed decisions relating to the provisioning of resources to an entity (IFRS Foundation, 2023). ESG focuses on an entity’s activities in the areas of the environment, society (social) and governance (IIA, 2022), to form the basis of sustainability-related disclosures. The European Sustainability Reporting Standards (ESRS) provide a comprehensive list of concepts linked to the ESG pillars as recorded in Table 1 below.

Table 1: Concepts of environment, social and governance pillars of ESG

ESG pillar	Concept	Sub-concept
Environment	Climate change	Climate change adaptation, mitigation and energy.
	Pollution	Pollution of air, water, soil and living organisms and food resources
	Water and marine resources	Water; marine resources
	Biodiversity and eco-systems	Cause of biodiversity loss Impact on the species, the condition of ecosystems and ecosystem service dependencies
	Circular economy	Products, services, waste and low and use of resources
ESG pillar	Concept	Sub-concept
Social	Own workforce	Their rights, working conditions, opportunities and equal treatment.
	Workers in the value chain	Their rights, working conditions, opportunities and equal treatment.
	Affected communities	Community rights: Economic, social, cultural, political, and civil rights, and rights of indigenous peoples
	End-users/consumers	Information-related impacts, personal safety, and social inclusion
ESG pillar	Concept	Sub-concept
Governance	Ethical business conduct	Culture, whistle-blower protection, welfare of animals, political activities, supplier relationship management and corruption and bribery Animal welfare Political engagement and lobbying activities Management of relationships with suppliers, including payment practices Corruption and bribery

Source: EFRAG (2024:Appendix A)

As can be seen from the table there are a wide variety of ESG concepts that can be disclosed by entities. Despite the detail, the EU standards are not followed globally, and many environments apply voluntary disclosure not linked to specific standards. The variety of ESG reporting practices unfortunately resulted in legitimacy concerns (Pizzi, Venturelli & Caputo, 2024). Thus, the challenge in ESG reporting is in measuring the concepts to address the demand for better ESG metrics (Cruz & Matos, 2023). Fometescu, Hațegan and Cuc

(2024) also noted that a lack of standard measurement for ESG concepts can result in misinterpretation and confusion. Furthermore the risks of greenwashing can result in brand hate (Santos *et al.*, 2024) highlighting a need to assure ESG information. External assurance can help manage the risk of corporate greenwashing (Bu, Liu, Zhang, Hazaea, Fan & Wang, 2024), as well as restore trust (Pizzi *et al.*, 2024), and support ESG assurance data in research from 2010 (Gipper *et al.*, 2024; Sun, Zhao & Cao, 2024).

Although external assurance of ESG reporting varies in the method and level of assurance and the choice of measurement, it led to better ESG reporting (Gipper *et al.*, 2024). In addition, Sun *et al.* (2024) found that ESG assurance reduces impression management by limiting positive tones. To further support the value of external assurance on ESG Kim and Park (2023:2993) found “that assurance services have a moderating effect on the negative relationship between ESG performance and information asymmetry”. However, as management collect ESG information and prepare the report, the role of internal assurance to support the credibility of the ESG reporting process (Mohammed, 2023) should also be considered.

THE NORMATIVE ASSURANCE ROLE OF IA

The normative assurance role of IAs is mainly derived from the principles and standards contained in the GIAS (IIA, 2024). In essence the IIA is the main driver of the role of IA. However, other stakeholders do have a voice (Biddle, 1986), and regulatory guidance also need to be considered (IoDSA, 2016). The role of IA inside an entity is positioned in the *Three Lines Model* (TLM) as the third line of defence (as an independent internal assurance provider) (IIA, 2020), in line with the internal auditing definition.

The assurance role of IA need to be viewed in the context as the third line of defence within a combined assurance context (IIA, 2020), in line with the governance recommendations of King IV (IoDSA, 2016). Line 1 rest with operational management who have day-to-day ownership and management of operational risks and control (Anderson & Eubanks, 2015). As part of combined assurance the governing body oversee the management of significant risks and optimisation of assurance starting by ensuring that operational management own and manage risks (IoDSA, 2016). Line 2 is an internal monitoring service that include

speciality focused areas like risk management and compliance to help ensure the controls implemented by line 1 operate appropriately (Anderson & Eubanks, 2015). The governing body ensures that the specialist functions oversee risk management and compliance for the entity (IoDSA, 2016). The requirement that the IAF as line 3 provides assurance services on the “adequacy and effectiveness of governance and risk management” (IIA, 2020).

The requirement from the internal auditing definition “to evaluate and improve the effectiveness of governance, risk management, and control processes” (IIA, 2024:12), open the door for IA to assure all processes. When read with the requirement of King IV that the board to “assume responsibility for the integrity of external reports” including the direction over the assurance the external reports (IoDSA, 2016), the role of IA include assuring ESG reports. Given the need for internal audit to strengthen an entity’s ability to be sustainable by providing a risk-based, objective assurance is within the normative role of internal audit.

Internal auditing furthermore considers public interest (IIA, 2024). Public interest is described as “the social and economic interests and overall well-being of a society and the organizations operating within that society (including those of employers, employees, investors, the business and financial community, clients, customers, regulators, and government)” (IIA, 2024:7). The provision of assurance on the reliability of an entity’s reporting information is noted as one activity performed by IAs to support and serve public interests (IIA, 2024). Furthermore, the COSO internal control framework over sustainability reporting (ICSR) supports the provision of assurance in a combined assurance setting where IAs, the compliance team, CFO team and relevant third party assurers review the quality of key sustainability information (COSO, 2023).

Having established that the normative role of IA includes assurance on ESG activities within the combined assurance framework, the next section outlines the research methodology used to analyse the actual assurance role of the IA in ESG and sustainability reporting described in academic literature.

RESEARCH METHOD

To achieve the study’s purpose a structured search was performed, using the steps of a systematic literature

review in line with Xiao and Watson (2019). The steps are described below.

Step 1: Research question

The focus of this review was to identify and examine the literature to address the following research question:

RQ: What are the factors shaping the assurance role of IAs in ESG and sustainability reporting?

Step 2: Review protocol

To identify literature for review a database search of Scopus and Google Scholar databases was conducted using specific search terms.

Step 3: Literature search

A title-abstract-keyword search was performed in Scopus looking for the phrases “internal audit” and “reporting” in the same study. The search terms are directly linked to the research question and were selected so that all studies mentioning internal audit and reporting in the title, abstract or keywords would be included. No period limit was set. The following search string was used:

(TITLE-ABS-KEY ("internal audit") AND TITLE-ABS-KEY (reporting)) AND (LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "ECON") OR LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "ENVI") OR LIMIT-TO (SUBJAREA , "ENER")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "ch") OR LIMIT-TO (DOCTYPE , "cp"))

In addition, in Google Scholar the following title search was performed:

allintitle: "internal audit" AND reporting AND sustainable OR ESG OR non-financial OR environment OR climate OR carbon OR social OR CSR OR governance. This search did not uncover any new articles refer to Table 4.

Step 4: Screen for inclusion

The abstracts of all studies were screened using a second layer of criteria, refer to Table 2. Regarding the application of the second layer criteria, four points were awarded when a study met the primary criteria,

and one point was awarded when a study met the secondary criteria, in line with the method applied by Sánchez-García, Mejía and San Feliu Gilabert (2022:7). Studies with a total score of nine or more were included for full-text review and synthesis. Thus, to be selected for further review and synthesis, a study was required to meet both the primary criteria and at least one of the secondary criteria.

Table 2: Second layer scoring for screening study abstracts

Criteria category	Criteria (words or phrases included in the abstract)	Score
Primary	internal audit	4
Primary	reporting	4
Secondary	sustainability OR ESG OR non-financial	1
Secondary	environment OR climate OR carbon OR GHG OR energy	1
Secondary	social OR CSR (corporate social responsibility)	1
Secondary	governance (from a reporting perspective)	1

Source: Principles adapted from Sánchez-García *et al.* (2022:7)

Step 5: Assess quality

A full-text review was performed to assess the quality of the studies and to determine whether they addressed the research topic. Table 3 provides a reconciliation between the initial number of records selected and the studies included for full-text review and synthesis.

Table 3: Reconciliation between the initial number of records selected and the studies included: Scopus

Study selection actions	Total
Number of records retrieved based on search string	248
Excluded based on exclusion criteria (Duplicates, not English, not final, no DOI number)	(33)
Number of studies subject to abstract screening	215
Studies excluded based on second set of criteria (refer to step 4)	(193)
Number of publications eligible for full-text review	22
Studies excluded: full study not accessible, not addressing the research question	(9)
Studies included	13

Source: Author's own

Table 4: Reconciliation between the initial number of records selected and the studies included: Google Scholar

Study selection actions	Total
Number of records retrieved based on search string	29
Excluded based on exclusion criteria (Duplicates, not English, not final, no DOI number)	(2)
Number of studies subject to abstract screening	27
Studies excluded based on second set of criteria (refer to step 4)	(27)
Studies included	0

Source: Author's own

Steps 6 to 8: Extracting, analysing and synthesising data and research findings

Information related to the research topic was extracted and grouped by research-type and analysed separately. Information was synthesised in an Excel table to determine the main themes in the context of the research question. The reported results align to the main themes identified from the literature.

RESULT DISCUSSION

A total of 277 studies were found and screened, ending in 13 studies in Scopus and Google Scholar, as shown in Table 5. The studies included in the literature review constitute a combination of ESG and sustainability pillars and sources of research covering multiple jurisdictions spanning the period from 2011 to 2024. Some of the studies included only one of the ESG pillars, while others focused on all the pillars. Research methods include interviews, content analysis and literature reviews. Interviews were held with a variety of stakeholders including audit committee members, the company executives (c-suite), internal auditors, accountants and external auditors. The content analyses studies focused on published reports. The various studies covered multiple jurisdictions, namely Australia, Italy, Malaysia, Romania, South Africa and Uganda. Some studies were globally focused, and the jurisdiction of others was not specified.

Table 5: Summarised detail of the ESG/ sustainability pillar, focus area and jurisdiction covered by studies reviewed

Author (year)	Title	ESG/sustainability reporting pillar	Research source	Jurisdiction
B. Ackers (2016)	"An exploration of internal audit's corporate social responsibility role - insights from South Africa"	Corporate social responsibility (CSR)	CSR reports over an 8-year period (years not specified) of 100 top JSE listed companies by market capitalisation that published a CSR report.	South Africa
S. Aureli; M. Del Baldo; R. Lombardi; F. Nappo (2020)	"Nonfinancial reporting regulation and challenges in sustainability disclosure and corporate governance practices"	All inclusive	Family-owned company.	Italy
S. DeSimone; G. D'Onza; G. Sarens (2020)	"Correlates of internal audit function involvement in sustainability audits"	All inclusive	Responses of chief audit executives (CAEs) as recorded in the 2015 IIA Research Foundation common body of knowledge (CBOK).	Globally
D. S. Gherai; D. C. Sabău Popa; L. Rus; D. E. Matica; C. Mare (2024)	"The Impact of Romanian internal auditors in ESG reporting and sustainable development goals"	Sustainable development goals (SDGs)	IAs in Romania.	Romania
M.C. Kolsi; A. Al-Hiyari (2024)	"Does internal audit function outsourcing policy matter for environmental, social and governance performance score? Evidence from Bursa Malaysia"	ESG	Annual reports of non-financial listed companies in Malaysia.	Malaysia
W. Maroun (2022)	"Corporate governance and the use of external assurance for integrated reports"	ESG	Integrate reports of top 50 companies by market capitalisation published 2013 to 2016.	South Africa
R. Rakipi; G. D'Onza (2023)	"The involvement of internal audit in environmental, social, and governance practices and risks: stakeholders' salience and insights from audit committees and chief executive officers"	ESG	Audit committee (AC) members, chief executive officers (CEOs) and CAEs of 15 large public companies.	Italy
G. Richard; E. Odendaal (2020)	"Credibility-enhancing mechanisms, other than external assurance, in integrated reporting"	CSR	Integrated reports of the largest companies in South Africa by market share in 2025.	South Africa
J. Ridley; K. D'Silva; M. Szombathelyi (2011)	"Sustainability assurance and internal auditing in emerging markets"	CSR	Literature review.	Not specified
L. Sabauri (2024)	"Internal audit's role in supporting sustainability reporting"	ESG	Literature review.	Not specified
D. S. B. Soh; N. Martinov-Bennie (2018)	"Factors associated with internal audit's involvement in environmental and social assurance and consulting"	Environment and social	CAEs and partners of external internal audit service providers on IIA Australia database.	Australia
A. J. Trotman; K. T. Trotman (2015)	"Internal audit's role in GHG emissions and energy reporting: evidence from audit committees, senior accountants, and internal auditors"	greenhouse gas emissions and energy	Senior internal IAs including CAEs, AC members, senior accountants of an Australian publicly listed company and external accounting firms.	Australia
Z. Tumwebaze; J. Bananuka; T. K. Kaawaase; C. T. Bonareri; F. Mutesasira (2022)	"Audit committee effectiveness, internal audit function and sustainability reporting practices"	Sustainability	Chief financial officers (CFOs) and internal audit managers of 62 financial services companies in Uganda.	Uganda

Source: Author's own

The assurance role of IAs

The IAs assurance role in sustainability reporting practices is highlighted by Tumwebaze, Bananuka, Kaawaase, Bonareri and Mutesasira (2022:175), in a study in Uganda. This is unpacked by Maroun (2022:588) who explains that similar to “the work performed by external assurance providers, internal auditors can test the systems, processes, and controls which support management functions and the integrity of reporting to stakeholders”. The importance of the role of IAs to provide assurance over the integrity of ESG reporting information is also noted by Rakipi and D'Onza (2024:531), Richard and Odendaal (2020:77), and Trotman and Trotman (2015:211).

Furthermore, verifying ESG information accuracy at the source of first entry, can support proactive risk identification, including greenwashing (Sabauri, 2024:1983,1987). Ackers (2016:736) purports that IAs have a role regarding the provisioning of assurance of underlying processes supporting the social pillar of ESG in a South African study. Additionally, IAs should conduct an independent and objective analysis of ESG risk management practices' effectiveness and mitigation measures (Gherai, Sabău Popa, Rus, Matica & Mare, 2024:15). Another role for IAs involves a credibility-enhancing function, noted in a South African study, by assisting the audit committee to fulfil its responsibilities (Richard & Odendaal, 2020). Following that, it is suggested that IAs assist entities in achieving their ESG objectives by providing assurance to internal stakeholders like management and the board (Ackers, 2016).

Factors that influence IAs assurance role of ESG and sustainability information

Researchers noted several factors that shape the assurance role of IAs regarding the reporting of ESG and sustainability information. These factors are categorised and discussed as role-defining factors (RDFs), role-enabling factors (REFs) and role-limiting factors (RLFs).

Role-defining factors

In an Australian study stakeholder expectations are identified as important RDFs influencing the involvement of IAs in sustainability-related assurance (Soh & Martinov-Bennie, 2018). Internal stakeholders include management and the audit committee (AC). As such, Tumwebaze *et al.* (2022) found that an active AC

positively impacts IA's involvement in sustainability-related assurance in an Uganda study. The study by Trotman and Trotman (2015) found that AC members and external partners involved with internal audits, needed the IAF to be involved in greenhouse gas (GHG) and energy disclosures. RDF impact associated with management stems from management's direct input into the IAF annual assurance plan and management's influence on the resources made available to the IAF (Soh & Martinov-Bennie, 2018). Gherai *et al.* (2024) posit that IAs tend to be more involved in ESG assurance in entities where management has a clear ESG vision for the entity. In an Italian study IAs accept management responsibilities by taking control of the sustainability reporting process in collaboration with management (Aureli *et al.*, 2020). This is an impairment of IA's ability to carry out their responsibilities unbiasedly (IIA, 2024:12).

Several scholars cite legislative and regulatory compliance requirements as a material RDF (Sabauri, 2024:1982; Trotman & Trotman, 2015:209). This is shown by certain jurisdictions being subject to mandatory reporting requirements, some of which were introduced shortly before the conclusion of the specific research studies. For example, Aureli *et al.* (2020) referenced EU Directive 2014/95 which focuses on disclosing non-financial and diversity information (EU, 2014). Similarly, the requirements associated with the EU Non-Financial Reporting Directive (NFRD) and CSRD were referenced in a Romanian study by (Gherai *et al.*, 2024). Trotman and Trotman (2015:214) emphasise the potential penalties imposed on board members and management associated with legislative or regulatory non-compliance as a contributing factor directing IA's activities to compliance assurance.

A study of 15 large Italian public companies highlights how organisational ESG maturity shapes the role of IA's in ESG assurance (Rakipi & D'Onza, 2024). Entities with low ESG maturity focus their assurance effort on compliance, while those with high ESG maturity prioritise strategic ESG risks (Rakipi & D'Onza, 2024). Furthermore, this study found that stakeholders differ in their estimation of the areas where IA assurance is most useful, with the AC preferring the gatekeeper role (oversight and assurance). While the CEOs preferred their role in promoting ESG growth (strategic and advisory) (Rakipi & D'Onza, 2024). These stakeholder requirements pertaining to IAs are consistent with the IAF's purpose to, amongst others, enhance

governance, risk management, and control processes and the entity's ability to achieve objectives (IIA, 2024). Approaches and detailed guidance are recommended to IAs for auditing ESG and sustainability subject matter (Sabauri, 2024). Accordingly, normative guidance associated with the practice of internal auditing and the assurance of ESG reporting is recognised as an important RDF. These include the GIAS (IIA, 2024), the King Code (IoDSA, 2016) and the COSO ICSR (COSO, 2023). Studies performed within the South African context reference the various iterations of the King reports on corporate governance (Ackers, 2016), the latest being King IV.

Table 6: Other factors influencing IAs assurance of ESG and sustainability reports

Factor	Description
Industry type	IAs associated with entities in environmentally sensitive industries are likely to contribute to the assurance of sustainability information (DeSimone, D'Onza & Sarens, 2020).
IAF size	Larger IAFs are more likely to be involved with the assurance of sustainability information (DeSimone <i>et al.</i> , 2020).
Risk management	IAs involved in risk assessments in the areas of ESG or sustainability are more inclined to be involved in the assurance of sustainability information (DeSimone <i>et al.</i> , 2020).
IAF charter	The IAF's formal charter is expected to define the IAs authority as regards sustainability reporting assurance and the scope of testing associated with sustainability reporting (Maroun, 2022).

Source: Author's own

Role-enabling factors

IAs expertise and their position in the organisation are noted as important REFs supporting IAs involvement in the assurance of ESG reporting information (Maroun, 2022:588). Additionally, Sabauri (2024:1984) emphasises IAs professional competencies, their knowledge of internal control and risk management systems, corporate governance standards and non-financial reporting as well as their organisational understanding. These REFs give IAs the right to be the main assurance provider regarding ESG and sustainability reporting (Sabauri, 2024:1984). IAs ability to add credibility to the external reporting

process is noted as a further REF in an Australian study (Soh & Martinov-Bennie, 2018:415). It was further noted in a Malaysian study that the availability of resources to the IAF has an impact on IAs involvement in ESG assurance and the quality of ESG reports (Kolsi & Al-Hiyari, 2024). However, this was found for in-house IAFs in listed companies in Malaysia (Kolsi & Al-Hiyari, 2024). The study based on feedback from CAEs in Australia found a positive relationship between the size of the IAs budget and IAs involvement in ESG reporting assurance was noted by Soh and Martinov-Bennie (2018). On the contrary, the lack of resource availability may be a RLF, which is discussed next.

Role-limiting factors

The GIAS defines independence as "the freedom from conditions that may impair the ability of the IAF to carry out internal audit responsibilities in an unbiased manner" (IIA, 2024:12). IAs are regarded as meeting the requirements to be deemed independent, as an assurance provider limited to internal audiences (Ackers, 2016). Thus, the role of IAs in assuring ESG-related matters is anchored as an independent internal assurance provider in line with 3rd line of the TLM, with the scope of IA encompassing all aspects of the entity's activities and operations (Anderson & Eubanks, 2015).

IAs' position pertaining to actual or perceived independence, or the lack thereof compared to external assurance providers, is viewed as a RLF for IAs' assurance of external reports (Maroun, 2022:601). Independence considerations, noted in a South African study, include negotiating the IAF assurance scope with management (Ackers, 2016). The requirement that the chief audit executive (CAE) coordinate with other internal and external assurance providers to help the board and senior management determine the scope and types of IA services as part of establishing the IA mandate (IIA, 2024), can lead to the independence of IAs being questioned. "Internal audit's independence from management responsibilities is critical to its objectivity, authority, and credibility" (IIA, 2020:3).

For IAs to conform with the GIAS, IAs need to possess the required competencies, including knowledge, skills, and abilities, to perform an assurance activity (IIA, 2024). Another RLF found relates to the IAs' lack of specialised knowledge and expertise regarding the different ESG pillars (Sabauri, 2024). Due to the complexity of reporting information in areas such as GHG emissions and energy consumption, IAs rely on

the specialised skills provided by external assurers (Trotman & Trotman, 2015:215). Sabauri (2024) hence notes IAs lack specialised skills as a development area, while Trotman and Trotman (2015) suggest that the needed skills can be obtained by using cross-functional teams.

In summary, the literature confirms the assurance role of IAs in the area of ESG and sustainability reporting. In particular, stakeholders require IAs to provide assurance on the integrity and accuracy of ESG and sustainability reporting information as well as the underlying process. Stakeholders furthermore expect IAs to be aware of the associated reporting risks and controls, including greenwashing. More importantly, the light was shone on the factors that shape IA's assurance role regarding ESG and sustainability reporting. These were categorised into role-enabling, role-limiting, and role-defining factors. This categorisation is a contribution to the management of the IAF as it highlights those factors that impact the IA's ability to fulfil its mandate and, therefore, play a more meaningful role in ESG and sustainability reporting assurance.

CONCLUSION

The purpose of this study is to unpack the factors shaping the assurance role of internal auditors in environmental, social, governance and sustainability reporting. To address the purpose and resultant research question, a structured search was performed in the Scopus and Google Scholar databases to identify topic relevant literature. While the search parameters were set to be inclusive, the search yielded 277 results of which only 13 studies could be used in this study. The limited research highlights that further research is needed on the assurance role of IAs in ESG and sustainability reporting, as well as on the factors influencing the assurance role of IAs in ESG reporting. Further empirical research on how IAF in various industries adapt their assurance role can be insightful given the dynamic ESG environment, as well as research into which factors are the most dominant in fuelling the need for IA assurance in non-traditional processes.

The literature highlights the assurance role of IAs in the area of ESG and sustainability reporting. Scholars note IAs' role as a credibility-enhancing mechanism through their involvement in assuring reporting information, underlying processes, and focusing on ESG-related

risks. Scholars also identified several factors that shape IA's assurance role as regards ESG and sustainability reporting. These factors were categorised into role-enabling, role-limiting, and role-defining, enabling a better understanding and contextualising their impact on the assurance role of IAs in ESG reporting.

The IAF is expected to strengthen an entity's ability to create, protect, and sustain value through the provisioning of risk-based assurance. To achieve this in the context of IAs assurance role regarding the reporting of ESG and sustainability information, audit committees, management and IAF need consider the factors informing the assurance role of the IAF. As such role defining, limiting and enhancing factors need to be considered in order to execute the IA mandate.

IA assurance service is part of the combined assurance model to enable an effective control environment and support the integrity of information in reports. Additionally, the COSO ICSR framework envisages a multi-disciplinary team consisting of IAs, the compliance team, the CFO team, and relevant third-party assurers to review the quality of key sustainability information, which can also be part of the combined assurance model. Prior research posits that IAs should utilise skills in a multi-disciplinary setting to enhance role-limiting factors. As such, the IAF would best be able to execute the ESG assurance role within a combined assurance model.

Contribution of the study

This study contributes to existing literature by showing that the emerging sustainability-related assurance role of internal auditors is shaped by several role-defining, role-enabling and role-limiting factors originating internally and from the entity's industry. An understanding of these factors may be valuable for boards, audit committees and management when considering the assurance of ESG disclosures, specifically in the context of a combined assurance arrangement. While role-enabling factors could be leveraged, the role-limiting factors could be supported and enhanced by other assurance providers. The study also highlights a need for further research on the assurance role of internal audit in supporting the credibility of ESG and sustainability reporting.

Research limitations

The study was subject to the main limitation based on the use of a literature review as the primary research

method. A literature review's results are influenced by the availability of existing published research. Considering the limited number of studies addressing the research question, this study was limited by a very small number of articles that may affect the generalisation of the findings. In focusing on published research articles that fact that the availability of sources could have been influenced by researcher or publication biases needs to be considered in the interpretation of the results.

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The relationship(s) between key managerial attributes, managerial operating styles and the internal control activities in South African fast-moving consumer goods SMMEs

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Purpose: This study aimed to investigate the relationships between key managerial attributes, managerial operating styles, and internal control activities within South African Fast-Moving Consumer Goods (FMCG) Small, Medium, and Micro Enterprises (SMMEs).

Design/methodology/approach: An empirical, quantitative study was conducted using a survey research design. Data were collected from 115 SMME owners/managers through self-administered questionnaires. A mixture of purposive sampling and convenience sampling were employed, and data analysis involved descriptive and inferential statistics using SPSS.

Findings: The study revealed significant relationships between key managerial attributes and managerial operating styles in the sampled SMMEs. Surprisingly, no statistically significant relationships were found between managerial operating styles and internal control activities.

Originality/contribution: This research contributes to the understanding of internal control systems evident in South African FMCG SMMEs. Considering that a business is a vivid and clear reflection of its management, the lack of statistically significant relationships between managerial operating styles and internal control activities suggest that internal control activities may stem from “copy-and-paste exercises”. This study paves the way for further research to be conducted on SMME-specific internal control frameworks.

Keywords: Governance, Managerial attributes, Managerial operating styles, Internal control, Internal control activities, Small, Medium and Micro Enterprises, SMMEs

INTRODUCTION

Small Medium and Micro Enterprises (SMMEs) are the backbones of many global economies as they contribute towards economic diversification, poverty reduction, social inclusion, equity, cultural diversification, creativity, and entrepreneurship (Mamman et al., 2019; Etemad, 2020; Engidaw, 2022). Globally, these entities face many challenges which include sustainability (holistically), capital constraints, lack of access to finance, crime, inequality, poor market conditions, poor infrastructure, and a shortage of skills (Nkwabi & Mboya, 2019; Botha et al., 2021; Miklian & Hoelscher, 2022; Ramsuraj, 2023). Governments have

also introduced support measures for small businesses, such as financial aid and simplified regulations with little success (Denes et al., 2023; Pu et al., 2021).

In South Africa, SMMEs are formally demarcated¹ as either micro enterprises (between 0 and 10 employees), small enterprises (between 11 and 50 employees) and medium enterprises (between 51 and 250 employees) (Headd, 2000; Schutte & Van der Zwan, 2019; South Africa, 2019; Bakhtiari et al., 2020). These entities account for approximately 90% of all operational firms and are reported to employ approximately two-thirds of the national labour force (Pedauga et al., 2021). Hence, it is ostensible that South

¹ The National Small Business Act, No. 102 of 1996, classifies South African SMMEs on the number of full-time employees employed as well as annual turnovers. For this study, only the number of full-time employees were focused on as

respondents were more comfortable in sharing such information as opposed to their annual turnover.

African SMMEs are pivotal contributors to both economic- and social development (Radebe, 2019; Zu, 2019). An estimated 3.2 million SMMEs contribute about 40% to the national Gross Domestic Product (GDP) (Finmark, 2020).

Roughly 84% of South African SMMEs operate in the wholesale or retail trade sectors where fast-moving consumer goods (FMCG) are sold. In turn, 54% of all operating South African FMCG SMMEs are regarded as micro-enterprises which operate informally (Finmark, 2020). Within the ambit of this study, in the Western Cape, at least 40% of South African SMMEs operate in the FMCG industry (Bruwer, 2016).

Kalidas et al. (2020) observed that, although SMMEs are of paramount importance to the South African economy, they are most at risk of failing. Burger (2023) states that South Africa has the highest failure rate, globally which is attributable to limited financial education, limited market research, limited business savvy and lack of access to finance of SMME management (owners and/or managers). Bruwer et al. (2021) adds that South African SMMEs also operate in "harsh" socio-economic landscapes which enhances the impact of institutional influences, particularly mimetic isomorphism.

Mimetic isomorphism involves an imitation ("copy-and-paste" exercise) of trait-based and outcome-based trends where SMME management adopts "solutions" of other organisations as opposed to responding to internal- and external risks in authentic ways (Martínez-Ferrero & García-Sánchez, 2017). This is disconcerting as all business entities rely on internal control activities to manage risks, with the main intent to remain operational for the foreseeable future. This should not be the case as every business is a vivid and clear reflection of its management (Gerber, 1995). Hence, it is likely that South African FMCG SMMEs are at risk of failing due to inadequately managing their risks on account of trend imitations. Thus, the primary objective of this research study was to determine the relationship(s) between key managerial attributes, managerial operating styles, and internal control activities in South African FMCG SMMEs.

LITERATURE REVIEW

The discussion under this heading is provided for both the sake of conceptualisation and contextualisation. The content below is demarcated under the following

sub-headings: 1) key managerial attributes and managerial operating styles, and 2) internal control activities.

Key managerial attributes and managerial operating styles

Undoubtedly, the success of every business entity depends on sound processes built on sound governance (Mlambo, 2023). The term "governance" pertains to a system of rules, practices, and processes that are put together to direct and manage a business entity (Penno, 2022). Such a system is of critical importance since it assists in determining how business entities are expected to operate and align their interests with those of their internal- and external stakeholders.

According to the Institute of Directors South Africa (2016), the governing body of any business entity should support it in implementing sound governance within. In larger business entities, this function is performed by the Board of Directors in line with set rules and codes such as the Companies Act No. 71 of 2008 and King's Code Report (Madzimure, 2020). In South African SMMEs, however, the latter is often performed by SMME management. The governing body should assist with setting of the "tone at the top" which is inclusive of two components: 1) key managerial attributes and 2) managerial operating style (Benedict, 2019; Braumann, Grabner, & Posch, 2020; Pham et al., 2021; Penno, 2022):

Key managerial attributes: A set of personal values (beliefs) of management that could influence the daily operations of their business entities as it directly affects decision-making processes. Such values include, but are not limited to accountability, adaptability, caution, commitment, competitiveness, courage, loyalty, fairness, compassion, creativity, curiosity, diversity, innovation, optimism, humility, and transparency.

Managerial operating styles: To help set the "tone at the top", management should direct, plan, organise and control operations in their respective business entities. This is generally achieved through adopting and using a managerial operating style(s). The latter styles will always be unique from one person to the next and generally take on the forms of: i) a chaotic style (employees are given complete control of decision-making); ii) a persuasive style (management's

views persuade employees before a decision is made); iii) democratic style (employees are asked to give inputs before a decision is made); iv) semi-autocratic style (management gets input from some employees before a decision is made); v) paternal style (management has the final after considering relevant input from employees before a decision is made); vi) laissez-faire style (management lets employees take action at their own pace to make a decision); and vii) autocratic style (management takes only their own views into account before making a decision).

It becomes apparent that key managerial attributes and managerial operating styles are directly influenced by not only the personal values of SMME management but also by how these individuals execute their responsibilities. These aspects are crucial in guiding risk management-, governance-, and internal control processes within any business entity (Braumann et al., 2020; Penno, 2022). The onus thus rests on SMME management to exercise their personal values and embrace an authentic managerial operating style(s) to enhance their respective SMMEs' abilities to achieve its relevant objectives in the foreseeable future.

Internal control activities

Internal control is the first line of defence against risks and plays a substantial role in providing reasonable assurance to management surrounding the achievement of business objectives. For all intents and purposes, internal control guards the interests of all stakeholders and governs the process of producing information used in all types of decision-making (Mohammed et al., 2021).

Though non-mandatory, the guidance of the Committee of Sponsoring Organisations of the Treadway Commission (COSO) has been influential in assisting businesses in designing, implementing, and monitoring effecting systems of internal control through the COSO Integrated Internal Control Framework (McNally, 2013; Bruwer, 2016). Stemming from the COSO Integrated Internal Control Framework, more internal control frameworks were developed between 1992 and 2019 (Bruwer, 2016; Bruwer, 2024), but no SMME-specific internal control framework. The only SMME-specific internal control framework that exists is that of the Sustenance Framework –

developed in 2020 and revised in 2024 (Bruwer, 2024). Due to embargo date restrictions, the Sustenance Framework could not be used as a foundation for data collection in this study; hence the COSO Integrated Internal Control framework was used due to its popularity and relevance in South African business entities (Siwangaza et al., 2014).

The COSO Integrated Internal Control Framework illustrates the process of establishing an internal control system that provides reasonable assurance surrounding achieving core business objectives, all with the intent for such a business to remain in operation for the foreseeable future (KPMG, 2013). This framework comprises five interrelated components (Frazer, 2012; McNally, 2013; Risk Optics, 2021) namely the control environment ("tone at the top"), risk assessment, internal control activities, information and communication, and monitoring. Taking into account the primary objective of the study, the focal point of this paper is the "internal control activities"² component of the COSO Integrated Internal Control framework.

RESEARCH DESIGN, METHODOLOGY AND METHODS

This study is empirical and took on an exploratory research design as "*the objective [was] to explore an area where little is known or to investigate the possibilities of undertaking a particular research study*" (Swaraj, 2019). Another justification for the latter is that the research topic, at the time of writing, was nascent, as it has attracted limited research and theorising (Christofaro, 2020). This study is also survey research since "*subjective data [were] obtained from a sample of subjects and analysed to extrapolate information to the study population they represent*" (Boumezrag & Liu, 2023).

This study relies on quantitative research and falls within the positivistic research paradigm. All disseminated surveys were self-administered (electronically) through the use of two non-probability sampling methods (mixed), namely purposive sampling and convenience sampling. These sampling methods were chosen as the size of the population was unknown (no public databases existed on FMCG SMMEs and their management), the researchers

safeguarding of assets, 3) segregation of duties, 4) independent checks, and 5) proper authorisation.

² :Internal control activities generally fall into one of five categories, namely that of 1) document usage and design, 2)

wanted to obtain rich data from respondents, and the researchers did not receive any formal funding to conduct this study (Zainudin et al., 2020; Ernawadi & Putra, 2021). The targeted population was that of South African FMCG SMME management who had to adhere to the following delineation criteria:

- Their SMME had to be a sole trader, partnership, close corporation or private company.
- Their SMME had to be non-franchised.
- Their SMME had to operate in the FMCG industry.
- Their SMME had to appoint between null and fifty full-time employees.
- Their SMME had to be in existence for at least two years.
- Their SMME had to physically be operational in the Cape Metropole, Western Cape, South Africa.
- SMME owner/manager had to have decision-making rights.
- SMME owner/manager had to be either the owner, manager or owner-manager.
- SMME owner/manager had to be in their position for at least two years.

250 respondents were first approached by the researchers in-person, of which 120 agreed to partake in the study. After validating the 120 received responses, only 115 (95.83%) were found to adhere to all listed delineation criteria. Hence, 115 responses were captured, coded and cleaned in SPSS, after which relevant descriptive- and inferential analyses were performed.

This study received ethical clearance from the Cape Peninsula University of Technology (2015FBREC251). Throughout this study, relevant ethical considerations were also taken into account. It should also be noted that the foundation of this study is grounded in the thesis of Bruwer (2016).

The rationale for placing emphasis on FMCG SMMEs that operated in the Cape Metropole is due to the following facts: 1) in 2024 the FMCG industry was estimated to contribute roughly R845 billion to the national GDP (Buswire, 2024), 2) the Cape Metropole contributes towards 70% of the Western Cape's economic activity (Western Cape Government, 2024), and 3) the Western Cape contributes approximately 14% to the national GDP (Wesgro, 2023).

RESULTS

Demographics and internal control activity usage

First, respondents were asked a variety of questions pertaining to their demographics. Most of these questions related to the delineation criteria and a summary of the results is shown in Table 1 below:

Table 1: Summary of demographic data collected

Details	Summary	Quantity
Type of business	Sole trader Partnership Close corporation Private company	75.7% 7.5% 10.4% 6.1%
Business classification	Retail store Wholesale store Caterer Restaurant Convenience store Café Spaza shop Tuck shop Butchery Tavern Tshisanyama Other	28.7% 7.0% 8.7% 8.7% 8.7% 7.0% 10.4% 7.8% 0.9% 7.8% 1.7% 2.6%
Franchised status	Non-franchised	100%
Full-time employees employed	Between 0 and 10 Between 11 and 50	87.8% 12.2%
Business existence in years	Mean Median Mode	8.25 years 5.0 years 5.0 years
Position in business	Owner Manager Owner-manager	39.0% 33.9% 21.7%
Duration in position	Mean Median Mode	6.23 years 5.0 years 2.0 years
Decision-making power	Yes	100%
Based in Cape Metropole	Yes	100%

Source: Author's own

Next, respondents were asked to provide their perceptions of using various generic internal control activities in their respective SMMEs. The latter was

done by asking respondents to rate statements using a 5-point Likert Scale (1 = strongly disagree [SD], 2 = disagree [D], 3 = neutral [N], 4 = agree [A], 5 = strongly agree [SA]) using the base sentence that read: "My business makes use of the following internal control

activity:" A summary of the results is tabulated in Table 2 below.

Table 2: Summary of perceptions surrounding internal control activity usage

Internal control activity	SD (%)	D (%)	N (%)	A (%)	SA (%)	Var	Std. dev.	Mean
Source documents are used when goods are bought	48.7	0.9	1.7	2.6	46.1	3.86	1.96	2.97
Source documents are used when goods are received	46.1	-	-	2.6	51.3	3.94	1.98	3.13
Source documents are used when goods are sold	20.0	4.3	7.0	15.7	53.0	2.54	1.60	3.77
Source documents are used when payments are made	35.7	1.7	5.2	10.4	47.0	3.36	1.83	3.31
Source documents are used when money is received	34.8	2.6	7.0	9.6	46.0	3.30	1.82	3.30
Copies of source documents are kept	28.8	4.3	4.3	9.6	53.0	3.15	1.77	3.54
Source documents are pre-numbered	17.4	4.3	14.8	22.6	40.9	2.19	1.48	3.65
Unused source documents are kept safe	24.3	3.5	6.1	17.4	48.7	2.76	1.66	3.63
Source documents with spaces for dates	16.5	0.9	4.3	14.8	63.5	2.21	1.49	4.08
Source documents with spaces for signatures	25.2	0.9	1.7	10.5	61.7	2.93	1.71	3.83
Source documents that are easy to complete	33.0	-	2.6	13.1	51.3	3.29	1.81	3.50
Management alone authorises transactions	44.3	-	0.9	6.1	48.7	3.79	1.95	3.15
Employees can authorise transactions through relevant policies	20.9	1.7	13.0	13.0	51.4	2.54	1.59	3.72
Employees can authorise transactions with management approval only	35.7	0.9	12.1	8.7	42.6	3.21	1.79	3.22
Access controls at entrances	30.4	3.5	8.7	9.6	47.8	3.12	1.77	3.41
Access controls at doors	20.0	2.6	9.6	11.3	56.5	2.55	1.60	3.82
Access controls at tills/safes	37.4	1.7	6.1	13.9	40.9	3.28	1.81	3.19
Access controls at storage points	26.1	2.6	7.8	6.1	57.4	3.02	1.74	3.66
Alarm systems	40.9	4.3	7.0	5.2	42.6	3.46	1.86	3.04
CCTV	37.4	7.0	18.2	5.2	32.2	2.91	1.71	2.88
Security guards	33.0	9.6	25.2	7.0	25.2	2.48	1.58	2.82
Inventory is stored in safe spaces	26.1	6.1	5.2	12.2	50.4	2.97	1.72	3.55
Staff are physically protected	33.9	-	3.5	7.8	54.8	3.41	1.85	3.50
Backup and disaster-recovery measures are in place	21.7	1.7	7.0	21.8	47.8	2.52	1.59	3.72
Staff are supervised	27.8	-	2.6	12.2	57.4	3.05	1.75	3.71

Staff are monitored	26.1	-	3.5	13.9	56.5	2.91	1.71	3.75
Staff performances are reviewed periodically	20.9	1.7	4.3	17.4	55.7	2.55	1.60	3.85
Quality checks are performed on goods received	40.0	1.7	7.8	7.8	42.7	3.42	1.85	3.11
Quality checks are performed on goods before they are sold	30.4	1.7	7.8	11.3	48.8	3.11	1.76	3.46
Surprise cash checks are performed at tills	34.8	1.7	8.7	20.9	33.9	2.97	1.72	3.17
Surprise cash checks are performed on petty cash	27.8	0.9	8.7	18.3	44.3	2.85	1.69	3.50
Inventory is periodically counted	24.3	0.9	4.3	16.6	53.9	2.77	1.66	3.75
Cash is banked daily	16.5	19.1	19.1	13.9	31.4	2.20	1.48	3.24
Independent audits are performed periodically	31.3	2.6	15.7	13.0	37.4	2.88	1.70	3.23
Internal audits are performed periodically	30.4	1.7	15.7	7.0	45.2	3.02	1.74	3.35
An independent person performs bank reconciliations	26.1	2.6	20.0	13.0	38.3	2.63	1.62	3.35
An independent person performs debtors' reconciliations	29.6	2.6	14.8	16.5	36.5	2.78	1.67	3.28
An independent person performs creditors' reconciliations	27.8	1.7	19.1	16.5	34.9	2.63	1.62	3.29
The person authorising transactions does not execute transactions	20.9	9.6	19.1	8.7	41.7	2.54	1.59	3.41
The person recording transactions does not authorise transactions	23.5	7.0	21.7	10.4	37.4	2.53	1.59	3.31
The person executing transactions does not record transactions	21.7	11.3	21.8	8.7	36.5	2.48	1.57	3.27

Source: Authors' own

From the statistics in Table 2, it becomes apparent that the three generic internal control activities that were used the least (μ between 2.00 and 3.00), in descending order, were that of "Security guards" ($\mu = 2.82$), "CCTV" ($\mu = 2.88$), and "Source documents are used when goods are bought" ($\mu = 2.97$). In turn, the 18 generic internal control activities that were used the most (μ between 3.50 and 4.10), in ascending order, were that of "Alarm systems" ($\mu = 3.04$), "Copies of source documents are kept" ($\mu = 3.54$), "Inventory is stored in safe spaces" ($\mu = 3.55$), "Unused source documents are kept safe" ($\mu = 3.63$), "Source documents are pre-numbered" ($\mu = 3.65$), "Access controls at storage points" ($\mu = 3.66$), "Staff are supervised" ($\mu = 3.71$), "Employees can authorise transactions through relevant policies" ($\mu = 3.72$), "Backup and disaster-recovery measures are in place" ($\mu = 3.72$), "Staff are monitored" ($\mu = 3.75$), "Inventory is periodically counted" ($\mu = 3.75$), "Source documents are used when goods are sold" ($\mu = 3.77$), "Access

controls at doors" ($\mu = 3.82$), "Source documents with spaces for signatures" ($\mu = 3.83$), "Staff performances are reviewed periodically" ($\mu = 3.85$), and "Source documents with spaces for dates" ($\mu = 4.08$). The remaining 20 generic internal control activities had a μ -score of between 3.00 and 3.49.

A total of three out of the 41 listed generic internal control activities (7.32%) had a μ -score of between 2.00 and 2.99, which indicates an average perception between "disagree" and "neutral" regarding their usage. Moreover, 20 out of the 41 listed generic internal control activities (48.78%) had a μ -score of between 3.00 and 3.49, which indicates an average perception that is mostly "neutral". In addition, 17 out of the 41 listed generic internal control activities (41.46%) had a μ -score of between 3.50 and 3.85, which indicates an average perception between "neutral", striving towards "agree" regarding their usage. Only one out of the 41 listed generic internal

control activities (2.44%) had a μ -score of greater than 4.00, which is indicative of an average perception of "agree". Considering the above, the inference can be made that respondents mostly did not reasonably make use of all of the 41 listed generic internal control activities.

When respondents were asked how adequate their implemented internal control activities were, 30.4% indicated that they were very adequate, 56.5% indicated that they were adequate, 11.3% indicated that they were neutral, 0.9% indicated that they were inadequate, and 0.9% indicated that they were very inadequate. As such, 86.9% of respondents regarded their implemented internal control activities to be either adequate or very adequate. In addition, when respondents were asked how effective their implemented internal control activities were, 36.5% indicated very effective, 52.2% indicated effective, 10.4% indicated neutral, and 0.9% indicated very ineffective. In essence, 88.7% of respondents regarded their implemented internal control activities to be either effective or very effective.

Managerial attributes and managerial operating styles

Next, the key managerial attributes of SMME management and their managerial operating styles were considered. Respondents were asked to rate two

statements using a 5-point Likert Scale (same as previously used). The case sentences of the two statements read: "Management embodies the following key managerial attributes ...:" and "Management uses the following operating style(s) ...", respectively. A summary of the results is shown in Table 3 and Table 4 below.

Using the statistics in Table 3 as a basis, the attributes which resonated with most respondents (μ between 4.00 and 5.00), in ascending order, were that of "Cautiousness" ($\mu = 4.03$), "Courageousness" ($\mu = 4.03$), "Enthusiastic" ($\mu = 4.03$), "Consistency" ($\mu = 4.04$), "Diversity" ($\mu = 4.04$), "Futuristic" ($\mu = 4.04$), "Independence" ($\mu = 4.04$), "Adaptability" ($\mu = 4.06$), "Competitiveness" ($\mu = 4.08$), "Creativity" ($\mu = 4.08$), "Innovative" ($\mu = 4.11$), "Dependable" ($\mu = 4.13$), "Compassion" ($\mu = 4.14$), "Loyalty" ($\mu = 4.15$), "Accountability" ($\mu = 4.18$), "Ambition" ($\mu = 4.19$), "Humility" ($\mu = 4.22$), "Fairness" ($\mu = 4.24$), "Responsibility" ($\mu = 4.28$), "Realistic" ($\mu = 4.29$), "Disciplined" ($\mu = 4.3$), "Organised" ($\mu = 4.32$), "Commitment" ($\mu = 4.37$), "Communicative" ($\mu = 4.37$), and "Trustworthiness" ($\mu = 4.37$). It is worth pointing out that "Transparency" and "Ethical" - both these attributes relate closely to the aspect of good governance - had a μ -score of below 4.00. The remaining key managerial attributes did not have very high μ -scores and ranked lower than 4.00.

Table 3: Summary of perceptions surrounding key managerial attributes

Key managerial attributes	SD (%)	D (%)	N (%)	A (%)	SA (%)	Var	Std. dev.	Mean
Accountability	-	-	11.3	59.1	29.6	0.38	0.62	4.18
Adaptability	-	3.5	11.3	60.9	24.3	0.5	0.7	4.06
Ambition	-	-	14.8	51.3	33.9	0.45	0.67	4.19
Analytical	-	1.7	29.6	60.9	7.8	0.38	0.62	3.75
Cautiousness	0.9	-	17.4	58.2	23.5	0.49	0.7	4.03
Commitment	-	-	2.6	58.3	39.1	0.29	0.54	4.37
Communicative	-	-	4.3	54.8	40.9	0.32	0.57	4.37
Compassion	-	-	12.2	61.7	26.1	0.37	0.61	4.14
Competitiveness	-	0.9	15.7	58.2	25.2	0.44	0.66	4.08
Consistency	.	.	13.0	69.6	17.4	0.31	0.55	4.04

Courageousness	-	0.9	16.5	61.7	20.9	0.41	0.64	4.03
Creativity	-	-	19.1	53.9	27.0	0.46	0.68	4.08
Curiosity	0.9	3.5	21.7	57.4	16.5	0.58	0.76	3.85
Dependable	1.7	0.9	7.0	63.4	27.0	0.52	0.72	4.13
Disciplined	-	0.9	5.2	57.4	36.5	0.37	0.61	4.3
Diversity	-	0.9	19.1	54.8	25.2	0.48	0.69	4.04
Enthusiastic	-	-	15.7	66.1	18.2	0.34	0.58	4.03
Ethical	-	-	20.9	62.6	16.5	0.38	0.61	3.96
Fairness	-	-	7.8	60.0	32.2	0.34	0.59	4.24
Futuristic	-	0.9	19.1	54.8	25.2	0.48	0.69	4.04
Generous	-	1.7	16.5	62.7	19.1	0.43	0.66	3.99
Humility	-	0.9	12.2	51.3	35.6	0.47	0.69	4.22
Inclusiveness	0.9	0.9	19.1	61.7	17.4	0.48	0.69	3.94
Independence	1.7	-	14.9	59.1	24.3	0.55	0.74	4.04
Innovative	-	0.9	16.5	53.0	29.6	0.49	0.7	4.11
Logical	-	1.7	17.4	64.3	16.6	0.41	0.64	3.96
Loyalty	-	0.9	12.2	58.3	28.6	0.43	0.65	4.15
Optimising	0.9	1.7	20.9	60.9	15.6	0.5	0.71	3.89
Optimistic	0.9	2.6	17.4	54.8	24.3	0.61	0.78	3.99
Organised	-	1.7	3.5	55.7	39.1	0.4	0.63	4.32
Realistic	-	0.9	4.3	60.0	34.8	0.35	0.59	4.29
Responsibility	-	-	9.6	53.0	37.4	0.4	0.63	4.28
Strategic	-	1.7	20.0	57.4	20.9	0.48	0.69	3.97
Transparency	-	2.6	22.6	54.8	20.0	0.53	0.73	3.92
Trustworthiness	-	-	3.5	55.6	40.9	0.31	0.55	4.37

Source: Authors' own

Table 4: Summary of perceptions surrounding managerial operating styles

Managerial operating styles	SD (%)	D (%)	N (%)	A (%)	SA (%)	Var	Std. dev.	Mean
Chaotic	13.9	31.3	19.1	24.4	11.3	1.56	1.25	2.88
Persuasive	5.2	17.4	28.7	40.0	8.7	1.05	1.03	3.3
Democratic	4.3	13.0	28.7	39.2	14.8	1.08	1.04	3.47
Semi-autocratic	3.5	10.4	27.0	46.1	13.0	0.93	0.97	3.55
Paternal	-	1.7	20.9	40.9	36.5	0.63	0.8	4.12
Laissez-faire	13.9	29.6	31.3	20.9	4.3	1.17	1.08	2.72
Autocratic	3.4	14.8	40.0	26.1	15.7	1.06	1.03	3.36

Source: Authors' own

Stemming from the statistics in Table 4, the managerial operating styles that were best affiliated with management, in descending order, were "Paternal" ($\mu = 4.12$), "Semi-autocratic" ($\mu = 3.55$), "Democratic" ($\mu = 3.47$), "Autocratic" ($\mu = 3.36$), and "Persuasive" ($\mu = 3.33$). The managerial operating styles which did not resonate with respondents were that of "Chaotic" ($\mu = 2.88$) and "Laissez-faire" ($\mu = 2.72$). The most used managerial operating styles were that of "Paternal" and "Semi-autocratic".

All descriptive statistics performed in this study, to this point, relied solely on the perceptions of SMME management. To this end, the responses provided by respondents may have been subject to respondent bias. Inferential statistics were performed to test the latter while achieving the primary research objective of this study.

First, Principle Axis Factoring (Factor Analysis) was performed to first reduce the number of variables applicable to internal control activities, key managerial attributes and managerial operating styles. Following this, Factor Analysis was also used to identify patterns and eliminate observations that did not have a good fit. Only variables that had μ -scores of greater than 3.00 were considered. For a factor to be recognised, a Kaiser-Meyer Olkin (KMO) value of 0.600 and a Cronbach Alpha of 0.700 are required for exploratory research studies (Field, 2009; Cohen and Sayag, 2010). A summary of the factor loadings, KMO-values and Cronbach Alpha values is shown in Table 5 below:

Table 5: Summary of Factor Analysis performed

Variable	KMO-value	Cronbach Alpha	Factor loading	Factor/Item
Source documents are used when goods are received	0.808	0.933	0.644	ICA_USED
Source documents are used when goods are sold			0.525	
Source documents are used when payments are made			0.646	
Source documents are used when money is received			0.647	
Copies of source documents are kept			0.469	
Source documents are pre-numbered			0.323	
Unused source documents are kept safe			0.474	
Source documents with spaces for dates			0.344	
Source documents with spaces for signatures			0.569	
Source documents that are easy to complete			0.458	
Management alone authorise transactions			0.603	
Employees can authorise transactions through relevant policies			0.377	
Employees can authorise transactions with management approval only			0.416	
Access controls at entrances			0.537	
Access controls at doors			0.480	

Access controls at tills/safes			0.653	
Access controls at storage points			0.470	
Alarm systems			0.615	
Inventory is stored in safe spaces			0.512	
Staff are physically protected			0.539	
Backup and disaster-recovery measures are in place			0.585	
Staff are supervised			0.496	
Staff are monitored			0.430	
Staff performances are reviewed periodically			0.378	
Quality checks are performed on goods received			0.461	
Quality checks are performed on goods before they are sold			0.386	
Surprise cash checks are performed at tills			0.627	
Surprise cash checks are performed for petty cash			0.637	
Inventory is periodically counted			0.408	
Cash is banked daily			0.633	
Independent audits are performed periodically			0.612	
Internal audits are performed periodically			0.553	
An independent person performs bank reconciliations			0.570	
An independent person performs debtors' reconciliations			0.657	
An independent person performs creditors' reconciliations			0.643	
The person authorising transactions does not execute transactions			0.652	
The person recording transactions does not authorise transactions			0.644	
The person executing transactions does not record transactions			0.691	
Accountability	0.681	0.885	0.365	MAN_ATR
Adaptability			0.304	
Ambition			0.637	
Analytical			0.304	
Cautiousness			0.233	
Commitment			0.398	
Communicative			0.449	
Compassion			0.498	
Competitiveness			0.454	
Consistency			0.537	
Courageousness			0.481	
Creativity			0.537	
Curiosity			0.334	
Dependable			0.158	
Disciplined			0.642	
Diversity			0.457	
Enthusiastic			0.521	
Ethical			0.199	
Fairness			0.590	
Futuristic			0.494	
Generous			0.515	
Humility			0.488	
Inclusiveness			0.326	
Independence			0.321	
Innovative			0.619	
Logical			0.436	
Loyalty			0.574	
Optimising			0.401	
Optimistic			0.471	
Organised			0.615	
Realistic			0.635	
Responsibility			0.457	
Strategic			0.519	
Transparency			0.473	
Trustworthiness			0.407	
Persuasive	0.569	0.488	N/A	Persuasive
Democratic			N/A	Democratic
Semi-autocratic			N/A	Semi-autocratic
Paternal			N/A	Paternal
Autocratic			N/A	Autocratic

Source: Author's own

A total of 78 variables were reduced to two factors (**ICA_USED** and **MAN_ATR**) and five items (**Persuasive**, **Democratic**, **Semi-autocratic**, **Paternal**, and **Autocratic**). It should be noted that only 35 of the 41 generic internal control activities were found to fit the factor loadings on **ICA_USED**. The μ -scores of these items were at least 3.00 or more.

After performing the exploratory factor analysis, a Pearson Correlation was performed on the two factors and five items. The latter was done to ascertain the relationships that exist among **ICA_USED**, **MAN_ATR**, **Persuasive**, **Democratic**, **Semi-autocratic**, **Paternal**, and **Autocratic**. The Pearson Correlation performed can be seen in Table 6 on the next page. Out of the 21 tested relationships, 11 were found to be statistically

significant (52.38%). Out of the 11 statistically significant relationships:

- One ranged between ± 0.00 and ± 0.199 (very weak); one negative.
- Seven ranged between ± 0.200 and ± 0.399 (weak); two negative and five positive.
- Two ranged between ± 0.400 and ± 0.599 (moderate); two positive.
- One ranged between ± 0.600 and ± 0.799 (strong); one positive.

Each statistically significant relationship is expanded and described in more detail on the page following Table 6.

Table 6: Pearson Correlation performed

		Persuasive	Democratic	Semi-autocratic	Paternal	Autocratic	ICA_USED	MAN_ATR
Persuasive	Correlation	1	.347**	.286**	.299**	.249**	-0.128	.354**
	Sig.		0.000	0.002	0.001	0.007	0.172	0.000
Democratic	Correlation	.347**	1	.634**	0.047	-.290**	0.023	.283**
	Sig.	0.000		0.000	0.618	0.002	0.809	0.002
Semi-autocratic	Correlation	.286**	.634**	1	0.141	-.243**	0.034	.224*
	Sig.	0.002	0.000		0.134	0.009	0.714	0.016
Paternal	Correlation	.299**	0.047	0.141	1	0.161	-0.106	0.033
	Sig.	0.001	0.618	0.134		0.086	0.261	0.726
Autocratic	Correlation	.249**	-.290**	-.243**	0.161	1	-0.04	-.184*
	Sig.	0.007	0.002	0.009	0.086		0.671	0.048
ICA_USED	Correlation	-0.128	0.023	0.034	-0.106	-0.04	1	-0.128
	Sig.	0.172	0.809	0.714	0.261	0.671		0.173
MAN_ATR	Correlation	.354**	.283**	.224*	0.033	-.184*	-0.128	1
	Sig.	0	0.002	0.016	0.726	0.048	0.173	

Source: Author's own

When **Persuasive** was used by management, it: 1) increased the use of **Democratic** ($\beta=0.347$; p-value 0.000), 2) increased the use of **Semi-autocratic** ($\beta=0.286$; p-value 0.002), 3) increased the use of **Paternal** ($\beta=0.299$; p-value 0.001), 4) increased the use

of **Autocratic** ($\beta=0.249$; p-value 0.007), and 5) increased the visibility of **MAN_ATR** ($\beta=0.354$; p-value 0.002) - and *vice versa*.

When **Democratic** was used by management, it: 1) increased the use of **Semi-autocratic** ($\beta=0.634$; p-value 0.000), 2) decreased the use of **Autocratic** ($\beta=-0.290$; p-value 0.002), and increased the visibility of **MAN_ATR** ($\beta=0.283$; p-value 0.002) - and *vice versa*.

When **Semi-autocratic** was used by management, it: 1) decreased the use of **Autocratic** ($\beta=-0.243$; p-value 0.009), and 2) increased the visibility of **MAN_ATR** ($\beta=0.224$; p-value 0.016) - and *vice versa*.

Lastly, when **Autocratic** was used by management, it decreased the visibility of **MAN_ATR** ($\beta=-0.184$; p-value 0.048) - and *vice versa*.

DISCUSSION

From the results, it becomes apparent that sampled South African FMCG SMMEs did not make significant use of the 41 listed generic internal control activities. This view is supported by the fact that three out of the 41 listed generic internal control activities (7.32%) had a μ -score of between 2.00 and 2.99; 20 out of the 41 listed generic internal control activities (48.78%) had a μ -score of between 3.00 and 3.49; 17 out of the 41 listed generic internal control activities (41.46%) had a μ -score of between 3.50 and 3.85; and one out of the 41 listed generic internal control activities (2.44%) had a μ -score of greater than 4.00. The 38 generic internal control activities with μ -scores between 3.00 and 4.10 underwent factor analysis and were grouped into a factor called **ICA_USED** (KMO-value = 0.808; Cronbach Alpha = 0.933).

All of the 35 key managerial attributes had a μ -score of 3.75 or more. This means that they were most likely evident (be it partially or completely) in SMME management in some way or another. These 35 attributes also underwent factor analysis and were grouped into a factor called **MAN_ATR** (KMO-value = 0.681; Cronbach Alpha = 0.885).

Of the seven managerial operating styles, only five - **Persuasive**, **Democratic**, **Semi-autocratic**, **Paternal** and **Autocratic** - attained a μ -score in excess of 3.30. Although these five variables underwent factor analysis, they could not form a factor and were rather kept as items.

From the Pearson Correlation performed, it becomes apparent that there were statistically significant relationships among the five managerial operating

styles themselves (**Democratic** ↔ **Persuasive**; **Semi-autocratic** ↔ **Persuasive**; **Paternal** ↔ **Persuasive**, **Autocratic** ↔ **Persuasive**; **Democratic** ↔ **Semi-autocratic**; **Democratic** ↔ **Autocratic**; **Semi-autocratic** ↔ **Autocratic**). Moreover, four of these managerial operating styles had statistically significant relationships with the managerial attributes of management (**Persuasive** ↔ **MAN_ATR**; **Democratic** ↔ **MAN_ATR**; **Semi-autocratic** ↔ **MAN_ATR**; **Autocratic** ↔ **MAN_ATR**).

Notwithstanding the above, it is disconcerting to note that no statistically significant relationships were found to exist between the managerial operating styles of management and the internal control activities used by sampled South African SMMEs. Furthermore, there were also no statistically significant relationships found to exist between the key managerial attributes of SMME management and the internal control activities used by these business entities.

Considering that the "tone at the top" serves as the foundation for any internal control system, this finding is in support of the view of Bruwer et al. (2021) that South African SMMEs tend to undergo "un-natural" mimetic isomorphism whereby they blatantly "copy-and-paste" practices and/or operations from successful business entities, as-is, without hesitation. Thus, it becomes ostensible that the internal control system(s) that sampled South African SMMEs used to develop their internal control activities are either flawed and/or non-existent. It can also be the case that these business entities do not value to importance of formal structures as much as they should.

Moreover, since sampled South African SMMEs implemented internal control activities that had no statistically significant relationship with the key managerial attributes and the managerial operating styles of management, it means that the internal control activities that are currently being used by sampled South African SMMEs were possibly not developed to support the achievement of its objectives. This may explain why South African SMMEs have inadequate and ineffective internal control activities, and flawed internal control systems.

RECOMMENDATIONS

Sampled South African SMMEs should re-evaluate their current internal control systems to ascertain whether they provide reasonable assurance surrounding

attaining their applicable objectives. One manner in which this can be done is by making use of an SMME-specific internal control system such as the Sustenance Framework. There must be a clear alignment between the "tone at the top" and every component in an internal control system, including internal control activities.

CONCLUSION

South African SMMEs are of significant socio-economic importance to the national economy. Unfortunately, these business entities have among the worst failure rates in the world. Despite having to operate in a "harsh" economic environment and being influenced by an array of socio-economic factors, research suggests that South African SMMEs are prone to "copy-and-paste" behaviour of more established South African SMMEs through mimetic isomorphism.

Taking into account that the "tone at the top", as set by management, has a direct influence over the attainment of relevant business objectives, it is sensible to think that there should be a link between these the "tone at the top" and the internal control activities that should provide reasonable assurance surrounding the attainment of business objectives in the foreseeable future. Moreover, the results showcase the informal nature of these business entities – they likely possess entrepreneurial flair, but lack formal structures. Stemming from the findings, no significant statistical relationship was found between the latter phenomena, which is extremely disconcerting.

Although it may be that this finding is exclusive to the selected sample of South African SMMEs in the study, it is possible that such a finding can be evident in other South African SMMEs operating in different industries. At the core, it seems that there is a complete misalignment between the "tone at the top" and the internal control activities in sampled South African SMMEs.

In conclusion, while considering the above, it is of paramount importance for South African SMMEs to prevent, detect and correct such misalignments with the applicable two variables (making up the control environment and the internal control activity components) with the main intent to optimise the economic sustainability of these business entities.

Avenues for further research include, but are not limited to how the Sustenance Framework can assist with better governance and internal control activities in South African FMCG SMMEs, investigating the impact of mimetic isomorphism on South African FMCG SMME sustainability, and expanding this research study (as foundation) to other industries.

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Transparency, media, and public trust: Disciplinary mechanisms in South Africa's auditing profession

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Purpose: To explore the role of transparency and media coverage in shaping public trust through the disciplinary processes of South Africa's auditing profession, focusing on SAICA.

Design/Methodology/Approach: Utilising qualitative content analysis, this study examines media-reported cases and unpublished SAICA data to identify patterns in transparency and their impact on public perception. Parker's Private Interest Model is adapted to evaluate public and private interest violations in media-visible cases.

Findings: Transparency in SAICA's disciplinary processes significantly influences public trust. Media-visible cases often receive harsher penalties but show inconsistencies in sanction rates. Transparency gaps in unpublished cases highlight the need for more robust reporting mechanisms to balance public accountability and professional preservation.

Originality/Contribution: This study contributes to understanding the interplay between media, transparency, and disciplinary processes in restoring trust in the auditing profession. It offers unique insights into the South African context, advancing the application of Parker's model to transparency and media dynamics.

Research Limitations/Implications: The study focuses on South Africa, SAICA and excludes IRBA disciplinary cases, limiting the scope of the findings.

Practical Implications: Recommends enhanced transparency in reporting disciplinary outcomes and equitable treatment of media-visible and non-visible cases.

Social Implications: Highlights the need for media to serve as a constructive mechanism for professional accountability while balancing societal expectations.

Keywords: *Public interest; Private interest; External auditing; South African Institute of Chartered Accountants (SAICA); IRBA; Sanctions; Ethics in Auditing; Disciplinary procedures.*

INTRODUCTION

The external audit profession plays a pivotal role in maintaining public trust by ensuring the accuracy and reliability of financial reporting. Auditors, through their independent evaluations, offer stakeholders assurance that an organisation's financial statements fairly represent its financial position (IAASB, 2020). This trust is fundamental to the effective functioning of markets and broader economic stability, as stakeholders including investors, regulators, and creditors rely on audit opinions to make informed decisions (Benn, Abratt and O'Leary, 2016; Cryns, van Hassel and

Vanelslander, 2025). However, recent global and local corporate scandals have underscored significant challenges to this trust, raising critical questions about the effectiveness of the audit profession's disciplinary and oversight mechanisms.

Globally, the auditing profession has faced scrutiny due to high-profile cases of corporate malpractice, such as the collapses of Enron and Wirecard. These scandals exposed systemic vulnerabilities in the governance and quality assurance structures of audit firms, highlighting deficiencies in professional independence and ethical compliance (Bondarenko, 2016; Kahn, 2020). While

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legislative reforms such as the Sarbanes-Oxley Act in the United States have sought to enhance oversight, critics argue that these measures have yet to adequately address the root causes of audit failures (Hilzenrath, 2019). In South Africa, a country once regarded as a global leader in auditing standards, the profession has suffered a significant erosion of public confidence due to a series of high-profile scandals.

Key incidents, such as the Steinhoff debacle, the VBS Mutual Bank collapse, and the controversies surrounding KPMG South Africa, have cast a spotlight on systemic weaknesses within the South African auditing profession. These cases revealed lapses in ethical conduct, audit quality, and regulatory enforcement, with grave consequences for affected stakeholders (Harber and Maroun, 2020; Buthelezi, 2021). For instance, the Steinhoff scandal, which involved the misuse of accounting practices to inflate earnings, highlighted the inability of auditors to detect material misstatements, thereby amplifying calls for stricter oversight and accountability mechanisms (Nickolas and Reeves, 2021). Such events underscore the critical need for robust disciplinary frameworks to address violations and restore trust in the profession.

The South African Institute of Chartered Accountants (SAICA), as the primary professional body for Chartered Accountants (CAs(SA)), plays an essential role in maintaining the integrity of the profession. SAICA is tasked with regulating its members through a code of professional conduct and a structured disciplinary process, which aims to uphold both public and private interests. Public interest involves protecting stakeholders by ensuring high ethical standards, while private interest focuses on preserving the profession's reputation and socio-economic standing (Parker, 1994). However, criticisms persist regarding the transparency and consistency of SAICA's disciplinary processes, particularly in high-profile cases that receive media attention.

PROBLEM STATEMENT

The auditing profession is critical for maintaining public trust in financial reporting by providing independent assurance on the accuracy and fairness of financial statements. However, recent high-profile corporate scandals, both globally and in South Africa, have eroded this trust and exposed systemic weaknesses in the profession's ethical and regulatory frameworks. Scandals such as the Steinhoff accounting fraud, the

collapse of VBS Mutual Bank, and the allegations of unethical conduct at KPMG South Africa underscore persistent issues with audit quality, professional independence, and accountability (Harber and Maroun, 2020; Buthelezi, 2021). These events have had far-reaching consequences, including financial losses for stakeholders and reputational damage to the profession.

In South Africa, SAICA serves as the primary regulator for Chartered Accountants (CAs(SA)), who form the majority of external auditors in the country. As a professional body, SAICA is tasked with enforcing ethical standards through a disciplinary process that seeks to protect both public and private interests. However, questions remain about the effectiveness of these processes in holding members accountable and restoring trust in the profession. Criticisms of SAICA's disciplinary mechanisms often centre on the transparency of case reporting, the consistency of sanctions, and the role of media visibility in influencing outcomes.

OBJECTIVE OF THE STUDY

This study seeks to investigate the interplay between media visibility, transparency, and public trust in SAICA's disciplinary mechanisms. By applying Parker's Private Interest Model, the research aims to explore how public and private interests are balanced in disciplinary outcomes and whether media coverage influences the severity and consistency of sanctions. This inquiry contributes to understanding how transparency and accountability in the auditing profession can be enhanced to restore public confidence in its societal role. This study focuses on SAICA's disciplinary processes due to its pivotal role in the auditor pipeline in South Africa. As all registered auditors must be members of SAICA, its processes inevitably impact the auditing profession. Given this dual membership requirement with SAICA and IRBA, excluding SAICA would overlook a critical aspect of auditor regulation.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The role of the auditing profession in public trust

The auditing profession exists at the intersection of public accountability and private interest, with its

primary objective being to enhance the reliability of financial reporting (IAASB, 2020). Through independent verification, auditors bolster stakeholder confidence in financial disclosures, which in turn supports the functioning of markets and broader societal trust (Benn, Abratt and O'Leary, 2016; Cryns, van Hassel and Vanelander, 2025). However, persistent audit failures globally, such as the Enron scandal and the Wirecard debacle, have raised questions about the effectiveness of audit regulation, ethical compliance, and professional independence (Bondarenko, 2016; Kahn, 2020).

Challenges in the South African auditing context

South Africa has experienced a dramatic decline in the reputation of its auditing profession due to high-profile scandals, including Steinhoff, VBS Mutual Bank, and KPMG South Africa (Harber and Maroun, 2020; Buthelezi, 2021). These scandals revealed significant lapses in ethical conduct and accountability mechanisms, exposing vulnerabilities in the regulatory frameworks governing auditors. The Independent Regulatory Board for Auditors (IRBA) oversees audit-specific issues, while SAICA manages non-audit professional conduct. Both bodies face challenges in ensuring transparency, addressing conflicts of interest, and effectively sanctioning transgressions (SAICA, 2022; IRBA, 2024). SAICA and IRBA share joint responsibility for disciplining audit professionals, requiring coordination between the two bodies. When a complaint is lodged with either institution, they must communicate to determine which entity will proceed with disciplinary action based on the nature of the complaint. Upon conclusion, the outcome is shared to assess whether further action is warranted under the respective codes of conduct. (SAICA, 2022).

The public trust deficit in South Africa's auditing profession has been compounded by inadequate reporting on disciplinary cases. Despite SAICA's commitment to ethical enforcement, inconsistencies in published case data and the lack of visibility of certain cases undermine perceptions of fairness and accountability (Lesage, Hottegindre and Baker, 2016). These concerns highlight the need for robust disciplinary frameworks that not only penalise misconduct but also promote transparency and restore trust.

Public and private interests in professional ethics

The dual imperatives of public and private interests are central to understanding the motivations and outcomes of disciplinary processes in the auditing profession. Public interest, as defined by Jenkins, Popova, and Sheldon (2018), involves safeguarding societal and stakeholder confidence in the profession. Conversely, private interest reflects the profession's internal goals, such as maintaining its socio-economic status, protecting members, and ensuring self-regulation (Parker, 1994).

Scholars argue that public interest must take precedence, given the auditing profession's societal role in providing reliable financial information. However, the interplay between public and private interests often results in tensions, with critics accusing professional bodies of prioritising self-preservation over public accountability (Puxty, Sikka and Willmott, 1997; Shelton and Jacobs, 2021; Lynch and McCullagh, 2024). This duality is particularly evident in how disciplinary cases are handled, with more severe sanctions often reserved for high-profile cases that attract media scrutiny (Lesage, Hottegindre and Baker, 2016; Shelton and Jacobs, 2021).

Parker's private interest model

Parker's (1994) Private Interest Model provides a valuable theoretical lens for examining the auditing profession's disciplinary processes. The model posits that professional bodies often pursue dual objectives: maintaining public trust and protecting private interests. It identifies three core functions self-control, professional authority, and socio-economic status preservation that underpin this duality. These functions collectively highlight how professional bodies use ethical codes and disciplinary measures to manage external perceptions while safeguarding their autonomy and reputation (Parker, 1994). The Parker model was modified by Canning and O'Dwyer to highlight the model's descriptive power, making the model clearer for application (Canning and O'Dwyer, 2003). The modified model is used in discussing the findings of the study. Figure 1 below shows the interaction of the elements in the original Parker's Model.

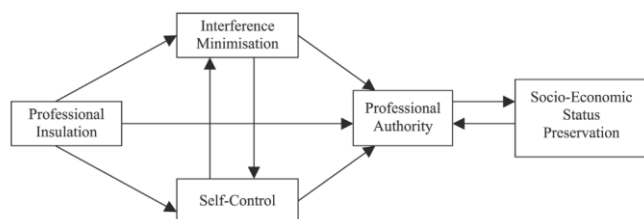


Figure 1: Parker's private interest model

Source: Parker, 1994, p. 515

The Self-Control function reflects the profession's ability to govern itself through internal mechanisms, including the establishment of ethical standards and disciplinary frameworks. Self-control is critical for maintaining professional autonomy and avoiding external interference (Parker, 1994). The function of Professional Authority emphasises the importance of upholding public trust through adherence to ethical standards and regulatory compliance. Professional authority legitimises the profession's role as a trusted advisor and independent arbiter (Parker, 1994). The Socio-Economic Status Preservation function pertains to the profession's efforts to maintain its social and economic standing, including protecting members from competition and preserving the exclusivity of professional qualifications (Sikka, Willmott and Lowe, 1989; Parker, 1994).

Parker's model underscores the inherent tensions between these functions, particularly when disciplinary outcomes appear to prioritise private over public interests.

Application of Parker's model in disciplinary research

Researchers Lesage, Hottegindre, and Baker (2016) adapted Parker's model to analyse disciplinary cases in the French auditing profession. Their study revealed that professional bodies often impose harsher sanctions for violations that threaten their socio-economic standing or public image. Similarly, Bédard's (2001) research in Quebec found that public interest violations were generally penalised more severely than private interest violations, though inconsistencies in sanction severity persisted.

In South Africa, the application of Parker's model provides a framework for understanding the dynamics of SAICA's disciplinary processes. By mapping disciplinary cases to Parker's three functions, this study

explores how SAICA balances its dual obligations of protecting public and private interests. The model also facilitates the identification of patterns in sanction severity and transparency, particularly in high-profile cases that attract media attention.

Transparency and media visibility in disciplinary processes

Transparency is a critical element in maintaining public trust in the auditing profession. Research suggests that the publication of disciplinary outcomes serves as a deterrent to misconduct and reinforces the profession's commitment to accountability (Canning and O'Dwyer, 2001). However, inconsistencies in case reporting and selective publication practices can undermine these objectives. For instance, Jenkins, Popova, and Sheldon (2018) found that professional bodies often limit the visibility of disciplinary outcomes to protect their members, raising concerns about the legitimacy of self-regulation.

Media visibility further complicates the transparency of disciplinary processes. High-profile cases tend to receive greater scrutiny and harsher sanctions, reflecting the profession's desire to demonstrate accountability in response to public criticism (Loeb, 1972). However, this focus on visible cases can lead to disparities in how disciplinary actions are applied, with less severe penalties for lower-profile cases that remain outside the public eye (Lesage, Hottegindre, and Baker, 2016).

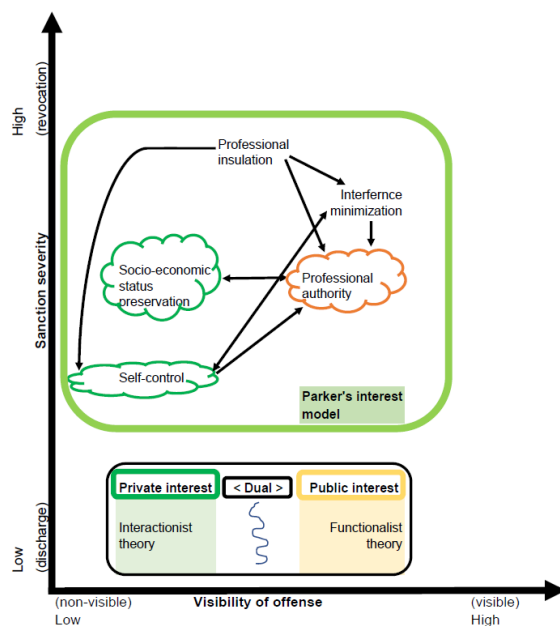
Theoretical framework: Critical social theory

This study adopts a critical social theory framework to analyse SAICA's disciplinary processes. Critical social theory bridges functionalist and interactionist perspectives, recognising both the societal role of professions and their internal motivations for self-preservation (Freidson, 1984; Garlitz and Zompetti, 2023). Functionalists view professions as essential agents of public accountability, while interactionists highlight their economic interests and efforts to maintain exclusivity (Puxty, Sikka and Willmott, 1997; Fontainha, 2022).

By integrating these perspectives, critical social theory provides a nuanced lens for understanding the dynamics of SAICA's disciplinary processes. It emphasises the interplay between external accountability (public interest) and professional preservation (private interest) as core elements

Conceptual framework

Figure 2 below illustrates the conceptual framework, showing the relationships between public and private interests, disciplinary processes, and media visibility. This framework serves as the foundation for the study's analysis and provides a structured approach to understanding the complexities of SAICA's role in the South African auditing profession.



Source: Author's own

Study design

Research instrument and data collection

- SAICA disciplinary reports and published case outcomes, (180 cases includes *Accountancy SA* cases),
- SAICA by-laws and the Code of Professional Conduct (14 versions),
- SAICA publications such as *Accountancy SA* ,
- Relevant media articles covering disciplinary cases and auditing scandals (143 articles)

The researchers used version 24 of the ATLAS.ti software, which facilitated the organisation and analysis of qualitative data. Documents were categorised into thematic groups, ensuring systematic

coverage of all relevant sources. The software enabled efficient coding and retrieval of data, supporting the identification of patterns, themes, and relationships across the dataset. Additionally, Microsoft Excel was used to summarise and tabulate findings, particularly for quantitative aspects such as sanction severity and case frequency.

Data analysis

The data analysis followed a dual approach, combining deductive and inductive reasoning. Deductive analysis was guided by Parker's (1994) Private Interest Model, which provided a theoretical framework for categorising disciplinary cases into public, private, and mixed interests. Inductive reasoning was employed to identify emergent themes and trends not anticipated in the initial framework.

The analysis process included:

1. **Content Analysis:** Each document was systematically coded to identify violations, sanctions, and other relevant information. Categories were established based on the functions outlined in Parker's model (self-control, professional authority, and socio-economic status preservation).
2. **Thematic Mapping:** Themes were mapped to the study's research objective, enabling a focused exploration of the interplay between public and private interests in SAICA's disciplinary processes.
3. **Media Visibility Analysis:** Cases were classified as high-visibility or low-visibility if they were reported in the media versus those that were not in the media, allowing for a comparison of sanction severity and outcomes across these categories.
4. **Triangulation:** Findings from different data sources were cross-referenced to ensure consistency and validity, with discrepancies addressed through iterative analysis.

Quality considerations

To ensure the trustworthiness of the qualitative research analysis the criteria of credibility, dependability, confirmability, and transferability was considered and utilised content analysis with the assistance of ATLAS.ti and Microsoft Excel (Lacy *et al.*, 2015). The dependability of the research process is

essential for establishing the credibility and rigour of the themes and patterns identified through coding (Lacy *et al.*, 2015). Thus, a systematic and transparent coding process was employed to enhance dependability, wherein data from accounting, periodicals, by-laws, constitution versions, and newspaper articles was coded according to the predefined themes. Furthermore, frequent checks were done between the researchers to address discrepancies and maintain consistency in coding across the research process, which ensured credibility (Rourke and Anderson, 2004). An audit trail was also established, documenting decisions and changes made during the coding process to ensure transferability. These measures were crucial for demonstrating the confirmability of the research findings, thus ensuring the reliability of the study's conclusions. In addition, the sources, which included accounting magazines, by-laws, constitution versions, and newspaper articles, were coded based on themes. The researcher justified the coding choices and the formation of themes to enhance confirmability. This involved detailing the data collection process, analysis, and interpretation.

FINDINGS AND DISCUSSION

This section delves deeper into the study's findings, focusing on transparency, media coverage, and public trust in South Africa's auditing profession. The analysis centres on empirical data, examining how these factors influence SAICA's disciplinary processes and the broader perception of the auditing profession. Unlike previous works, this section incorporates additional insights from unpublished SAICA data and media case studies, aiming to offer a comprehensive understanding of the interplay between these elements.

Transparency in SAICA's reporting framework

Transparency serves as a cornerstone of public trust in professional bodies. Our inductive analysis of SAICA's disciplinary reports revealed significant strides in reporting practices over the past decade. Early reports from 2010 to 2016 were characterised by limited disclosure, often providing aggregate statistics without detailed case information. This lack of granularity impeded stakeholders' ability to assess the fairness and consistency of SAICA's disciplinary outcomes.

In contrast, reports from 2017 onward demonstrated marked improvements in transparency. These included

detailed categorisations of violations by type (e.g., negligence, conflicts of interest) and member status (e.g., trainee, associate, or full member). Additionally, these reports often provided summaries of significant cases, highlighting SAICA's commitment to improving stakeholder engagement. For example, the introduction of a dedicated section for public interest cases in 2020 reflects an institutional shift toward greater accountability.

Despite these advancements, gaps remain. Approximately 85% of cases resolved during the study period were not disclosed in detail, limiting the public's ability to scrutinise SAICA's disciplinary practices. Moreover, the lack of uniformity in reporting formats across years suggests a need for standardised guidelines. This finding aligns with Canning and O'Dwyer's (2001) assertion that professional bodies often struggle to balance transparency with the protection of their reputations.

The table below shows the SAICA disciplinary cases reporting pattern from 2010 to 2023. Table 1 presents a reconciliation of complaints received by SAICA from 2010 to 2023 across member categories. Due to inconsistent reporting, reliable reconciliation is only possible from 2015 onwards. The data reflect complaints received, not necessarily published or

sanctioned cases, and serve to contextualise the volume of disciplinary matters initiated.

Table 1. The complaints received over the years, as per the SAICA Integrated Reports

	2010	2011	2012	2013	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Members-incids AGAs					160	136	177	190	171	414	883	569	560	3260
Non-members					5	3	14	43	19	21	50	14	12	181
Trainees APC						330								330
Trainees -Non APC					12	38	38	15	39	41	67	83	143	476
No category	64	72	95	65	0	0	0	0	0	0	0	0	0	296
Total	64	72	95	65	177	507	229	248	229	476	1000	666	715	4543

Source: Author's own

The role of the media in shaping public trust

Media coverage emerged as a critical factor influencing perceptions of SAICA's disciplinary processes, as per the deductive analysis. The analysis revealed a strong correlation between media visibility and the severity of sanctions imposed. High-profile cases, such as those involving the Steinhoff debacle and VBS Mutual Bank scandal, often resulted in severe penalties, including expulsions and substantial fines. For instance, the most severe sanctioning is against the media-visible cases at Level 5 sanction (e.g., suspension, expulsion), compared to 0.6% for non-visible cases. Table 2 below shows the severity of the sanctions for media-visible cases versus non-visible cases.

Table 2. Severity of sanctions: Non-visible vs visible cases

	Non-visible	Visible	Total
No of discharges*	1	3	4
No of sanctions	314	12	326
No of decisions	315	15	330
Sanction rate	99.7%	80.0%	
Severity of sanctions: RANK			Total sanctions' rank as a percentage of total decisions
1	41.0%	0.0%	39%
2	5.1%	26.7%	6.4%
3	41.0%	33.3%	40.6%
4	11.7%	0.0%	11.2%
5	0.6%	20.0%	1.5%

*Discharges are cases dismissed and not sanctioned.

Source: Author's own

Media coverage also appeared to accelerate the disciplinary process for visible cases. On average, these cases were resolved within 18 months, compared to 30 months for non-visible cases. This disparity suggests

that media scrutiny exerts pressure on SAICA to expedite investigations and demonstrate accountability. However, the findings also highlighted a lower sanction rate (80%) for media-visible cases

compared to non-visible cases (99.7%). This discrepancy may reflect the challenges of gathering robust evidence under heightened public scrutiny, leading to procedural dismissals in some instances for high profile cases. Figure 3 below gives a visual perception of the severity of charges for visible versus non-visible cases.

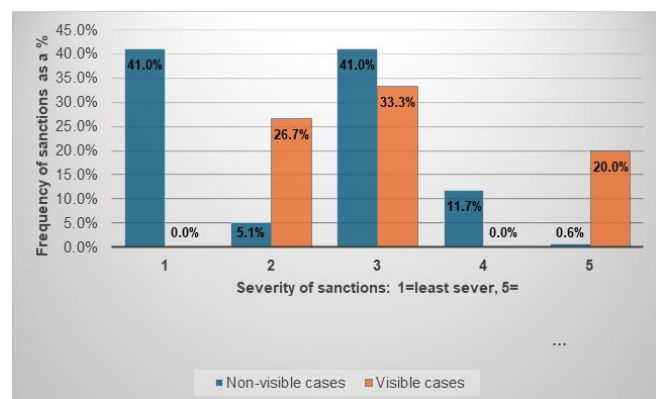


Figure 3. Severity of sanctions: Non-visible vs visible cases

Source: Author's own

The theoretical lens of interactionism helps contextualise these findings. As Parker (1994) noted, professional bodies often leverage high-profile disciplinary actions as symbolic gestures to reinforce their legitimacy. However, the inconsistency in sanction rates raises questions about the equity of these processes and their long-term impact on public trust.

Public and private interests in disciplinary outcomes

A key focus of this study was the interplay between public and private interests in SAICA's disciplinary framework. Building on Parker's (1994) Private Interest Model, the findings based on the deductive analysis revealed distinct patterns in the treatment of these interest types.

Public interest violations, predominantly involved breaches of professional authority, such as non-compliance with standards, conflicts of interest, and negligence. These cases were more likely to result in remedial sanctions, such as warnings or fines (Level 1 and Level 3). This suggests that SAICA prioritises educational and corrective measures for violations that directly impact stakeholder trust.

Private interest violations, often related to the preservation of socio-economic status and professional exclusivity. Examples included unauthorised use of the CA(SA) designation and denigration of competitors. These cases were disproportionately associated with severe sanctions (Levels 4 and 5), reflecting SAICA's focus on safeguarding the profession's internal standing.

. The study also showed that the SAICA Schedules 1a and 1B are made up of 62% public and 38% private interest charges, by matching the Parker model elements to the Schedules. This means the SAICA schedules pursue mixed interest.

Media visibility and disciplinary outcomes

The influence of media visibility on disciplinary outcomes was particularly evident in high-profile cases after the inductive analysis. Visible cases were more likely to attract severe sanctions, with 5 penalties. However, the data also revealed inconsistencies in the treatment of visible and non-visible cases. For example, while visible cases received harsher penalties on average, they also exhibited a lower sanction rate compared to non-visible cases. This finding underscores the complex dynamics of media influence, where heightened scrutiny may expedite case resolutions but also introduce procedural challenges.

The interactionist perspective offers valuable insights into these dynamics. As Freidson (1984) noted, professions often respond to external pressures by adopting practices that reinforce their legitimacy. In the context of SAICA, the emphasis on severe sanctions for visible cases aligns with this tendency. However, the lower sanction rate for these cases suggests a need for more robust investigative mechanisms to ensure consistency and fairness.

Theoretical implications

The findings have significant theoretical implications, particularly for Parker's (1994) Private Interest Model. The study's categorisation of SAICA's disciplinary cases into public, private, and mixed interests provides empirical support for Parker's assertion that professional bodies navigate a dual imperative of public accountability and private preservation. However, the analysis also highlights limitations in Parker's framework, particularly its underemphasis on the role of media as an external influencer.

To address this gap, the study proposes an expanded model that incorporates media visibility as a moderating variable in the interaction between public and private interests. This model recognises the dual role of media as both a driver of transparency and a potential disruptor of procedural fairness. By integrating media visibility into the theoretical framework, the study offers a more nuanced understanding of the dynamics shaping disciplinary processes in professional contexts.

Practical implications

The findings have several practical implications for SAICA and similar professional bodies. First, the inconsistencies in transparency and sanctioning practices underscore the need for standardised reporting guidelines. SAICA should adopt a uniform template for disciplinary reports, ensuring that all cases are disclosed in sufficient detail to enable stakeholder scrutiny.

Second, the influence of media visibility highlights the importance of proactive media engagement. SAICA should leverage media platforms to communicate its commitment to ethical governance and educate stakeholders about its disciplinary processes. This could include regular press releases, public forums, and collaborations with media outlets to promote accurate reporting.

Third, the disparities in sanction rates between visible and non-visible cases suggest a need for more consistent application of disciplinary measures. SAICA should establish clear criteria for sanctioning practices, ensuring that all cases are treated equitably regardless of their media profile.

Recommendations

Based on the findings, the study proposes the following recommendations to enhance SAICA's disciplinary framework: **Standardised Transparency Measures:** Develop and implement uniform reporting standards to ensure consistent disclosure of disciplinary outcomes across all cases. **Proactive Policy Development:** Conduct regular reviews of by-laws and reporting practices to anticipate emerging challenges and align with international best practices. **Media Strategy:** Establish a dedicated media liaison unit to manage external communications and foster positive relationships with media outlets. **Equity in Sanctioning:** Implement training programmes for

disciplinary committee members to promote consistency and fairness in sanctioning practices.

CONCLUSION

The auditing profession plays a vital role in upholding public trust in financial reporting, yet a series of corporate scandals in South Africa has exposed challenges in ethical oversight and accountability. As the professional body for a significant number of external auditors in South Africa, chartered accountants registered with SAICA face ongoing scrutiny over the effectiveness, consistency, and transparency of its disciplinary processes in contributing to restoring confidence in the external audit profession. The study employed content analysis, guided by both deductive and inductive reasoning, to examine SAICA's disciplinary processes using data from 2010 to 2023. Analysis included thematic mapping, media visibility assessment, and triangulation across multiple sources.

The findings highlight the correlation between media-visible cases and the more severe sanctions imposed when compared to less visible cases. While SAICA's disciplinary framework demonstrates a commitment to ethical governance, inconsistencies in transparency and sanctioning practices challenge its credibility. This study advances theoretical understanding by extending Parker's (1994) Private Interest Model to incorporate media visibility as a moderating factor. This provides a more nuanced view of how professional bodies balance public accountability with private interests under external pressures. The primary practical implication lies in the need for greater consistency and fairness in disciplinary processes. The observed variability in sanctions and case handling, particularly in relation to media visibility, suggests a risk to perceived procedural justice and institutional credibility. Key recommendations include strengthening the consistency and fairness of disciplinary outcomes through standardised sanctioning guidelines and training for committee members. Additionally, regular policy reviews are essential to ensure alignment with best practices, while structured transparency measures and a strategic media approach can support public accountability without compromising procedural fairness. The study is limited by the sample size in comparison to only published cases, and that only SAICA in South Africa was considered in analysing the impact of disciplinary processes for the external auditors.

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A comparison of accounting disclosures by companies offering customer loyalty programmes under IFRIC 13 vs IFRS 15

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Purpose: This study compares accounting treatment related to customer loyalty programs (CLPs) under relevant accounting standards before and after the adoption of IFRS 15, specifically contrasting IFRIC 13 with the current guidance. The study investigates the practical application of the requirements by examining the annual financial statements (AFS) of South African retail entities that offer the most popular and widely used CLP programmes.

Design/methodology: A content analysis was conducted on the AFS of entities offering CLPs. It predominantly focused on how these entities recognised revenue, measured deferred revenue liabilities, and presented/disclosed CLP information under both IFRIC 13 and IFRS 15.

Findings: Although the fundamental principles of CLP accounting (i.e., separating the transaction into two components and deferring revenue relating to the CLP component) remained consistent, the investigation highlighted a potential difference in measuring the CLP award, previously based on fair value under IFRIC 13 and now based on the allocation of stand-alone selling prices under IFRS 15, which is in line with prior theoretical predictions from literature.

Originality: This research delves into the practical application of CLP accounting requirements, contributing to limited existing literature on this topic. It further highlights a potential difference in the application of the measurement guidance, specifically under IFRS 15, which may result in divergent accounting practices by two similar entities operating similar CLPs. This finding underscores the need for future research to explore the potential financial implications.

Keywords: IFRIC 13; IFRS 15; disclosure; customer loyalty programmes; annual financial statements; IAS 18

INTRODUCTION

Customer loyalty programmes (CLPs) in their simplest form exist when customers are rewarded for their spending at a specific store or using a specific brand. CLPs allow customers to earn points when purchasing from retailers, which can then be redeemed by the customer for immediate or future discounts, free goods or services or other rewards. This paper focuses on CLP rewards where a customer receives a future discount based on rewards accumulated during the original purchase. Research related to reporting and disclosure responsibilities of businesses offering CLPs appears scarce. A theoretical study by Brink (2014) investigated the effect of a proposed new revenue standard on CLPs by comparing IFRIC 13 with the proposed IFRS 15 (when it was still in exposure draft form). The findings included a potential measurement difference (explained in more detail in the study below), as well as some improved disclosures. Acar and Bayramoğlu (2020) also performed a high-level

theoretical analysis on the differences between IFRIC 13 and IFRS 15. A previous study by Odendaal (2019) considered the disclosure compliance of South African entities to the requirements of IFRIC 13. The accounting treatment of CLPs are material in two respects: (1) the fact that the accounting standards board deems it material enough to prescribe specific treatment to it; and (2) significant growth in the popularity of CLPs (annualised growth rate in the loyalty market of 18.8% during 2020-2024) (Research and Markets, 2025). The motivation for this study is therefore to perform a comparison of accounting treatment by entities with regard to the reporting of CLPs in accordance with the guidance provided by International Financial Reporting Standards (IFRS) in respect of IFRIC 13 vs IFRS 15. This study uses a content analysis of specific cases (i.e. entities offering CLPs) to provide an evaluation of the cases against the reporting and disclosure requirements.

After the financial reporting requirements of companies offering CLPs have been determined (previously under IFRIC 13 and currently under IFRS 15), the **research objective** is to review the application of the requirements by the entities offering CLPs under both models (IFRIC 13 and IFRS 15). This review includes a quantitative comparison of the numbers reported under both models, as well as specifically the application of disclosure requirements relating to CLPs to determine if disclosure evidently improves.

LITERATURE REVIEW AND OPERATION OF CLPS

The number of entities offering CLPs has grown noticeably over recent years and across all sectors, and it has also become easier to redeem rewards (Moneyweb, 2025; GlobeNewswire, 2025; Cromhout, 2024; Beneke, Blampied, Cumming & Parkfelt, 2015).

Initially, no specific accounting guidance existed for CLPs (Brink, 2013). IFRIC 13, issued in 2007, provided the first dedicated guidance, later superseded by IFRS 15 in 2018. The issuance of specific IFRS guidance signifies the materiality of CLP transactions.

Per IFRIC 13. BC 8 *“Because loyalty awards are not delivered to the customer at the same time as the other goods..., it is necessary to divide the initial sale into components and apply the recognition criteria separately to each component...”*. (IFRS Foundation, 2007).

IFRS 15 became effective for annual periods beginning on or after 1 January 2018, and provided a single, principles-based model for all revenue transactions. IFRS 15 considers CLPs that provide a material right for the customer to acquire additional goods or services as separate performance obligations (POs), as detailed in Appendix B.B39-B43 (IFRS Foundation, 2016). The transaction price must be allocated between the initial good/service and the promised future benefit (two POs).

IFRS 15 and IFRIC 13 share similar CLP accounting treatments: allocating the sale price between the good and the CLP award, which is measured considering redemption likelihood. The CLP award is deferred as a liability until redemption or expiry. Accounting for CLPs involves two events: the initial sale (Table 1) and redemption (Table 2). The basis of both models can be summarised as:

Table 1: Accounting requirements for the initial transaction, namely when the sale (which includes the CLP points) takes place

IFRIC 13 and IAS 18 (IFRS Foundation (2007; 2011))	IFRS 15 (IFRS Foundation (2016))
Recognition	
Transactions involving the sale of goods and awarding CLP rewards consist of two separate identifiable components. The amount related to the CLP award should be recognised as deferred revenue.	A CLP represents a separate PO if it provides the customer with a material right. The amount related to the CLP award should be recognised as a contract liability.
The amount of revenue that should be deferred is based on the fair value of the CLP award.	The amount of the transaction price that should be allocated to the CLP PO is based on the relative SASP of the CLP.
The fair value is based on the amount for which the award credits could be sold separately. If not directly observable, fair value must be estimated.	The CLP amount is based on the allocation of the transaction price to the CLP award SASP. If not directly observable, the SASP should be estimated.
Fair value should include the expected forfeiture rate	SASP should consider the likelihood of exercise.
Presentation	
Deferred revenue/income is presented as a liability.	The PO amount not yet satisfied is presented as a contract liability. Although IFRS 15 describes “contract liability”, it does not prohibit alternative descriptions by entities (IFRS 15.109).

Source: Author's own

Table 2: Accounting requirements for the subsequent event, namely when a customer redeems their CLP points

IFRIC 13 and IAS 18 (IFRS Foundation (2007; 2011))	IFRS 15 (IFRS Foundation (2016))
Recognition	
When the CLP awards are redeemed/expire, revenue is recognised.	When the CLP PO has been satisfied, revenue is recognised.
Measurement	
The measurement of CLP revenue is based on the quantity of awards credits redeemed relative to the total awards credits that are expected to be redeemed.	Per IFRS 15 Illustrative Example IE 52 (paragraphs IE267-270), the measurement of CLP revenue is based on the quantity of award credits redeemed, relative to the total award credits that are expected to be redeemed.

Presentation	
Revenue is presented in profit or loss.	Revenue is presented in profit or loss.
Disclosure	
Disclose the recognition and measurement accounting policy of CLP transactions.	Disclose the entity's POs and when it typically satisfies its POs (i.e. when points are exchanged).
Disclose the CLP revenue, if significant.	Disclose the opening and closing balance of the contract liability, including the CLP revenue amount for the current period per IFRS 15.116(b).
	Disclosure of significant judgement used in IFRS 15 application (par. 123).
	Additional disclosure of the transaction price, the SASPs and the amounts allocated to POs (IFRS 15.126).

Source: Author's own

Despite some terminology and disclosure differences, a possible measurement difference relating to the measurement of the CLP award exists. Under IFRIC 13, the amount of revenue to be deferred should be based on the *fair value* of the award, which is the amount for which the award credits could be sold separately. Under this model, the customary practice was to determine the fair value of the award and allocate the residual amount to the sale of the underlying good.

Under IFRS 15, the amount allocated to the CLP PO should be determined based on the SASP of the underlying good and that of the CLP award. The SASP is defined as the price at which an entity would sell a promised good or service separately to a customer (IFRS Foundation, 2016). The reference to fair value under IFRIC 13 and SASP under IFRS 15 is essentially the same. The difference in measurement comes into effect when the transaction price (of the sale of the good, including the CLP award) is allocated to the POs based on their SASP. Under IFRS 15, the allocation should take place on a proportional basis, and it is unlikely that a residual approach would be appropriate under IFRS 15.

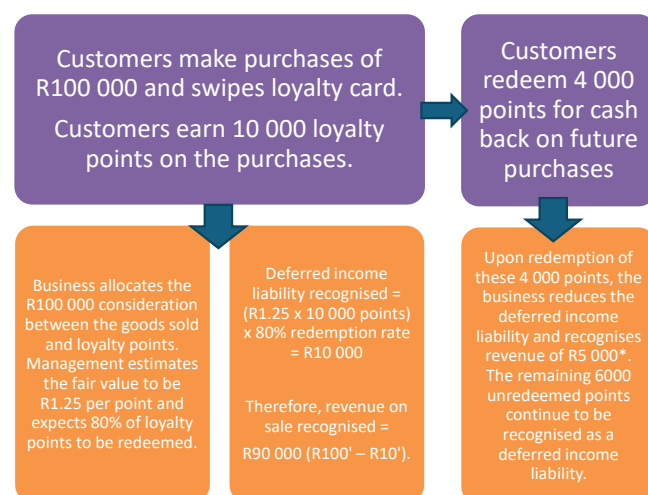
Brink (2014), in examining the requirements of the Exposure Draft ED/2011/6 *Revenue from Contracts with Customers* compared to IFRIC 13, pointed out a potential measurement difference of the amount determined for the CLP, which results in less revenue initially deferred, and accelerating the amount of initial

revenue relating to the underlying sale of the good/service.

Brink (2014) further noted a presentation difference under IFRS 15 as a contract liability (as opposed to deferred revenue under IFRIC 13) and additional disclosures. This paper compared the actual published IFRS 15 requirements (not in the ED stage) with those of the prior IFRIC 13. The conclusions of Brink (2014) remain unchanged. Acar and Bayramoğlu (2020) also performed a high-level overview of CLPs under IFRIC 13 vs IFRS 15 and noted no further differences.

To explain the potential measurement difference, the author compiled examples below in Figure 1 and 2, which illustrates measurement under IFRIC 13 and IFRS 15, respectively:

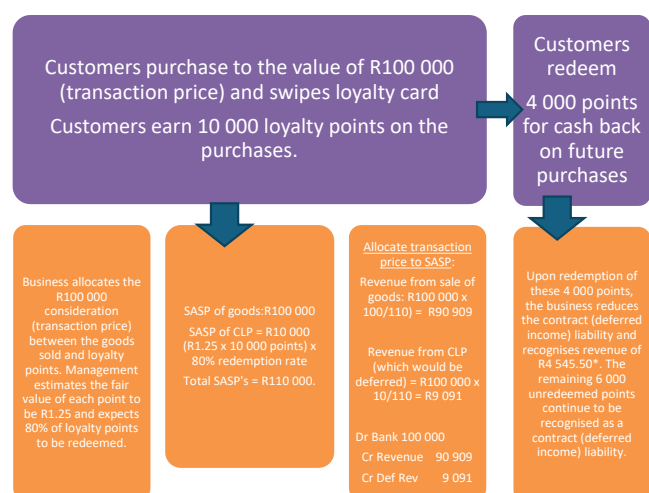
Illustrative example under IFRIC 13



* The R5 000 is calculated as: 4 000 points redeemed out of an expected 8 000 points that will be redeemed (80% of 10 points awarded as per example), therefore $4/8 \times R10\ 000$ deferred revenue = R5 000 revenue recognised.

Figure 1: How CLPs operate and were measured under IFRIC 13

Source: Author's own, adapted from IFRIC 13 and IFRS 15 illustrative example

Illustrative example under IFRS 15

* The R4 545.50 is calculated as: 4 000 points redeemed out of an expected 8 000 points that will be redeemed (80% of 10 000 points awarded as per example), therefore $4/8 \times R9\,091$ deferred revenue = R4 545.50 revenue recognised.

Figure 2: How CLPs operate and are measured under IFRS 15

Source: Author's own, adapted from IFRIC 13 and IFRS 15 illustrative example

As per the example, and noted by Brink (2014), the measurement difference may result in increased revenue recognition upfront, or, alternatively, decreased initial deferred revenue. The total amount of the revenue transaction remains unchanged, but the recognition of revenue is accelerated upfront.

This study therefore investigates a possible measurement difference, the presentation of the deferred CLP amount, and any additional disclosures under IFRS 15.

RESEARCH METHODOLOGY AND DESIGN**Research design: Content analysis**

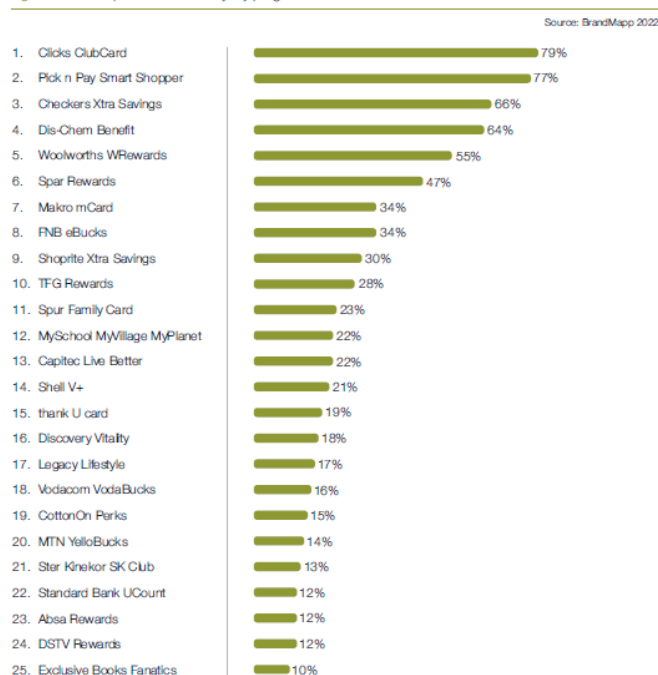
This study employs content analysis as the key research methodology to investigate the accounting for CLPs under the guidance of IFRIC 13 compared to IFRS 15. Content analysis enables a systematic and objective examination of textual data, which in this case consists of annual financial reports filed by companies (Krippendorff, 2018). By following this methodology, the author systematically investigated and compared the disclosure of CLPs under IFRIC 13 and IFRS 15 (Leedy and Ormrod, 2005).

Sample selection

The sample for this analysis comprised entities that offer single-entity CLPs, concentrated within the retail sector. CLPs offering awards through multiple or third parties were excluded.

The Cromhout (2024) Truth Whitepaper interviewed consumers on the South African Loyalty Landscape 2023/24. Cromhout (2024) reported the top 25 most-used CLPs as follows:

Figure 23: The top 25 most used loyalty programmes in South Africa

**Figure 3: CLP usage within South Africa**

Source: Cromhout, 2024: 29

Interestingly, the top ten entities are all in the retail space. As the research design focuses slightly more on a qualitative approach, the study selects only the top five entities, which also represent entities where CLPs are used by more than 50% of consumers. All these entities offer CLPs, which can only be redeemed within their own entity. However, the selection can only include entities that offer a CLP award that may be redeemed in future.

Entities like Woolworths and Checkers offer rewards programmes which entail instant discounts/savings on purchases, rather than a future reward. These entities might have limited to no disclosures on their CLP awards in accordance with IFRIC 13 or IFRS 15, as no

deferred revenue exists in this scenario. There is no future PO to satisfy.

The final selection is therefore limited to the three cases of Clicks, PnP and Dischem. The AFS of these entities were analysed in 2018 (when CLPs were still reported under IFRIC 13). This provided a baseline for comparative analysis against those entities applying IFRS 15 in subsequent years.

Analysis Framework

The analysis utilised a structured framework to assess the specific measurement and disclosure requirements of CLPs per IFRIC 13 and IFRS 15. The evaluation included categories related to the following framework:

1. Recognition of revenue: Analysis of how entities recognise revenue from CLPs under IFRIC 13 and IFRS 15.
2. Measurement of deferred revenue: Examination of how liabilities related to CLPs are measured and reported.
3. Presentation and disclosure practices: Assessing the extent and clarity of disclosures outlining CLPs, including terms, conditions, and accounting policies.

CONTENT ANALYSIS AND RESULTS

Objective of the analysis

This analysis aimed to compare CLP accounting application under IFRIC 13 and IFRS 15 in entities' financial statements, specifically investigating deferred revenue measurement and disclosures. While deferred revenue amounts were noted, direct quantitative measurement analysis was not possible due to the non-disclosure of internal calculations (e.g., CLP fair value or SASP). Measurement was then further analysed on narrative disclosures.

The materiality of CLPs is demonstrated by the provision of specific IFRS guidance and exponential growth in CLPs, as evidenced by media reports (Moneyweb, 2025; GlobeNewswire, 2025; Cromhout, 2024). Research and Markets (2025) forecasts the South African loyalty market growing annually by 14.7%, reaching US\$511.2 million (translated to ZAR at US\$1:ZAR19.185 = R9 807 million) by 2029 (XE, 2025). Figure 4 illustrates this:



Figure 4: South African Loyalty Programs Market forecast

Source: Research and Markets, 2025

Findings relating to the content analysis

The study compares the application of IFRIC 13 in the 2018 financial year, prior to IFRS 15 taking effect, with the application of IFRS 15 in subsequent years.

The 2018 financial statements were also reviewed for disclosures on the potential impact of the issued but not yet effective IFRS 15 as required by IAS 8.30. While applying IFRIC 13 in 2018, all cases disclosed the issuance of IFRS 15 and its possible impact as follows:

- Clicks: “No material impact” (Clicks Group Limited, 2018)
- Pick n Pay: “immaterial impact” (Pick n Pay, 2018)
- Dis-Chem: Little impact, does not expect significant changes (an impact of less than 1% of current revenue) (Dis-Chem Pharmacies, 2018),

Comparing 2018 reported amounts under IFRIC 13 AFS with the 2018 restated comparative amounts (in the 2019 AFS under IFRS 15 adoption) showed revenue restatements but no change to CLP deferred liabilities. Thus, IFRS 15's initial adoption in the 2019 AFS, did not adjust the comparative year's 2018 deferred liability measurement. IFRS 15 required retrospective application, and therefore, some figures were restated. The retrospective application of IFRS 15 to the comparative 2018 amounts (in the 2019 AFS) indicates no measurement adjustment to the deferred revenue amount reported in 2018 under IFRIC 13 and the deferred revenue amount reported as 2018 comparative in the 2019 AFS (when IFRS 15 was adopted). Although no measurement adjustment is

apparent to the deferred revenue amount in the three entities, a potential measurement difference might still exist in how other entities interpret IFRS 15 measurement guidance (further details discussed below in qualitative analysis).

The remainder of the analysis compares the 2018 and 2024 financial statements, largely focusing on disclosure. Using the most recent (2024) statements allowed assessment of potential disclosure improvements after several years of IFRS 15 application, making this comparison relevant.

Quantitative analysis

The values of CLP rewards and number of users, the deferred revenue, the total revenue, as well as percentages are analysed in Table 3. Despite their small proportion of total revenue, CLPs remain material due to their significant growth and the long-standing requirement for separate accounting and revenue deferral.

Table 3: A comparison of the key numbers relating to CLPs of selected entities

	Clicks		PnP		Dischem	
	(Clicks Integrated Annual Report, 2018, 2024)		(Supermarket Retailer, 2018)	(Corporate Image, 2021*)	(Dischem Integrated Annual Report, 2018, 2023*)	
	2018	2024	2018	2024	2018	2024
Total value of CLPs disclosed in annual reports/marketing information	"...over R440 million was paid to customers in cashback this year".	"Our loyal shoppers were rewarded with cashback of R780 million this year, an increase of 13.2% on the prior year".	"...during this financial year, offered R3 billion in personal discounts to its Smart Shoppers"	"Delivered more the R3.5 billion in savings to customers..."	"R548m paid back to loyalty programme members"	Rand Value of redeemed benefits through CLP: R313 million
These figures, not mandated by IFRS and rather from marketing/integrated reports, promote total CLP awards. Since there is no formal reporting format for these, there appears to be a mixture of reporting practices, some disclosing total CLP awards granted versus others disclosing total CLP awards redeemed for the year. Dischem specifically appears to have an anomaly that 2018 appears to be total rewards granted ("paid back") while 2024 reports the amounts redeemed.						
Number of CLP users	7.8m active members	11.8 million loyalty card members	More than 7 million active members	More than 8.5 million active members.	5.5 million members	9.3 million members

* Information only obtainable from prior reports indicating the best estimate for the 2024 year

Source: Author's own

Table 4: A comparison of the key numbers relating to CLPs of selected entities

	Clicks		PnP		Dischem	
	(Clicks Annual Financial Statements, 2018, 2024)		(PnP Annual Financial Statements, 2018, 2024)		(Dischem Annual Financial Statements, 2018, 2024)	
	2018	2024	2018	2024	2018	2024
	Rands 'million					
Total revenue	29 240	48 610	83 505	114 811	20 275	36 283
Deferred revenue relating to CLP	66	180	121	112	52	42
Percentage of the total value of CLPs disclosed in annual reports/marketing information to total revenue	1.5%	1.6%	3.6%	3%	2.7%	0.86%
Percentage of CLP deferred revenue to total revenue	0.22%	0.37%	0.14%	0.10%	0.26%	0.12%

Source: Author's own

The likely decrease in deferred revenue for PnP and Dischem suggests an increased reward redemption rate, and therefore lower year-end unredeemed points, resulting in a lower liability deferred. Conversely, Clicks' deferred revenue increase likely stems from their cashback issuance schedule (six times annually), with points accrued between July 24th and their August 31st year-end, remaining unredeemed until Clicks loads customers' cashback in late September; only then (after year-end), may it be redeemed by customers. This then ultimately results in higher unredeemed points at year-end, resulting in higher deferred revenue at year-end measurement.

Qualitative analysis

Per the analysis framework under the methodology section, the qualitative section compares 1. Recognition, 2. Measurement, 3. Presentation and Disclosure of CLPs described by the entities in the tables below. This is numbered as 1 - 3 in the tables below. The focus of the analyses is to determine any differences in reporting of CLPs under the two models, investigate any disclosure about measurement application and consider any additional or improved disclosures.

Table 5: A comparison of the accounting disclosures of the entities between IFRIC 13 and IFRS 15

Case	CLICKS	
Year-end	31 August 2018 (IFRIC 13) (Clicks Group Limited, 2018)	31 August 2024 (IFRS 15) (Clicks Group Limited, 2024)
	Emphasis and underline added to highlight differences	
The group operates a loyalty scheme through Clicks ClubCard, which provides vouchers that may be used in-store.		
1	The credit awards are <u>deferred as a liability</u> and recognised as revenue on redemption.	The loyalty points give rise to a <u>separate performance obligation</u> (material right). A portion of the transaction price is allocated to the loyalty points and recognised as a <u>contract liability</u> until the points are redeemed.
2	The credit relating to the CLP is measured at its <u>fair value</u> , which includes the expected redemption rate attributed to the credits awarded.	When estimating the <u>stand-alone selling price</u> of the loyalty points, the group considers the likelihood that the customer will redeem the points.
3	Presented as <u>deferred income</u> in the “Trade and other Payables” note. <u>Additional disclosure required by IFRS 15</u> : revenue recognised during the year included in the deferred income opening balance.	

Case	PnP	
Year-end	For the period ended 25 February 2018 (IFRIC 13) (Pick n Pay, 2018)	For the period ended 25 February 2024 (IFRS 15) (Pick n Pay, 2024)
	Emphasis and underline added to highlight differences	
The Group has a customer loyalty programme in South Africa, Smart Shopper, whereby customers are rewarded with Smart Shopper points (reward credits) which are effectively used as cash back against future purchases.		
1	The consideration allocated to the award credits <u>is not recognised as revenue</u> at the time of the initial sale transaction but is <u>deferred</u> and recognised as revenue when the award credits are redeemed.	Loyalty points are <u>not recognised at the time of the initial transaction</u> but are <u>deferred and recognised as a contract liability (deferred revenue)</u> when the consideration is received and recognised as turnover over time, as and when obligations are fulfilled. Loyalty points provide rights to customers that are accounted for as <u>separate performance obligations</u> .

2	Disclosure that the deferred revenue represents the <u>fair value</u> of the Smart Shopper points, adjusted for an expected forfeiture rate.	Disclosure that the deferred revenue balance outstanding at period end represents the <u>stand-alone selling prices</u> of points granted yet to be redeemed, adjusted for an expected forfeiture rate.
3	Under IFRIC 13: Presented as <u>deferred revenue</u> in the “Trade and other Payables” note. Under IFRS 15: Presentation as <u>Smart Shopper loyalty programme liability</u> in the “Deferred Revenue” note, a <u>separate line item</u> in 2024 on the face of the SOFP. <u>Additional disclosure under IFRS 15:</u> regarding recognised revenue from opening deferred income (IFRS 15.116(b))	

Case	DISCHEM	
Year-end	28 February 2018 (IFRIC 13) (Dis-Chem Pharmacies, 2018)	28 February 2024 (IFRS 15) (Dis-Chem Pharmacies, 2024)
	<i>Emphasis and underline added to highlight differences</i>	

The Group operates a loyalty scheme which allows retail customers to accumulate points that can be used in future in exchange for goods or services.

1	<u>Deferred revenue liability</u> is recognised for expected loyalty benefit points.... redeemed by customers for purchases made by participating customers for the loyalty points... during the last three years.	A <u>contract liability</u> for the award points is recognised at the time of the sale, and <u>revenue is recognised when the points are redeemed</u> . <u>Deferred revenue liability</u> is recognised for expected loyalty benefit points.... for purchases made by participating customers...
2	The <u>fair value</u> , which includes the expected redemption rate, is deferred as a liability and recognised as revenue on redemption of the points.	The <u>transaction price is allocated to the loyalty points</u> with reference to the <u>Rand value of the points</u> and is deferred as a liability and recognised as revenue on redemption of the points.
3	Presentation as “Deferred Revenue” under both models. Under IFRS 15, the line item on the SOFP reads “ <u>Deferred Revenue (contract liability)</u> ”. <u>Additional disclosure under IFRS 15:</u> Dischem discloses a reconciliation of the loyalty points from opening balance to closing balance, with points issued and revenue recognised.	

Source: Author’s own

Analysis relating to all cases:

The general CLP accounting is similar under both models in that it defers revenue relating to the CLP. For all cases, the IFRS 15 AFS included additional required disclosure (revenue recognised from opening deferred income as required by IFRS 15.116(b)). Presentation remained as deferred income/revenue in all cases (IFRS 15 allows different terms to contract liability). Clicks (2024) describes the recognition of a contract liability in the accounting policy; however, in the presentation, it is included as deferred income. PnP’s (2024) accounting policy refers to contract liability (with

deferred revenue in brackets). Dischem (2024) uses contract liability and deferred revenue interchangeably in respect of CLPs in the accounting policy and the notes. The naming of the liability relating to the CLP does not seem significant, as a general user likely understands that the deferred CLP point is presented as the contract liability/deferred income.

IFRS 15 also requires additional disclosure (relating to measurement) of the transaction price, the SASPs and the amounts allocated to POs (IFRS 15.126). These disclosures are not clearly evident from the IFRS 15 AFS (2024). This makes it more difficult for a user to

understand (or for a researcher to determine) if a measurement difference exists, as detailed disclosure is not found relating to the determination of the CLP award amount and the allocation of the sales transaction price. The disclosures of measurement have been limited to a description of the IFRS 15 measurement requirements, without a detailed description of how the SASP was determined and allocated. Although it complies with IFRS, these disclosures are not effective in determining how the SASP of the CLP award was determined.

Under IFRIC 13, it was more apparent that the CLP awards were measured at fair value (taking expected redemptions into account) and that revenue relating to the sale was the residual. In the IFRS 15 AFS, SASP was described, but it was not clear how the deferred revenue amount was exactly determined – namely whether it is the SASP of the CLP point (and the revenue relating to the sale is the residual) (similar to IFRIC 13 and Figure 1); or whether the SASP of the CLP award and the SASP of the underlying sale were allocated based on the total transaction price (similar to Figure 2). Disclosure by one of the entities (PnP) that the “deferred revenue balance outstanding at period end represents the *stand-alone selling prices* of points granted yet to be redeemed, adjusted for an expected forfeiture rate”, appears to be similar to IFRIC 13, i.e. the SASP of the CLP awards form the basis of the deferred revenue, whilst the value of the revenue from the sale, is the residual.

Although a residual approach might be the easiest or most cost-effective way to report CLPs, IFRS 15 only allows the residual approach (IFRS 15.79(c)) if certain criteria are met. Without detailed underlying calculations and assumptions available, it is unclear from the IFRS 15 disclosures exactly how the CLP liability was determined. This again highlights how a potential difference in measurement application may exist between two similar entities in reporting their CLPs and requires further investigation. This also suggests improved disclosure under IFRS 15 so that users may be able to deduce how the CLP deferred liability was determined.

RESEARCH FINDINGS AND CONCLUSION

From the investigation into the requirements under both the guidance of IFRS 15 and IFRIC 13, it was found that only a few differences exist. The paper continued with a content analysis of three entities in the retail

sector that are most popular for CLP users. It follows a quantification of deferred revenue relating to CLPs, as well as the narrative disclosures relating to the application of the guidance under both models.

The operation and recognition of the CLPs under both models are similar. The initial transaction price should be allocated to two distinct components/POs. The amount relating to the CLP award should be deferred and only recognised as revenue when the CLP awards are redeemed.

The presentation and disclosures under the two models were also similar, with limited additional disclosures added as required under IFRS 15.

Depending on the interpretation of IFRIC 13 vs IFRS 15 measurement requirements, there might be a measurement difference in the amounts allocated to the two components/POs, namely the sale of the good and the CLP award that is deferred. As described in Examples 1 and 2, the difference could result in an acceleration of revenue (and a smaller amount deferred) under IFRS 15. Comparison between 2018 and 2019 statements did not show a restated difference under initial application of IFRS 15 to the three cases, however, this is not conclusive on how all entities apply IFRS 15. It was not possible to further analyse a potential measurement difference from the content included in the AFS, as the measurement details were not provided. It was further unclear from the IFRS 15 disclosures how the measurement of the CLP was determined. Although the disclosure narrative describes that the SASP is used, transparency is lacking regarding whether there is an allocation of transaction price between the two POs or whether a residual approach is used. Although this study could not analyse the differences or potential impact on the amounts, it highlights the fact that measurement application could differ by two similar entities in applying IFRS 15 to two similar CLPs. This may result in divergent accounting practices, and this is highlighted as a future research opportunity. Furthermore, the disclosure requirements of IFRS 15 (although principles-based) could be improved to make transparency clearer in how entities applied the measurement requirements.

Limitations of the study and future research opportunities

The absence of detailed calculation disclosures in the financial statements prevented an analysis of IFRIC 13

and IFRS 15 quantitative measurement application, indicating a potential area for further research.

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A post-implementation review of IFRS 16: Leases

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Purpose: The purpose of this study is to conduct a post-implementation review of IFRS 16. In doing so, the study provides insights into IFRS 16 users' perceptions of the usefulness of IFRS 16 compared to IAS 17 and whether these perceptions differ depending on the role and industry of the respondent

Design: To achieve the study's objective, data was collected from 46 CA(SA) respondents using surveys where responses were captured on a 5-point Likert scale. Data was analysed using descriptive statistics and inferential statistics.

Findings: The findings of this study reveal that most respondents perceive IFRS 16 to provide more useful information than IAS 17. Although respondents agreed that IFRS 16 had met the goals and objectives of the IASB, it was noted that IFRS 16 was more difficult to apply than its predecessor. Differences were noted in the perceptions of preparers of financial statements compared to other respondent groups when it came to perceptions of the understandability and ease of interpretation of financial statements, with preparers favouring the use of IAS 17.

Contribution: IFRS 16 research has focused on ratio analysis and the quantitative effects of the implementation of IFRS 16. Limited research has been conducted to obtain qualitative evidence of the effects of the implementation of IFRS 16. This study contributes to the IASB's post-implementation review project for IFRS 16 which was initiated in June 2024.

Keywords: Faithful representation, IFRS 16, IAS 17, understandability, usefulness

INTRODUCTION

Leases refer to the right to use a specified asset for a period of time in exchange for consideration (IASB, 2016c). Leases are used across industries and are an important source of financing (Fletcher *et al.*, 2005). Relevance and faithful representation are the cornerstones of financial reporting (IASB, 2018). The International Accounting Standards Board (IASB) issued IFRS 16 *Leases* in January 2016 with these fundamental qualitative characteristics in mind (IASB, 2016c). The objective of the IASB was to address deficiencies in the prior standard (IAS 17) including a lack of consistency in lessee accounting and the potential issue of "off-balance-sheet" financing (IASB, 2016b; Le Roux, 2021; Susanti *et al.*, 2021). To this end, IFRS 16 provides a single method for accounting for leases with the recognition of a right of use asset and corresponding lease liability (IASB, 2016c). This is associated with many benefits, such as increased transparency and comparability (Hladika & Valenta, 2018). However, these benefits cannot be achieved without associated costs, impacting key financial ratios and metrics (Segal & Naik, 2019). The question that the IASB wants answered is: Does IFRS 16 provide more

useful information than IAS 17 and do the benefits outweigh the associated costs of implementing the new standard?

To answer this question, the IASB began the post-implementation review (PIR) of IFRS 16 in June 2024. The committee noted three key areas for investigation. These included i) an overall assessment of IFRS 16, ii) an understanding of the costs and benefits of IFRS 16, and iii) questions related to the application of IFRS 16 (IASB, 2024). This paper contributes to the IFRS 16 PIR by conducting a survey that gathers the views of South African accounting professionals on the implementation of IFRS 16. This study answers the following research questions:

1. Does IFRS 16 provide information that is perceived to be more useful compared to IAS 17?
 - a. Do these perceptions differ depending on the industry in which the respondent works?
 - b. Do these perceptions differ depending on the role of the respondent?

Given the extensive use of leasing as a form of financing and the importance of leases operationally

and financially, research in this area is essential to determine the impacts on preparers and users (Fletcher *et al.*, 2005). Academic research conducted to date on IFRS 16 has largely considered the quantitative impacts of IFRS 16 on financial statements (Cape, 2019; Le Roux, 2021; Susanti *et al.*, 2021; Zamora-Ramírez & Morales-Díaz, 2018). There has been little consideration of the perceptions of those who use the standard in determining whether IFRS 16 has met the IASB's objective of providing useful information.

LITERATURE REVIEW

PIRs are conducted over new standards after the standards have been in effect for at least two years (IASB, 2020). The process generally takes place in two stages (IASB, 2020). The first stage involves stakeholder consultation to understand relevant issues (IASB, 2020). This is followed by a discussion by the board and a presentation of findings and steps taken to address issues noted (Ewert & Wagenhofer, 2012). Academics play an important role in the first stage of the PIR process (Ewert & Wagenhofer, 2012).

This paper assists in meeting the specific aims of a PIR including; whether the aims of the standard have been met, whether the information provided by the standard is useful, and other contentious issues such as costs and consistency of application (IASB, 2023). To this end, the remainder of the literature review explores the development of IFRS 16, the perceptions of useful information, and prior research on the implementation of IFRS 16.

The development of IFRS 16

The development of IFRS 16 was a result of the shortcomings of its predecessor, IAS 17. Under IAS 17, lessees classified leases as either operating leases or finance leases, in the same way as the lessor would. This classification is still the case for lessor accounting under IFRS 16 (IASB, 2016c). The result was that many leases were classified as operating leases, rather than finance leases were an asset and corresponding liability would be recognised (IASB, 2016c). The effect of this was the recognition of an expense over the lease term (IASB, 2003), with significant sources of financing unrecognised in the statement of financial position (Susanti *et al.*, 2021). This "off-balance sheet" financing raised concern due to the lack of transparency and comparability in financial statements, with analysts having to estimate lease commitments based on note

disclosures (Cape, 2019; IASB, 2016a). Adjustments made by analysts included constructive capitalisation of operating leases to produce ratios more representative of the company's financial position and performance (Cornaggia, Franzen, & Simin, 2013; Imhoff Jr *et al.*, 1991; Lander & Auger, 2008; Lim, Mann, & Mihov, 2003; Sengupta & Wang, 2011). The possible manipulation of lease accounting under IAS 17 was not in line with the principles of agency theory, where shareholders should have access to information to hold management accountable for their resource stewardship (Jensen & Meckling, 1976).

The significance of "off-balance sheet" financing prompted the IASB and the Financial Accounting Standards Board (FASB) to initiate the IFRS 16 project in 2005 (IASB, 2016b). The first discussion paper was issued in March 2009 with the final exposure draft being issued in May 2013 (IASB, 2016b). The final standard was issued in January 2016, replacing IAS 17, IFRIC 4, and SIC 15 (IASB, 2016c). IFRS 16 introduced the concept of a "right-of-use" asset and a "lease liability" (IASB, 2016c). All leases were now required to be capitalised, except leases with a term of 12 months or less and the lease of low-value assets (IASB, 2016c). The inclusion of a single model for lease accounting, eliminates, to a large extent, the opportunity for management manipulation of financial statements, providing more useful information to hold management accountable (Jensen & Meckling, 1976).

Factors influencing the perceived usefulness of IFRS 16

Information is considered to be useful if it assists users in making decisions (IASB, 2018). The usefulness of information depends on the needs of the users and the decisions they make (Dimi *et al.*, 2014). In terms of the requirements of the Conceptual Framework, information should be relevant and faithfully represented to be useful (IASB, 2018). Information usefulness is enhanced if the information is comparable, verifiable, timely, and understandable (IASB, 2018). These fundamental and enhancing characteristics of useful information influenced the survey questions provided to respondents.

There are several factors influencing users' perceptions of useful information. Two key concepts, being the industry and the role of the stakeholder are discussed below.

The industry effect

Different business models result in the use of leases to differing levels in different industries. In January 2016, the IASB issued an analysis of the cost and benefit effects of IFRS 16 (IASB, 2016a). They found the industries most affected by IFRS 16 to be airlines, retail, and travel and leisure industries with the present value of the lease payments as a percentage of total assets being 22.7%, 21.4%, and 20.7% respectively (IASB, 2016a).

PWC conducted a detailed analysis of the effects of IFRS 16 on 3,199 global companies using the constructive capitalisation approach (PWC, 2016). They found that the most impacted industry was the retail industry with a 98% median increase in debt, followed by the airline industry with a 47% median increase in debt, and then the professional services with a 42% median increase in debt (PWC, 2016). Other studies found that retail sectors were likely to be most affected by IFRS 16 leases due to a large portion of leases attributable to store space (Cape, 2019; Dillon, 2014).

Based on the discussion above, it is evident that the industry plays a role in the impact of leases on the financial statements of the reporting entity and as such is likely to influence users' perceptions of usefulness and is investigated in this paper.

The role of the stakeholder

The role assumed by a stakeholder in the financial reporting environment affects their perceptions of information usefulness (IASB, 2016a). For example, a preparer of financial statements may be more interested in the costs of implementation of the standard than a user or auditor of financial statements who may focus their attention on the ability of the information to faithfully represent the affairs of the reporting entity (IASB, 2016a).

Assurance provided by auditors of financial statements is affected by the financial reporting standards implemented (Astolfi, 2021). Auditors would likely be interested in the faithfulness of the information presented in the financial statements. Knowledge and experience of a standard affect the expertise of the auditor and the judgments made on financial statements prepared using relevant accounting standards (Bonner & Lewis, 1990). Auditors have less experience with new standards, influencing their

perceptions of the usefulness of the issued standard (Bonner & Lewis, 1990).

Other considerations

IFRS 16 has its foundation in the provision of comparable information (IASB, 2016c). As such, users of financial statements may find IFRS 16 principles to provide useful, comparable information (IASB, 2016a; Zamora-Ramírez & Morales-Díaz, 2018). Although comparable information is provided, IFRS 16 requires the use of more judgment and estimates compared to its predecessor, where lease expenses were recognised based on actual cashflows (IASB, 2016c).

Although not always directly involved in the preparation and use of financial statements, academics offer valuable insight due to their experience and technical knowledge (Ewert & Wagenhofer, 2012). Research conducted by accounting academics assists with the operationalisation and amendments to accounting standards (Louw & Maroun, 2017).

Previous research on the implementation of IFRS 16

Previous research on the impact of IFRS 16 has focused on quantitative analysis, with findings that solvency and liquidity ratios are most negatively affected by the implementation of IFRS 16 (Cape, 2019; Öztürk & Serçemeli, 2016; Sari *et al.*, 2016; Wong & Joshi, 2015; Zamora-Ramírez & Morales-Díaz, 2018). These findings were echoed in a South African context, where total assets and liabilities were noted to increase post-implementation of IFRS 16, impacting debt/asset ratios and debt/equity ratios (van Wyk & Enslin, 2025).

Although the objective of IFRS 16 was to improve comparability through the capitalization of leases, it has been found that firms with debt covenants had a lower total value of leases after the implementation of IFRS 16 (Johansson & Sjöberg, 2020). This may be an indication that entities are still able to structure leases in a manner that reflects the operations of the reporting entity favourably (Johansson & Sjöberg, 2020). In their study of the value-relevance of leases, the ability of disclosed lease information to affect the share price, Henrikhaugen & Åbelvold (2023) noted that value-relevance decreased after the implementation of IFRS 16 in countries with high investor protection. In cases of low investor protection, IFRS 16 was noted to improve the value relevance of

earnings per share and book value per share (Henrikhaugen & Åbelvold, 2023) .

METHOD

A survey of 46 respondents was used to obtain their perceptions of the usefulness of IFRS 16 compared to IAS 17. Responses were collected from January to March 2024 in South Africa. The survey was distributed to academics, auditors, users of financial statements

and preparers of financial statements with a CA(SA) designation. Convenience and snowball sampling were used to identify participants. Participants were contacted via email and LinkedIn. All participants had experience with the application of IFRS 16 and IAS 17 as indicated by the participants in the survey. 46 responses were deemed appropriate as data saturation is reached at approximately 40 responses (Leedy & Ormrod, 2019). A breakdown of the interview participants is included in Table 1.

Table 1: Analysis of survey respondents

Role	Years of experience					Total
	1-2 years	3-5 years	6-10 years	11-15 years	>15 years	
Academic (AA)	1	3	-	2	1	7
Executive management	-	-	-	-	1	1
Senior management	1	3	-	2	-	6
Junior management	-	-	-	-	-	-
Auditors (A)	1	7	3	4	5	20
Executive management	-	-	-	1	3	4
Senior management	-	1	1	3	2	7
Junior management	1	6	2	-	-	9
Preparers (P)	-	2	5	4	1	12
Executive management	-	-	2	1	1	4
Senior management	-	1	3	1	-	5
Junior management	-	1	-	2	-	3
Users (U)	-	1	2	3	1	7
Executive management	-	-	-	1	1	2
Senior management	-	-	1	1	-	2
Junior management	-	1	1	1	-	3
Totals	2	13	10	13	8	46

Source: Author's own

The survey questions were developed based on prior literature, key changes to IFRS 16 compared to IAS 17, and the objectives of the IASB when developing IFRS 16 to achieve the objective of the paper of determining whether IFRS 16 provides more useful information than IAS 17 (Creswell & Creswell, 2017; Dimi *et al.*, 2014). Survey questions were closed-ended with respondents answering using a five-point Likert scale, with a higher score indicating that IFRS 16 provides more useful information than IAS 17. The responses were converted to percentages to assist with data analysis. After ethical clearance was obtained from the institution ethics committee, a pilot study was conducted with 5 participants to determine the appropriateness of the questions posed. One open-

ended question was included at the end of the survey for participants to add anything noteworthy about the application of IFRS 16. Surveys were distributed using Microsoft Forms and responses were collected and stored in Microsoft Excel.

Data analysis was performed using SPSS. Descriptive statistics were used to summarise and analyse the data obtained from the surveys to determine whether respondents perceive IFRS 16 to provide more useful information compared to IAS 17. Un-tabulated Kolmogorov-Smirnov and Shapiro-Wilk tests showed that the data was not normally distributed. As such, Kruskal-Wallis tests were used to determine whether the perceptions of respondents differed depending on

the role (Table 1) and industry (Table 2) of the respondent.

Table 2: Industry classifications and respondent groups

External reporting	Academia	7
	Audit/consulting services	20
	Consulting	1
Consumer Goods	Consumer goods	2
	logistics	2
	Retail	2
Financial services	Financial services	4
Consumer services	Health care	1
	Telecommunication	4
	Travel and leisure	1
Mining	Mining	2
		46

Source: Author's own

FINDINGS

The findings presented below begin with a discussion of the qualitative characteristics of useful information, focusing on fundamental qualitative characteristics and factors considered in the implementation of IFRS 16. This is followed by a discussion of additional considerations, focusing specifically on comparability. Finally, overall IFRS 16 considerations are discussed. In answering the research questions, differences in the perceptions based on the role and industry of the respondents are discussed.

Qualitative characteristics of useful information and IFRS 16 implementation considerations

Table 3 below provides a summary of survey responses concerning the qualitative characteristics of information. Key areas of interest have been highlighted in orange. The percentages included in the table indicate the portion of the respondents that associated IFRS 16 or IAS 17 with the themes identified.

Table 3: Summary of perceptions of the qualitative characteristics of useful information (IFRS 16 vs IAS 17)

	Auditors	Academia	Preparer	User
Qualitative characteristics - IAS 17 vs IFRS 16				
Transparency	IFRS 16 85%	IFRS 16 86%	IFRS 16 58%	IFRS 16 86%
Understandability	IFRS 16 65%	IFRS 16 57%	IAS 17 75%	IFRS 16 71%
Management stewardship	IFRS 16 65%	IFRS 16 71%	Mixed 50% 33% 17%	IFRS 16 71%
Reliability and verifiability	IFRS 16 75%	IFRS 16 57%	Mixed 33% 33% 33%	IFRS 16 57%
Relevance for decision making	IFRS 16 75%	IFRS 16 57%	Mixed 42% 42% 16%	IFRS 16 71%
Provision of useful information	IFRS 16 75%	IFRS 16 57%	Mixed 42% 42% 16%	IFRS 16 71%
Better guidance on lessee accounting	IFRS 16 70%	IFRS 16 57%	Mixed 46% 36% 18%	IFRS 16 57%
Provides better guidance for lessor accounting	Mixed 40% 20% 40%	IFRS 16 57%	Mixed 33% 42% 25%	Neutral 71%
Difficulty of application	IFRS 16 80%	IFRS 16 86%	IFRS 16 67%	IFRS 16 71%
Faithful representation	IFRS 16 80%	IFRS 16 57%	Mixed 33% 33% 33%	IFRS 16 57%
Ease of interpretation	IFRS 16 65%	Mixed 43% 14% 43%	IAS 17 58%	Mixed 42% 29% 29%
Understandable presentation and disclosure	IFRS 16 65%	Mixed 43% 43% 14%	IAS 17 58%	Mixed 42% 29% 29%

*When results are mixed the percentage responses are shown as IFRS 16| IAS 17| Neutral

Source: Author's own

Based on the results provided in Table 3, most respondents perceived the information provided by IFRS 16 to be more useful than the information provided by IAS 17. It appears that the IASB has been successful in meeting its stated objective of improving consistency and comparability in the presentation and disclosure of leases (IASB, 2016b). All respondent groups agreed that IFRS 16 provides information that is more transparent and a better indication of

management's stewardship of the reporting entity. This is in line with the objectives of the IASB to bring leases into the statement of financial position to more faithfully represent the financial position of the reporting entity (PWC, 2016).

Although most preparers felt that IFRS 16 provided more transparent information, 75% of preparers believed IAS 17 was more understandable than IFRS 16.

This was confirmed by the response that 58% of preparers found IAS 17 easier to interpret than IFRS 16 as well as providing more understandable presentation and disclosure than IFRS 16.

The difference in opinions of preparers of financial statements may be because of the role they play in the financial reporting process. Preparers are responsible for interpreting and applying the requirements of financial reporting standards. This requires a great deal of time and effort (Hamza & Damak-Ayadi, 2023). This may result in a certain level of dissent in preparers when a new standard is adopted. These findings are in line with the IASB's IFRS 16 effects analysis (IASB, 2016a). During the IASB's consultation process, several comments were sent in from interested parties related to the financial and non-financial costs of IFRS 16 implementation (Segal & Naik, 2019). The findings of this paper reveal that preparers do feel the negative cost effects of the implementation of a new accounting standard, and this may impact their perceptions of the benefit of implementing the standard. Although not in the role of preparer, respondent A8, an auditor with over 10 years of experience, shared the following views on the implementation of IFRS 16:

"Some entities do not derive value in implementing IFRS 16 and attracts unnecessary costs to comply."
A8

The increased financial and non-financial cost of IFRS 16 is apparent from the findings in Table 3, where all respondent groups indicated that IFRS 16 was more difficult to apply than IAS 17. The sentiments of preparers are summarised by respondent P5's comment below:

"From a practical point, IFRS implementation is only challenging in the first year of implementation, once the leases have been identified and the borrowing rate confirmed, the leases are easy to track. Not a fun exercise to do each year." P5

These sentiments were echoed by other respondent groups, with respondent A17 making the following comment:

"IFRS 16 implementation has unnecessarily complicated financial reporting with no tangible benefit to the users of the financial statements. Many accountants in the industry don't even

understand how to interpret the disclosures and assets/liabilities raised." A17

Although most respondents felt that IFRS 16 was more difficult to implement than IAS 17, all respondent groups, except for preparers, agreed that these costs were necessary for the increased faithful representation, transparency and relevance that comes with the implementation of IFRS 16 (Table 3).

The results of the Kruskal Wallis test revealed that there was a significant difference at the 10% level of significance when considering the perceptions of users regarding whether IFRS 16 provides a faithful representation of the financial position and performance of the reporting entity ($p=0.051$). Significant differences were noted in the opinions of preparers and the remaining respondents. This is in line with the above discussion where it was noted that preparers face substantial costs on the implementation of IFRS 16. Kruskal Wallis tests revealed no significant differences in the perceptions of respondents based on industry.

Table 4 below provides a breakdown of responses regarding IFRS 16 cost considerations. The results of Table 4 indicate that all respondent groups noted that IFRS 16 increases costs in all areas of implementation. This is in line with previous studies where the costs of implementation of IFRS 16 were a significant consideration (IASB, 2016a; PWC, 2016; Segal & Naik, 2019; van Wyk & Enslin, 2025). Sixty per cent of academics did not perceive the benefits of IFRS 16 to outweigh the costs. This was echoed largely by the perceptions of preparers where 45% of preparers both agreed and disagreed that the benefits of implementing IFRS 16 outweighed the cost.

The comments raised by respondent AA6 may assist in interpreting this result:

"Most entities did not truly appreciate the impact of leases in their financial statements. IFRS 16 has made them dig deep to understand the terms of the leases and their impact on the financial statements." AA6

Although the statement made by respondent AA6 highlights the benefit of IFRS 16 in providing increased entity knowledge, it also illustrates the immense effort that is associated with implementing the changes to lessee accounting brought about by IFRS 16.

Table 4: IFRS 16 Implementation Considerations

IFRS 16 implementation considerations - Agree vs disagree				
	Auditors	Academia	Preparer	User
IFRS 16 related costs				
- Higher IT costs	Agree 60%	Agree 60%	Agree 73%	Mixed 20% 40% 40%
- Higher admin and processing costs	Agree 70%	Agree 80%	Agree 81%	Agree 80%
- Higher staff costs	Agree 60%	Agree 60%	Agree 64%	Agree 80%
- Overall higher costs	Agree 75%	Agree 80%	Agree 64%	Agree 60%
Benefits outweigh costs of IFRS 16	Agree 65%	Disagree 60%	Mixed 45% 45% 10%	Agree 60%
Identification of previously unidentified leases	Agree 70%	Agree 80%	Agree 64%	Neutral 60%
More accurate identification of lease terms	Agree 70%	Agree 60%	Agree 55%	Disagree 60%
Better identification of obsolete leases	Mixed 40% 35% 25%	Agree 60%	Agree 73%	Disagree 60%
Accounting changes result in changes in lease management practices	Agree 70%	Mixed 40% 20 40%	Agree 63%	Agree 80%
More informed decisions on buying vs leasing	Mixed 45% 20% 35%	Agree 60%	Mixed 18% 46% 36%	Agree 60%

*When results are mixed the percentage responses are shown Agree | Disagree | Neutral

Source: Author's own

Table 4 indicates that all respondents noted that IFRS 16 results in the recognition of leases previously unidentified and the swifter identification of leases of assets that are obsolete or no longer in use. These considerations have cost-saving implications. Respondent A19 made the following comment:

“IFRS 16 required implementation as many analysts and users did not read the commitments note and were consequently surprised when there were cash flows not included in liabilities at year-end date.”
A19

The results of the Kruskal-Wallis test indicated that there was a significant difference at the 10% level of significance in the perceptions of the identification of previously unidentified leases depending on the industry in which the respondent worked ($p=0.086$). Significant differences were noted between industry 2 (consumer goods) and the remaining industries. This is in line with previous studies where it was noted that the retail industry would be most significantly affected by the implementation of IFRS 16 due to the high volume of leases (Cape, 2019; Dillon, 2014; PWC, 2016).

The benefits of IFRS 16 extend beyond financial reporting, with all respondents (except auditors with mixed responses), indicating that changes to lease accounting resulted in changes to lease management practices. Evidence of this is provided in a comment made by respondent A19:

“From a preparer perspective there are many companies that have now adjusted their Delegation of Authority to include leases in capital approvals as previously line managers were allowed to approve leases as operating expenses rather than go through the required capital approval processes that involved executives.” A19

These results are an indication of the far-reaching effects of IFRS beyond simply financial reporting. This is also likely to improve the perceptions around management stewardship as were evident in Table 3.

IFRS 16 comparability and consistency considerations

One of the key considerations in the amendments made to IFRS 16 was to improve the comparability (IASB, 2016c). Results from surveys included in Table 5 indicate that most respondents agree that IFRS 16 has increased comparability. Seventy percent of auditors and 83% of academics agree that consistency is increased between entities that buy and lease assets. This results in increased comparability between entities in the same industry with 75% of auditors and 67% of academics agreeing. Furthermore, IFRS 16 results in increased comparability between entities in different industries with agreement of 60% and 67% of auditors and academics respectively. Although comparability responses were mixed for preparers and users, the mixed responses favoured agreement or neutrality.

Similar results were apparent for users with 14% and 29% disagreeing with increased comparability between entities that buy and lease assets and entities in the same industry. The difference in the level of agreement between the different groups of respondents may be a result of the costs associated with gaining an understanding of IFRS (IASB, 2016a). Auditors and academics may be more amenable to the changes in

IFRS 16 due to their understanding of the standard because of significant training and resources allocated to the advancement of knowledge directly related to their roles (Bonner & Lewis, 1990). This impacts the confidence of respondents in providing opinions in answering the survey (Bonner & Lewis, 1990). Results of perceptions around the similarity of accounting for leases yielded similar results (Table 5).

Table 5: Comparability and consistency reporting

Usefulness of information in IFRS 16 for user decision making- agree vs disagree				
	Auditors	Academia	Preparer	User
Increased financial statement adjustments under IFRS 16	Mixed 40% 40% 20%	Agree 67%	Mixed 50% 25% 25%	Mixed 43% 43% 14%
More accurate determinations of credit ratings	Mixed 50% 15% 35%	Agree 100%	Mixed 50% 13% 37%	Mixed 42% 29% 29%
Increased comparability across:				
- Entities that lease assets with entities that buy similar assets	Agree 70%	Agree 83%	Mixed 38% 12% 50%	Mixed 43% 14% 43%
- Entities in the same industry	Agree 75%	Agree 67%	Mixed 50% 12% 38%	Mixed 42% 29% 29%
- Entities in different industries	Agree 60%	Agree 67%	Mixed 50% 12% 38%	Neutral 57%
Increased accounting consistency:				
- Among entities in the same industry	Agree 70%	Mixed 50% 17% 33%	Agree 63%	Agree 57%
- Among entities in different industries	Agree 75%	Mixed 50% 17% 33%	Agree 63%	Neutral 71%
- Over time in the same industry	Agree 70%	Mixed 50% 17% 33%	Agree 63%	Mixed 43% 14% 43%

*When results are mixed the percentage responses are shown as Agree | Disagree | Neutral

Source: Author's own

In considering the adjustments required to financial statements, the results are largely mixed, with only academics agreeing that IFRS 16 increases analyst adjustments. This seems to contradict the objectives of IFRS 16 to ease adjustments made for leases by bringing leases into financial statements (Cornaggia, Franzen, & Simin, 2013; Imhoff Jr et al., 1991; Lander & Auger, 2008; Lim, Mann, & Mihov, 2003; Sengupta & Wang, 2011). The mixed results may be due to the new nature of the standard and the adjustments still made for older models in use. There was equal agreement and disagreement on this matter for auditors and users, those who review financial statements most frequently. Perhaps the comments of respondent U7 may provide insight.

"IAS 17 was easy to apply and management could interpret it easily without any technical knowledge required. Budgeting and forecast were easy to compile without having to make a lot is assumptions be it about the future discount rates or extension options." U7

Based on the above, it appears that resource availability and understanding of IFRS 16 play a substantial role in the perceptions of usefulness.

Overall IFRS 16 considerations

Table 6 below provides the overall perceptions of respondents related to whether IFRS 16 meets the IASB's stated objectives and available implementation support.

Table 6: Overall IFRS 16 considerations

Overall considerations - agree vs disagree				
	Auditors	Academia	Preparer	User
Sufficient guidance is provided in IFRS 16 in relation to what constitutes a low value lease	Agree 80%	Mixed 50% 33% 17%	Mixed 50% 17% 33%	Agree 57%
IASB IFRS 16 implementation guidance is sufficient	Agree 75%	Agree 100%	Agree 57%	Agree 71%
Training service provider IFRS 16 implementation assistance is sufficient and beneficial	Agree 80%	Agree 67%	Agree 67%	Agree 100%
The IASB has achieved its objective with IFRS 16	Agree 85%	Agree 100%	Agree 58%	Agree 71%
IFRS 16 contributes to the IASB's objective of improving the quality of accounting reporting.	Agree 85%	Agree 83%	Agree 58%	Agree 71%

Source: Author's own

Respondents agree that IFRS 16 contributes to improving the overall quality of financial reporting. Respondent P1, a preparer in the financial services sector made the following statement:

"IFRS 16 provides more useful information and transparency in the financial statements." P1

Although all respondent groups agreed that IFRS 16 improved the quality of financial reporting, meeting the IASB's objectives (IASB, 2016a), mixed responses were noted regarding the guidance provided on low-value leases. In terms of the requirements of IFRS 16, when considering the measurement exceptions under IFRS 16 of low-value leases and short-term leases, the guidance is clear on the classification of a short-term lease, but the guidance concerning low-value leases is limited (IASB, 2016c). This is an area for consideration for the IASB in their ongoing IFRS 16 post-implementation review project.

The comment made by respondent U1 summarises the overall sentiments of most survey respondents:

"IFRS 16 has provided transparency on leases that were previously not shown in the balance sheet - allowing users and Investors to make more informed decisions when analysing the AFS." U1

CONCLUSION

The results of the study indicate that, overall, users of IFRS 16 perceive IFRS 16 to provide information that improves the quality of financial reporting and meets the IASB's objectives of improving comparability and

consistency in accounting for leases. Limited differences were noted in perceptions based on industry and the role of the respondents. Where differences were noted, the opinions of preparers appeared to differ from other respondent groups likely due to the direct interaction of preparers with the analysis and interpretation of the standard. Differences were noted in the retail industry compared to other industries when it came to the identification of previously unidentified leases, likely as a result of the large volume of leases present in this industry.

Key issues noted with the implementation of IFRS 16 included the costs of implementation and the ease of understanding and interpreting the standard. All respondent groups agreed that IFRS 16 increased financial reporting costs. Preparers noted that IAS 17 was easier to understand and interpret. This may be because of the unfamiliar nature of IFRS 16 and the limited resources allocated to reskilling preparers in the requirements of the standards. This indicates a potential area for focus for the IASB. Another key area of focus is the guidance available concerning the accounting for short-term leases with academics and preparers providing mixed feedback on the guidance available for the classification of these types of transactions.

The results of this study contribute to the ongoing IASB IFRS 16 post-implementation review and provide insights from a South African, developing country perspective, a sector that is often underrepresented from a research perspective.

This research only considered the perceptions of South African CA(SA)s and did not consider the perceptions of users of IFRS 16 in other locations. The study could be improved by extending the survey to other territories and the use of interviews to obtain a better understanding of the reasons behind the perceptions of respondents.

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Pension funds and their sponsors: A tale of disclosure, actuarial fairness, and surprising similarities

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Purpose: In this study, we aim to analyze the level of similarity between the information disclosed by pension funds and sponsoring firms and the disclosure requirements of IAS19 (Employee Benefits). Additionally, we assess whether the degree of similarity is influenced by the financial status of the sponsored plans (deficit/surplus/balance).

Design: Using cosine similarity analysis, an automated textual analysis, we examine the financial statements of sponsoring firms and the annual reports disclosed by the pension funds between 2012 and 2023. We estimate panel data regression models separately for the sponsors and pension funds.

Findings: Our findings reveal that pension funds disclose information more closely aligned with IAS19 requirements than sponsors, which is unexpected, given that pension funds do not formally apply IAS19. However, we find significant differences in similarity across different types of information required by IAS19. We also provide evidence that sponsors with pension plans closer to actuarial fairness exhibit higher similarity levels, suggesting that an optimal funding ratio maximizes the similarity between the information disclosed by sponsors and IAS19 requirements. This relation is not observed for pension funds. Lastly, larger pension funds tend to have lower disclosure similarity.

Contribution: We provide important evidence about pension disclosures, highlighting that this disclosure depends on the financial status of the sponsored plans and that sponsoring companies and pension funds disclose different pension information that could interest regulators, investors, plan participants, and the broader market.

Keywords: *disclosure; IAS19; pension funds; pension plans; similarity analysis; sponsoring company*

INTRODUCTION

Pension plans are essential mechanisms through which retirement savings can be built and, as such, have been encouraged in many countries (Kiosse & Peasnell, 2009). Consequently, company-sponsored pension plans are a key source of retirement income for millions of private sector employees worldwide (Anantharaman & Chuk, 2018). To ensure the payment of pension benefits to employees after retirement, a sponsoring company should set contributions with minor fluctuations. These contributions should aim to accumulate resources as close as possible to the value of the obligations needed to cover the promised liabilities, especially in defined benefit (DB) plans (Hainaut & Deelstra, 2011).

In Brazil, companies must conduct actuarial valuations following the Technical Accounting Pronouncement (CPC) 33 (R1) requirements, which address post-

employment benefits. This standard is the national equivalent of the International Accounting Standard (IAS) 19. The Securities and Exchange Commission (CVM), one of the agencies that approved this standard in Brazil, is responsible for supervising publicly held companies in the country.

Separate entities, including pension funds, manage the resources related to these plans. Pension plans managed by pension funds are accessible to specific groups, such as employees of the sponsoring company. While the sponsoring company assesses its obligations, pension funds must also conduct actuarial evaluations. However, these evaluations do not follow the requirements of CPC33 (R1)/IAS19, as the standard applies exclusively to sponsoring companies. Pension funds, being non-profit entities, must adhere to the rules established by the National Council for Supplementary Pensions (CNPc) and the National

Superintendence for Supplementary Pensions (PREVIC), which regulate and supervise these entities.

McNally, Garvey and O'Connor (2019) argue that sponsoring companies conduct assessments for IAS19 purposes to determine whether the resources meet the minimum funding standards set by regulators. In contrast, pension funds perform evaluations to disclose annual reports to plan participants. Freitas and Carvalho (2024) explain that both assessments must consider information on the same pension plan participants, conditions inherent to the same capital market, and the same flow of benefit payments. They must also comply with the same regulations and actuarial technical notes. Even though the users of this information differ (plan participants rely on the information provided by pension funds, while investors/creditors use information from the sponsor company), the information should be comparable and of high quality.

However, different institutional and regulatory structures in the pension market may impact the economic substance of pension plans, complicating the comparability of disclosed information (Gordon & Gallery, 2012). These valuation differences are observed both across countries and within the same country. This issue is especially relevant given the economic importance of pension market assets in many countries, which often constitute key components of several companies' capital structures (Bartram, 2016).

This research examines whether Brazilian sponsoring companies and pension funds disclose the information CPC33/IAS19 requires about post-employment benefits. Specifically, it aims to provide evidence of the level of similarity between the pension information disclosed by these entities. Such evidence is important, as higher similarity levels imply more straightforward pension information, making it easier for users to understand (Yu, 2013). Differences in the quality and volume of disclosed information (e.g., actuarial assumptions, investment policies of financial assets, expected contributions) between the sponsoring company and the pension fund might confuse analysts regarding the actual financial status of the plans.

To achieve this purpose, we employed cosine similarity textual analysis, a method previously used in empirical accounting studies to analyze the disclosure and comparability of accounting information (Amorim &

Sarquis, 2024; Bochkay, Brown, Leone & Tucker, 2023; Brown, Ma & Tucker, 2023; Dyer, Roulstone & Van Buskirk, 2024). However, this study applies it for the first time to pension plan disclosure.

This research is motivated by discrepancies in disclosure levels between sponsoring companies and pension funds. Since the information pertains to the same pension plans, one would not expect differences between their disclosures. The findings of this study can benefit regulators, academics, plan participants, and the broader market.

THEORETICAL BACKGROUND

Literature review on disclosure and textual analysis

Several studies show that one of the main motivations for disclosure is reducing information asymmetry and agency conflicts between internal and external company stakeholders (Beyer, Cohen, Lys & Walther, 2010; Healy & Palepu, 2001; Jensen & Meckling, 1976; Scott, 2014). Thus, Verrecchia (2001) suggests that lowering information asymmetry should be the starting point for developing a comprehensive disclosure theory.

However, producing and disseminating information is costly, and the company incurs this cost, not the information user. Therefore, especially in voluntary disclosure, the company will disclose information only if the benefits outweigh the cost of preparing and disseminating it (Scott, 2014; Verrecchia, 2001). This creates the need for regulation, as the market alone cannot control the supply and demand for information (Hendriksen & Breda, 2010; Scott, 2014).

However, companies generally do not comply with disclosure requirements, as previous literature documents low compliance (Tsalavoutas, Tsoligkas & Evans, 2020). In other words, companies fail to meet the requirements by not disclosing the necessary information to the market, even within the scope of mandatory disclosure.

A primary limitation of research on disclosure is the use of small samples, typically focusing on one country or the largest companies in a given country (Tsalavoutas *et al.*, 2020). The data is usually collected manually from the notes to the financial statements. However, this situation has completely changed with the advent of textual analysis techniques.

Textual analysis has become widely used in the accounting literature, enabling the automated extraction of textual information and its conversion into quantitative metrics. Bochkay *et al.* (2023) reviewed the primary papers published in top accounting journals that use textual analysis techniques, noting that these techniques are commonly used to analyze the tone and readability of disclosed information and measure the similarity between documents.

Cosine similarity is the most widely used technique in the research analyzing text (Bochkay *et al.*, 2023). This textual analysis technique treats each document as a n -dimensional vector and calculates the cosine of the angle between these two vectors to measure similarity (Bochkay *et al.*, 2023; Chakraborty & Bhattacharjee, 2020; Mittelbach-Hörmanseder, Hummel & Rammerstorfer, 2021). The rationale is that two documents are similar if they contain similar words or meanings, making the cosine similarity model effective for measuring the similarity (or dissimilarity) between company disclosures (Bochkay *et al.*, 2023).

Disclosure of pension information

The relevance of pension disclosure has been in the literature since the late 20th century. Empirical evidence shows that accounting transparency of pension data is a key factor in the credit market (Kalogirou, Kiosse & Pope, 2021).

Regarding disclosures made by sponsors, Glaum (2009) argues that empirical research in this area typically focuses on assessing the value relevance of accounting information related to pension plans. Yu (2013) expanded on this literature by providing evidence that the US standard dealing with post-employment benefits (SFAS158) enhances the relevance of defined benefit plan obligations in companies with low institutional ownership or minimum analyst monitoring. This finding highlights the fundamental role of standard setters in this context.

Adams, Frank and Perry (2011) support this argument, showing that one of the regulators' primary concerns is ensuring adequate transparency in pension disclosures. Notably, many sponsors fail to disclose pension plan information adequately despite accounting standards/rules setting disclosure requirements. This finding aligns with the conclusions of Bauman and Shaw (2014), who highlighted the

surprising gap in transparency as astonishing, especially considering that pension obligations involve numerous estimates.

Carneiro, Mapurunga, Ponte and Morais (2013) provide evidence of low compliance with the disclosure requirements of CPC33/IAS19 by sponsoring companies in Brazil. This finding is quite important, as the disclosure of this information and recognition can influence debt contracting and the overall reliability of companies (Donovan, McMartin & Phillips, 2024).

The financing strategy adopted by pension funds affects several economic, accounting, and human resources factors inherent to the entities (D'Arcy, Dulebohn & Oh, 1999). The funding ratio of pension plans (the ratio between collateral assets and obligations) is a relevant variable to monitor and disclose to the market, as it helps participants and regulators monitor the plans (O'Brien, 2020). Regarding pension obligations, Giesecke and Rauh (2023) argued that, despite high disclosure requirements, assessing these liabilities may still be inconsistent with economic and financial principles.

A pension plan should aim to achieve actuarial fairness, meaning that the present value of contributions collected for the plan (assets) should equal the present value of future benefits to be paid (obligations) (Queisser & Whitehouse, 2006). An actuarially fair pension plan should pursue actuarial fairness (Belloni & Maccheroni, 2013). Based on this theoretical framework and the pension accounting literature, which frequently uses the plan funding ratio to assess pension-related issues empirically (Armitage, Gallagher & Xu, 2023; Asthana, 1999; Billings, O'Brien, Woods & Vencappa, 2017; Freitas & Carvalho, 2024), we formulate hypothesis H1:

H1: Sponsoring companies and pension funds with pension plans having funding ratios closer to actuarial fairness will show a higher similarity to the disclosure requirements of CPC33/IAS19.

RESEARCH DESIGN

Sample and data collection

Our sample includes two groups of entities: Brazilian publicly held companies that sponsored pension plans between 2012 and 2023, subject to the requirements of CPC33/IAS19, and pension funds that managed their plans during the same period under the supervision of

PREVIC. The analysis covers the period from when CPC33/IAS19 was first applied in Brazil to the most recent fiscal year for which data was available at the time of collection.

To collect data on the sponsoring companies, we first searched the Refinitiv Eikon database for Brazilian publicly-held companies with pension liabilities on their balance sheets. We then downloaded the financial statements of these sponsoring companies from the CVM website. All other data used in this research were collected from the Refinitiv database and the Brazilian Stock Exchange (B3) website.

To collect data on pension funds, we manually reviewed the financial statements of the sponsoring companies to identify the pension funds managing their sponsored pension plans. We then downloaded the annual reports from each pension fund's website. All other data related to pension funds was collected from their financial statements, which are available on the PREVIC website.

Textual analysis: Cosine similarity

The cosine similarity technique is a mathematical metric (similarity index) that calculates the cosine of the angle (values from 0-1) between the "report" vector (the report being analyzed) and the vector representing the topics of the standard (CPC33/IAS19). The smaller the angle between the "report" vector and the "standard" vector (meaning the smaller the distance between them), the greater the similarity index. This indicates that the information disclosed in the report closely matches the disclosure requirements of CPC33/IAS19 (Bochkay *et al.*, 2023; Chakraborty & Bhattacharjee, 2020; Mittelbach-Hörmanseder *et al.*, 2021).

To implement this technique in Python, we defined search terms for each CPC33/IAS19 topic representing the required information. Specifically, the search terms were based on the paragraphs from the disclosure requirements section of the CPC33/IAS19 (Hoberg & Maksimovic, 2015; Hummel & Szekely, 2022). Using Python, we searched for these terms in the reports disclosed by the sponsoring companies and pension funds. For each search term occurrence, the 15 words preceding the term and the 14 words following it were stored in a vector (window of 30 words). These word windows, grouped by section of CPC33/IAS19, formed a topic vocabulary for each standard requirement, as

shown in Table 1. A general topic vocabulary comprising all retrieved words windows) represented the entire set of requirements in CPC33/IAS19.

Table 1. Disclosure topics of CPC33/IAS19

Disclosure topics	Vocabulary vector
<i>Full Standard</i>	CPC33_full
1.DC plan	1_DCPlan
2.Characteristics	2_DB_Characteristics
3.PBO	3_DB_Values_PBO
4.Asset-Ceiling	4_DB_Asset_ceiling
5.FVA	5_DB_Values_FVA
6.Assets Classes	6_DB_Classes_FVA
7.Actuarial Assumptions	7_DB_Assumptions
8.Sensitivity	8_DB_Sensitivity
9.Contributions	9_DB_Contributions

Note: According to CPC33/IAS19, DC plans require fixed contributions from the sponsor. Hence, the sponsoring company has no legal or constructive obligation to make additional contributions if the fund lacks sufficient resources to pay the benefits. In contrast, DB plans do not fall into this category, as the sponsor is responsible for ensuring that the guaranteed assets are adequately funded to meet the obligations. Variable contribution (VC) plans combine features of DB and DC plans. Based on the definition in CPC33/IAS19, VC plans will be treated as DB in this research.

Source: Author's own

The reports of the sponsoring companies and pension funds were stored in vectors, organized by year and company. The cosine similarity function in Python returned a continuous value between zero and one for each report analyzed. This metric reflects how each report discloses topics from CPC33/IAS19 and measures how closely the information disclosed by sponsoring companies and pension funds aligns with CPC33/IAS19 disclosure requirements.

Empirical models

After calculating the similarity indexes (SI), we compared the differences between the vectors obtained for the samples of sponsor and pension funds. To evaluate the differences in means and variances between the two samples, we used the non-parametric Mann-Whitney-Wilcoxon (MWW) and Levene tests, respectively. We then estimated models using panel data regression with the Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE) estimators. The Breusch-Pagan and Hausman tests helped us determine the most suitable analysis models.

To investigate whether an optimal funding ratio (closer to actuarial fairness) maximizes similarity indexes, we employed a quadratic form for the *funding ratio* (F_R)

variable. Equations (1) and (2) present the structure of these models. To support our hypothesis (H1), we expect β_1 and γ_1 to be positive and statistically significant, while β_2 and γ_2 should be negative and statistically significant.

$$SI_{it} = \beta_0 + \beta_1 F_R_{it} + \beta_2 (F_R_{it})^2 + \beta_3 L_A_{it} + \beta_4 FS_A_{it} + \beta_5 \log(A)_{it} + \varepsilon_{it} \quad (1)$$

$$SI_{it} = \gamma_0 + \gamma_1 F_R_{it} + \gamma_2 (F_R_{it})^2 + \delta_{it} \quad (2)$$

We estimate the models separately for the sponsoring companies and pension funds. Table 2 outlines the definitions of each variable used in the model and the calculation method for each sample (sponsors and pension funds). We estimate models both with and without controls for year and industry. For the pension fund sample, all entities belong to the same sector (the supplementary private pension market), so industry controls were not included.

Table 2. Definition of variables

Variables	Definition	
	Sponsors	Pension Funds
SI: Similarity index	<i>Similarity index obtained using cosine similarity technique</i>	
F_R: Funding Ratio	$\frac{FVA}{PBO}$	$\frac{\text{Guaranteed Assets}}{\text{Mathematical Provisions}}$
L_A: Liabilities/Assets		$\frac{\text{Liabilities}}{\text{Assets}}$
FS_A: Financial Status/Ativo	$\frac{EBITDA}{\text{Assets}}$	$\frac{\text{Surplus or Deficit}}{\text{Assets}}$
log(A): Log(Assets)	<i>Natural Logarithm of Assets</i>	

Note: EBITDA is the Earnings Before Interest, Tax, Depreciation, and Amortization.

Source: Author's own

RESULTS

Comparison between the disclosure of sponsoring firms and pension funds

Our first analysis examines whether significant differences exist in the means and variances of vectors representing sections of the CPC33/IAS19 between sponsors and pension funds. Table 3 provides descriptive statistics for each vector by entity type (sponsors and pension funds) and the results of the MWW and Levene tests. Each vector includes 294 observations across 40 entities (sponsors or pension funds).

Table 3. Descriptive statistics of vectors and MWW/Levene tests

Vocabulary vector	Sponsors				Pension Funds				MWW	Levene
	Mean	SD	Min	Max	Mean	SD	Min	Max		
CPC33_full	0.11	0.02	0.00	0.15	0.12	0.04	0.00	0.22	73 992***	55***
1_DCPlan	0.08	0.05	0.00	0.20	0.11	0.06	0.00	0.27	69 197***	0.02
2_DB_Characteristics	0.09	0.04	0.00	0.16	0.09	0.06	0.00	0.20	51 684	103***
3_DB_Values_PBO	0.04	0.05	0.00	0.18	0.03	0.05	0.00	0.20	36 763***	1.99
4_DB_Asset_ceiling	0.06	0.06	0.00	0.20	0.00	0.00	0.00	0.00	24 435***	1 478***
5_DB_Values_FVA	0.06	0.04	0.00	0.19	0.01	0.02	0.00	0.15	14 340***	279***
6_DB_Classes_FVA	0.01	0.03	0.00	0.18	0.01	0.03	0.00	0.25	52 974	0.25
7_DB_Assumptions	0.07	0.06	0.00	0.22	0.07	0.05	0.00	0.20	57 595	1.15
8_DB_Sensitivity	0.04	0.04	0.00	0.16	0.00	0.01	0.00	0.08	15 612***	827***
9_DB_Contributions	0.06	0.06	0.00	0.19	0.10	0.05	0.00	0.23	75 577***	0.93

Note: Each vector includes 294 observations. The MWW and Levene columns report the test statistics. ***/*** indicate significance at 10%, 5% e 1%.

Source: Author's own

The results of the *CPC33_full* vector indicate that, on average, pension funds disclose more information required by CPC33/IAS19 than sponsors despite their similarity indices exhibiting more significant variance. This is a notable finding, as pension funds are not formally required to adhere to CPC33/IAS19, unlike sponsors. Consequently, this evidence strengthens the argument of Carneiro *et al.* (2013): Brazilian sponsoring companies have low compliance with CPC33/IAS19 requirements. These findings suggest that sponsors may be missing opportunities to reduce capital costs by decreasing information asymmetry (Leuz & Verrecchia, 2000). Moreover, without transparency in pension-related information, the credit market anticipates potential deficits (Kalogirou *et al.*, 2021).

In summary, our findings reveal that although pension funds provide more information aligned with the disclosure requirements of CPC33/IAS19 (higher similarity index) compared to sponsors, significant differences exist in the specific details these entities

disclose. Sponsors tend to disclose more detailed information regarding PBO, FVA, asset ceiling, and sensitivity analyses, while pension funds focus more on disclosures related to DC plans and expected contributions. However, information on the investment classes of pension assets, plans' characteristics and actuarial assumptions are disclosed similarly by both sponsors and pension funds.

Empirical results

Descriptive analysis

To test hypothesis H1 and evaluate whether pension plan actuarial fairness explains the level of similarity between sponsors' and pension funds' disclosures and the requirements of CPC33/IAS19, we estimate Equations (1) and (2) using panel data regression models. Table 4¹ presents the descriptive statistics of the variables used². For this analysis, sponsors/pension funds with a similarity index of zero were excluded.

¹ Table 4 differs from Table 3 because, for this analysis, we needed to match the data of sponsors with the data of the respective pension fund, reducing the number of observations.

² All variables were winsorized (1%-99%), except the natural logarithm of assets.

Table 4. Descriptive statistics of the variables

Variável		Sponsors					Pension Funds				
		Obs	Mean	SD	Min	Max	Obs	Mean	SD	Min	Max
SI		674	0.11	0.02	0.05	0.16	291	0.13	0.02	0.05	0.19
F_R		542	0.96	0.43	0.01	2.48	290	1.00	0.09	0.72	1.27
L_A		545	0.67	0.19	0.32	1.36	291	0.04	0.08	0.00	0.55
FS_A		540	0.10	0.07	-0.09	0.36	290	-0.01	0.09	-0.31	0.20
log(A)		545	24.04	1.77	17.95	28.56	291	21.38	1.70	15.07	25.59

Source: Author's own

The funding ratio variable (F_R) indicates that, on average, the pension plans reported by sponsors show deficit results, consistent with the findings of Freitas and Carvalho (2024). In contrast, the pension funds' reports show pension plans approaching actuarial fairness (a funding ratio equal to 1). Notably, the funding ratio disclosed by pension funds (average of 1) closely aligns with the information reported by PREVIC (approximately 1.01). Differences in the standard deviation of F_R are also significant, with the sponsors' standard deviation being nearly five times higher than that of the pension fund.

Regression results

Table 5 presents the regression results for the sponsoring firms (columns (1) and (2)) and the pension funds (columns (3) and (4)). For the sponsoring firms, in both models (with and without controls), the financing ratio (F_R) exhibits a significant quadratic relationship with our dependent variable (similarity index). The expected signs for the F_R coefficients were confirmed: positive for the linear term and negative for the quadratic term. These results indicate that an optimal level of F_R maximizes the similarity index, as illustrated by the downward concavity of the parabola (Figure 1).

Table 5. Regression results: Sponsors and pension funds

Variables	Sponsors		Pension Funds	
	Dependent variable: SI			
	(1)	(2)	(3)	(4)
F_R	0.0229*** (0.0084)	0.0233*** (0.0080)	-0.2888 (0.4292)	0.2512 (0.1619)
F_R ²	-0.0092*** (0.0031)	-0.0095*** (0.0030)	0.0677 (0.1605)	-0.1021 (0.0801)
L_A	0.0046 (0.0084)		-0.0411 (0.0374)	
FS_A	-0.0050 (0.0139)		0.1855 (0.1369)	
log(A)	-0.00003 (0.0012)		-0.0028** (0.0014)	
Constant	0.0946*** (0.0321)	0.0980*** (0.0051)	0.4202 (0.2731)	-0.0190 (0.0819)
N observations	537	542	290	290
N firms	63	63	37	37
R ²	0.2006	0.1890	0.2034	0.0365
Adjusted R ²	0.1728	0.1860	0.1567	0.0298
Year and Industry Fixed Effects	YES	NO	YES	NO
Breusch-Pagan test	75.6200***	6.2771**	27.6400**	1.0462
Hausman test	2.9466	2.0942	18.5820	0.5490
Estimation	RE	RE	RE	OLS

*/**/** indicate significance at 10%, 5% and 1%. Standard error of coefficients in parentheses.

Source: Author's own

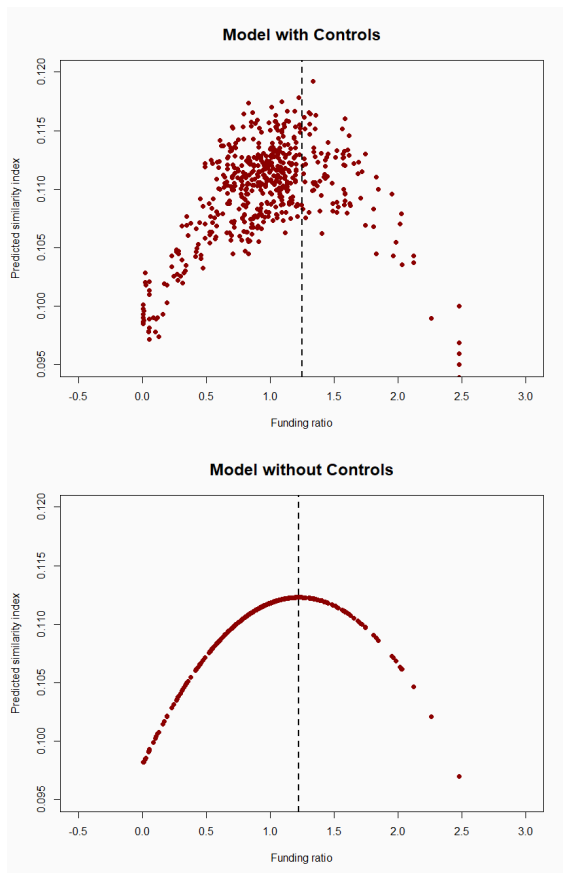


Figure 1. Relationship between the Similarity Index (SI) and the Funding Ratio (F_R)

Source: Author's own

The optimal funding ratio (F_R) that maximizes the similarity index between sponsors' disclosure and CPC33/IAS19 requirements is approximately 1.25 for both models, with values of F_R above 0.11. These results support our hypothesis H1: companies with sponsored pension plans closer to actuarial fairness (F_R closer to 1) disclose information more aligned with the requirements of CPC33/IAS19. Additionally, sponsors with extreme similarity indexes (either very low or very high) exhibit the lowest level of similarity.

Our findings suggest a relationship between pension plan management's efficiency and corporate disclosure quality. Since an actuarially fair pension plan aims to achieve actuarial fairness (Belloni & Maccheroni, 2013; Queisser & Whitehouse, 2006), which involves management decisions, including those of the sponsor, this research reinforces Scott's (1994) conclusion that more favorable pension plan information tends to be more thoroughly disclosed. We also found that the financial status of the plans influences the level of transparency.

Unlike the analysis for sponsors, the funding ratio (F_R) is not statistically significant in any model for pension funds (columns (3) and (4)). This suggests that no optimal financing ratio maximizes the similarity index between the pension funds' disclosure and the CPC33/IAS19 requirements. This finding can be explained by the fact that pension funds do not formally apply CPC33/IAS19. Therefore, H1 is rejected for pension funds.

Our results indicate that actuarial fairness is associated with higher levels of disclosure, which supports the conclusions of Francis and Reiter (1987) in explaining why sponsors may not fully disclose information to financial statement users when they have underfunded or overfunded plans. Underfunded plans generally help reduce debt costs (Kalogirou *et al.*, 2021), while overfunded plans offer tax benefits and lower political costs. As a result, companies with unbalanced plans may benefit from their financial status and, under certain circumstances, find it advantageous to maintain information asymmetry.

The lack of specific rules for assessing pension obligations and relatively lenient disclosure requirements encourage firms to exercise managerial discretion and engage in earnings management techniques (Glaum, 2009). Literature has documented the presence of earnings management in pension accounting across various countries and economic contexts (Asthana, 1999; Billings *et al.*, 2017; Freitas & Carvalho, 2024). Therefore, we also contribute to a deeper understanding of managerial decisions surrounding disclosing pension information by sponsors, helping to address the gap identified by Glaum (2009).

The differences in the results between sponsors and pension funds reinforce the findings discussed in section 4.1, which compares the disclosures of the two samples. The information disclosed by pension sponsors and pension funds does not converge on several topics, supporting the conclusions of Freitas and Carvalho (2024). Despite the intrinsic differences between the entities, including the varying regulatory disclosure requirements, it is critical to recognize the disparities between them. As previously argued, significant differences in pension disclosures between sponsors and pension funds were not expected.

FINAL REMARKS

This research applied cosine similarity analysis to assess the adherence of the pension disclosure by sponsoring companies and their pension funds to the requirements of CPC33/IAS19. While this technique has been used in empirical accounting research, this study is the first to apply it to pension plan issues. Additionally, we examined whether the pension plan's funding ratio influences the disclosure similarity to the standard.

Our findings show that, on average, pension funds' disclosures are more aligned with CPC33/IAS19 than those of sponsors. However, relevant differences were observed when analyzing the standard's disclosure categories separately, indicating that the information disclosed by sponsors and pension funds is not directly comparable. We also identified an optimal funding ratio that maximizes the similarity index between the sponsors' disclosure and CPC33/IAS19 requirements. Sponsoring companies with plans closer to actuarial fairness disclose information more aligned with the standard's requirements, but this effect was not seen in the pension fund sample. Furthermore, larger pension funds tend to have lower levels of compliance with CPC33/IAS19.

We provide important evidence about pension disclosures, which could be of interest to sponsoring companies, pension funds, regulators, investors, and plan participants. It highlights factors that influence information asymmetry and the reliability of disclosures. Future research could explore other determinants of disclosure levels, the relationship between lower levels of sponsor disclosure and debt costs, and use other textual analysis techniques.

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Dialogues about sustainability: An exploratory content analysis of earnings conference call transcripts of JSE-listed companies

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Purpose: The effects of climate change and social issues have resulted in an enhanced focus on sustainable value creation by companies. Equity analysts are able to interact with management and are therefore well-placed to monitor corporate sustainability initiatives in conference calls where management can be questioned, and responses are unlikely to be scripted. This study aims to explore the sustainability topics discussed by managers and analysts in earnings conference calls.

Method: We adopt a mixed methods approach, given the exploratory nature of this study and its practical focus. Sixteen conference call transcripts from JSE-listed companies were analysed using a Corporate Social Responsibility (CSR) dictionary and text analysis package in the R programming language. In addition, the transcripts were coded manually.

Results: Management's discussion on sustainability topics is mostly positive and focuses on progress made and external recognition received. Analysts' questions focus on concerns regarding the environmental and social impacts of the company and do not appear to be driven by the topics presented by management. Overall, there is a lack of discussion on the interdependencies of financial and non-financial capitals.

Originality: We exploit the spontaneity in unscripted, dialogic communication to assess sustainability priorities and the potential for analysts to monitor sustainable value-creation efforts.

Contributions: We contribute simultaneously to the literature on sustainable value creation, investor relations, and analysts. Our focus on dialogic communication about sustainability deliberately deviates from the established research on sustainability disclosure in monologic corporate reports. In doing so, we offer an alternate way of assessing management's sustainability priorities and how these interact with other organisational goals.

Keywords: *sustainable value creation, equity analysts, earnings conference calls, investor relations, dialogic communication, JSE*

INTRODUCTION

The consequences of climate change and socio-political issues are becoming increasingly tangible, and manifest in more frequent climate-related natural disasters and major international conflicts. It is therefore, unsurprising that there is an increasing focus on corporate efforts in sustainable value creation (Hart & Milstein, 2003; Tsalis, Terzaki, Koulouriotis, Tsarakis, & Nikolaou, 2023).

Accountants play a crucial role in the stewardship of financial and non-financial capitals (Bebbington & Rubin, 2022). Among their many responsibilities, they must effectively communicate management's actions. This entails conveying financial information to bridge the gap between company management and stakeholders (Bedford & Baladouni, 1962; Brennan & Merkl-Davies, 2018). Communication can take two forms – monologic and dialogic. Monologic

communication is one-way, from the accountant to the stakeholder, whereas dialogic communication involves a two-way exchange and is more interactive (Brennan & Merkl-Davies, 2018). The latter allows for questions, clarifications, and a deeper understanding of the information.

In the corporate reporting literature, the importance companies place on sustainable value creation is often assessed through disclosures in integrated reports or similar documents (de Villiers & Dimes, 2022; Herbert & Graham, 2022; Opferkuch, Caeiro, Salomone & Ramos, 2022). It appears that the focus on sustainability information communicated by companies has been largely restricted to forms of monologic communication, which does not allow for further questioning or clarification. This limitation is compounded by the relatively early stage of development in sustainability reporting standards. As a result, companies have significant discretion in the

content and manner of their sustainability-related disclosures. Consequently, the proliferation of research on impression management in integrated reports is unsurprising (see, for example, Melloni, Stacchezzini & Lai, 2016; Jugnandan & Willows, 2022).

One of the primary users of financial and other company information is equity analysts. However, prior research has shown their limited usage of monologic sustainability information contained in integrated reports (Abhayawansa, Elijido-Ten & Dumay, 2019). Instead, analysts rely heavily on direct interactions with management, such as earnings conference calls, as a key source of information. During these calls, analysts extract and interpret information directly from the executives. Their proximity to management in these interactions allows analysts to play a governance or monitoring role (Chen, Ding, Hou, & Johan, 2016; Chen, Nagar, & Schoenfeld, 2018) in addition to serving as information intermediaries (Asquith, Mikhail, & Au, 2005). In a South African context, the value of conference calls has been affirmed by Esterhuyse (2018) whose findings suggested that attending analyst presentations or conference calls offers informational advantages.

Given the value of two-way exchanges when communicating and interpreting company information, this study focuses on sustainability discussions within earnings conference call transcripts. To the authors' knowledge, this is the first to focus on JSE-listed companies in this context. Therefore, we adopt an exploratory approach, aiming to lay the groundwork for future research. This study represents an initial step toward a rigorous analysis of sustainability discussions between management and investors.

To this end, the research question addressed in this study is: What are the sustainability-related topics discussed in earnings conference call presentations by management during their presentations, and by analysts during question-and-answer sessions.

Our findings show that sustainability issues receive relatively limited attention in earnings conference calls, despite management presenting details of company sustainability initiatives. Analysts' questions focus on sustainability issues that are not covered in presentations, indicating that they have paid attention to these issues in their prior research of the company. Discussions on sustainability are distinct from

discussions on financial performance, and the positive and/ or negative financial impacts of sustainability initiatives are rarely discussed by either party.

Our findings make notable contributions to several strands of research. First, regarding sustainable value creation, our findings show the priority management places on Environmental, Social and Governance (ESG) activities. We provide initial evidence of the level of integration between non-financial and financial business decisions, thereby contributing to the growing research in integrated thinking such as in de Villiers and Dimes (2022). An overview of the gap that this study seeks to fill is presented in Figure 1 in the Literature Review. Furthermore, research on analysts' interactions with management is scarce in an emerging market context. From a corporate governance perspective, this study also demonstrates the monitoring potential of equity analysts concerning sustainable value creation. From a methodological perspective, our application of the widely used Corporate Social Responsibility (CSR) dictionary from Byun and Oh (2018) to the transcripts, followed by a comparison to manual coding, highlights the limitations and applicability of such CSR dictionaries.

LITERATURE REVIEW

Theoretical framework

Given the interdisciplinary nature of this study, it draws on research from corporate reporting and governance, investor relations, and sustainable value creation. Underpinning these strands of research are the theories of information asymmetry (Akerlof, 1978) and agency theory (Jensen & Meckling, 1976). We focus on the efforts of the agents (management) to communicate to principles (investors) about sustainable value creation.

Review of related research

In the context of companies, the concept of sustainable value creation emphasises the generation of long-term economic, social, and environmental benefits (Hart & Milstein, 2003). This approach necessitates integrating sustainability considerations into business decisions, requiring management to broaden their focus from solely creating shareholder value to embracing stakeholder value creation. This broader perspective aligns with the United Nations Sustainable Development Goals (SDG's) which outline key priorities

to address global challenges such as climate change and inequality (Tsalis *et al.*, 2023).

The evolution of corporate reporting literature has shifted from integrated report disclosures to advocating for integrated thinking (de Villiers & Dimes, 2022) and stewardship in the Anthropocene.¹ (Bebbington & Rubin, 2022). Integrated thinking involves not only integrating financial and non-financial information, as required in integrated reports, but also considering the impact on both financial and non-financial capitals in business processes and decision-making (de Villiers & Dimes, 2022). Bebbington and Rubin (2022) extend this focus by proposing a model for the accountants' stewardship that aligns corporate purpose with sustainability goals.

A key component of the accountant's stewardship function is the communication of information to stakeholders. Brennan and Merkl-Davies (2018) used the concept of connectivity from communication literature to evaluate how effectively firms communicate with their investors in the capital markets. Their framework identifies various modes of communication and highlights the value of dialogic (two-way) communication over monologic (one-way) communication.

The investor relations function is pivotal to the facilitation of information transfer between the firm and its analysts, thereby reducing uncertainty. Nel and van der Spuy (2021) provide one of the few academic studies describing investor relations practices in South Africa. Esterhuyse (2018) also highlights the link between investor relations and analysts' work, examining how companies publish analyst recordings and presentations on their websites. The study found that analysts who present at results presentations and roadshows have an informational advantage, as companies often do not provide audio or visual recordings of the presentations.²

Besides playing a key role in disseminating information in capital markets (Asquith *et al.*, 2005), equity analysts also serve a crucial monitoring role (Chen *et al.*, 2016; Chen, Harford & Lin, 2015). For example, Chen *et al.*

(2015) found that firms with declining analyst coverage were more likely to overpay their executives and make value-destroying acquisitions. Markets recognise these effects, pricing in agency problems following a loss of analyst coverage. The format of these conference calls, particularly the question-and-answer sessions, allows for analysts to engage in dialogic communication by posing questions to the management team, which typically includes those responsible for preparing the accounting records.

Analysts use these calls to challenge management and seek further clarification, with the market often acknowledging these dynamics. Chen, Nagar & Schoenfeld (2018) found significant intraday share price movement during these calls, providing evidence that the market values dialogic communication in question-and-answer sessions more than monologic communication in management presentations.

Research gap

There have been several notable studies that have analysed earnings conference call transcripts (for example, Chen *et al.*, 2018). However, relatively fewer studies on conference calls have focused on sustainability discussions. More recently, and closely related to the present research, Allee, Do & Do (2024) examined conference call transcripts to determine whether analysts can obtain useful information by asking appropriate questions. This study found informational advantages can be obtained depending on the type of questions that were asked. However, it did not focus specifically on sustainability.

Given the benefits of dialogic communication and the monitoring role of analysts, this study evaluates sustainability discussions using earnings conference call transcripts.

In doing so, the study contributes to several areas of research. These areas of research have been discussed earlier in this section. Figure 1 summarises these research areas and shows the gaps that the present study seeks to fill.

terms commonly used in the investor relations literature that refer to presentations in which senior executives present the financial results of the company. Although all stakeholders are welcome to attend, it is typically sell and buy-side analysts who attend these sessions.

¹ The Anthropocene is a term used to describe the current geological age which is characterised by significant human impact on the environment (Bebbington & Rubin, 2022).

² This paper refers to "presentations", "conference calls", "earnings calls" and "analyst presentations". These are

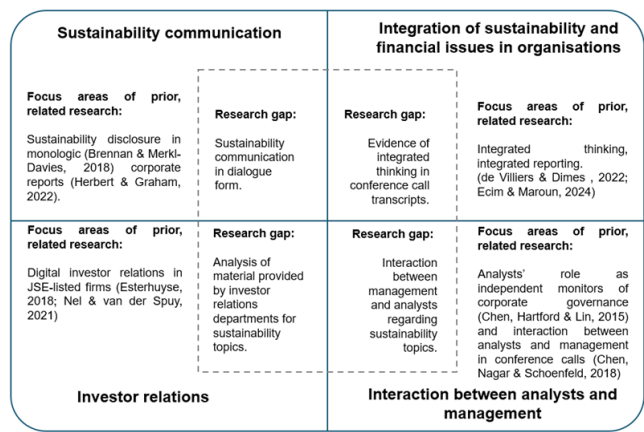


Figure 1: Summary of research gap

Source: Author’s own

RESEARCH METHODOLOGY

This study is exploratory and one of the first to analyse sustainability through conference call transcripts, particularly in the context of the JSE. It has a strong practical focus and utilises real-world dialogue transcriptions. Given these characteristics, we adopt a pragmatic research philosophy (Johnson & Onwuegbuzie, 2004) prioritising the method that best meets the research objectives over adherence to abstract principles. This philosophy underpins our choice of a mixed methods design, combining both quantitative and qualitative analysis techniques. By combining this approach, we can compare the findings from each method, which is especially valuable given the paucity of research using conference call transcripts (Creswell, 2021).

Several measures were in place to ensure validity and reliability. When using the CSR dictionary, the use of programming software, R, ensured that the transcripts were analysed consistently, enabling a reliable comparison.

The manual content analysis and coding was conducted according to the following process, as per the guiding principles in Saldana (2021). Firstly, sustainability issues were identified and coded as such. Secondly, they were classified according to the researchers’ own interpretation. Finally, the sustainability issues were classified according to the same categories used in the CSR dictionary and per Byun and Oh (2018). These six categories are Community, Diversity, Employee Relations, Environment, Human Rights, and Product (also shown

in Appendix A and in the tables of results). Each category is further divided into Strengths and Concerns.

For example, for company Pharm1 (see Table 1), management discussed their supplier development programme. As part of the second step, the researchers coded this as Community- Strength. As part of the third step, this issue was coded as a Concern for Human Rights.

The reliability of the coding method was enhanced by the inclusion of the second step, where coding was according to the researchers’ own interpretation. This ensured that any issues that did not fall into the six categories from Byun and Oh (2018), would still be included in the present analysis. Coding was done in an MS Excel workbook, with each company separately coded on a different worksheet.

For the qualitative analysis, coding was done independently by each of the two researchers, and any discrepancies were resolved before the results were documented. The use of more than one method further enhances the reliability of the findings.

Data and data sources

Esterhuyse (2018) investigated the prevalence of analyst presentations on investor relations web pages and found that very few JSE-listed companies provided video or audio recordings of the presentations. Specifically, only 14 out of 205 companies provided such recordings or transcripts. These findings, combined with the advantages of dialogic communication lead Esterhuyse (2018) to infer that there are informational advantages to attending analyst presentations or conference calls. Linking these inferences to the theoretical framework of the current study, it is evident that there is certainly a level of information asymmetry (Akerlof, 1978) that exists between management and investors, and to some extent, analysts play a role in filling the information gap.

As of 2 May 2024, the JSE had 274 listed companies. The authors visited the websites of each of the JSE listed companies, using company webpage address provided on the JSE website or via a Google search. Of these companies, 6 websites were inaccessible. For accessible websites, authors searched for results presentations, typically found in their investor

relations section of the webpage. To capture trends and patterns before and after the COVID lockdown, data from 2019 to the end of 2023 was obtained. Table 1 presents the conference call information by company, by year, over the sample period. "Information" includes webcasts, audio recordings, or transcript recordings.

Table 1: Conference call information over the sample period

	2019	2020	2021	2022	2023
Conference call information (webcasts, audio, or transcripts including Q&A session)	16	21	25	47	62
Financial results presentations (excluding Q&A sessions)	13	12	8	7	4

Source: Authors' own

Since the study focuses on the dialogue in earnings conference calls, the authors noted the number of firms that published their results presentations but limited the publication to only the management teams' discussions. For example, in 2019, 13 firms published their results presentations but excluded the Q&A sessions from the information on their web pages. These firms appear to prioritise monologic communication with stakeholders, despite the plethora of mandatory monologic corporate reports such as integrated reports and annual financial statements. In this context, the monitoring role (Jensen & Meckling, 1976) of the analyst is essential to an enhanced information environment (Akerlof, 1978).

For this exploratory, mixed methods study, we restrict our sample to 2023 earnings conference call transcripts available on company websites or the *Refinitiv* database. From 62 companies that published webcasts or recordings, we selected only those with published transcripts to avoid the potential transcription errors from webcasts or audio recordings.

We apply our criteria with careful consideration of the representativeness of our sample, across industries and in terms of market capitalisation. Our final sample consists of 16 companies, which are analysed using both quantitative and qualitative techniques. Sample representativeness is commonly considered in a

positivist epistemological position (Johnson & Onwuegbuzie, 2004; Boddy, 2016; Creswell & Plano-Clark, 2018), where quantitative analysis is required. However, several qualitative studies incorporate considerations of representativeness when determining a sample size (Creswell & Poth, 2016). In this study, the sample size of 16 was not pre-determined but rather as a result of the application of criteria detailed earlier in this section. The sample size of 16 transcripts from 16 different companies was considered representative of the JSE for the following reasons. Firstly, the combined market capitalisation of the companies in the sample represented approximately ZAR 5.8 trillion, which is approximately 25% of the total market capitalisation of all firms listed on the JSE. Secondly, all but two sectors (Oil and Gas and Utilities) of the JSE are represented in the sample. There are three companies out of the 274 listed companies in these sectors combined. Thirdly, our sample included companies with varying levels of analyst coverage (a minimum of one and a maximum of 17).

To ensure anonymity, we identify and remove all identifying details when referring to analysts. Other financial information used in the research was obtained from *EquityRT* and *Refinitiv*. Further details of the companies included in the sample are presented in Table 2.

Table 2: Companies included in the analysis

Company Pseudonym	Sector	Analysts Following	Consensus
Pharm1	Pharmaceutical	2	Hold
Mining1	Mining	10	Hold
Mining2	Mining	17	Hold
Industrial 1	Industrial	7	Hold
Consumer1	Consumer goods	13	Buy
Consumer2	Consumer goods	17	Hold
Consumer3	Consumer services	1	Hold
Consumer4	Consumer goods	8	Buy
Financial1	Financial	11	Hold
Financial2	Financial	5	Buy
Financial3	Financial	7	Buy
Financial4	Financial	9	Buy
REIT1	REIT	3	Hold
Technology1	Technology	1	Hold
Technology2	Technology	7	Buy
Telecom1	Telecommunications	13	Buy
TOTAL		131	
Mean		8.12	
Median		8	
Standard Deviation		5.14	

Source: Authors' own

Research design

Textual analysis was used to investigate the sustainability discussions in earnings conference calls between investors/analysts and companies' management teams of JSE-listed firms. There are various methods and tools used in textual analysis. One such tool is the "bag-of-words" method including the use of "word lists" (Loughran & McDonald, 2020). An

example is the CSR dictionary formulated by Byun and Oh (2018) based on the Morgan Stanley Capital International Environmental, Social and Governance (MSCI ESG) Research database, which has been used in several CSR studies to approximate a firm's CSR activities. The MSCI ESG research database categorises CSR activities into six areas, each divided into "Strengths" and "Concerns" to capture both positive and negative CSR actions. For example, the "Community" area is split into "Community – Strengths" and "Community – Concerns". Each Strength and Concern includes several elements scored zero or one, depending on the presence of specific key words according to the dictionary. The frequencies of these keywords are tallied to provide a score for each category of Strength and Concern and a total score for each area is calculated by subtracting the Concern score from the Strength score.

Given prior application of the MSCI ESG Research database to measure ESG performance of JSE-listed companies (Nsibande & Sebastian, 2023), and its use in conference calls (Dai, Ding & Gao, 2023), we considered the possibility of using the CSR dictionary of Byun & Oh (2018). Byun and Oh (2018) focus on six of the seven categories from the MSCI ESG Research database, excluding the governance category, as other established measures capture corporate governance in the literature. Following this precedent, we tested the appropriateness of the CSR dictionary for our purposes. The complete CSR dictionary is provided in Appendix A. We used a PDF reader and text analysis package in the R programming language to search for the terms from the dictionary. According to the criteria in the dictionary, we created code to search for specific words (or parts thereof) or combinations of words (or parts thereof) in each paragraph. Results are presented in Table 3, by the categories in the dictionary, excluding those relating to governance.

Table 3: Results of CSR dictionary analysis

Company Pseudonym	Comm. (S)	Divers. (S)	ER(S)	Envir. (S)	Human Rights (S)	Prod. (S)	Comm. (C)	Divers. (C)	ER (C)	Envir. (C)	Human Rights (C)	Prod. (C)	TOTAL (S)	TOTAL (C)
Pharm1	0	0	4	0	2	0	0	0	0	0	0	0	6	0
Mining1	0	0	0	1	1	0	1	0	0	0	0	0	2	1
Mining2	0	0	0	1	0	0	0	0	1	0	0	0	1	1
Industrial1	0	0	0	0	1	0	1	0	0	0	0	0	1	1
Consumer1	1	0	1	0	0	0	0	0	0	0	0	0	2	0
Consumer2	0	0	0	1	0	0	0	0	0	0	0	0	1	0
Consumer3	1	0	1	0	0	0	1	0	0	0	0	0	2	1
Consumer4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Financial1	1	0	1	0	0	0	1	0	0	0	0	0	2	1
Financial2	0	0	1	0	6	0	0	0	0	0	0	0	7	0
Financial3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Financial4	0	0	2	2	0	0	0	0	0	0	0	0	4	0
REIT1	0	0	1	0	3	0	0	0	0	0	0	0	4	0
Technology1	0	0	2	0	1	0	0	0	0	0	0	0	3	0
Technology2	0	0	8	0	1	0	0	0	0	0	0	0	9	0
Telecom1	1	0	0	0	0	0	0	0	0	0	0	0	1	0

Source: Authors' own

Our initial results indicated either that there were little to no discussions regarding sustainability issues in conference calls (consistent with Dai *et al.*, 2023)) or that there was a lack of applicability of the dictionary to the earnings conference call transcripts in our sample. For example, the highest total score was recorded for Strengths for Technology2, with a corresponding zero being recorded for Concerns for the same company. Although these results reflect the observed focus on Strengths, the scores were so low and showed so little variability across the categories that the authors could not make many further inferences.

Papoutsis and Sodhi (2020) highlight the importance of choosing an appropriate process for content analysis of sustainability information. In their analysis of sustainability reports, they choose to manually analyse the reports, explaining that, at the time of their research, there was no suitable dictionary of keywords due to the variety of reporting styles. They also cite the importance of the context in which information is presented (as do Malola and Maroun (2019) in their analysis of integrated report quality) and therefore choose to avoid focusing solely on the frequency of words or sentences. We therefore undertook further analysis by manually checking the paragraphs in each of the transcripts.

Our preliminary steps to validate the results based on the CSR dictionary involved checking the transcript extracts which received a score. We found that even though the words in the transcript matched those in the dictionary, the context was not necessarily relevant to CSR. For example, under the category of “Human Rights – Strength”, a score of 1 would have been allocated each time the words “good” and “South Africa” appeared in the same paragraph. For PharmaceuticalCo1, for example, the transcript included the following text, which was not related to any topic of sustainability and instead related to the company’s product mix:

“If you stick to big brands in **South Africa**....including **good** brands that other companies sell....”

Similar evidence was found for Financial2, whose high scores on human rights were also derived from similar word combinations in contexts that were irrelevant to sustainability. These initial results indicated that further analysis was required, without the use of the dictionary. We proceeded with a manual analysis as detailed in the Research Methodology section of this study.

RESULTS

Upfront, we firstly acknowledge a key inherent difference between the manual coding and the coding according to the CSR dictionary – the manual coding

does not focus on the frequency of specific words but instead focuses on the number of specific sustainability-related topics were discussed in the conference calls. As such, we were able to incorporate the context of the discussions in our coding and subsequent analysis. Secondly, we acknowledge that while the scores of the CSR dictionary were not separated into the presentation from management and the Q&A session, the manual coding does provide such detail. This is because the scores of the CSR dictionary were all very low and lacked variability. The researchers inferred that limited incremental value would be achieved from disaggregating the scores of the presentation from the Q&A session.

The results of our manual content analysis and deductive coding are presented in Table 4.

A strong tendency from management to emphasise their companies' positive CSR initiatives is evidenced by the score of sixty-five for "Strengths" compared to the score of 2 for "Concerns". Notably, this emphasis is reversed for the analysts, in the Q&A sessions. We note a score of fifteen for "Concerns" compared to one for "Strengths". Analysts frequently ask questions about topics which management has not raised in their presentations. For example, despite management of Mining1 detailing several positive CSR initiatives in their presentations (a total of 24 different topics were detected in the second step of the coding), questions from an analyst raised topics regarding employee relations and human rights which were not discussed in the presentation. Management's response was to acknowledge the validity of those concerns.

Analysts more often than not, ask questions that have not been covered in the presentation. The monitoring

role of the analysts (Chen *et al.*, 2015) appears to extend to certain sustainability matters. For example, an analyst at MiningCo1 posed a question about the security of mine managers, even though the matter was not covered during the presentation (which covered other sustainability matters). Analysts' questions about sustainability topics that are different from those in the presentation, also evidences analysts' attention to these matters as part of their background research, before attending the meetings.

The results also show some evidence of similarities in presentation topics between companies in the same industry. For example, it is apparent that there is a general paucity of sustainability topics discussed in Financial Services companies. Both Technology companies discussed the contributions of their product innovations to financial inclusion in South Africa. However, further research with a larger sample size is required to confirm these initial industry-related inferences.

Overall, a strong emphasis on positive aspects of sustainability topics relating to the environment is evident (the highest score was recorded for Environment Strength topics in management discussion). Yet, the highest concern score was recorded by analysts for Employee Relations topics. We note that the Mining companies, by virtue of the nature of their operations, tend to focus on the initiatives they have undertaken to minimise their environmental impact. However, analysts appear to consistently raise issues regarding employee relations topics such as talent retention and the safety and upskilling of staff. The difference between the topics raised again highlights an information gap (Jensen & Meckling, 1976; Akerlof, 1978) that is filled by analysts.

Table 4: Results of the manual coding

Sector	Company Pseudonym	Comm. (S)	Divers. (S)	ER(S)	Enviro. (S)	Human Rights (S)	Prod. (S)	Comm. (C)	Divers. (C)	ER (C)	Enviro. (C)	Human Rights (C)	Prod. (C)	TOTAL (S)	TOTAL (C)
Pharmaceutical	Pharm1 (M)	4	1		4									9	0
	Pharm1 (A)												2	0	2
Mining	Mining1 (M)	2	1	5	7	4	4	1						23	1
	Mining1 (A)									2		2		0	4
Mining	Mining2 (M)		1		2		1							4	0
	Mining2 (A)										1			0	1
Industrial	Industrial1													0	0
	Industrial1												1	0	1
Consumer goods	Consumer1 (M)						2						1	2	1
	Consumer1 (A)									2				0	2
Consumer goods	Consumer2 (M)			4	6		2							12	0
	Consumer2 (A)									2				0	2
Consumer goods	consumer4 (M)													0	0
	Consumer4 (A)													0	0
Consumer service	Consumer3 (M)													0	0
	Consumer3 (A)													0	0
Financial	Financial1 (M)													0	0
	Financial1 (A)									1				0	1
Financial	Financial2 (M)													0	0
	Financial2 (A)													0	0
Financial	Financial3 (M)													0	0
	Financial3 (A)													0	0
Financial	Financial4 (M)				1									1	0
	Financial4 (A)													0	0
REIT	REIT1 (M)													0	0
	REIT1 (A)													0	0
Technology	Technology1	1		1			2							4	0
	Technology1						1							1	0
Technology	Technology2			1			1							2	0
	Technology2									1				0	1
Telecommunications	Telecom1 (M)	3					2							5	0
Telecommunications	Telecom1 (A)										1			0	1
	Manager	10	3	11	20	4	14	1	0	0	0	0	1	62	2
	Analyst	0	0	0	0	0	1	0	0	8	2	2	3	1	15

Source: Authors' own

Table 5: Summary of sustainability issues discussions at conference calls

CSR Category	Strengths			Concerns		
	Manager	Analyst	Total	Manager	Analyst	Total
Community	10	0	10	1	0	1
Diversity	3	0	3	0	0	0
Employee Relations	11	0	11	0	8	8
Environment	20	0	20	0	2	2
Human Rights	4	0	4	0	2	2
Product	14	1	15	1	3	4
p-value (Strengths vs Concerns)						0.0333
p-value (Manager vs Analyst)						0.0366

Source: Authors' own

In addition to the inferences from the deductive coding process, the inductive coding process yielded valuable insights, as the researchers were able to consider the

topics discussed in context. In this manner, a deep understanding of the prioritisation and integration of sustainability issues in the business operations. These

results of the manual coding process are detailed in Table 4 and summarised with tests for difference in Table 5. The results show a strong emphasis on climate-related issues by management. There is also discussion about how the products of the company make a positive impact on the companies' various stakeholders.

Management's emphasis is clearly on positive contributions to sustainability initiatives whilst analysts focus on concerns relating to sustainability. The differences between the topics emphasised by management and those emphasised by analysts are statistically significant ($p = 0.037$) as is the difference between discussions on strengths and concerns ($p=0.033$), with greater emphasis being placed on strengths in the conference calls.

Overall, a lack of integration between CSR matters and financial performance matters was detected. We make this inference because sustainability topics are discussed at a strategic level, almost always by the CEO, followed by a discussion on financial performance by the CFO. Mining1 was the exception to this trend, with the CFO discussing the financial importance of a specific sustainability initiative that was earlier discussed by the CEO. These findings of a lack of integration are consistent with the survey results of Eccles and Serafeim (2013). Management found it challenging to determine the financial impact of sustainability imperatives, so much so that the authors identify "two stories", one with a financial focus and the other with a sustainability focus (Eccles & Serafeim, 2013 p.8).

Similarly, we find that although it is common for management to discuss sustainability issues as part of their presentations, these discussions are in isolation from the discussions about the rest of the operational and financial performance of the entity – discussions appear to be limited to certain slides in the presentations. This pattern may reflect a lack of consideration of the effect of sustainability on operations, or the perception that sustainability initiatives are one-dimensional (Hart & Milstein, 2003). In the context of earnings conference calls, this view may be understandable given the difficulty in translating sustainability initiatives to profitability and cash flow in the near term (Eccles & Serafeim, 2013). We infer that this may be because both analysts and management find it challenging to understand how the CSR initiatives impact financial value creation.

For example, management of Consumer2 explains that they aim to integrate sustainability initiatives into their operations. This is evidenced by a sustainability officer and employee relations officer being part of the executive team. However, like other companies in our sample, despite management providing details about sustainability initiatives in their presentation, they do not provide estimated financial impact (inflows or outflows) of these initiatives. This may also indicate internal decision-making that does not integrate the impact of various capitals on sustainable value creation, even despite the existence of executives who are mandated to drive sustainability initiatives, as with Consumer2.

DISCUSSION AND CONCLUSION

There is a special authenticity to dialogic communication in conference presentations versus monologic communication in corporate reports. For example, in one of the presentations, an analyst asks about challenges to new product development. An executive explains in detail how difficult it is to acquire the skills required for this type of product development. Eventually, in a few direct sentences, the executive points to the lack of skills transfer due to the work-from-home trend. The executive concludes by saying "That is your real answer".

It is in pursuit of these "real answer(s)", and in the context of the information gap that exists between management and investors (Jensen & Meckling, 1976; Akerlof, 1978), that we embarked on an exploratory study of earnings conference call transcripts. Our findings indicate a general lack of attention to sustainability-related issues in question-and-answer sessions, often despite management discussions on their companies' sustainability initiatives. Where questions are asked, they relate to issues that were not discussed in the presentations, indicating the monitoring role of analysts (Chen *et al.*, 2015). We also find an emphasis on CSR "Strengths" or achievements in management presentations while analysts' questions relate to the "Concerns".

Eccles and Serafeim (2013) assert that if companies are to have a truly sustainable strategy, they must integrate sustainability issues into their core operations. The present study shows that management's discussions on sustainability initiatives are presented as separate topics to the financial performance – the financial impacts of sustainability

initiatives are rarely discussed by management or analysts. These findings make an important contribution to the areas of research identified in Figure 1: Summary of research gaps. Our contribution is notable, given the emerging market, South African context, where the first adopters of integrated reporting have had the opportunity to embed integrated thinking into their core operations.

Given the exploratory nature of this study, we have identified topics that each warrant rigorous and focused studies. By illustrating the unique information content of conference call transcripts, the study lays the ground for further research which uses dialogic communication to evaluate strategic priorities (or discussions thereof), beyond sustainability.

Throughout this study, we emphasised the information benefits of dialogic communication with investors. A more thorough exploration, in the form of a comparison of transcripts to integrated reports, will contrast monologic to dialogic communication. This type of research will also highlight possible gaps in the contents and formats of the integrated report based on questions that are asked by analysts, for which they require clarity or undisclosed information. Such research would be of practical relevance to standard setters, given the studies that have questioned the usefulness of integrated reports to investors (Abhayawansa, Elijido-Ten & Dumay, 2019).

Methodologically, we establish that the CSR dictionary used by Byun and Oh (2018) and others to analyse monologic communication and even dialogic communication in conference calls (Dai *et al.*, 2023) does not provide sufficient detail in the context of earnings conference calls of JSE-listed companies.

Although these dictionaries can be modified to include South African search terms, by their nature they are unable to interpret phrases in context. This is a key limitation to their usefulness and future research which may attempt to create a South African CSR dictionary.

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APPENDIX A: CSR DICTIONARY FROM BYUN & OH (2018)

CSR Category	Search Terms
Community–Strength	‘(“ w/p (donat! OR charit! OR philanthrop! OR national equity fund OR housing initiative OR enterprise foundation or (youth and job training) OR (support and education) OR volunteer program))’
Diversity–Strength	‘(“w/p (((women or minority) AND (CEO or promotion or board of director or work benefits or life benefits or contracting)) OR (disab! and employment) OR ((gay and lesbian) AND (policy or employee))))’
Employee Relations–Strength	‘(“w/p (no-layoff OR profit! shar! OR employee involvement OR ((union relation! OR retirement benefit! OR retrench! OR (health and safety and program)) AND (CSR OR social responsib! OR social benefit!)))’
Environment–Strength	‘(“w/p (environment! friend! OR environment! benefit! OR eco! friend! OR pollution prevent! OR clean! energy!))’
Human Rights–Strength	‘(“w/p (human rights OR ((positive OR good) AND South Africa) OR (African people AND (sovereignty OR land OR culture OR human rights OR relations) OR ((labour rights OR union relation) AND (foreign OR overseas)) AND NOT (controversy OR concern)))’
Product–Strength	‘(“w/p (((innovative product or (leader AND (innovation OR R&D or research and development))) AND (social! benefit! OR CSR OR social respons! OR economically disadvant!)) OR (product AND economical! disadvantag!) OR (product! AND social! benefit!)))’
Community–Concerns	‘(“w \ p (plant closing OR ((quality of life OR tax base OR property values!) AND (negative OR advers! OR bad OR controvers!)) OR (indigenous people! AND controvers!) OR (tax AND disput! Or controvers!) OR (community opposition) OR (stop *fund *or stop *support *))’
Diversity–Concerns	‘(“w/p ((affirmative action AND (controver! or (fines AND NOT art) or penalt!)) OR (diversity AND (controver! or (fines AND NOT art) or penalt!)))’
Employee Relations–Concerns	‘(“w/p (((union relation! or (employee and (health or safety))) AND (worsen or deteriorat! or poor or concern! or controvers! or voilation! or fines or penalt!)) or (retrench! workforce reduc *or staff*reduc *) or (pension AND (underfunded or concerns or controvers!)))’
Environment–Concerns	‘(“w/p ((hazardous waste or clean air act or clean water action or environmental regulation! or toxic chemical! or agricultural chemical! or climate change) AND (fines or penalt! or violation! or controvers! or neg!) OR oil spill!))’
Human Rights–Concerns	‘(“w/p ((South Africa or international labor) AND controvers!) OR (human rights AND controvers!))’
Product–Concerns	‘(“w/p (product safety or antitrust violation or consumer fraud or defective product or product recall)’

Source: Buyn & Oh (2018), adapted

Does CFO age and management ownership affect the leverage of industrial JSE listed firms?

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Purpose: The capital structure debate has been ongoing for decades. While relying on rationality assumptions, it often ignores the emotive nature of individuals and their impact on financial decisions. Managerial considerations, like CFO age or board ownership in capital structure decisions, must be investigated.

Methodology: A two-step system generalised method of moments regression and model robustness tests were applied to examine the relationship between capital structure, the control variables, and the variables of interest: CFO age and board ownership.

Findings: Board ownership and CFO age were statistically significant determinants of capital structure. The positive coefficient between CFO age and leverage indicates the willingness of older individuals to take on debt. The negative relationship between board ownership and leverage highlights the influence of the level of shareholding on reducing leverage. There is possibly a trade-off between entrenching management and reducing agency costs using share ownership.

Originality: The scarcity of capital structure models incorporating managerial characteristics in South Africa allows this study to provide a much-needed viewpoint on the capital structure puzzle. CFO age and board ownership have been shown to have significant impacts and implications. Understanding the relationship between these variables can improve governance and decision-making within firms. Reassessing the control variables, using different testing and data, adds to the debate on the traditional capital structure theories.

Keywords: Capital structure, leverage, CFO age, board ownership, JSE, industrial firms

INTRODUCTION

After more than 50 years of research, the question of how capital structure is raised is still not fully answered (Kumar, Colombage & Rao, 2017). Capital structure research is fundamental in maximising shareholder value due to its influence on firm valuation (de Wet & Dhanraj, 2007; Ombati & Ojah, 2016). Understanding the determinants of capital structure informs investment and management decisions on the effects of leverage on firm value (Chowdhury & Chowdhury, 2010). This is considered even more relevant in emerging markets, given that unlocking value within capital structure can generate economic growth and overcome macroeconomic issues such as unemployment (Ahamed & Meerakkuddy, 2016).

Despite the significant amount of research on firm- and industry-specific characteristics, there is little

consensus (Kumar et al., 2017). Studies have explored the idea that a country's institutional and macroeconomic environment may influence capital structure (Erasmus, 2009). The main capital structure models often omitted human considerations, namely, managerial traits such as the age of the chief financial officer (CFO) or board ownership. Including these variables could address the shortcomings of theoretical models (Hackbarth, 2008). Pecking order and trade-off theories assume rational agents with homogenous expectations, which is problematic, as people tend to be optimistic and overconfident, particularly those in managerial positions (Hackbarth, 2008). As Saona, San Martin and Jara (2018) contend, other factors, such as ownership structure, must be considered in empirical models. Lin, Lin and Lei (2020) note management as

¹ This paper is partially based on the dissertation of Duran Reddy, presented for the BCom Accounting Honours degree at the University of Cape Town with supervisors and co-authors Mr Carlos De Jesus and Ms Gizelle Willows.

being influential decision-makers impacting firms' capital structure.

As Lin et al. (2020) contend that CEO characteristics impact accounting, we contend that extending capital structure theories to account for manager behaviours fills important gaps between what we already know in the theoretical models and what is unclear from empirical facts. We contend that while a CEO, with board approval, will authorise decisions, those decisions are based on information prepared and presented by the CFO. Mapela and Chipeta (2023) outline a need to explore behavioural characteristics to explain financing decisions in emerging markets. Kumar and Goyal (2015), in a structured literature review on how behavioural biases impact investment decisions, note that there is limited research in emerging markets and the literature that exists indicates that human factors directly impact investment decision-making.

This paper examines CFO age and board ownership as significant determinants of capital structure in JSE-listed industrial firms from 2015 to 2019. The primary research objective is to establish whether the tested human factors are significant in explaining the capital structure decision. Secondly, we explore the direction of the relationship, as this could provide insight for future research. As this study area is still exploratory (Mapela & Chipeta, 2023), looking at pre-covid allows for a baseline for future research in the area. Given that financial firms are subject to capital structure regulations and mining firms are affected by certain exogenous factors (Rajan and Zingales, 1995), it was considered appropriate and preferable to focus on industrial firms only.

A system generalised method of moments (GMM) technique found a significant positive and significant negative relationship between leverage and CFO age and board ownership, respectively. Older CFOs prefer debt, over equity. This could be explained by both their overconfidence and underestimation of risks, and their reluctance to change firm control. Higher levels of board ownership would reduce such managerial opportunism, reducing the debt level.

Understanding capital structure determinants enables the government and policymakers to better understand how firms raise capital to ensure that adequate resources and support are provided (Ombati & Ojah, 2016). The scarcity of capital structure models

that incorporate managerial characteristics in South Africa allows this study to provide a much-needed viewpoint on the capital structure puzzle, particularly as it plays out in South Africa. These findings are valuable in that they show that management characteristics influence the choice of debt over equity, and human characteristics should be considered in the theoretical debate on capital structure theories. Practically, it will help boards better understand risks and put in place controls to optimise leverage and, thus, stakeholder value.

LITERATURE REVIEW

Capital structure theory

Modigliani and Miller (1958) began the debate by stating that capital structure was irrelevant, given numerous assumptions. Kraus and Litzenberger (1973) built upon the work of Modigliani and Miller and developed the static trade-off theory. The premise is that profitable firms will have optimal debt, and this is the point at which the benefit of leverage is offset by increased risk of financial distress.

The pecking order theory was initially developed by Myers (1976) and continued by Myers and Majluf (1984). This theory rejected the core premise of the trade-off theory, namely, that firms have a target or optimal capital structure. The pecking order theory is based on the premise that there is information asymmetry between managers and investors (Myers & Majluf, 1984).

The empirical evidence contradicts which of the above two theories better describes corporate financing decisions. Kumar et al. (2017) reviewed 167 papers on capital structure and found that there are still gaps and unresolved questions. Their findings were as follows: 57 papers supported the pecking order theory, 15 supported the trade-off theory, 20 supported both theories, and 39 had no consensus. There has also been a debate on the testing methods for the two theories (Fama & French, 2002; Watson & Wilson, 2002; Chipeta & McClelland, 2018).

Baker and Wurger (2002) introduced the market timing theory to acknowledge that the debate was inconclusive. This theory starts with the basis that the above two theories are inconclusive and seeks to examine why. Acknowledging that management is an important factor in determining a firm's capital

structure, the theory suggests that a firm's capital structure is a combination of past attempts by management to time the market. The test for this theory is to add an external financing weighted average market-to-book ratio variable into the model with the normal capital structure variables (Baker & Wurgler, (2002); Chen, Chen, Chen & Huang, (2013); Allini, Rakha, McMillan, & Caldarelli, (2018)). While focusing on the numbers to support their theory of persistence of impact of management's decisions, Baker and Wurgler (2002) rely on management behaviour in a certain way. From this, we theorise that management characteristics would impact their behaviour and that they are thus important to consider when assessing their choices.

Control variables

Under the trade-off theory, the key internal factors influencing capital structure are size, taxation, asset tangibility, profitability, operating risk, and growth (Rajan & Zingales, 1995; Frank & Goyal, 2003; Vätavu, 2012). Under pecking order theory, the key internal factors are profitability, liquidity, growth, size, and operating risk (Vätavu, 2012). Table 1 summarises the results of prominent prior peer-reviewed research on factors influencing capital structure for listed firms in South Africa. These variables have been consistently found to be significant both over time and when using different analysis methods.

Table 1: Summary of key prior empirical research on capital structure determinants for South African firms

Author(s)	Brief outline of data and method	Size	Profitability	Risk	Tax	Asset Tangibility	Growth
Booth, Aivazian, Demirgüç-Kunt and Maksimovic (2001)	Largest firms in 10 different countries from 1980 to 1990. Cross-sectional regression.	Y+	Y–	Y–	Y–	Y+	X
Gwatidzo and Ojah (2009)	137 South African firms from 1990 to 2004. Fixed and random effects model.	Y+	Y–		X	Y+	
Erasmus (2009)	312 JSE-listed industrial firms from 1989 to 2008. Multivariate regression.	Y–			X	X	
Ramjee and Gwatidzo (2012)	178 JSE-listed firms from 1998 to 2008. Difference and System GMM.	Y+	Y-		Y–	Y+	Y+
Lemma and Negash (2013)	986 firms across nine African countries from 1999 to 2008. System GMM and OLS regression.	Y+	Y–		Y+	Y+	
Chipeta and Deressa (2016)	412 listed firms across 12 Sub-Saharan African countries. Panel data technique.	Y+	Y–	Y–	Y–	Y+	Y+
Mouton and Smith (2016)	Top 40 JSE firms from 2002 to 2013. Panel regression.	X	Y–	Y–	X		X
Gwatidzo, Ntuli and Mlilo (2016)	239 JSE firms from 1996-2010. Quantile regression	Y+	Y-	Y+	Y-	Y-	X
Kannadhasan, Thakur, Gupta and Charan (2018)	675 Indian, 412 Chinese and 96 South African firms from 1999-2016. Using a fixed effects regression.	X	X			X	X
Khémiri and Noubbigh (2018)	206 firms (excluding financials) across five Sub-Saharan African countries from 2006 to 2016. System GMM technique.	Y+	Y–		Y–	Y+	Y–
Mvita, Bummer and Hall (2022)	90 JSE firms from 1999-2019, using a Logistic and Multinomial logistic regression (fixed effects).	Y	Y	Y			Y

Note: “X” not significant, “Y” significant, “+” a positive relationship, “–” negative relationship. A blank cell the variable was not investigated.

Source: Author’s own

Influence of CFO age on capital structure

Empirical research on factors influencing capital structure has generally ignored the effect of human traits as a critical determinant (Memon, Mangi & Rohra, 2009). Hackbarth (2008) confirms this and suggests managerial traits in a capital structure model could address important shortcomings between theoretical model predictions and unresolved empirical facts. The importance of age as a determinant of risk tolerance is highlighted by Dickson and Ferreira (2018), who state that age is a critical determinant of the ability of an individual to measure financial loss.

Banda and Koralalage (2016), surveying CFOs from the top 50 listed firms on the Colombo Stock Exchange, found that views on financing practices were inconsistent with theory, explained by age and educational differences between CFOs. Siraji (2019) argues that older individuals are primarily focused on job security. In contrast, their younger counterparts are more motivated by individual or organisational goals, finding a positive and significant relationship between age and the amount of leverage. Bertrand and Scholar (2002) found that older CFOs may prefer debt as opposed to equity, given their reluctance to change firm control, which could place their job at risk. Naseem, Lin and Ahmad (2019) found the opposite and note that older CFOs exhibit higher risk aversion levels than their younger counterparts. The reason being a significant reduction in flexibility and more resistance to change as people age. Hence, older managers, specifically those involved in significant strategic decision-making, tend to avoid risky investments.

Ownership structure influence from emerging markets

The link between ownership and capital structure has been researched in numerous international contexts. Despite this literature spanning multiple decades, the research on South African firms remains fragmentary mainly. Jensen and Meckling (1976) purport that agency costs are reduced via managerial shareholding. This aligns the interests of management with those of shareholders and is often referred to as the “convergence-of-interests” hypothesis. Fama and Jensen (1983) formulated the “entrenchment” hypothesis. This hypothesis argues that there is a negative effect when shareholding is used to reduce agency, given that it can entrench management,

thereby increasing managerial opportunism. Similarly, Friend and Hasbrouck (1988) theorise that if board members’ wealth is largely invested in the firm, they are incentivised to use a lower leverage than is optimal. This is due to the increased bankruptcy risk, which entails higher debt levels.

Bokpin and Arko (2009) studied the relationship between ownership structure and a firm’s capital structure for Ghanaian firms from 2002 to 2007, finding a significant positive association between managerial ownership and the amount of debt. Hasan and Butt (2009) investigated firms on the Karachi Stock Exchange and found management shareholding to have a significant negative relationship with leverage, supporting Friend and Hasbrouck’s (1988) theory. Naseem, Zhang and Rehman (2017) conducted a further study on Pakistani firms from 2009 to 2013 and found a positive but statistically insignificant relationship.

Prior capital structure literature in South Africa focuses primarily on quantifiable, company-wide parameters, and there is minimal research incorporating managerial traits such as CFO age or board ownership. Mapela and Chipeta (2023), using management ownership as a proxy for management confidence, tested 69 JSE firms and found that confident managers are significantly more likely to issue debt. Naidu (2024), looking at 267 JSE firms using a fixed effects panel and Sasabuchi-Lind-Mehlum test, explore different ownership structures. They conclude that ownership structure is significant in capital structure decisions, with government and institutional ownership being most important. Notable is that both confidence and risk tolerance has been proxied by management ownership and CFO age.

RESEARCH APPROACH

A panel regression technique was applied as it has two main advantages. Firstly, panel regression allows for dynamic estimates as the data changes over time. Secondly, it controls for intra-firm heterogeneity by demeaning the data (Chipeta and Deressa (2016). Before conducting panel data regression techniques, the data must not suffer from heteroskedasticity or exhibit autocorrelation (De Jager, 2008). To overcome the issue of autocorrelation, a variety of instruments can be used, such as the Arellano and Bond (1991), Arellano and Bover (1995) or Blundell and Bond (1998) estimators.

The Arellano and Bond (1991) estimator uses appropriate lags of both the dependent and explanatory variables, known as the difference GMM, to overcome endogeneity problems. However, “Blundell and Bond (1998) demonstrate that a difference GMM estimator leads to wide sampling biases when independent variables persist over time” (Khémiri & Noubbigh, 2018:153). This is because of the loss of valuable information arising from the transformation of first differencing. Arellano and Bover (1995) and Blundell and Bond (1998) propose using a system GMM to solve the above-mentioned issue. The increased efficacy of the model is achieved by minimising the loss of information arising from transformations through the simultaneous estimation of the time and time-1 equations as a system (Chipeta & Deressa, 2016).

To preserve the reliability and consistency of the GMM estimates, the Hansen test will be conducted as a robustness check. As highlighted by Roodman (2009), the generation of an instrument for each time period, and difference by a GMM estimator, increases the sample size. This leads to an increase in the number of variables. To limit this, the technique of limiting the lag to one, as highlighted by Roodman (2009), was used. The Arellano and Bond serial correlation test was applied to evaluate the existence of first-order (AR(1)) and second-order (AR(2)) autocorrelation.

The AR(1) and AR(2) p-values were 0.208 and 0.641 respectively (both greater than 0.05), thereby indicating that the null hypothesis of autocorrelation was absent in the model. The system GMM model did not exhibit either first- or second-order autocorrelation as the pooled OLS and panel regression models did when run.

To ensure that the regression estimates are not impacted by multicollinearity between the explanatory variables, a variance inflation factor (VIF) test was conducted. A centred VIF statistic that exceeds 10 is indicative of multicollinearity between explanatory variables. Table 2 shows that the regression estimates did not suffer from multicollinearity. Further, White two-way cluster adjustments, for more robust standard errors, were applied to address any potential heteroskedasticity or serial correlation. Using a GMM with the White two-way clustering reduces the correlation with the error term, making the model more robust to omitted variables.

Table 2: VIF test for the two-step system GMM panel regression

Variable	Coefficient Variance	Uncentred VIF	Centred VIF
C	0.8731	982.0422	NA
Growth	0.0024	5.2990	1.6988
Profitability	4.9621	106.5299	8.0776
Risk	5.3339	106.7229	5.2702
Size	0.0068	331.0784	2.3063
Tangibility	0.0288	3.5406	1.2121
Tax	0.0038	1.2874	1.1414
CFO age	0.3676	1160.4190	1.4010
Board ownership	0.0359	4.2127	1.9192

Note: There is no multicollinearity amongst the explanatory variables as the centred VIF values for each independent variable are less than 10.

Source: Author's own

Regression model and variables

The econometric model specification for the two-step system GMM regression is as follows:

$$Y_{i,t} = \alpha + \beta x_{i,t} + \mu_{i,t} \quad (1)$$

where:

Y = dependent variable (DE ratio)

x = independent variable

α = intercept term

β = vector of parameters to be estimated for the independent variables

μ = error term

$i = 1, \dots, 100$ (total number of observations)

$t = 1, \dots, 5$ years

The dependent variable, debt-equity ratio, and the independent variables, are defined in Table 3.

Table 3: Variables and description of measurement

Variable	Description of Measurement
Capital Structure: Debt-Equity ratio	Book value of interest-bearing debt / (Book value of preference share capital + book value of equity)
Book value of interest-bearing debt	Long term and short-term interest-bearing debt
Book value of ordinary equity	Distributable reserves + non-distributable reserves + ordinary share equity
Firm size	Ln(sales)
Profitability = Return on Assets (ROA)	EBIT / Total Assets
EBIT	Earnings before interest and tax
Total Assets	Non-current assets + Current assets
Firm risk: Adjusted return on assets (adjusted ROA)	(Operating profit + investment income) / total assets
Growth: Market-to- book ratio (M/B ratio)	Market value of equity / book value of equity
Market value of equity	Preference share capital + market capitalisation of ordinary shares + minority shares
Book value of equity	Ordinary share capital + preference share capital + distributable reserves + non- distributable reserves + minority interest
Asset tangibility: Fixed Assets to Total Assets	Fixed Assets / Total Assets
Fixed Assets	Property, plant and equipment (at carrying value)
Taxation	Taxation rate = Tax paid / EBIT
EBIT	Earnings before interest and tax
CFO age	Ln(CFO age), as stated in the company's Integrated Report
Board Share Ownership	Σ shares owned by the board / (ordinary shares + preference shares)

Note: This table describes how each determinant of capital structure is defined, provided and calculated.

Source: Author's own

The debt-equity ratio is used to quantify capital structure, with both short-term and long-term interest-bearing debt being included as a component of debt. Interest-bearing debt was preferred to total debt because total debt comprises a portion of debt, this being non-interest-bearing debt, which is used for transactional purposes as opposed to financing. Like Mans and Erasmus (2011), this study focuses on the book value leverage approach for capital structure measurement because it reflects management's target capital structure. In contrast, market value fluctuations

do not reflect management's decisions (De Jong et al., 2008).

Li (2016) note that endogeneity is a typical problem that plagues static panel data procedures, causing estimator bias. As seen in Table 4, this model was no exception. The Durbin-Watson statistics equalling 0.79 and 1.12 indicate that the OLS and Random effects models suffered from severe positive autocorrelation and yielded unreliable results. The fixed effects model is better at 1.64 but still shows positive autocorrelation. Given that these results would be biased and inconclusive, a two-step system GMM technique was used to address these issues (Khémiri & Noubbigh, 2018).

Table 4: Results of the pooled ordinary least squares regression, least squares with fixed and random effects

Variable	Ordinary Least Squares	Fixed Effects	Random Effects
C	4.4911 (0.9344)**	49.5181 (22.951)*	4.0445 (1.4289)**
Growth	0.1137 (0.0492)*	0.237107 (0.067)**	0.1346 (0.0504)**
Profitability	4.5956 (2.2276)*	-5.81651 (3.4216)	-1.0379 (2.5855)
Risk	-5.9069 (2.3095)*	5.2482 (3.2915)	0.0099 (2.6003)
Size	0.0307 (0.0822)	-0.3104 (0.5124)	-0.0170 (0.1244)
Tangibility	0.3893 (0.1698)*	0.5540 (0.9324)	0.5190 (0.2605)*
Tax	0.0911 (0.0617)	0.0603 (0.0572)	0.0857 (0.0545)
CFO age	-2.5105 (0.6063)**	-12.194 (5.8444)*	-0.92417 (0.3902)*
Board ownership	-0.6301 (0.1895)**	-2.21848 (0.7305)**	-0.8170 (0.2874)**
F-statistic	9.3181	6.807549	4.645923
Prob(F- statistic)	0.0000	0.0000	0.0000
Durbin- Watson Stat	0.7904	1.6454	1.120612
R-Squared	0.3912	0.735793	0.242659
Adjusted R- Squared	0.3492	0.627708	0.190428
Observations	125	125	125

Note: The table represents five years of data, from 2015 to 2019, for 25 firms. The dependent variable is the Debt-to-Equity ratio. Coefficients are presented with standard errors in parentheses. *, ** reflects where coefficients are statistically significant at the 5% and 1% levels, respectively.

Source: Author's own

RESULTS

There were 124 firms in the industrial sector on the JSE. Firms where the CFO changed during the period were removed, leaving 25 firms. Financial data was collected from IRESS, and CFO age and board ownership were obtained directly from firm-integrated reports. Table 5 summarises the descriptive statistics for the 25 firms over the period. As evident by the large standard deviations, skewness and kurtosis in the data set, the median values were analysed instead of the mean.

Table 5: Descriptive statistics for the dependent and independent variables

Variable	Median	Standard Deviation	Skewness	Kurtosis
DE ratio	0.311	0.413	2.812	14.422
Growth	1.052	0.793	1.314	5.382
Profitability	0.085	0.075	-1.887	9.966
Risk	0.01	0.075	-1.691	9.269
Size	6.413	0.553	0.23	2.063
Tangibility	0.231	0.194	0.7	2.603
Tax	0.253	0.519	-5.23	45.212
Board ownership	0.208	0.219	0.603	2.077
CFO age	48	6.136	-0.284	3.267

Source: Author's own

The median value for the Debt-to-Equity ratio was 0.311, indicating that assets are financed primarily through equity instead of debt. This Debt-to-Equity ratio was far lower than that observed in developed countries where debt ratios range between 54% and 73% (Rajan & Zingales, 1995). This aligns with Correia and Cramer (2008), who found that South African firms have considerably lower levels of target debt-to-equity ratios, resulting in lower debt levels.

The median CFO age and board ownership was 48 years and 20.8%, respectively. The median board ownership appears relatively high compared to Bokpin and Arko (2009), who found a median board ownership of 12.42%. This could be due to some firms in the sample being family-owned.

Table 6 presents the results of a one-step system GMM and two-step system GMM regressions. First and important to notice is that the Hansen J stat for the

one-step indicates the coefficient cannot be relied upon. Thus, when examining the two-step results, the significant determinants of leverage at the 99% confidence level were tangibility, and at a 95% level were firm size, growth, CFO age, and board ownership.

Table 6: Results of a one-step and two-step system GMM panel regression with debt-equity as the independent variable

Variable	One-step system GMM	Two-step system GMM
Lagged DE ratio	0.2653 (0.1138)*	0.2724 (0.0180)**
Growth	0.1504 (0.23274)	0.1511 (0.0275)**
Profitability	-0.7202 (3.0650)	0.1122 (1.2099)
Risk	-0.5703 (2.9176)	-0.4710 (1.2544)
Size	-0.9619 (0.5687)	-0.8899 (0.1764)**
Tangibility	0.6872 (0.8808)	1.0466 (0.4879)*
Tax	0.0049 (0.069)	0.0384 (0.0336)
CFO age	3.9567 (2.8405)	3.6450 (1.2033)**
Board ownership	-1.2274 (0.7775)	-1.0806 (0.1852)**
Hansen's J-statistic	6.8451	12.5932
Prob	0.0000	0.1266

Note: This table represents five years of data, from 2015 to 2019, for 25 firms. The dependent variable is the Debt-to-Equity ratio. Coefficients are presented with standard errors in parentheses. *, ** reflects where coefficients are statistically significant at the 5% and 1% levels, respectively.

Source: Author's own

Results discussion

The significant positive relationship between CFO age and leverage supports the motivation that human and managerial characteristics must be incorporated in capital structure research. These findings support Lee, Yen and Chen (2008), who state that older managers will accept higher leverage levels due to overconfidence and optimism, leading to underestimating the associated risks.

The significant negative relationship between board share ownership and leverage could be justified in terms of agency theory. A higher ownership proportion would lower a firm's debt levels to reduce the risks

associated with bankruptcy, thereby aligning the interests of both shareholders and managers (Jensen & Meckling, 1976; Brailsford, Oliver & Pua, 1999). Higher levels of board ownership reduce managerial opportunism, reducing debt. There is an ownership proportion beyond which the entrenchment effect would dominate the convergence-of-interest effect. This leads to a lower-than-optimal level of debt due to increased managerial comfort (Brailsford, Oliver & Pua, 1999). In line with the findings of Fosberg (2004), board members may become unwilling to optimise debt despite the benefit to the company. The results indicate that entrenching managers may fail and worsen the agency problem it sought to resolve.

The negative relationship with size contradicts the findings in Table 1, except for Erasmus (2009). This could be due to the negative relationship with profitability, which is consistent with prior literature. While, in general, size implies easier access to financing and less risk, it also proxies for several other factors like risk and profitability (Chipeta & Deressa, 2016; Fama & French, 2002). This supports the pecking order argument that a more profitable firm has less need for debt as it will have greater retained earnings, which is the primary source of capital (Myers, 2001; Booth et al., 2001; Gwatzido & Ojah, 2009; Khémiri & Noubbigh, 2018).

A negative relationship between firm risk and leverage was not found to be significant as it was in previous studies (Chipeta & Deressa, 2016; Mouton & Smith, 2016; Khémiri & Noubbigh, 2018). Profitability had a positive yet insignificant coefficient, which was contrary to expectations. While Negash (2001) illustrated that the benefits of debt are significant on the JSE, there have been mixed results, as can be seen in Table 1, and in this study, tax was found to be insignificant.

The positive significant relationship with growth supports the pecking order theory. This confirms the findings of Ramjee and Gwatzido (2012) and Chipeta and Deressa (2016) but is contrary to the conclusions from Khémiri and Noubbigh, (2018).

The positive relationship between tangibility and leverage supports both theories. As having more assets to collateralise makes it easier for a firm to raise debt, it also reduces the risk of recovering the debt. This reduces the cost of the debt, making debt more

attractive (Khémiri & Noubbigh, 2018). This result supports the prior literature in Table 1.

In making the capital structure decision, the CFO would likely drive the capital structure decision, while the board has an oversight function and would influence the outcomes. These two parties would be instrumental in decision-making. In November 2019, the Business Confidence Index (BCI) released by the SA Chamber of Confidence and Industry (SACCI) was the lowest since 1985 (SACCI, 2020). The report shows a downward trend in the BCI. Macroeconomic conditions impact capital structure choices, and thus, we expect the market sentiment to reflect in capital structure choices (Kang, Wang & Xiao, 2018). The CFO age, being positive and significant, shows that older management appear to be willing to take on more debt in the capital structure.

The negative and significant relationship with board ownership implies that there is less debt with more ownership. Given the timing of the study, this makes sense as it would be high risk to take on more debt when there is limited confidence in the future.

The inconsistency between CFO age and board ownership indicates that information asymmetry does not influence the decision. If information asymmetry were the cause of the capital structure choice, the coefficients would move in the same direction. If there were an optimal capital structure, the CFO and the board would want to optimise the value (and the variables would move in the same direction). What is clear from the findings is that management characteristics influence capital structure.

CONCLUSION

Research on capital structure in Africa and South Africa remains limited in focus. The importance of understanding capital structure decision-making lies in its ability to unlock growth and create value (Ombati & Ojah, 2009). This paper investigated the impact of board ownership and CFO age using a two-step system GMM on JSE-listed industrial firms.

The results were mostly consistent with prior literature except for size, which was found to have a negative relationship with leverage. Board ownership and CFO age were both found to be significant determinants of capital structure. This has considerable implications for the capital structure debate. A significant negative

relationship with leverage was found for board ownership, highlighting the influence of the level of shareholding on reducing managerial opportunism. There is a trade-off between entrenching management and reducing agency costs using share ownership. Company policymakers are advised to evaluate the trade-off that exists between managerial shareholding and curbing agency costs (Ahamed & Meerakkuddy, 2016). Share ownership should not be solely relied upon to limit agency costs but rather used in conjunction with other metrics to create a more holistic incentivisation tool. Further, those tasked with firm governance and incentives are encouraged to account for qualitative and, more specifically, managerial biases, extending beyond company-wide quantitative characteristics.

In terms of CFO age, the significant positive association with leverage indicates the willingness of older individuals to take on debt. This could be explained through overconfidence, higher optimism or career aspirations. These social diversity factors need to be considered and evaluated by the firm when making decisions regarding team diversity and effectiveness.

The inconsistency in the direction of the relationship with leverage, with CFO age being positive and board ownership being negative, indicates that while the control variables support trade-off and pecking order theories, the underlying assumptions do not hold. For either an optimal capital structure or information asymmetry to be valid these variables would need to move in the same direction.

Capital structure decision-making directly influences firm value, which influences investor decision-making (Chowdhury & Chowdhury, 2010; Kumar & Goyal, 2015). Practically, the results of this study may be used by investors when making investment decisions and understanding firm value movements. It can assist boards to monitor risk and firms to put in place controls to ensure leverage is optimal to maximise stakeholder value and not be negatively impacted by personal influences.

Areas for further research and limitations

This study focused on firms listed at the end of the selected periods, thus susceptible to survivorship bias. Despite the five-year sample period providing enough observations, GMM estimates converge to their true value with larger samples (Hill, Griffiths & Lim, 2008).

While benefits to a larger sample size exist, having a smaller more relevant data set removes the risk of type 1 errors. Further research could investigate the non-linearity of the relationships, as well as the interaction between behaviour variables. Given the results of this study, further research can be done to examine whether the relationships have changed post the COVID-19 pandemic.

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When the numbers change: The impact of financial restatements on information asymmetry of JSE-listed companies

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Purpose: This study investigates the impact of retrospective financial statement restatements on information asymmetry among JSE-listed companies, focusing on four distinct restatement categories: errors, changes in accounting policies, new accounting standards, and Financial Reporting Investigation Panel (FRIP).

Methodology: Using abnormal bid-ask spreads (ANBAS) and abnormal trading volumes (AVOL) as proxies for information asymmetry, the study applies an event study methodology to analyse market reactions over a 21-day event window.

Findings: The findings reveal significant increases in information asymmetry on days around restatement announcements, with errors and changes in accounting policies exhibiting the highest and most persistent impacts. These categories are associated with heightened market uncertainty as investors react to unexpected information disclosures and reassess the implications thereof for the restating companies. Conversely, restatements related to new accounting standards and FRIP actions show more moderate and transient effects, reflecting lower information asymmetry likely due to regulatory oversight and market anticipation.

Contribution: The study provides empirical insights into how financial restatements influence market dynamics and investor behaviour within an emerging market context. It emphasises the importance of transparent financial reporting and regulatory oversight in mitigating information asymmetry, enhancing investor confidence, and promoting market stability. These findings have practical implications for investors, companies, and regulators aiming to improve stock market stability and efficiency.

Keywords: Bid-Ask Spread, Financial Statements, Information Asymmetry, Johannesburg Stock Exchange (JSE), Regulatory Oversight, Retrospective Restatement, Share Trade Volume, Event Study Methodology, Accounting Policy.

INTRODUCTION

Financial statements provide crucial information for investors' decision-making (IASB, 2018: 1.2). While financial statements are an essential tool for those charged with governance to communicate a company's financial performance (Healy & Palepu, 2001: 406), the highly publicised corporate scandals by listed companies such as Macmed, LeisureNet, Steinhoff and Tangaat Hulett, amongst others, highlight the fact that financial statements may also convey false or misleading information requiring the retrospective restatement thereof.

The negative market response to the retrospective restatement of financial statements (Dechow, Sloan & Sweeney, 1996; Palmrose, Richardson & Scholz, 2004; Hirschey, Palmrose & Scholz, 2005; Ahmed & Goodwin, 2007; Watson & Coetzee, 2012; Watson & Rossouw, 2012; Chen, Cheng & Lo, 2014; Bouteska, 2019; Huang, Feng & Zaher, 2019) suggests that the market does not have sufficient information to make informed

investment decisions regarding restating companies. Supporting this view, Koo & Kim (2014: 77) suggest that a retrospective restatement of financial statements epitomises information asymmetry between investors and the restating company.

However, not all retrospective restatements result from fraud or intentional misrepresentations. IAS 8 (IASB, 2021: 1017) acknowledges that retrospective restatements may result from errors, misapplications, oversights, or misinterpretations and requires the retrospective application of accounting policy changes unless impracticable or otherwise prescribed by IFRS. Additionally, JSE-listed companies may be required to restate annual financial statements due to investigations or recommendations by the Financial Reporting Investigation Panel (FRIP), an oversight committee of the JSE (SAICA, 2019). Figure 1 below illustrates these five restatement categories.



Figure 1: IFRS & FRIP financial restatement categories

Source: Watson (2024)

For ease of reference, the abovementioned retrospective restatement classification categories are referred to as:

- **ERROR** - errors stemming from legitimate reasons such as, amongst others, mathematical errors, mistakes in applying accounting policies and oversights.
- **FRAUD** - errors stemming from the intentional or unethical misrepresentation of financial information.
- **NEW-AS** - the adoption of a new accounting standard (IFRS).
- **CHANGE-AP** - changes in accounting policy.
- **JSE-FRIP** - compliance enforcement action by the JSE through FRIP.

Each restatement category represents a distinct reason for the retrospective restatement, thus providing an opportunity to examine the impact of such restatements on information asymmetry.

In capital markets, such as the Johannesburg Stock Exchange (JSE), where accurate and transparent financial reporting is crucial, retrospective restatements raise concerns regarding their impact on information asymmetry. Despite these concerns, there is limited research examining retrospective restatements by JSE-listed companies within the South African context (Watson & Rossouw, 2012: 419; Ferreira, Mohlamme, Van Vuuren, Dickason & McMillan, 2019: 1).

Highlighting the negative impact of information asymmetry in stock markets, Easley & O'Hara (2004: 1557) find that information asymmetry not only increases share trading costs and decreases market liquidity but also negatively impacts investment decisions and thus increases the firm's cost of capital.

Given that the retrospective restatement of financial statements is likely to exacerbate information asymmetry (Dechow et al., 1996; Hirschey et al., 2005; Ahmed & Goodwin, 2007; Koo & Kim, 2014; Nguyen & Puri, 2014), it further impedes investors' ability to accurately assess the impact of such restatements on restating companies, potentially resulting in suboptimal investment decisions (Healy & Palepu, 2001; Huang *et al.*, 2019) and greater uncertainty for investors and analysts (Cahan, Chen & Chen, 2024; Wu, Kuang, Lee & Zhai, 2024). Such adverse selection, trading costs, bid-ask spreads, and volatility in share prices ultimately undermine the overall performance, efficiency and stability of financial markets (Nguyen & Puri, 2014: 429).

Hence, in this environment of capital market uncertainties, frequently characterised by information asymmetry and the negative consequences of retrospectively restating financial statements, it is important to examine the potential impact of retrospective restatements on information asymmetry within an emerging market setting such as the JSE. Documenting the effect of each distinct restatement category (Figure 1) on the information asymmetry of JSE-listed companies provides vital information to investors, restating companies and the JSE as a stock market regulator. In addition, this study contributes to the ongoing discourse regarding the reliability, transparency and informational value of financial statements within the context of the JSE.

LITERATURE REVIEW

Information asymmetry is a fundamental aspect of any stock market, impacting investment decisions by investors (Ye, Wang & Yang, 2022: 429). Within stock markets, particularly more so than in other markets, the extent of information asymmetry and how information is distributed significantly impact resource allocation by investors (Capasso, 2004: 269).

Information asymmetry significantly impacts investors, restating companies, and regulators by misallocating resources, leading to stock market inefficiencies (Nestenborg & Erch, 2023). Komalasari & Nasih (2020) further argue that it also affects stock market performance, efficiency and stability.

Attempting to mitigate the aforementioned negative impacts of information asymmetry, the JSE implemented, amongst other measures, the Security

Exchange News Service (SENS) that offers users real-time access to announcements from listed companies, including information on mergers, takeovers, rights offers, capital issues, and cautionary aspects (JSE Limited, 2023). These announcements are critically important as they directly impact movements in the market, and the SENS data are provided to subscribers through a live feed via the Regulatory News Gateway (JSE Limited, 2023). Corporate actions are also disseminated via SENS and entail any event initiated by a listed company that potentially has a direct impact on shareholder value (JSE Limited, 2023).

Paragraph 3.4 of the JSE listing requirements specifically addresses the obligation of disclosure by JSE-listed companies regarding price-sensitive information and trading statements. The JSE listing requirements define price-sensitive information as *“unpublished information that is specific or precise, which if it were made public, would have a material effect on the price of the issuer’s securities”* (JSE Limited, 2022). Paragraph 3.4 of the JSE listing requirements further states,

With the exception of trading statements, an issuer must, without delay, unless the information is kept confidential for a limited period of time, release an announcement providing details relating, directly or indirectly, to such issuer that constitutes price-sensitive information (JSE Limited, 2022).

The JSE listing requirements regarding the communication of price-sensitive information clearly emphasise the importance of fair and equal distribution of relevant company information. Paragraph 9.3 of the listing requirements explicitly states that,

price-sensitive information may not be released, even under a time embargo, during JSE trading hours, until such information has been published on SENS or outside trading hours until authorised, approved (if necessary), and arrangements for SENS publication are in place before the next trading day (JSE Limited, 2022).

It is therefore concluded that the JSE considers the timely and equal release of information to be of vital importance and enforces such action through SENS and its listing criteria.

A review of information asymmetry literature within the context of the JSE reveals an extensively researched field with studies examining, amongst others, corporate governance disclosure (Vos, 2023), internet disclosure, investor relations and cost of capital (Nel, 2016), the link between internet investor relations and information asymmetry (Nel, Smit & Brummer, 2018) determinants of the quality of internet investor relations (Smit, Nel & Brummer, 2017), the quality of corporate website disclosure levels (Nel & Baard, 2019), level of alignment with the integrated reporting framework (Martinez, 2016), and board diversity impact on information asymmetry (Denhere, 2024). However, no studies examining information asymmetry in relation to the retrospective restatement announcements by JSE-listed companies could be found. This gap in the literature is supported by Watson & Rossouw (2012) and Ferreira, Mohlamme, Van Vuuren, Dickason & McMillan (2019), who note that limited research has explored the impact of retrospective restatements by JSE-listed companies.

While literature examining information asymmetry in relation to the retrospective restatement announcements by JSE-listed companies appears to be limited, international research, however, reveals that the retrospective restatement of financial statements negatively affects institutional investor confidence, leading to reductions in stockholdings (Cahan *et al.*, 2024: 143). This decline in investor confidence is further associated with significant increases in information asymmetry (Anderson & Yohn, 2005; Nguyen & Puri, 2014). These findings highlight the broader implications of financial restatements on market trust, particularly in relation to information asymmetry and investor decision-making. In particular, Anderson and Yohn (2005:15), using a U.S. sample of 161 companies listed on the NASDAQ, NYSE, and AMEX that restated their financial statements, documented significant increases in information asymmetry even prior to the public announcement of the retrospective restatement—suggesting the possibility of insider trading.

Reflecting on the impact of retrospective restatements on information asymmetry, Nguyen & Puri (2014: 213) argue that the retrospective restatement of financial statements may effectively be an acknowledgement of the poor quality of financial information, forcing investors to reassess their perceptions of the quality of future financial information in respect of the restating

company. Nguyen & Puri (2014: 213) further suggest that the increase in information asymmetry may arise from the questionable integrity of management, the unreliability of financial reporting, and even the viability of the company.

It is accordingly argued that while restatements are intended to correct prior information asymmetry, rather than exacerbate it, empirical literature and observed market behaviour suggest that the announcement of such restatements often triggers heightened investor uncertainty, reflecting perceived risks about the quality of prior financial reporting and governance.

In conclusion, information asymmetry is enshrined in the very functioning of a stock exchange. While regulatory and listing requirements may reduce information asymmetry in stock markets, information asymmetry cannot be eliminated entirely.

METHODOLOGY AND SAMPLING

Event study methodology

The event study methodology is arguably one of the most widely used methodologies in accounting and financial research and is frequently used to examine the impact of an event on listed companies (Kothari & Warner, 2004: 3; Corrado, 2011: 207). While it is acknowledged that the event study methodology is frequently used to examine the impact of an event on company value (Binder, 1998), it is particularly well suited to examining the impact of events, such as the announcement of the retrospective restatement of financial statements, on information asymmetry. This study accordingly applies an event study methodology to examine information asymmetry around the period of retrospective restatement announcements of JSE-listed companies.

The following steps were followed in applying an event study methodology in this study:

Step 1: Define the event. The first SENS announcement relating to a specific retrospective restatement was identified at the announcement date (Day 0).

Step 2: Determine the pre-event estimation period and event window. Given that the literature suggests a distinct difference between the periods before and after restatement announcements, with investors being subjected to an inferior information

environment after the restatement announcement (Anderson & Yohn, 2005: 15; Koo & Kim, 2014: 72), it is necessary to define the respective periods before and after the event. This study defines the event as the public announcement of the retrospective restatement of financial statements through SENS announcements. Figure 2 illustrates the event timeline applied in analysing the share trade volume and bid-ask spread of restating companies around the SENS restatement announcement date (Day 0).

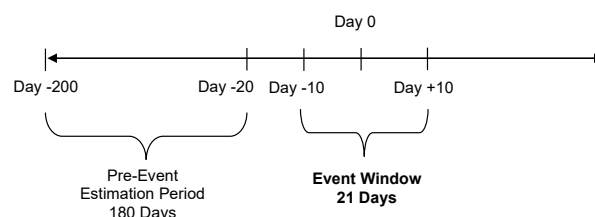


Figure 2: Event timeline

Source: Author's own

Figure 2 depicts the 180-day pre-event estimation period (Day -200 to Day -21) and the 21-day event window (Day -10 to Day +10) consisting of a 10-day pre-event (Day -10 to Day -1), Day 0 and 10-day post-event period (Day +1 to Day +10). In order to mitigate the potential impact of insider trading and informational leakage on the results of this study, the 20-day pre-event period (Day -20 to -1) is intentionally excluded from the estimation of the parameters to be examined in this study.

Step 3: Model expected variables to be examined. The information asymmetry literature suggests that a variety of information asymmetry measures, including amongst others, bid-ask spreads (Easley, Hvidkjaer & O'Hara, 2000; Chung & Zhang, 2014; Sabet & Heaney, 2015; Nel & Baard, 2019), analyst forecast dispersion (Hong, Lim & Stein, 2000; Wang, 2020), probability of informed trading (Agudelo, Giraldo & Villarraga, 2015), volume of shares traded (Plumlee & Yohn, 2008; Nguyen & Puri, 2014; Ye & Yu, 2018) and share price volatility (Fu, Kraft & Zhang, 2012; Bouattour & Martinez, 2019; Wei, 2021) have been used to examine various aspects of information asymmetry.

However, Ye & Yu (2018: 130) highlight share trading volume as a key indicator of market participants' responses to the announcement of retrospective restatements of financial statements. Further supporting the use of share trade volume, prior studies

have documented that information asymmetry around public announcement dates leads to increases in share trading volume (Dechow *et al.*, 1996: 4; Plumlee & Yohn, 2008: 5; Nguyen & Puri, 2014: 130). Nguyen & Puri (2014: 213) attribute this to investors becoming more sceptical about the reliability of the firm's future financial statements after a restatement, resulting in increased uncertainty, information asymmetry, and adverse selection, which are reflected in higher share trading volumes.

In addition to share trade volume, bid-ask spreads are widely recognised as a direct measure of information asymmetry (Easley *et al.*, 2000; Sabet & Heaney, 2015). Restatements often introduce unexpected information to the market, causing temporary imbalances that widen bid-ask spreads as participants process the new information (Healy & Palepu, 2001; Koo & Kim, 2014).

This study accordingly uses share trade volume and bid-ask spreads to examine the impact of retrospective restatement announcements on information asymmetry around restatement announcement dates. By analysing bid-ask spreads and share trade volume, this study aims to provide robust findings that document shifts in information asymmetry on days surrounding the announcement of the retrospective financial statement restatements by JSE-listed companies. Furthermore, the study differentiates between the various categories of restatements (refer to Figure 1), offering deeper insights into how each affects information asymmetry.

In order to examine the share trade volume and bid-ask spread of each restatement category, the mean daily share trade volume and net bid-ask spreads (NBAS) for each company were calculated over the 180-day pre-event estimation period (Day -200 to -21). The net bid-ask spread is calculated as the difference between the bid (the highest price) and the low (the lowest price) per day. The mean daily share trade volume and net bid-ask spreads were then used to calculate the abnormal volume (AVOL) and abnormal net bid-ask spread (ANBAS) for each restating company in respect of each of the 21 days in event window day (Day -10 to +10).

Formula 1: Abnormal AVOL & ANBAS

$$Abnormal\ x = \frac{x - \mu(x)}{\sigma(x)}$$

where $Abnormal\ (x)$ = abnormal value of (x)
(either AVOL or ANBAS)

x = daily value of the variable (either VOL or ANBAS)

$\mu(x)$ = mean daily value of (x) during the pre-event estimation period (Day -200 to Day -21) (either VOL or ANBAS)

$\sigma(x)$ = standard deviation of (x) during the estimation period (Day -200 to Day -21)

The AVOL and ANBAS for each restatement announcement were calculated for each of the 21 days in the short-term event window as the difference between the mean expected value ($\mu(x)$) and the actual daily value (x). This difference was then standardised by the standard deviation of each respective variable measured over the 180-day pre-event estimation period. Each variable was then independently averaged across companies daily (Day -10 to +10) to produce an average AVOL and ANBAS for each of the individual 21 days in the event window period for each restatement category. The daily average AVOL and ANBAS were tested for significance using a one-sample *t*-test (Formula 2) with the Statistical Package for the Social Sciences (SPSS). The mathematical representation of the one-sample *t*-test is provided below in Formula 2.

Formula 2: One-sample t-test

$$t = \left(\frac{\bar{x} - \mu}{s_{\bar{x}}} \right)$$

where t = t statistic
 $\bar{x}$ = Sample mean
 μ = Population mean (specified as the test value)
 s = Standard deviation of the sample mean

With the discussion above addressing the statistical analysis, the following section focuses on the sampling process followed in this study.

Sampling

This study applied census sampling to identify JSE-listed companies that retrospectively restate financial statements over 10 years from 1 January 2010 to 31 December 2019. The end date of 2019 is specifically selected to limit the possible effect that the Coronavirus disease 2019 (COVID-19) may have had on the share prices of JSE-listed companies. The IRESS database was used to search for all SENS announcements containing the words 'restate', 'retrospective restatement', 'restatement', and various permutations to identify and classify SENS restatement announcements by JSE-listed companies. Addressing the accuracy and integrity of the data, two research assistants reviewed the same SENS reports to independently identify and classify the retrospective restatement into one of the five restatement categories (Figure 1) and document the same information for each observation. The two lists were reconciled, and discrepancies were resolved by referring to the original SENS announcements.

Secondary data, including daily high and low share prices and the volume of shares traded for each restating company, was sourced from the S&P Global Market Intelligence and IRESS databases. Accounting for the potential impact of thinly traded shares on the results, this study, similar to Watson & Rossouw (2012) and Watson & Coetzee (2012), only included companies with shares traded on 75% or more of trading days in the pre-event estimation period (Day -200 to -21) as well as the event window period (Day -20 to +20) (Refer to Figure 2). It is further noted that while three of the restatement announcements met the recognition criteria of the FRAUD category, the

suspension of trading consequently limited the observable share price movements and thus resulted in the exclusion of these companies from the sample.

The sample includes 268 retrospective restatement announcements by 117 companies from 2010 to 2019, well-distributed across years (Appendix A) and industries (Appendix B) to mitigate bias and confounding effects. To further control for these effects, the study tests daily average abnormal returns, ensuring announcements spread over a decade are not concentrated in specific periods. As each restatement has a unique Day 0 (announcement date), event days vary across companies and years but are averaged on a daily basis to reflect the overall market reaction. The number of restatements for each restatement category is further presented graphically in Appendix C.

EMPIRICAL FINDINGS

Applying inferential statistics using SPSS, the following hypotheses were tested with respect of the AVOL and ANBAS for each restatement category over the short-term event window:

For AVOL

H1₀: The mean AVOL of the restatement category x is equal to zero.

H1₀: $\mu_{AVOL,x} = 0$

H1_a: The mean AVOL of the restatement category x category is not equal to zero.

H1_a: $\mu_{AVOL,x} \neq 0$

For ANBAS

H2₀: The mean ANBAS of the restatement category x is equal to zero.

H1₀: $\mu_{ANBAS,x} = 0$

H2_a: The mean ANBAS of the restatement category x category is not equal to zero.

H1_a: $\mu_{ANBAS,x} \neq 0$

Where x represents each of the respective restatement categories (**NEW-AS**, **CHANGE-AP**, **ERROR**, and **JSE-FRIP**).

AVOL findings

The results of the *t*-test performed on AVOLs for each restatement category across the 21-day event period are presented in Table 1 below. The AVOL results are further presented graphically in Figure 3.

Table 1: AVOL results

	NEW-AS		CHANGE-AP		ERROR		JSE-FRIP	
Day	AVOL	<i>p</i> -value	AVOL	<i>p</i> -value	AVOL	<i>p</i> -value	AVOL	<i>p</i> -value
-10	-9.6%	0.206	-3.5%	0.847	-6.3%	0.368	-3.1%	0.883
-9	-8.5%	0.622	-22.3%	*0.075	19.1%	0.131	-4.8%	0.767
-8	5.5%	0.772	0.5%	0.980	10.9%	0.224	-19.9%	**0.044
-7	3.6%	0.249	-4.7%	0.771	-0.8%	0.933	-5.3%	0.661
-6	-10.5%	0.658	-11.0%	0.649	6.1%	0.677	-29.4%	***<0.001
-5	-4.5%	*0.055	-10.2%	0.495	6.7%	0.61	-30.6%	***<0.001
-4	-15.0%	0.109	-26.3%	**0.019	15.0%	0.577	-16.6%	0.237
-3	-14.8%	0.619	3.3%	0.928	-7.9%	0.252	-16.6%	*0.061
-2	-5.5%	0.799	-10.8%	0.472	5.5%	0.548	-32.9%	***<0.001
-1	4.4%	**0.006	-2.6%	0.848	-2.1%	0.814	35.6%	0.535
0	48.9%	**0.007	80.9%	*0.090	96.3%	***<0.001	34.1%	*0.085
1	57.4%	0.138	75.8%	***0.003	66.4%	***<0.001	17.4%	0.614
2	13.0%	*0.073	16.4%	0.348	38.5%	***0.005	23.6%	*0.065
3	43.9%	0.124	11.2%	0.367	16.1%	*0.097	-3.2%	0.751
4	22.1%	0.191	-3.6%	0.703	14.2%	*0.085	47.1%	*0.064
5	20.3%	0.307	37.0%	*0.091	11.6%	0.179	2.1%	0.857
6	16.3%	0.111	9.4%	0.418	14.2%	0.22	9.4%	0.54
7	61.7%	*0.078	9.0%	0.569	80.9%	0.106	-13.4%	0.135
8	33.8%	*0.077	-12.0%	0.372	47.0%	*0.083	4.3%	0.783
9	35.3%	0.543	5.8%	0.655	42.9%	*0.055	75.2%	0.347
10	-6.1%	0.148	-6.9%	0.682	14.8%	0.104	-6.7%	0.556

***Significant at <1%; **Significance at <5%; *Significance at <10%

Source: Author's own

Table 1 presents the analysis of AVOLs over the 21-day event period surrounding financial restatement announcements. The results show an overall increase in trading activity following the announcement, reflecting heightened levels of information asymmetry as market participants react to the new information. The NEW-AS category shows minimal pre-event significance, with a significant AVOL spike on the event day (48.9%, $p = 0.007$) as the market processes the adoption of new accounting standards. CHANGE-AP exhibits significant pre-event reductions (e.g., -26.3%, $p = 0.019$ on Day -4), possibly due to market anticipation, followed by a substantial event-day spike

(80.9%, $p = 0.090$) and sustained post-event trading activity, reflecting heightened and prolonged information asymmetry.

ERROR restatements elicit the strongest response, with the highest event-day AVOL spike (96.3%, $p < 0.001$) and prolonged post-event trading activity (38.5%, $p < 0.005$ on Day 2), emphasising the market's sensitivity to corrections of prior errors. Although based on different stock exchanges, this finding is similar to Ye & Yu (2018), who find that error-related restatements result in significantly increased trading volumes and volatility, reflecting increased information asymmetry and investor uncertainty.

Conversely, the JSE-FRIP restatement category displays substantial pre-event AVOL reductions (-29.4%, $p < 0.001$ on Day -6), reflecting reduced information asymmetry, possibly due to the market's anticipation of the restatement announcement. The event-day reaction for JSE-FRIP is relatively muted (34.1%, $p = 0.085$), suggesting that regulatory oversight enhances the market's perception regarding the reliability of the restatement and reduces perceived information asymmetry. However, a delayed post-event spike (47.1%, $p = 0.064$) suggests, although muted, lingering market adjustments and elevated levels of information asymmetry.

These findings suggest a differentiation in the levels of information asymmetry associated with different restatement categories. ERROR and CHANGE-AP restatements exhibit significant spikes in trading activity, reflecting heightened information asymmetry as the market reacts to unexpected disclosures or complex adjustments. Conversely, JSE-FRIP restatements show reduced pre-event activity and muted event-day responses, suggesting lower information asymmetry due to the credibility provided by regulatory oversight. NEW-AS restatements demonstrate limited pre-event significance but moderate post-event activity, consistent with the resolution of asymmetry as the market processes the anticipated adoption of new accounting standards. The aforementioned AVOL results are further presented graphically below in Figure 3.

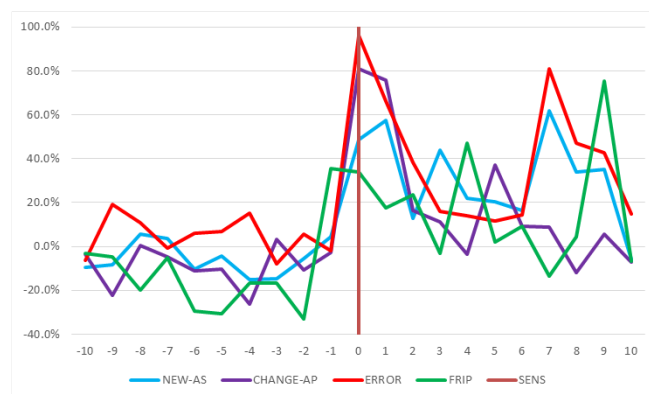


Figure 3: Summary of AVOL – Short-term event window (Day -10 to Day +10)

Source: Author's own

Figure 3 illustrates AVOLs on the days surrounding financial restatement announcements of all four restatement categories. Notably, there is a pronounced spike in AVOL on the announcement day (Day 0) across all categories, indicating a significant increase in information asymmetry at the time of the announcement. Both ERROR and CHANGE-AP restatements show the greatest spikes in trading activity on the announcement day, suggesting heightened information asymmetry as the market reacts to the unexpected disclosures and reassesses the implications for the company. The sustained elevated trading activity in the days following the announcement for these two categories suggests that the resolution of information asymmetry takes longer as investors gradually incorporate the new information into their evaluations.

In contrast, NEW-AS restatements elicit a more moderate market response, suggesting lower levels of information asymmetry. The moderate market response may be attributed to new accounting standards being issued with implementation dates, allowing the market to anticipate these restatement announcements. Additionally, as these restatements are required to ensure compliance with IFRS and JSE listing requirements, the associated regulatory oversight may enhance the credibility of the restatements, thereby reducing the element of surprise for market participants.

JSE-FRIP restatements show the smallest market reaction, with relatively muted increases in trading activity on the announcement day. Similarly, this suggests that regulatory involvement in restatements

may enhance the credibility and reliability of the corrected information, reducing perceived information asymmetry.

Overall, the graph suggests that restatement announcements across all four categories result in heightened information asymmetry around the restatement announcement date, with ERROR and

CHANGE-AP reflecting the largest increase in information asymmetry.

Bid-ask spread findings

The results of the bid-ask spread analysis performed in respect of each restatement category are presented in Table 2 below.

Table 2: ANBAS results

Day	NEW-AS		CHANGE-AP		ERROR		JSE-FRIP	
	ANBAS	P-value	ANBAS	P-value	ANBAS	P-value	ANBAS	P-value
-10	20.2%	0.226	-7.8%	0.595	20.5%	*0.064	4.2%	0.838
-9	7.6%	0.567	16.5%	0.358	21.3%	*0.059	1.2%	0.964
-8	13.1%	0.436	14.2%	0.505	18.0%	*0.064	-23.1%	0.350
-7	-1.4%	0.935	26.9%	0.245	6.9%	0.452	-4.9%	0.795
-6	19.3%	0.252	14.8%	0.460	12.3%	0.259	-17.7%	0.331
-5	4.5%	0.779	6.9%	0.722	19.2%	*0.069	-22.3%	0.249
-4	8.4%	0.624	51.3%	**0.041	12.3%	0.259	33.2%	0.324
-3	31.9%	**0.029	8.7%	0.588	22.3%	**0.023	41.3%	0.141
-2	12.1%	0.416	27.4%	0.1190	8.8%	0.337	-15.9%	0.388
-1	34.1%	0.112	26.6%	0.217	11.6%	0.211	53.5%	0.195
0	111.7%	***<0.001	122.0%	***<0.001	118.3%	***<0.001	119.5%	***0.004
1	75.6%	***<0.001	43.9%	**0.032	65.0%	***<0.001	24.3%	0.405
2	25.0%	*0.098	13.5%	0.543	24.2%	**0.026	81.8%	**0.012
3	15.5%	0.370	16.8%	0.325	29.5%	***0.005	-5.1%	0.797
4	-10.0%	0.528	18.2%	0.415	14.1%	0.182	12.0%	0.557
5	-15.4%	0.174	-6.5%	0.745	21.1%	*0.071	26.2%	0.398
6	8.4%	0.572	-12.3%	0.440	5.9%	0.560	43.3%	0.345
7	-5.5%	0.709	11.1%	0.581	-0.7%	0.939	26.9%	0.295
8	10.8%	0.509	-22.7%	*0.077	10.7%	0.288	-18.8%	0.371
9	-10.2%	0.470	-6.9%	0.709	19.7%	**0.037	35.4%	0.233
10	-9.7%	0.482	-17.2%	0.265	-0.9%	0.910	20.0%	0.438

***Significant at <1%; **Significance at <5%; *Significance at <10%

Source: Author's own

Similar to the AVOL results, the data on ANBAS surrounding financial restatement announcements reveal notable increases on the announcement day (Day 0) across all four categories. These sharp increases in bid-ask spreads on Day 0, CHANGE-AP (122.0%), JSE-FRIP (119.5%), ERROR (118.3%), and NEW-AS (111.7%), reflect heightened information asymmetry as market participants react to the newly disclosed information and reassess their positions. However, the persistence and magnitude of post-announcement spreads vary,

reflecting differences in how quickly the market absorbs and processes the new information.

For ERROR, the elevated bid-ask spread remains significant on Days 1 (65.0%, $p < 0.001$), Day 2 (24.2%, $p = 0.0262$) and Day 3 (29.5%, $p = 0.005$), suggesting prolonged uncertainty as the market digests the implications of the error corrections. This finding aligns with Koo & Kim (2014) and Nguyen & Puri (2014) found that error- restatements exacerbate information

asymmetry, resulting in widened bid-ask spreads and decreased market liquidity as investors reassess the reliability of financial disclosures. Similarly, Ye & Yu (2018) reported that trading volume and bid-ask spreads remain significantly elevated after restatement announcements, reinforcing the notion that error corrections lead to prolonged market uncertainty and adverse selection risks.

Similarly, CHANGE-AP shows significant spreads on Day 1 (122.0%, $p < 0.001$), though it normalises more quickly, suggesting that the market adjusts relatively efficiently to changes in accounting policies. In contrast, NEW-AS shows a sharp spike on Day 0 (111.7%, $p < 0.001$) and one-day shorter post-announcement increases, likely due to the predictability of these restatements stemming from pre-announced implementation schedules issued for new accounting standards. JSE-FRIP demonstrates a sharp spike on Day 0 (119.5%, $p = 0.0043$) and a significant increase on Day 2, suggesting that while regulatory involvement may enhance the credibility of the restatement and reduce pre-announcement asymmetry, some uncertainty persists as the market evaluates the implications.

The results indicate that restatements in the ERROR and CHANGE-AP categories are associated with the highest levels of sustained information asymmetry. While NEW-AS and JSE-FRIP experience more transient effects, the NABAS of the JSE-FRIP category also appears more volatile than other categories. These results are presented graphically below in Figure 4.

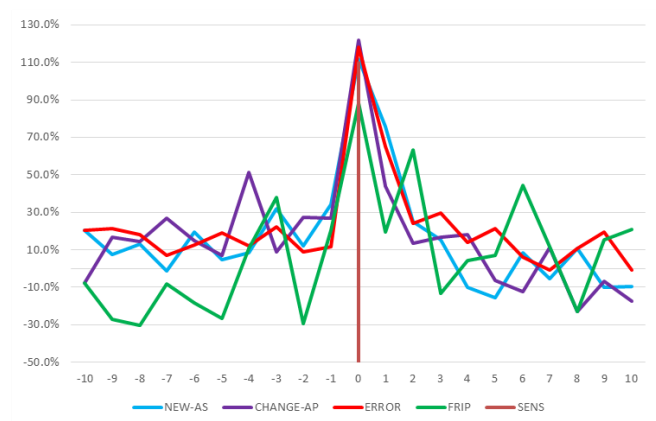


Figure 4: Net-Bid ask spread (Day -10 to +10)

Source: Author's own

Figure 4 shows a notable increase in the ANBAS on the restatement announcement day (Day 0) across all four categories, suggesting heightened information

asymmetry as market participants react to the newly disclosed information and reassess their positions. However, the persistence and magnitude of post-announcement spreads vary, reflecting differences in how quickly the market absorbs and processes the new information. The ERROR category indicates prolonged uncertainty as the market digests the implications of the error corrections. In contrast, NEW-AS shows a sharp spike on Day 0 but exhibits only limited and short-lived post-announcement increases. JSE-FRIP demonstrates a sharp spike on Day 0 and a significant increase on Day 2, suggesting that while regulatory involvement may enhance the credibility of the restatement and reduce pre-announcement asymmetry, some uncertainty persists as the market evaluates the implications. The results reveal that ERROR and CHANGE-AP restatements are associated with the most significant and enduring levels of information asymmetry. In contrast, NEW-AS and JSE-FRIP restatements tend to have more short-lived impacts, with the JSE-FRIP indicating several smaller peaks over the 21-day period.

CONCLUSION AND LIMITATIONS

Conclusion

The study's examination of bid-ask spreads and trading volumes across the four distinct categories of restatements, with respect to JSE-listed companies, suggests a significant increase in information asymmetry around such restatement announcement dates as well as a clear differentiation in the market response to each of the restatement categories. This differentiation suggests that specific categories of restatements may induce greater information asymmetry, prompting investors to re-evaluate the company's financial health and future prospects differently.

The increased levels of information asymmetry suggest heightened uncertainty about the company's financial status, potentially leading to increased trading costs due to wider bid-ask spreads and increased risk of adverse selection for investors. Companies may face reputational damage, increased scrutiny, and higher compliance costs, which can elevate their cost of capital. Given the strong market reactions, evidenced by significant spikes in trading volume, wider bid-ask spreads, and prolonged uncertainty (Ye & Yu, 2018), regulators should assess whether current disclosure requirements sufficiently address information

asymmetry following restatements by JSE-listed companies.

These findings highlight the impact of restatement announcements on information asymmetry, the importance of regulatory oversight by the JSE, and accurate and transparent financial reporting to market integrity and investor confidence.

Limitations and recommendations for future research

The study, while extensive, is limited to JSE-listed companies, which restricts generalisability to other capital markets, particularly those outside of emerging economies where regulatory, market dynamics and investor behaviour may differ. Bid-ask spreads and trade volumes, though recognised measures of information asymmetry, may not fully capture investor sentiment and decision-making complexity. Additionally, subjective interpretation in categorising restatements could affect accuracy. Future research could potentially include other emerging markets and use additional measures of information asymmetry, such as analyst forecast dispersion and share price volatility, to ensure robustness and enhance comparability.

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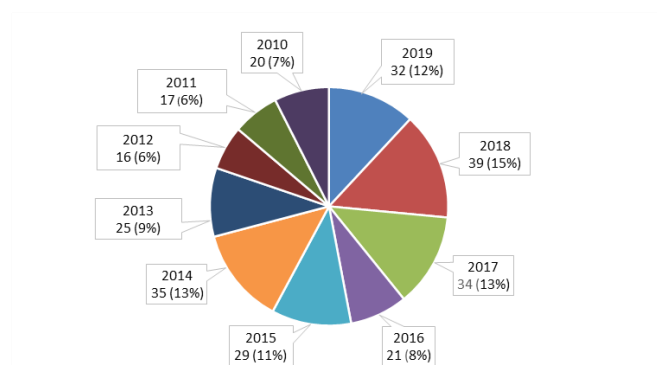
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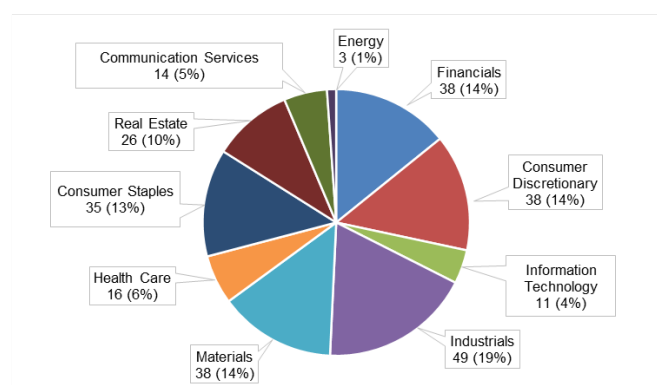
APPENDIX A – RETROSPECTIVE RESTATEMENT ANNOUNCEMENTS PER ANNUM



Source: Author's own

Appendix A pie chart illustrates the annual distribution of retrospective restatements from 2010 to 2019. The sample is relatively evenly spread across the decade, with the highest number of restatements occurring in 2018 (39 restatements, 15%) and the lowest in 2010 (20 restatements, 7%). The distribution remains fairly consistent across years, with each year contributing between 6% and 15% of the total sample. This relatively even spread reduces the likelihood of time-specific biases, ensuring that the analysis captures long-term trends rather than being influenced by isolated market events.

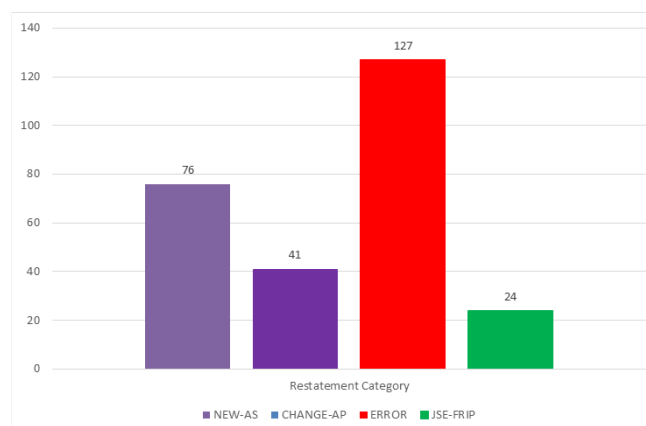
APPENDIX B – INDUSTRY CLASSIFICATION OF THE SAMPLE



Source: Author's own

Appendix B presents the industry classification of the sample, highlighting the distribution of JSE-listed companies that announced retrospective restatements. The sample includes companies from a diverse range of industries, ensuring broad representation across the stock exchange. Nearly all major sectors are covered, with an almost even spread across 10 of the 11 industries on the JSE.

APPENDIX C – FREQUENCY OF RESTATEMENTS BY CATEGORY



Source: Author's own

Appendix C presents the frequency and proportional distribution of the 268 retrospective restatement announcements analysed in this study. Restatements due to the correction of errors in previously published financial statements comprise the largest category, with 127 restatements (47.4%) classified under the ERROR category. The NEW-AS category, which includes retrospective restatements arising from the adoption of new accounting standards, accounts for 76 restatements (28.4%) of the sample. This is followed by the CHANGE-AP category, comprising 41 restatements (15.3%) related to changes in accounting policy. The JSE-FRIP category, prompted by regulatory enforcement actions through the Financial Reporting Investigation Panel, includes 24 restatements (9.0%).

A comparative analysis of capital allowances for foundations and structures of permanent nature for plant and machinery for small business corporations

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Purpose: Section 12E of the Income Tax Act No. 58 of 1962 (the Income Tax Act), which provides for deductions of small business corporations (SBCs), does not have a provision that deems foundations or supporting structures to be part of the asset under section 12E(1). This therefore creates uncertainty as to whether SBCs can claim a deduction in respect of foundations or supporting structures on which the asset is mounted. The purpose of the study was therefore to provide a comparative analysis of the various capital allowance sections that deal with plant or machinery and to highlight the anomaly in section 12E and the implications thereof.

Design/Methodology/Approach: An interpretative paradigm and a qualitative mode of enquiry were used. The doctrinal research method was selected for this study.

Findings: Various sections of the Income Tax Act, such as sections 11(e), 12B, 12BA and 12C, provide for a deduction in respect of the foundations or supporting structures by deeming foundations or supporting structures to be part of the machinery or plant, provided certain requirements are met. However, section 12E(1), which deals with manufacturing plant or machinery of SBCs, does not have the same provision; by implication, SBCs cannot claim a deduction on foundations or supporting structures that are attached to the plant or machinery. Consequently, section 12E is inconsistent with other capital allowance provisions, leading to ambiguity and inequity for SBCs.

Originality/Contribution: The study recommends that section 12E be amended to include a provision that deems foundations or supporting structures to be part of plant or machinery.

Keywords: Deductions; foundations; income tax; machinery; plant; section 12E; small business corporations; supporting structures

INTRODUCTION

Small businesses are instrumental in the growth of the South African economy as they are a source of job creation and a counter to poverty (National Treasury, 2008:55). Section 12E of the Income Tax Act No. 58 of 1962 (the Income Tax Act) provides for accelerated capital allowances and reduced tax rates for entities that are classified as “small business corporations” (SBCs), as defined in section 12E(4)(a) of the Income Tax Act (Republic of South Africa, 1962).

Section 12E of Income Tax Act provides for accelerated allowances on two categories of assets of SBCs, namely (1) those assets that are used by the SBC for manufacturing in terms of section 12E(1); and (2) other assets not used for manufacturing (in terms of section 12E(1A)) (SARS, 2018). Manufacturing assets qualify for accelerated allowances of 100% of cost in the year that these assets are first brought into use by the SBC, while non-manufacturing assets are deductible either in

terms of section 11(e) write-off periods or over three years at 50% in the first year the asset is brought into use, 30% in the next year and 20% in the final year, as elected by the SBC.

Section 12E makes no reference to foundations or supporting structures on which the asset is mounted or affixed. This therefore creates uncertainty as to whether SBCs can claim a deduction in respect of these foundations or supporting structures in terms of section 12E.

According to Adam Smith, an economist, in the early 1700s, the characteristics and elements of an efficient tax collection system are known as the canons of taxation (see Soyode, & Oyedokun, 2019; Ueno & Sato, 2023). The principles of equality and fairness stipulate that the tax burden must be distributed consistently and fairly based on the taxpayer’s ability to pay. Therefore, taxes are imposed according to the ability to pay (Kendrick, 1939). Another principle of taxation

described by Smith is certainty, which means that the amount of tax and timing of tax must be certain for taxpayers. In relation to the research problem at hand, section 12E was introduced to stimulate economic growth and promote small businesses in South Africa, and therefore section 12E provides for accelerated capital allowances and reduced tax rates for entities classified as “small business corporations”. As such, in the interest of fairness, SBCs should also be allowed to claim a deduction or allowance on the plant or machinery foundations or supporting structures, as other taxpayers claiming allowances on plant and machinery are entitled to the inclusion of these costs. Moreover, there must be certainty and clarity for the taxpayers as to whether the foundations or supporting structures for plant or machinery are deductible under section 12E. Under the current reading of section 12E(1), SBCs are not specifically entitled to any deduction in relation to foundations or supporting structures that are attached to plant or machinery due to the omission of any reference to foundations or supporting structures. Further, tax textbooks such as those by Haupt and Haupt (2024) and Stiglingh, Koekemoer, Van Heerden, Wilcocks and Van der Zwan (2024) do not specifically address the issue of foundations or supporting structures in respect of SBCs. It is unclear whether this is a legislative drafting oversight or a deliberate policy intention of the National Treasury, which is currently creating uncertainty for taxpayers.

This research problem was raised by the authors of this paper with the South African Institute of Chartered Accountants (SAICA) National Tax Committee, which agreed with the uncertainty and therefore included it as submission point on their “Submission - Annexure C 2025 budget review” (SAICA, 2024:27). The document encompasses SAICA’s Annexure C 2025 issues, which comprise a spectrum of representations, from significant concerns regarding the implications of specific provisions to straightforward clarifications or recommendations for potentially ambiguous provisions, pertaining to either existing sections or the most recent proposed amendments to various sections of the tax Acts.

The next section discusses the research methodology employed in this study.

RESEARCH METHODOLOGY

The interpretive paradigm was deemed suitable for

this study, as it necessitated the analysis of legislation, case law and additional writings, in conjunction with a qualitative research methodology (see Plano Clark & Creswell, 2008), which is effective for understanding and explaining data (Babbie & Mouton, 2009), including the documentary data employed in taxation research.

Doctrinal research is a frequently utilised methodology in the domain of taxation (Frecknall-Hughes, 2016; Young, 2021). The doctrinal research method has been applied in taxation studies requiring interpretation (see Hassan & Van Heerden, 2020, 2023; Hassan & Wessels, 2022). Doctrinal research requires the examination of secondary sources and commentary to ascertain “what is known and what is not known” regarding the research issue, thereby necessitating a literature review (Hutchinson & Duncan, 2012:113). This study utilised a doctrinal research methodology (see McKerchar, 2008), which systematically elucidates the regulations governing a specific legal category, specifically the legal provisions of section 12E of the Income Tax Act, together with the practice notes issued by the South African Revenue Service (SARS), scholarly textbooks, articles, and expert analyses in the domain. The study established validity and reliability by presenting a robust argumentation basis for its conclusions.

This study utilised various data sources for the literature review. Information and documents were gathered through online searches utilising search engines such as Google Scholar. The websites of professional accountancy and legal firms and government entities, including SARS and the National Treasury, were also examined. The search phrases employed encompassed, but were not restricted to, “foundations”, “plant or machinery”, “section 12E”, “small business corporation” and “supporting structures”.

A comparative analysis of section 12E with sections 11(e), 12B, 12BA and 12C was performed. These sections were selected because they all relate to the deduction of capital allowances in respect of plant or machinery. The analysis aimed to identify any similarities and differences in terms of how these sections specifically deal with the foundations or supporting structures of a permanent nature in respect of plant or machinery. The next section presents the literature review and an analysis of the legal framework.

LITERATURE REVIEW

In this section, various sections of the Income Tax Act that provide for capital allowances on plant or machinery are compared to highlight similarities and differences. The study only focused on sections 11(e), 12B, 12BA, 12C and 12E of the Income Tax Act.

Wear and tear allowances in terms of section 11(e) of the Income Tax Act

Section 11(e) of the Income Tax Act provides for a deduction of depreciation or wear and tear that represents “an amount by which the value of any machinery, plant, implements, utensils and articles” of the taxpayer has diminished. Specifically excluded from the scope of section 11(e) are assets that qualify for deduction under other sections of the Income Tax Act, such as section 12E(1). This therefore implies that manufacturing plant or machinery of SBCs will not qualify for a deduction under section 11(e). A further exclusion, in terms of proviso (ii), applies to “depreciation of buildings or other structures or works of permanent nature”. However, proviso (iiA) of section 11(e) deems foundations or supporting structures not to be structures or works of permanent nature if the following requirements are met: (1) the asset that qualifies for wear and tear allowance under section 11(e) is mounted on a foundation or supporting structure; (2) such foundation or supporting structure is designed for such asset and is integrated with the asset; and (3) the useful life of the foundation or supporting structure is limited to the useful life of the asset. In this case, the implication is that the foundation or supporting structure will be deemed part of the asset and will therefore qualify for wear and tear deduction under section 11(e), despite proviso (ii).

Plant or machinery used in farming or for production of renewable energy under section 12B of the Income Tax Act

Section 12B of the Income Tax Act provides for a deduction in respect of machinery, implements, utensils, articles and plant (collectively referred to as “assets”) that are used either for (1) farming operations of the taxpayer; (2) production of bio-diesel or bio-ethanol by the taxpayer; or (3) generation of electricity by the taxpayer, including improvements in respect of these assets. Unlike section 11(e), section 12B does not explicitly prohibit the deduction of buildings or other structures or works of permanent nature. Despite the lack of this prohibition, the proviso

to section 12B(1) provides for a deduction of foundations or supporting structures brought into use on or after 1 January 2013 in respect of assets used to manufacture electricity if certain requirements are met. The requirements for qualifying foundations or supporting structures are similar to those stated in proviso (iiA) of section 11(e), namely (1) they are designed for and integrated with the assets; and (2) their useful life is limited to the useful life of an asset (SARS, n.d.(a)). The implications of this proviso are that such foundations or supporting structures are deemed to form part of the asset and, consequently, the taxpayer who produces electricity is able to claim an income tax deduction on the cost of these foundations or supporting structures. It is not clear why the proviso is only applicable to assets used to produce electricity and does not apply to assets used in farming operations and the production of diesel or bio-ethanol. However, according to SARS (n.d. (a)), assets that are used for generating electricity normally must be mounted on foundations or supporting structures for stability. This comment by SARS therefore implies that the cost of these structures would be included in the cost of the asset and therefore qualify for the deduction. This was identified as a future area of research by this study.

Enhanced deduction for assets used to produce renewable energy under section 12BA of the Income Tax Act

Section 12BA of the Income Tax Act is the most recent of the sections that are included in the comparative analysis in this paper. This section came into effect on 1 March 2023 and provides for an enhanced deduction of 125% of the cost of new and unused assets that are used to produce electricity, if such assets were brought into use by taxpayers in their trade for the first time from 1 March 2023 to 28 February 2025. The section aims to provide an incentive for South Africans to invest in alternative renewable energy amid the loadshedding in South Africa as a result of an inadequate supply of energy (National Treasury, 2023; Singh & Canca, 2023). According to the National Treasury (2023), the incentive under section 12BA will not be available to taxpayers who have already benefited from deductions under sections 12B or 12E of the Income Tax Act.

Section 12BA does not have a provision similar to section 11(e) that specifically excludes buildings or other structures or works of permanent nature from its

scope. However, it includes a proviso to section 12BA(1) that deems foundations or supporting structures of permanent nature to be part of the qualifying assets if (1) they were designed for the asset and integrated into the asset; and (2) their useful life is limited to that of an asset. The National Treasury (2023) also confirms that the enhanced deduction extends to supporting structures on which the qualifying asset is mounted.

Plant or machinery under section 12C of the Income Tax Act

Section 12C of the Income Tax Act provides an income tax deduction in respect of machinery or plant used for manufacture by the taxpayer or the lessee of that taxpayer. Also included in the scope of section 12C are certain assets of agricultural cooperatives, certain assets of hotel-keepers, aircrafts, ships and assets used for research and development. Excluded from the scope of section 12C are, among others, assets for which the deduction falls under section 12E of the Income Tax Act. Section 12C, similar to section 12B and unlike section 11(e), does not explicitly prohibit the deduction of buildings or other structures or works of a permanent nature. However, section 12C includes a deeming provision similar to sections 11(e), 12B and 12BA in respect of foundations or supporting structures. In terms of the proviso to section 12C(1), the foundations or supporting structures shall be deemed to be part of the asset if they are (1) designed for and integrated with the qualifying asset; and (2) their useful life is limited to the useful life of that asset. The implication of this proviso is that the cost of foundations or supporting structures of plant or machinery will also qualify for the deduction under section 12C.

The proviso to section 12C was only legislated to be effective for years of assessment ending on or after 1 January 2012 through section 33 of the Tax Laws Amendment Act No. 24 of 2011 (Republic of South Africa, 2011). Prior to this, section 12C of the Income Tax Act did not specifically allow for the deduction of foundations or supporting structures on which the asset was mounted. However, it was a practice of SARS to allow a deduction for foundations or supporting structures for qualifying assets under section 12C in terms of Practice Note 16 of 1993 (SARS, 1993). According to SARS (1993), the basis for allowing the foundations or supporting structures was that, in contrast to section 11(e), there was no provision within

section 12C that specifically prohibited the deduction of structures or works of permanent nature. In addition, the inclusion of “plant” within the scope of section 12C implied that foundations or supporting structures were included within the scope of section 12C, as foundations constitute plant (SARS, 1993). Practice Note 16 of 1993 was subsequently withdrawn by SARS, as it was obsolete following the enactment of the proviso to section 12C (SARS, n.d.(b)). The literature review did not reveal any similar SARS practice in relation to section 12E of the Income Tax Act.

According to the Explanatory Memorandum on Clause 33(1)(d) of the Taxation Laws Amendment Act No. 24 of 2011, the inclusion of the proviso to section 12C(1) was necessitated by SARS’s project to withdraw all practice notes and the fact that the similar provision was already codified under section 11(e) of Income Tax Act (National Treasury, 2011).

Assets of a small business corporation under section 12E of the Income Tax Act

Section 12E was inserted into the Income Tax Act by section 12 of the Revenue Laws Amendment Act No. 19 of 2001 (Republic of South Africa, 2001). According to the Explanatory Memorandum Clause 12 of the Revenue Laws Amendment Act:

As announced by the Minister of Finance in his Budget Speech this year, **the full cost of any investment made by a small business corporation in manufacturing assets will be allowed as a deduction in the year of assessment during which those assets are brought into use by the small business corporation for the first time.** Section 12E of the Income Tax Act, 1962, gives effect to this proposal and applies to plant and machinery brought into use for the first time on or after 1 April 2001, and which is used in a process of manufacture. [emphasis added]

Section 12E applies to “small business corporations”, and in order for entities to qualify as “small business corporations”, they must meet the following criteria throughout the year of assessment in terms of section 12E(4)(a) of the Income Tax Act (see also SARS, 2018):

- The entity must be a close corporation, cooperative, private company or personal liability company that “is not a personal service provider as

defined in the Fourth Schedule” to the Income Tax Act.

- All shareholders or members must be natural persons.
- The gross income for the year of assessment must not exceed R20 million (which is apportioned accordingly if the entity carried on a trade for part of the year in that year of assessment).
- The shareholders or members of the entity must not hold shares in any other entities (other than permitted shareholding in terms of section 12E(4)(a)(ii)(aa) to (hh), which include, among other things, listed shares, a portfolio in a collective investment scheme and dormant entities whose assets’ market values have not exceeded R5 000 during the year of assessment).
- The income from investments and personal services must not exceed 20% of the total receipts and accruals (revenue in nature) as well as capital gains for the year of assessment.

In terms of section 12E(1) of the Income Tax Act:

Where any plant or machinery (hereinafter referred to as an asset) owned by a taxpayer which qualifies as a small business corporation or acquired by such a taxpayer as purchaser in terms of an agreement contemplated in paragraph (a) of the definition of “instalment credit agreement” in section 1 of the Value-Added Tax Act—

(a) is brought into use for the first time by that taxpayer on or after 1 April 2001 for the purpose of that taxpayer’s trade (other than mining or farming); and

(b) is used by that taxpayer directly in a process of manufacture (or any other process which is of a similar nature) carried on by that taxpayer,

a deduction equal to the cost of such asset shall be allowed in the year that such asset is so brought into use.

According to the Explanatory Memorandum Clause 12 of the Revenue Laws Amendment Act, section 12E(1) stipulates that if the plant or machinery of an SBC is utilised for the first time on or after 1 April 2001 for the taxpayer’s trade (excluding mining or farming) and is employed directly in a manufacturing process or a similar operation, the total cost of the asset shall be

permitted as a deduction in the year of its initial use. Section 12E(1) grants a 100% deduction of the asset’s cost in the year it is first utilised, applicable to both new and used manufacturing plant and machinery.

Section 12E(1), on the one hand, unlike section 11(e) and similar to sections 12B, 12BA and 12C, does not specifically prohibit the deduction of buildings or other structures or works of a permanent nature. However, unlike sections 11(e), 12B, 12BA and 12C, section 12E(1) does not have a deeming provision in respect of foundations or supporting structures on which the asset is mounted. It can therefore be construed that an SBC *cannot* claim a deduction under section 12E(1) for costs in relation to foundations or supporting structures. The literature review did not reveal any taxpayers that challenged this deduction in court. The Explanatory Memorandum Clause 12 of the Revenue Laws Amendment Act No. 19 of 2001 also makes no mention of foundations or supporting structures (Republic of South Africa, 2011).

Section 12E(1A), on the other hand, deals with the assets “in respect of which a **deduction is allowable under section 11(e)** [...] by a small business corporation” [emphasis added]. It can therefore be interpreted, based on the emphasised phrase as quoted above, that the costs of foundations or supporting structures will qualify as a deduction under section 12E(1A), only to assets in the (1A) category, as the value of foundations or supporting structures is deductible under proviso (iiA) to section 11(e) of the Income Tax Act if certain requirements, as described above, are met.

Meaning of machinery or plant

The words “plant” and “machinery” seem to be common in all the sections that have been referred to. These words are not defined in the Income Tax Act. However, it has been accepted by our courts (e.g. *Blue Circle Cement Ltd v CIR*) that plant has an element of durability. According to SARS (n.d.(a)), a “durability test” means that the asset must “have a degree of permanence and have a relatively long useful life”. It was accepted by SARS (1993) that “plant” encompasses structures of a permanent nature; hence SARS allowed a deduction for permanent structures even before section 12C was amended to include a proviso that deemed such foundations or supporting structures to form part of the asset.

FINDINGS

The findings of the comparative analysis of various capital allowance sections that deal with plant or machinery are presented in Table 1.

Table 1: Summary of the comparative analysis of capital allowance sections

Section of the Income Tax Act	Asset type	Specific scope exclusion (relevant for the purposes of this study)	Provision to deem foundations or supporting structures to be part of asset
11(e)	Machinery, plant, implements, utensils and articles used for trade	Assets that qualify for deductions under sections 12B, 12C and 12E(1) Buildings or other structures or works of permanent nature	Yes
12B	Machinery, implements or articles for farming operations (12B(1)(f))	Assets qualifying for deduction under section 12E	No
	Machinery, plant, implements, utensils or articles used for the production of bio-diesel or bio-ethanol (12B(1)(g))		No
	Machinery, plant, implements, utensils or articles used for the generation of electricity (12B(1)(h))		Yes
12BA	Machinery, plant, implements, utensils or articles used by the taxpayer or lessee for the generation of electricity (brought into use on or after 1 March 2023, but before 1 March 2025)	Assets brought into use after 28 February 2025	Yes
12C	Machinery or plant used by the taxpayer for manufacturing (12C(1)(a))	Assets that qualify for allowances under section 12E	Yes
	Machinery or plant used by the lessee of the taxpayer for trade (12C(1)(b))		Yes
	Machinery or plant used for certain activities of an agricultural cooperative (12C(1)(c))		Yes
	Machinery, implements, utensils or articles used for trade as hotel keeper (12C(1)(d))		Yes
	Machinery, implements, utensils or articles used for trade by a lessee of the taxpayer as hotel keeper (12C(1)(e))		Yes
	Aircraft (12C(1)(f))		Yes
	Ships used for trade (12C(1)(g))		Yes
	Machinery or plant used for trade for research and development (12C(1)(h))		Yes
12E	Plant or machinery used for manufacturing on or after 1 April 2001 (12E(1))		No
	Machinery, plant, implements, utensils, articles, aircraft or ships that qualify for deduction under section 11(e) (12E(1A))		Implied (although not specifically stated)

Source: Author's own

No specific mention is made in section 12E of the analogous provisions present in sections 11(e), 12B, 12BA and 12C of the Income Tax Act, which permit a deduction or allowance for foundations or supporting structures. In the absence of a comparable provision in section 12E, it could be construed that SBCs cannot

claim deductions for foundations or supporting structures of plant or machinery used for manufacturing purposes. This is based on the provision stating that section 12C is inapplicable when section 12E applies, hence preventing SBCs from claiming deductions for plant or machinery foundations or

supporting structures under section 12C. The deeming provision in section 12C further requires that, in order for foundations or supporting structures to qualify for a deduction under section 12C, the underlying asset must have qualified for allowances under section 12C. This is predicated on the fact that the scope requirements of section 12E(1), unlike those of section 12E(1A), are not subject to taxpayer election and consequently apply immediately upon fulfilment of the scope criteria; hence, section 12C cannot be applicable either.

SBCs may therefore be precluded from claiming a deduction for foundations or supporting structures to which plant or machinery is affixed, despite being eligible for a 100% deduction or allowance on the cost of the plant or machinery. This directly contradicts the policy objective of section 12E, which is to stimulate economic growth and promote small enterprises in South Africa. According to SARS (1993), “generally, if the machinery affixed to the foundation is eligible for the deduction, the foundation itself will also qualify”. This interpretation was included in section 12C via the legislative amendment of section 12C by clause 33(1)(d) of the Taxation Laws Amendment Act No. 24 of 2011.

CONCLUSION

Section 12E of the Income Tax Act was inserted into the Act to stimulate and incentivise SBCs by granting accelerated tax allowances and offering reduced tax rates. Section 12E(1) grants a 100% deduction of the costs of plant or machinery in the year it is brought into use. No deduction is, however, expressly provided for in relation to the foundations or supporting structures that are affixed to the plant or machinery. It is not clear whether this is a legislative drafting oversight or whether this is the policy intent. This led to the research problem of this current study.

This was a qualitative study that made use of a comparative analysis together with doctrinal research as its methodology. The authors ensured validity through the sound basis of arguments that were advanced in support of the conclusions. Ethical clearance was obtained from the University of Johannesburg’s Research and Ethics Committee (SAREC20241121/08). The study only considered a comparative analysis with other sections in the Income Tax Act that grant deductions for plant or machinery. No international comparisons were undertaken.

The authors recommend that section 12E be amended by the National Treasury to include a provision that deems foundations or supporting structures to be part of the assets that are within the scope of section 12E, provided (1) they are designed and integrated into the section 12E assets; and (2) their useful life is limited to those of the section 12E assets. This will ensure congruence among the capital allowance sections of the Income Tax Act that pertain to plant or machinery. In addition, the proposed amendment will further ensure that fairness applies to SBCs and certainty regarding the deductibility of foundations or supporting structures by SBCs. The authors have formally submitted the proposal for the amendments to section 12E to the National Treasury through SAICA, which reconfirms the relevance of this study.

The rationale for the applicability of the provision to section 12B only to assets utilised for power generation, excluding those employed in agricultural operations and the production of diesel or bio-ethanol, remains ambiguous. According to SARS, assets utilised for power generation often require installation on foundations or supporting structures for stability. This study identified this as a prospective area for future research.

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Free education for some: An examination as to whether amendments to sections 10(1)(q) & 10(1)(qa) are enough to remove inherent inequalities relating to the taxation of bursaries

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Note: All further references to s10(1)(q) can also refer to s10(1)(qa)

Purpose: Following amendments to section 10(1)(q) in January 2021, uncertainty persists regarding the eligibility of scholarship and bursary schemes for tax exemption in subsequent assessment years. This paper aims to critically analyse the requirements outlined in the relevant legislative provision and, in turn, suggests the removal of the section in its entirety owing to the broader economic and social externalities resulting from the legislative modifications and the resulting application of the legislation.

Furthermore, the study will explore the challenges inherent in applying the revised legislative criteria, particularly in relation to the classification and treatment of both publicly accessible and restricted bursary and scholarship schemes. The analysis will also consider the balance between ensuring equitable tax treatment for taxpayers, including a brief international comparison of treatments in other countries.

Approach: This research is to be done using doctrinal research methodologies to investigate the proposed research questions.

Findings: The overarching themes identified in the findings encompass the uncertainty surrounding the practical application of the revised legislative requirements, as well as potential challenges to the principle of taxation structuring. Additionally, concerns are noted regarding the equitable treatment of taxpayers who derive income through informal methods, highlighting broader implications for equity amongst taxpayers.

Originality/Contribution: This research seeks to examine a subject that diverges from established principles of fairness and equity within taxation systems, allowing for further refinement towards improving the South African tax base. By addressing this deficiency, the research aims to contribute valuable insights for taxpayers in optimising taxation structuring while also informing taxation legislators regarding potential future amendments to enhance policy effectiveness and equity, while addressing the need to balance retaining the tax base while still advancing access to education.

Keywords: *bursaries; education; exemptions; salary sacrifice; scholarships; taxation*

INTRODUCTION AND APPROACH

This research will follow a doctrinal research methodology in which existing legislation will be analysed along with the recent changes which have affected such legislation. The research aims to understand the changes and currently enacted position of section 10(1)(q) and to argue for its potential removal, considering the reasoning behind its initial introduction, recent changes and its overall position within the South African taxation landscape. This research will make use of published legislation, academic and commercial research on the topic, as well as limited international comparisons to present arguments for the removal of the applicable section. Included in this research will be an analysis of the effects of both closed and open bursary schemes, the

ability of a taxpayer to structure their taxation efficiently, and the externalities that arise from the application of the legislation in its current form. The research does not aim to provide further details on other possible options available to legislators beyond the removal of the applicable section, and this would be an area for potential future research.

THE CHANGE IN LEGISLATION: A PROCESS DESCRIPTION & AND LITERATURE REVIEW

In February 2020, the Minister of Finance, Mr. Tito Mboweni, addressed the income tax treatment of scholarships and bursaries provided by employers for the relatives of employees in his budget speech (Rudnicki, Bouwer, Garven, & Makola, 2020). The Minister's position suggested that such employer-

funded scholarships and bursaries would no longer qualify for income tax exemptions if they were incorporated into an employee's cost-to-company remuneration structure (Rudnicki, Bouwer, Garven, & Makola, 2020). A benefit included in the cost-to-company framework is commonly referred to as a 'salary sacrifice', meaning that some form of current earnings is given up, to be replaced by the scholarship or bursary (Brincker, 2014).

In introducing the proposed amendments, the Minister expressed the government's objective to "close this loophole" (NCOP Finance, 2020). However, the speech provided minimal further clarification beyond this stated intention. By 1 March 2020, no formal legislative amendments—whether in draft or final form—had been published, leaving a degree of uncertainty regarding the precise scope and implementation of the proposed changes (Rudnicki, Bouwer, Garven, & Makola, 2020). This created a sense of uncertainty around the future applicability of tax exemptions for scholarships and bursaries (Phakathi, 2020). Furthermore, by introducing the existence of the legislation in its current form as a "loophole", the Minister illustrated the nature of the legislation as a tax leakage rather than an intended structural desire to promote further education (Henn, 2020).

Contained in the 2020 Draft Taxation Laws Amendment Bill were proposed changes to section 10(1)(q), which included, for the first time, a reference to the fact that an exemption will be denied if the bursary to the employee's relative is subject to an element of salary sacrifice (van Wyk, 2021).

Following a period of consultation and public commentary, the final version of the amendments was contained in the Taxation Laws Amendment Act of 2020, which was signed by the President on 20 January 2021 (Parker, Botha, & Maben, 2021). The bill did not amend any aspect relating to situations when employees receive bursaries for themselves, only for relatives. As such, the takeaway was that a scholarship or bursary will not be exempted for tax purposes if given as a form of salary sacrifice (Nwanda INC., 2020).

In subsequent years, there appears to have been little further communication from relevant stakeholders in this matter, with minimal academic or commercial advances related to the application of the salary sacrifice element of the requirements. Many advisory practices still offer the deduction without mentioning

the changed requirements (MMS Cloud Accounting, 2025). There has not been any major pushback on the changes, indicating that the enforcement of the investigation into the extent of salary sacrifice being present may have been a task which has not been undertaken to the extent expected.

THE REASONING FOR THE AMENDMENT TO SECTION 10(1)(Q)

First introduced in 1992, section 10(1)(q), exempted any bursary or scholarship granted to an employee except where the employee's salary package was subject to an element of salary sacrifice (Parker, Botha, & Maben, 2021). This was acknowledged by Ms Yanga Mputa, the Chief Director of the Tax Policy Unit, National Treasury, as explained in a sitting of the National Council of Provinces Finance Committee where she noted that when initially introduced in 1992, the applicability for tax exemption was dependent on the fact that the employee's remuneration was not subject to an element of salary sacrifice (NCOP Finance, 2020).

In 2006, SARS seemed to concede that identifying the difference between bursaries and scholarships, which were subject to an element of salary sacrifice and those that were not, was too onerous (Parker, Botha, & Maben, 2021). It was further announced that skills development was to be prioritised (Orgill, 2007) As a result, the element of salary sacrifice was to be removed from the ambit of section 10(1)(q).

Furthermore, in the 2006 tax amendments, section 23(j) of the Income Tax Act, which made salary sacrifice payments by employers non-deductible for the employers, was deleted (Bell, 2016).

The state of the legislation then remained mostly unchanged until the announcement in 2020 (Derfoldy, 2020).

It was indicated that there had been a perceived increase in instances where bursaries and scholarships were not bona fide educational support mechanisms, but rather structured schemes devised by external parties (Arendse, 2020). These schemes were subsequently marketed to employers as a means of granting tax-exempt bursaries to employees or their relatives without incurring any additional financial burden to the employer. This development raised concerns regarding the integrity and intended purpose

of such tax exemptions within the broader legislative framework (Arendse, 2020). These schemes sought to reclassify ordinary taxable remuneration received by the employee as a tax-exempt bursary granted to the relatives of employees. As a result, an employee can cater for their relative's studies by way of a salary sacrifice. The portion of the salary sacrificed by the employee is paid directly by the employer to the respective educational institute and is treated as a tax-exempt bursary in the employee's or relative's.

Ms Mputa further elaborated by saying that in terms of bursaries, when there is an element of salary sacrifice, the employer is not awarding a bursary because the bursary is paid by the employee and one cannot pass the test of a *bona fide* bursary if it has got an element of a salary sacrifice because it is not a *bona fide* bursary provided by the employer, as the employee is paying the school fees on his/her own (NCOP Finance, 2020). The employee would then be subject to a fringe benefits tax, and the amount would be taxable as such. This indicates a perception that the belief has always been that if a bursary is awarded as a form of salary sacrifice, it is not a *bona fide* bursary and should not have qualified for an exemption. This is further supported by Interpretation Note 66 issued by SARS. This does not, however, appear to have been SARS's practice, with many taxation consultancy firms advertising the exemption as part of their tax structuring offerings, regardless of elements of salary sacrifice being present (Geldenhuys, 2021).

EXAMINING THE BALANCE BETWEEN THE EFFECTS OF CURRENT AND FUTURE LEGISLATIVE POSITIONS

The freedom of tax structuring

The general prevailing construct of the structuring of personal finances has always been that a taxpayer has the right to arrange his tax affairs within the constraints of the law to his best advantage to pay the least amount of tax (Tredoux & Van Zyl, 2018). This stems from the well-established principle in international tax law that a taxpayer has a legal right to reduce what would constitute their taxes, or altogether avoid them, by any means within the ambit of the law (van der Zwan, 2018). Where a transaction was concluded for business efficacy, the associated desire to structure the transaction to reduce a tax liability or to escape it altogether is irrelevant. While not a South African case, in *Duke of Westminster v IRC*, Lord Tomlin

aptly remarked that "Every man is entitled, if he can, to order his affairs so that the tax attaching under the appropriate Acts is less than it otherwise would be (Tredoux & Van Zyl, 2018).

As pointed out above, the difference between a legitimate arrangement to reduce taxes and an impermissible scheme of tax avoidance is a fine line, given that the courts recognise the fact that no taxpayer is obliged to arrange his/her affairs to maximise the tax the government receives. Individuals and businesses are entitled to take all lawful steps to minimise their taxes (Kumarasingam, 2010). Most of these ideas are a summation of the well-established principles laid out in the case of the *Duke of Westminster* (Adams, 2011). However, with time, we have seen the courts slowly shifting from this approach and adopting a relatively harsher approach to tax structuring, with many avoidance arrangements treated with almost the same level of contempt once reserved for tax evasion (Sibisi, 2016).

It has also been established that in any scheme of salary sacrifice, clear and concise documentation is the key to determining its taxation treatment (Snyders & de Kock, 2016) and that a lack of documentation or unclear documentation can result in adverse taxation treatments unintended by the employer or taxpayer (Lockem, 2016).

Under the pre-2022 year of assessment treatment, it would not matter, at least in practice, whether the bursary was part of a structure arranged solely or mainly for tax benefits (Britz & Trump, 2019), provided the bursary is related to *bona fide* schooling or studies. The generally accepted approach was that it would be exempt in these circumstances (Geldenhuys, 2021).

This raises two key issues: firstly, whether *bona fide* scholarships or bursaries can only be awarded through schemes open to the general public, and secondly, if a scholarship or bursary is awarded in a closed scheme, when can it be considered to be of a *bona fide* nature?

Schemes open to the general public

The first issue to examine is the idea of public participation in a bursary or scholarship scheme and its impact on the identification of whether a bursary or scholarship is *bona fide* in nature or not.

If an employee were to participate in a publicly open bursary scheme (even if that of the employing

company of a taxpayer), the link between the employment of a taxpayer and the awarding of the scheme to their relative would be tenuous at best (Mufamadi-Mogaswha, 2023). The bursary would not be awarded due to the employment of any person, as it is not a requirement for application and would also not be a factor in the awarding of such a bursary. As such, it would not be under consideration of falling into the gross income of any person other than the recipient of the bursary themselves. As such, if any person received a bursary from a publicly available program, the point of exemptions relating to a bursary for a relative of that person becomes moot, as its non-inclusion in the gross income of such person would render there no need, as well as no possibility, of the envisioned exemptions applying (Arendse, 2020).

Schemes not open to the general public

In the case of a closed bursary scheme, the link between the employment of a person and the awarding of the bursary to the relative is much closer and likely to fall within the reach of para (c) of the gross income definition. If it is included in the gross income of a taxpayer, the next question is to identify if it is bona fide in nature. The logic and legal hurdle set by the treasury here is to ask whether any remuneration to which the employee was entitled or might in the future have become entitled was in any manner whatsoever reduced or forfeited as a result of the grant of such scholarship or bursary (Arendse, 2020).

If this is explicit, i.e., contained in a formal agreement, the answer is quite simple. The schemes employed whereby employees knowingly exchange earnings of some nature for a bursary for a relative (Lewis & Mbana, 2018), will be schemes which result in the reduction of remuneration and as such will no longer be exempt.

If, however, the employer was to offer a bursary scheme to employers which did not result in the current or future reduction of remuneration, at least not explicitly, then in theory it should still qualify for an exemption. This is provided that all other requirements are met. This idea, though, that a company can offer a closed bursary scheme and it not form part of the ultimate cost of employment of its employees, is a hard one to argue for. If a company can provide all employees with bursaries, it should be argued that at what expense do those come? The company is not expected to offer those under their benevolence. It

would come at the overall expense of employee costs, albeit implicitly. The distinction here is simply one of the degrees to which an employee is explicitly entitled to a bursary or scholarship for relatives, as well as the extent and nature to which it is documented in company policies. Provided that the employer does not include the offer as a selective element of an employment package and does not amend existing bursary or scholarship offerings, it may be able to retain the exemption for the employee.

If the awarding of a bursary to a relative is not linked to the employment of an individual, as argued above, the issue of an exemption is a non-issue. If it is awarded due to employment, it seems to be difficult to argue that it does not, whether directly or indirectly, feature as an element of the cost to the company of employees. If one is awarded a bursary for a relative and the main, if not the sole, reason for that award is the reason for employment, there is a clear possibility of it being linked to the cost of to company of that employer. While it is possible that a bursary scheme can still award bursaries which are not an element of cost to company calculations, this would require clear documentation to illustrate that the awarding is not as such (Snyders & de Kock, 2016). The clear documentation would also have to illustrate that the award is general, and also not an element to cost to the company, without falling into the risk of being specific enough that it creates, through itself, a legal right for employees to elect to structure or negotiate bursaries, resulting in it moving closer to forming an element of the cost to company calculation.

It would seem from all of the above that it makes receiving an exemption for a bursary a much more onerous and difficult process when compared to the pre-2022 treatment (Geldenhuys, 2021).

In summation, it would appear that the only possible situation for an exemption would be a closed bursary scheme open to only employees or a select group of employees of a company. This would further need to be awarded in situations where it would not be an element of cost to the company. The interpretation here is that it would thus need to not be a benefit which is exchangeable with other benefits. Doing such would quite easily be identified as a fringe benefit which could easily form part of the cost to company calculation. Therefore, the wording and documentation around the awarding of bursary schemes would need to be very specific and any employers offering such

would be advised to ensure that they update and scrutinise such policies, to ensure their employees still qualify for exemptions.

The anticipated benefits of the amended legislation

On the face of it, the key outcome of the change is that it will stop those engaged in schemes of tax avoidance from claiming exemptions for which they were not anticipated to qualify (Britz & Trump, 2019). This will have the overall effect of reducing the exemptions available to these taxpayers, increasing their taxable income, and in turn increasing the tax revenue collected by the fiscus. The default response to increased revenue collections is that this is good on an overall level of service delivery, as the increased money available to all spheres of government can be redirected to where it is needed most (Mbufu, 2013).

The other element of the proposed change is equity amongst taxpayers. The current avoidance schemes were highlighted by Ms Mputa as creating a sense of inequity among taxpayers (NCOP Finance, 2020). Ms Mputa argued that in terms of the bursaries, when there is an element of salary sacrifice, the employer is not awarding a bursary because the bursary is paid by the employee. The issue of differing treatments for those employed in the formal vs informal sector was raised as being unfair and inequitable (Arya, 2020). Allowing taxation benefits only for those in the formal sector is certainly not a goal of the treasury (NCOP Finance, 2020).

The possible anticipated externalities of the amended legislation

A key element concerning the existing legislation was raised by Christopher Axelson, the Chief Director of Economic Tax Analysis at the National Treasury (NCOP Finance, 2020). The concern is that if an employer had paid the employee some amount and then restructured that amount so that the employee could have lower tax, in effect this would lead to tax-free payments of education for employees, but only for formal sector employees, raising the risk that employees outside of the formal sector, cannot have tax-free payments for private schooling or any other type of schooling (NCOP Finance, 2020).

The above comments are true based on the fact that employees who do not receive a salary from an employer would not be entitled to use the exemptions

even if in similar economic and familiar circumstances to someone who does, as they cannot receive fringe benefits owing to a lack of an employee/employer relationship.

By allowing a select group of taxpayers to not pay tax on earnings which are in the form of bursaries for relatives, the government is, in effect, allowing a group limited free education. This is true regardless of the type of educational institute being attended, whether public or private. While the government has the intention to provide free education, this is proposed on a broad-based, equitable distribution and not for private education (Sayed & Ahmed, 2009).

Counter arguments can be made in light of the high cost of education and skills shortages facing South Africa, that limiting any exemptions relating to education could be seen as limiting opportunities for residents to acquire an education (Parker, Botha, & Maben, 2021), which in turn could be seen as short-sighted. Broadening access to education will enlarge the future tax base by equipping residents with the necessary education, skills and training to enter the job market. Consequently, limiting the education opportunities available to future taxpayers could be seen as counterintuitive. While it may increase revenue collections as well as possible equity amongst taxpayers, this would come at the cost of possible decreases in education levels if students previously funded by this tax incentive are no longer able to study after amendments.

Furthermore, given that the exemption is only available to taxpayers with a remuneration proxy below R 600,000, this exemption is solely aimed at middle-income employees, who have relied on this exemption to empower themselves and their relatives with an education (Schoeman, 2019). As a result, the employees historically benefiting from this exemption are not high-income earners but fall into the 18%-36% tax brackets. The effective tax rate of the highest earners in the group is a maximum rate of 22.6%. In addition, relatives benefiting from the exemption mainly attend public educational institutions, not private institutions (Parker, Botha, & Maben, 2021).

The overall numerical effect of the exemptions is also a point of examination. For each relative, the annual limit is currently set at R20,000 per annum for basic education with a limit of R60,000 for further education. Given the maximum applicable tax rates, this would

translate into a cash saving of up to R7,200 per year for basic education and R21,600 for further education per relative. As a percentage of taxable income, this is approximately 1% and 3%, respectively, which, while not insignificant, is not significant in relation to earnings. It must be noted that these limits are increased if the dependent is disabled as defined.

While not directly linked to the amendment contained in section 10(1)(q), it is interesting to note recent changes in respect of SARS's treatment of school fees for those with intellectual or physical disabilities (van Coller, 2021). Until 2021, SARS allowed taxpayers a rebate towards fees paid to remedial schools. Recently, SARS has indicated a desire to remove this tax benefit, saying the fees for remedial schools relate to education and not disability, with only the portions relating to specific disability-related interventions or treatments being allowed as contributions towards the section 6B rebate. This shows a general move towards equity amongst taxpayers, with any type of specific loopholes or differences in tax treatments amongst taxpayers being closed up, particularly in the field of education. It must be noted that this change was raised by SARS to much public chagrin (Visser, 2021).

SUGGESTIONS FOR IMPROVEMENT

It is clear from the above that moving towards attempting to close loopholes and create a more equitable system of taxation whereby all taxpayers are subjected to the same exemptions regardless of the method of employment, and this is an approach which, on face value, can be applauded.

However, the method of achieving such goals can be seen as one which has become overly complex and difficult to navigate while also not resulting in a significant effect on a taxpayer's disposable income.

As a big-picture solution, to avoid the administrative burden of needing to examine in all cases whether a bursary is subject to reductions in remuneration or even more difficult, to evaluate if there is a reduction in future earnings, perhaps a blunter approach of removing the section in its entirety might be an easier and more effective solution.

Removing the entire provisions of section 10(1)(q) would create a more equal playing field. No taxpayer, regardless of the nature of employment or type of studies of the relative, would qualify for an exemption.

While this, on the face of it, might seem to be a step backwards, it must be viewed in the light of current activities undertaken by SARS to remove taxation benefits relating to the schooling of disabled children (van Coller, 2021). It must be asked why there is any need to retain the benefit of tax-free schooling for only a subset of taxpayers, being only those who are formally employed and who can structure and document their tax affairs in a certain manner. There has historically been no deductibility of educational expenses relating to relatives, owing to the presence of s23(b), and this does not appear to be up for any current discussion either.

The more apparent reason for the exemptions' continuance is simply its historic presence, and that removing it would result in a large public outcry, even if those arguing against its removal may never qualify for it themselves. The mere existence of a provision exempting studies seems like a needed piece of legislation, even if its implementation is not equitable or effective.

The removal of section 10(1)(q) will also not affect taxpayers whose relatives receive bursaries or scholarships of their own accord in publicly open schemes, as they will not be affected if these provisions are removed.

Taking any expected savings from removing the tax exemptions and channelling them into wider school fee abolition or subsidisation of further education in South Africa would be seen to be a more equitable endeavour (Nordstrum, 2011).

As an overall decision about whether education expenses should result in a tax benefit, either as tax-free earnings or as a deduction from taxable income, there is no conclusive evidence to argue for either case when examining global literature. Blomquist argues that there are several variables which affect whether tax deduction of education expenses is desirable within an economy (Blomquist, 1982). A study conducted in 2025 in Russia found that tying the deductibility of educational expenses might be effective if linked to the performance of the educational institution concerned (Leontev, Leontieva, & Shirshov, 2024). This would prove to be problematic in the South African context, given the lack of monitoring and evaluation amongst schools (Scherman & Fraser, 2017). Perhaps the most prominent and explicit example of a country which allows deductibility of schooling costs is Germany,

which allows 30% of expenditure at approved institutions to be deducted from personal tax, up to a limit of € 5,000 per annum (PwC, 2024). Deductions are also possible in Canada, Ireland and the United States, however, the legislative burdens are more restrictive than in Germany (IRS, 2025). The South African tax base is currently under strain, thus, any additional leakages from it would be ill-advised, and a removal of any exemptions would be beneficial to the overall tax base (Okunogbe & Santoro, 2023).

CONCLUSION

If there is a desire from the treasury to offer taxation-based incentives relating to educational expenditure, the adaptation of section 10(1)(q) does not appear to be the best approach to follow. It is suggested that a complete abolishment of section 10(1)(q) would be the most equitable, easiest and most effective way to achieve the desired goals. It is acknowledged that this would potentially come with some backlash and would require careful explanation of the reasoning and effects of the change to the public. While it is not the purpose of this paper to address what other potential strategies might be, some suggestions could include automatic tax credits for those paying fees to registered institutions, further abolishment of fees at government-owned institutions (Wills & Mistry, 2021) or even increased tax benefits for corporates offering publicly available bursary opportunities (Timcke, 2020). Any of these options appears to offer a more equitable solution to the problems that currently exist in section 10(1)(q) if its complete abolishment is not the desired approach.

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Lessons from Nigeria, Kenya, and Rwanda for the improvement of energy tax incentives

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Purpose: This study examines the tax incentives and measures for promotion of renewable energy and energy saving practices in Nigeria, Kenya, and Rwanda. These countries share similar challenges to South Africa and have implemented innovative tax incentives to transition to renewable energy and promote energy saving. The aim is to provide actionable recommendations for South Africa.

Design: This study is qualitative and interpretive and applies a doctrinal method along with a comparative analysis. By comparing the tax incentive frameworks and policies of these countries, this research identifies successful strategies that could be adapted to South Africa.

Findings: Key findings include the potential benefits of introducing VAT exemptions, import duty waivers, tax holidays, and reduced corporate income tax rates. The recommendations propose integrating these measures into South Africa's policy framework to enhance its renewable energy sector and drive sustainable development.

Originality: This is one of the first studies to consider the tax incentives of other African countries for the promotion of energy saving practices and renewable energy adoption.

Keywords: *Tax incentives, renewable energy, energy saving practices, Nigeria, Kenya, Rwanda, South Africa.*

INTRODUCTION

Fossil fuels contribute over 75% of global greenhouse gas emissions, driving unprecedented global warming and significant risks to life on Earth (United Nations, 2024). South Africa faces the pressing challenge of meeting rising electricity demands while reducing significant greenhouse gas emissions. With coal providing about 65% of its primary energy supply, the country's heavy reliance on the mineral highlights the complexity of the issue (Dippenaar, 2018). Renewable energy technologies offer potential solutions to South Africa's environmental, social, and economic challenges. Despite facing frequent blackouts since 2007, renewable sources accounted for only 1% of energy generation in 2020, highlighting the urgent need for a substantial shift (Allen & Overy, 2023; Edkins, Marquard & Winkler, 2010).

Government policies play a pivotal role in advancing technologies and stimulating markets, particularly in the field of renewable energy. Fiscal incentives, such as tax incentives, are notably effective in driving the transition towards greener economies. For instance, tax

incentives in the Netherlands have successfully promoted investment in renewable energy and energy efficient technologies (Dippenaar, 2018; Edenhofer, Madrugá & Sokona, 2012; Geller, Harrington, Rosenfeld, Tanishima & Unander, 2006; KPMG, 2013).

This research examines the current tax incentive measures employed by Nigeria, Kenya, and Rwanda to promote renewable energy and energy saving. The selection of these countries stems from their shared characteristics with South Africa, which validate their appropriateness for analysis. Like South Africa, these nations grapple with the challenge of providing universal electricity access to their citizens (World Bank, 2023) and they exhibit a heavy reliance on fossil fuels for energy generation (IEA, 2022).

As a result, the research question is: What lessons can South Africa learn from Nigeria, Kenya, and Rwanda to improve its tax incentives and measures for the promotion of renewable energy and energy saving? To meet this research question, the following objectives are undertaken:

- To offer a comprehensive overview of the energy challenges faced by South Africa, Nigeria, Kenya, and Rwanda along with a discussion of their tax policy initiatives towards renewable energy adoption and energy saving.
- To compare the tax incentives between these countries, with the aim of identifying differences and providing recommendations for South African policymakers.

This research is qualitative and interpretive and applies a doctrinal method. Doctrinal analysis involves assembling the pertinent facts, determining the legal problem, evaluating the issue, and compiling data from several jurisdictions and sources. This data is then synthesised to address the research question and provide conclusions. The main goal of doctrinal analysis is to use comparative analysis to improve existing laws, in this case South Africa's energy tax incentives, through a comparative analysis (Hutchinson & Duncan, 2012; Kharel, 2018). South African legislation and reports are part of the data that is analysed. The treatment in Nigeria, Kenya, and Rwanda is identified through using legislation and regulatory publications to understand energy tax incentives in those jurisdictions (Indiana University, 2019). Findings from this study may not be universally applicable due to the unique cultural, historical, and economic contexts of each country.

The sections below are structured as follows: the first section details the tax incentives and measures implemented in South Africa to promote renewable energy adoption and energy saving practices. Next, the tax incentives for promoting renewable energy and energy saving practices in Nigeria, Kenya, and Rwanda are considered. This is followed by a comparative analysis and the conclusion.

TAX INCENTIVES IN SOUTH AFRICA

This section provides a comprehensive analysis of the current tax incentives in South Africa aimed at promoting the adoption of renewable energy and energy saving practices. These incentives attract investment, enhance efficiency, and address energy challenges (Allen & Overy, 2023; Orobisi & Shanu, 2024; South African Institute of Professional Accountants, 2023).

Section 6C: Solar energy tax credit

Section 6C of the Income Tax Act 58 of 1962 offers a temporary tax credit for private households investing in solar PV panels, effective from 1 March 2023 to 29 February 2024. This credit covers 25% of panel costs, capped at R15,000, excluding inverters, batteries, and support structures (SARS, 2024). Trading is not required for this incentive, emphasising its role in encouraging individuals to invest in renewable energy (SARS, 2024).

This credit applies to panels with a minimum generation capacity of 275W installed for the first time between 1 March 2023 and 1 March 2024. Eligible taxpayers can claim 25% of the actual panel cost, capped at R15 000. To qualify, panels must be installed on a residential property primarily used for domestic purposes, connected to the property's electrical system, and accompanied by an electrical compliance certificate (Omarjee, 2023).

Section 6C has proven to be a valuable and equitable incentive for South African taxpayers, fostering investment in renewable energy and alleviating pressures on the nation's energy resources. While not extended beyond 29 February 2024, its positive impact underscores potential future incentives for sustainable energy investments (Omarjee, 2023).

Section 12B: Deduction for renewable energy assets

Section 12B of the Income Tax Act aims to stimulate private sector investment in renewable energy. This provision allows for accelerated allowances for qualifying assets used in activities such as biodiesel or bioethanol production, as well as electricity generation from wind, photovoltaic solar energy (both above and below 1 megawatt), concentrated solar energy, hydropower (up to 30 megawatts), and biomass (*BizNews*, 2019).

Capital allowances are 50% of the asset's cost in the first year, 30% in the second year, and 20% in the third year. Photovoltaic solar energy systems below 1 megawatt qualify for a 100% deduction in the first year. The asset's cost is the lesser of the actual cost or the arm's length cash transaction price. To qualify, the asset must be operational and newly brought into use within the taxpayer's trade. Eligible assets include those owned by the taxpayer, acquired under a specified instalment credit agreement (suspensive sale), and second-hand purchases. The cost includes installation and erection expenses but excludes finance charges. Section 12B also

covers asset improvements and integral support structures, but excludes buildings from accelerated allowances (Income Tax Act, 1962).

Section 12BA: Enhanced deduction for renewable energy assets

Section 12BA of the Income Tax Act allows taxpayers to deduct 125% of costs for renewable energy assets like wind, solar, hydropower, and biomass, enhancing section 12B (Webber Wentzel, 2023). To qualify for section 12BA, the asset must be brought into use in the taxpayer's trade between 1 March 2023 and 1 March 2025. Eligible assets include those owned by the taxpayer or acquired under specified instalment credit agreements (suspensive sale) and they must be new and unused. The cost includes installation and erection expenses but excludes finance charges. Section 12BA also covers asset improvements and essential support structure costs. The asset cost is determined as the lesser of the actual cost or fair market cash transaction price. Taxpayers cannot simultaneously claim deductions under section 12B. If the asset is sold before 1 March 2026, any deduction claimed under section 12BA is subject to a recoupment under specific conditions (Webber Wentzel, 2023).

Section 12BA represents a temporary enhancement to the existing tax incentive under section 12B, aimed at attracting businesses hesitant to invest in renewable energy. This amendment supports sustainable energy initiatives, alleviating strain on the national electricity grid (Webber Wentzel, 2023).

Section 12D: Deductions in respect of electricity transmission lines

Section 12D of the Income Tax Act allows deductions for new and unused assets like pipelines and cables used in electricity generation and transmission (Cliffe Dekker Hofmeyr, 2019). Under section 12D, taxpayers can claim an allowance of 5% per annum based on the cost of the asset. The asset's cost is determined as the lesser of the actual cost or the arm's length cash transaction price. To qualify, the asset must be operational and newly brought into use within the taxpayer's trade and directly used in the production of income for the purposes contemplated in the term "affected asset". Eligible assets include those owned by the taxpayer or acquired under a specified instalment credit agreement (suspensive sale). The cost includes installation and erection expenses but excludes finance charges.

Section 12D also covers asset improvement and integral support structure costs.

While section 12D offers deductions for assets involved in electricity transmission, its effectiveness is tempered by the predominant ownership of transmission lines by entities like Eskom rather than private taxpayers. This ownership structure limits the full realisation of these tax incentives by taxpayers, highlighting a significant constraint in its application (Cliffe Dekker Hofmeyr, 2019).

Section 12L: Deduction for energy efficiency savings

Section 12L of the Income Tax Act allows deductions for energy efficiency savings facilitated by the Department of Energy and the South African National Energy Development Institute (SANEDI) to enhance national energy security (Green Cape, 2015). Taxpayers can claim deductions for energy efficiency savings resulting from income generating activities. To qualify, taxpayers must follow specific procedures, including registration with SANEDI, engagement of the South African National Accreditation System (SANAS) measurement and verification body for assessments and report compilation, and submission of these reports to SANEDI for evaluation (Eskom Holdings SOC Ltd, 2021).

Taxpayers must obtain a certificate from an authorised institution detailing the energy baseline at the start of the assessment year, energy usage at year end, annual energy efficiency savings in kilowatt hours or equivalents, and other required information per regulations. The deduction calculation multiplies 95 cents per kilowatt hour or equivalent energy efficiency savings achieved against taxable income from any trade, applicable up to assessment years ending before 1 January 2026, as per sections 12L(1) and 12L(2) of the Income Tax Act.

In essence, section 12L allows taxpayers to claim tax deductions for advancing energy efficiency, thereby reducing energy demand, carbon emissions, and strain on South Africa's energy grid (Cliffe Dekker Hofmeyr, 2019).

Section 12U: Additional deduction in respect of roads and fences in respect of production of renewable energy

Section 12U of the Income Tax Act allows deductions for expenses on roads and fences supporting renewable

energy projects over 5 megawatts, including wind, solar, and biomass (Norton Rose Fulbright, 2016). Under section 12U, taxpayers may deduct costs associated with the construction, improvement, and preparation of roads and fences integral to electricity generation within their trade. Additionally, section 12U permits the deduction of expenditure incurred in the preparation of carrying on a trade, provided they were not previously deducted. This inclusion ensures that preparatory costs can also benefit from the tax incentive, promoting investment in necessary infrastructure for renewable energy projects.

Conclusion

South Africa's tax incentives in terms of the Income Tax Act play pivotal roles in promoting renewable energy adoption and energy efficiency. These provisions encourage investment in sustainable practices and bolster economic growth and environmental sustainability efforts. While each section targets different aspects of the energy sector, together they underscore the government's commitment to diversifying the energy mix and mitigating climate impact through strategic taxation policies.

TAX INCENTIVES IN OTHER AFRICAN COUNTRIES

This section provides a comprehensive analysis of the current tax incentives in Nigeria, Kenya, and Rwanda aimed at promoting the adoption of renewable energy and energy-saving practices. Examining these incentives will assist in the comparison between the tax incentives and measures available in these African countries and those available in South Africa.

Nigerian context

Nigeria, as one of Africa's largest economies, confronts profound environmental and social challenges amidst impressive economic growth. Ranking as the 25th largest global emitter of greenhouse gases and second in Africa, Nigeria's heavy dependence on oil and gas exports, constituting 93% of its export revenue, underscores its vulnerability to economic volatility and environmental degradation (Dunne, 2023). The nation's energy landscape, marked by inadequate electricity access for over 80 million citizens, necessitates a strategic shift towards sustainable energy solutions to mitigate risks and foster inclusive growth (Bamisile, Huang, Xu, Hu, Liu, Liu & Chen, 2020; Somoye, 2023).

Pioneer Status Incentive

The Pioneer Status Incentive (PSI) Scheme encourages investment in strategic sectors such as power generation and renewable energy in Nigeria. The scheme initially grants a three-year income tax relief period, extendable by two additional years (section 10(2)(a)(b) of the Industrial Development (Income Tax Relief Act) (IDITRA)) (Nigerian Government, 1964). Companies qualifying for PSI also benefit from tax exemptions on dividends paid by the pioneer company during the pioneer period to the extent that they are paid out of income exempted from tax (section 17(3) IDITRA); and can carry forward losses incurred during the tax relief period. Eligibility criteria include applying within the first year of commencing operations, engaging in Nigerian Investment Promotion Commission (NIPC) recognised activities, and owning non-current tangible assets valued above N100 million (Mondaq, 2021; Nigerian Investment Promotion Commission, 2024; Templars, 2019).

Reconstruction investment allowance

Section 32 of the Companies Income Tax Act (Nigerian Government, 1990) previously provided a 10% investment allowance on qualifying capital expenditure incurred for plant and equipment, including assets related to renewable energy projects. This allowance aimed to incentivise investment in infrastructure and technology upgrades linked to electricity generation and renewable energy practices. The allowance was repealed on 1 September 2023. (All On, 2020; PwC, 2023).

Rural investment allowance

Under section 34 of the Companies Income Tax Act, the Rural Investment Allowance offered varying deductions based on the absence of essential facilities in rural areas. Companies could claim a 100% deduction if there are no facilities at all, a 50% deduction if there is no electricity, a 30% deduction if there is no water and a 15% deduction if there is no tarred road. This allowance aimed to incentivise investment in rural infrastructure development, including projects related to electricity provision and renewable energy initiatives (All On, 2020; PwC, 2023).

Import duty exemption

The Nigerian government offers a 0% import duty rate for equipment and machinery crucial to the power

sector under specific HS (Harmonised Systems) headings. Equipment covered under HS Heading 84 includes turbines, generators, pumps, and valves used in power generation. HS Heading 85 encompasses motors, transformers, switchgear, and cables essential for electrical operations. HS Heading 90 includes measuring and monitoring equipment vital for electricity measurement and control (Nigerian Investment Promotion Commission, 2024).

This exemption aims to reduce costs associated with importing equipment for renewable energy projects. Solar panels are subject to a 5% import duty, while solar cells and components used in manufacturing solar modules are exempt from duties (All On, 2020).

VAT exemptions

Certain transactions related to renewable energy equipment and services are exempt from Value Added Tax (VAT) under Nigerian regulations. This includes wind- and solar-powered generators, gas supplied to electricity generating companies, electricity generated and supplied to the grid, and electricity transmitted by the Transmission Company of Nigeria to distribution companies. These VAT exemptions aimed to promote the adoption of renewable energy technologies and reduce costs associated with their deployment, thereby encouraging energy-saving practices and contributing to sustainable energy solutions (PwC, 2020; 2021; Orobiyi & Shanu, 2024).

Kenyan context

Kenya faces significant energy challenges, including limited electricity access and environmental degradation from fossil fuel usage (Rotich, Chepkirui & Musyimi, 2024). The recent introduction of VAT exemptions and zero ratings for renewable energy products is part of Kenya's strategy to promote environmental sustainability and economic growth. These measures, alongside broader tax incentives, aim to advance sustainable development and reduce carbon emissions (Global Off-Grid Lighting Association, 2022).

VAT

Under the current tax regime, certain categories of equipment crucial for solar and wind energy development, such as photovoltaic modules, direct current charge controllers, inverters, and deep cycle batteries, benefit from VAT exemption. Additionally,

solar and lithium-ion batteries are zero-rated for VAT purposes. These measures have been instrumental in reducing the overall costs associated with adopting solar technologies, making them more financially viable for consumers and businesses alike (EY, 2024; Kenya Ministry of Investments, Trade and Industry, 2024; Waterlift, 2023).

However, under the Finance Bill 2024, significant changes to the VAT treatment of these products are proposed. Specifically, the bill suggests reclassifying specialised solar and wind energy equipment from VAT-exempt to taxable. Furthermore, the bill proposes shifting the VAT status of solar and lithium-ion batteries from zero rated to standard rated, set at 16%. These proposed amendments aim to align fiscal policies with broader economic goals while influencing the cost dynamics of investing in renewable energy infrastructure (EY, 2024).

Investment allowance

The Tax Laws (Amendment) Act introduced a new Investment Allowance framework. Key features of this amendment include rationalising capital allowances to a maximum of 100%, with claims made on a reducing balance basis. Businesses can claim accelerated depreciation for machinery used in manufacturing, electrical energy generation for the national grid, and renewable energy projects. The rates of deduction are structured to provide 50% in the first year of use, with the residual amount claimed at a rate of 25% on a reducing balance basis over subsequent years. This approach allows businesses to benefit from upfront tax relief, encouraging investment in infrastructure necessary for economic growth (Kenya Revenue Authority, 2024b; Waterlift, 2023).

Import duties

To further support the adoption of solar energy technologies, the government has waived import duties on solar equipment. This measure is designed to alleviate the financial burden associated with acquiring solar components, thereby making solar energy solutions more affordable and attractive for businesses and individuals alike. The exemption covers a range of equipment, including specialised solar components and accessories, aligning with efforts to promote renewable energy adoption and sustainability across various sectors (Kenya Revenue Authority, 2024a; Waterlift, 2023).

Rwandan context

Rwanda has set ambitious goals to achieve universal electricity access by 2024, aiming to connect 70% of households to the national grid and provide off-grid solar photovoltaic (PV) systems for the remaining 30% (Scott, 2022; International Energy Agency, 2023; Rwanda Development Board, 2021). By prioritising renewable energy sources alongside progressive policy frameworks, Rwanda seeks to expand energy access, mitigate environmental impacts and foster socio-economic progress nationwide (Rwanda State of Environment, 2024; Clean Energy 4 Africa, 2022).

Preferential corporate income tax rate

A preferential corporate income tax rate of 15% is granted to registered investors engaged in energy generation, transmission, and distribution from peat, solar, geothermal, hydro, biomass, methane, and wind sources (Rwanda Development Board, 2021).

Corporate income tax holiday

Registered investors, excluding those in private equity and venture capital, investing at least fifty million United States dollars (USD 50 000 000), with at least 30% contributed in equity, qualify for a corporate income tax holiday of up to seven years. This incentive applies to energy projects generating a minimum of 25 MW, excluding investors with government-executed engineering procurement contracts and fuel produced energy (Rwanda Development Board, 2021).

VAT exemptions for clean energy equipment

A comprehensive list of energy supply equipment is exempt from VAT. This exemption supports the promotion of renewable energy and energy saving practices by facilitating the importation and local purchase of essential equipment (Rwanda Revenue Authority, 2022b). The list of energy supply equipment is discussed below.

Energy efficiency equipment: VAT exemptions apply to a wide range of energy-saving technologies. This includes energy-saving lamps and various types of solar water heating systems, such as open loop, closed loop, and passive and active systems. Also exempt are circulation pumps, storage tanks, flat plate collectors, evacuated tube collectors, and other accessories essential for solar water heating setups (Rwanda Revenue Authority, 2022b).

Improved cookstoves and related equipment: VAT exemptions are extended to solid biomass fuels produced locally in Rwanda, specifically densified pellets, which are crucial for efficient and sustainable cooking solutions. Additionally, cookstoves meeting international standards for emissions and fuel efficiency, along with vermiculite used for maximum insulation in stove installations, benefit from VAT relief (Rwanda Revenue Authority, 2022b).

Laboratory equipment for energy efficiency testing: exemptions cover essential laboratory equipment necessary for testing energy efficiency in various appliances and systems. This includes electronic weighing balances, thermocouples for measuring moisture content, desiccators for micro moisture content, laboratory ovens, and specialised equipment for measuring indoor air pollution from the Improved Cookstoves (ICS) Programme (Rwanda Revenue Authority, 2022b).

Light control equipment: VAT exemptions are provided for timer switches and motion sensors, essential components in efficient lighting systems. These exemptions encourage the deployment of automated lighting solutions that optimise energy consumption by responding to occupancy and ambient light conditions (Rwanda Revenue Authority, 2022b).

Solar appliance products: a range of solar powered products essential for off-grid energy solutions benefits from VAT exemptions. This includes solar phone chargers, pest control devices, irons, refrigerators, fans, water pumps, TVs, and radios. These exemptions aim to make renewable energy solutions more affordable and accessible, particularly in areas lacking reliable electricity access (Rwanda Revenue Authority, 2022b).

Clean energy equipment: exemptions encompass a wide array of equipment crucial for renewable power generation and distribution. This includes PV modules, charge regulators, inverters, PV monitoring equipment, and various accessories for PV protection and switching. Exemptions also cover wind power generation equipment, biogasification energy supply tools, and machinery designed for solid biomass fuels sustainably produced in Rwanda, such as densified pellets (Rwanda Revenue Authority, 2022b).

LPG, gas cylinders, and accessories: VAT exemptions are applied to LPG, gas cylinders, and related accessories, essential for clean cooking solutions and

energy diversification strategies in Rwanda (Rwanda Revenue Authority, 2022b).

Kerosene for domestic use: premium and gasoil kerosene intended for domestic use also benefit from VAT exemptions, promoting affordable and clean energy options for households (Rwanda Revenue Authority, 2022b).

Accelerated depreciation linked to renewable energy and energy saving

Registered investors are eligible for a flat accelerated depreciation rate of 50% in the first year for new or used assets meeting specific criteria. These criteria include investing in business assets valued at a minimum of fifty thousand US dollars (USD 50 000) each and operating in primary economic sectors, including energy generation, transmission and distribution, that are responsible for promoting renewable energy and energy saving practices (Rwanda Development Board, 2021).

Conclusion

Nigeria, Kenya, and Rwanda have implemented various tax incentives to promote renewable energy and energy saving practices. These measures aim to reduce costs associated with adopting renewable technologies, enhance financial viability, and attract investment in sustainable energy solutions, supporting environmental sustainability goals and reducing carbon emissions.

COMPARATIVE ANALYSIS

This section identifies common tax incentives promoting renewable energy and energy saving practices across South Africa, Nigeria, Kenya, and Rwanda.

Solar energy tax credit

In South Africa, this incentive supports residential adoption of solar energy by providing a temporary tax credit covering 25% of the cost of solar photovoltaic (PV) panels, capped at R15 000 per household. It aims to reduce the upfront costs for consumers, thereby encouraging sustainable energy practices (Omarjee, 2023; SARS, 2024).

Investment allowances for renewable energy assets

This measure provides investment allowances and accelerated depreciation for capital expenditure on renewable energy assets, like plant and equipment. It stimulates investment in renewable energy infrastructure, supporting technological advancement and sustainable development goals (*BizNews*, 2019; PwC, 2023; Rwanda Development Board, 2021; Waterlift, 2023; Webber Wentzel, 2023).

Energy efficiency savings deduction

Businesses in South Africa can claim tax deductions based on verified energy savings, incentivising improvements in energy efficiency. This deduction promotes the adoption of energy efficient technologies, contributing to environmental sustainability by reducing carbon emissions (Green Cape, 2015).

Infrastructure development Incentive for renewable energy and energy saving

Focused on rural infrastructure, electricity transmission, and renewable energy projects, this incentive aims to stimulate economic growth while advancing energy conservation and the adoption of renewable energy technologies (Cliffe Dekker Hofmeyr, 2019; Norton Rose Fulbright, 2016; PwC, 2023).

Tax holidays

Exempting income and dividends for renewable energy projects, this measure attracts investments and supports capital inflows into the renewable energy sector. It enhances energy security and fosters economic growth through expanded renewable energy capacity (Mondaq, 2021; Rwanda Development Board, 2021).

Import duty exemptions

Waiving import duties on essential energy sector equipment reduces costs and facilitates the importation of renewable energy components. It supports cost effective deployment of renewable energy technologies and advances regional energy transition goals (All On, 2020; Kenya Revenue Authority, 2024a; Waterlift, 2023).

VAT exemptions and zero rating

Providing VAT exemptions and zero rating for renewable energy equipment and services lowers costs and promotes the adoption of energy saving practices and sustainable energy solutions. It contributes to economic growth by making renewable energy technologies more accessible (PwC, 2020; Rwanda Revenue Authority, 2022a; Waterlift, 2023).

Reduced corporate income tax rate

Rwanda offers a reduced corporate income tax rate to investors in renewable energy generation, transmission, and distribution. This incentive attracts investments in renewable energy infrastructure,

strengthening the country's energy sector and serving as a model for regional renewable energy development (Rwanda Development Board, 2021).

Comparative analysis

Table 1 summarises the key tax incentives and measures derived from the review of the taxation policies promoting renewable energy and energy saving practices across South Africa and the selected African countries detailed in the second and third sections. This table systematically evaluates the implementation of significant tax incentives and measures across all these countries, highlighting variations in their policy approaches and referencing relevant tax legislation where applicable.

Table 1: Comparative analysis of energy measures

Tax incentive & measure	South Africa	Nigeria	Kenya	Rwanda
Solar energy tax credit	Yes – Section 6C	No	No	No
Investment allowances for renewable energy	Yes – Section 12B & 12BA [50%, 30%, 20% or 100% in specific cases]	Yes – Reconstruction investment allowance [10%, now repealed]	Yes – Investment allowance [50%, 25%, 25%]	Yes – Accelerated depreciation linked to renewable energy and energy saving [50% in first year]
Energy efficiency savings deduction	Yes – Section 12L	No	No	No
Infrastructure development incentive	Yes – Section 12D & 12U	Yes – Rural investment allowance	No	No
Tax holidays	No	Yes – Pioneer status incentive	No	Yes – Corporate income tax holiday
Import duty exemptions	No	Yes	Yes	No
VAT exemptions & zero ratings	No	Yes	Yes	Yes
Reduced corporate income tax rates	No	No	No	Yes

Source: Author's own

Strategic insights from the comparative analysis table

The comparative analysis table above highlights several tax incentives and measures not currently implemented in South Africa but effectively used in the other African countries. This analysis provides recommendations for their adoption in South Africa.

Tax holidays

South Africa should introduce tax holidays for entities that invest in new renewable energy projects. This measure would attract both domestic and international investors, advancing growth in the renewable energy sector and enhancing energy security and sustainability.

The positive outcomes observed in Nigeria and Rwanda indicate that this incentive may lead to increased capital inflows and accelerate the development of renewable energy infrastructure (Rwanda Development Board, 2021).

Import duty exemptions

South Africa should implement import duty exemptions for renewable energy equipment. By lowering the cost of importing essential components, this measure would support the deployment of renewable energy technologies and accelerate the transition to sustainable energy. The experiences in Nigeria and Kenya show that reducing import duties can significantly enhance the adoption of renewable

technologies, making them more accessible, affordable and attractive (All On, 2020; Kenya Revenue Authority, 2024a; Waterlift, 2023).

VAT exemptions and zero ratings

South Africa should introduce VAT exemptions and zero ratings for renewable energy equipment and services. This policy would reduce the overall cost of renewable energy technologies, increasing their accessibility and adoption among consumers and businesses. The positive impact observed in the aforementioned countries demonstrates that such measures can significantly enhance market penetration of renewable energy solutions and support broader economic growth (Kenya Ministry of Investments, Trade and Industry, 2024; Orobiyi & Shanu, 2024; Rwanda Revenue Authority, 2022a).

Reduced corporate income tax rates

South Africa should implement reduced corporate income tax rates for renewable energy projects. This incentive would attract more investments into the renewable energy sector, enhancing the development of renewable energy infrastructure and supporting the country's energy sustainability goals and targets. The benefits observed in Rwanda suggest that a reduced tax rate can significantly bolster investment and development in the renewable energy sector (Rwanda Development Board, 2021).

CONCLUSION

This study examined energy challenges and tax incentives for renewable energy in South Africa, Nigeria, Kenya, and Rwanda. Key recommendations for South Africa include adopting successful practices from these countries to enhance its renewable energy sector. Implementing these recommendations could enhance investment, foster technological advancement, and advance South Africa's renewable energy and energy saving goals. The findings and recommendations offer guidance for future policy development, contributing to the overall improvement of the country's renewable energy sector (Allen & Overy, 2023; Carbon Brief, 2018; Centre for Environmental Rights, 2019; Edenhofer *et al.*, 2012; Orobiyi & Shanu, 2024; South African Institute of Professional Accountants, 2023; Smarte Anekwe, Akpasi, Mkhize, Zhou, Moyo & Gaza, 2024).

To build on this research, a longitudinal study could track the impact of the recommended incentives and measures on South Africa's renewable energy sector to assess their long-term effectiveness. Additionally, examining the socio-economic impacts of these incentives on local communities and businesses could provide a deeper understanding of their broader effects. Further research could investigate the potential challenges and barriers to implementing these recommendations in South Africa, such as regulatory hurdles or financial constraints. Furthermore, investigating opportunities for regional collaboration and knowledge sharing among African countries could foster a more unified approach to advancing renewable energy across the continent.

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Unpacking the South African carbon tax: Is the carbon tax achieving its desired goals and outcomes?

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Purpose: Introduced in 2019, the South African carbon tax aims to mitigate greenhouse gas (GHG) emissions, stimulate green innovation, and transition South Africa towards a more sustainable economic model. This paper explores whether the South African carbon tax is achieving its desired goals and outcomes. It examines inefficiencies and highlights the potential unintended economic consequences of implementing the tax.

Design/methodology/approach: A qualitative research approach supported by the review of journal articles, the Carbon Tax Act, working papers, and discussion papers was used in this study.

Findings: The findings from the study revealed that the carbon tax is not performing as intended due to factors like the delay of phase two and the generous tax-free allowances being granted.

Originality/contribution: The carbon tax is an excellent tool in attempting to curb carbon emissions, however, if implemented incorrectly, it may not meet its desired goals and outcomes. Thus, this study aims to identify and address any factors working against the intended outcomes of the carbon tax, which will contribute to improving the design and implementation of the tax, ensuring it achieves its intended goals of reducing carbon emissions without causing unintended economic consequences.

Keywords: Allowances; carbon emissions; carbon tax; Carbon Tax Act; GHG emissions

INTRODUCTION

In recent years, the global community has faced an unprecedented challenge in the form of climate change. The scientific consensus is clear: human activities, particularly the combustion of fossil fuels, have led to a dramatic increase in greenhouse gas (GHG) emissions, resulting in rising temperatures, extreme weather events, and disruptions to ecosystems worldwide (Nong, Simshauser & Nguyen, 2021).

The amount of carbon dioxide emitted annually from the burning of fossil fuels has grown every decade since the middle of the 20th century. In the 1960s, yearly emissions were close to 11 billion tonnes, and by 2023, emissions are predicted to have reached 36.6 billion tonnes (Lindsey, 2024). Addressing climate change has become an urgent priority, requiring bold and decisive

action from governments, businesses, and individuals alike (Nong *et al.*, 2021).

In this context, the need for effective policies to reduce carbon emissions has never been more pressing. One such policy tool that has gained traction in both academic and policy spaces is the carbon tax. "Simply put, carbon tax refers to a tax on activities or production processes that can give rise to GHGs emissions" (Akinwande, 2014:178).

According to Parry (2019), by making polluters pay for the carbon they release into the atmosphere, carbon taxes create economic incentives to reduce emissions, promote energy efficiency, and stimulate investment in low-carbon technologies. Parry (2019) further posits that the thought process behind implementing a carbon tax is multifaceted and compelling. Firstly, it provides a market-based solution to the problem of

¹ This paper is partially based on the research report of Siphesihle Monyatsi (first author) presented for the Taxation Honours degree at the University of the Witwatersrand, with supervisor Phatsimo Moroeng.

climate change, harnessing the power of prices to reflect the true environmental cost of carbon pollution. By putting a price on carbon emissions, the carbon tax encourages businesses and consumers to factor the environmental consequences of their actions into their decision-making processes, leading to more sustainable choices and investments (Greaver, 2021).

Secondly, a carbon tax offers a flexible and cost-effective approach to emissions reduction (Metcalf, 2021). By allowing polluters to find the most cost-effective ways to reduce emissions, carbon taxes promote innovation and technological development, driving down the overall cost of transitioning to a low-carbon economy (Omolere, 2024). Moreover, a carbon tax can generate significant revenue that can be used to fund investments in renewable energy, energy efficiency, and climate resilience, thereby creating economic growth and job creation in green industries (Zhang, Abbas & Iqbal, 2021).

There are concerns about the regressive nature of the tax and its potential to exacerbate socio-economic inequalities, particularly for low-income households (Nemavhidi & Jegede 2023). Leading cement producers and the motor and tyre industries also indicated that they were unable to carry the added costs associated with the carbon tax and as a result would be passing it on to consumers. This has a knock-on effect on the prices that consumers must pay to acquire these goods which makes these products even more expensive (Creamer, 2021).

Despite the growing momentum behind carbon pricing, significant challenges remain in designing and implementing effective carbon tax policies. Concerns about competitiveness, equity, and political feasibility have led to heated debates and contentious negotiations in many jurisdictions (Fakoya, 2017). Vuzane (2020), however, argues that the allowances included in the Act provide a mechanism to protect industry competitiveness, encourage emission reduction, address equity concerns, and ensure effective policy implementation.

In this context, it is therefore important to critically examine the need for carbon taxes and identify their societal implications (Povitkina, Jagers, Matti & Martinsson, 2021). By doing so, we can unlock the transformative potential of carbon pricing as a powerful tool for combating climate change and

building a more sustainable and prosperous future for generations to come (le Roux & Cilliers, 2024).

The primary objective of this paper is to explore whether the South African carbon tax is achieving its desired goals and outcomes. To achieve this, the study sets out to answer the following questions:

- Have the carbon emissions been reduced because of the carbon tax implementation?
- What is the role of tax allowances in the implementation of the carbon tax?
- Are there any unintended economic implications of implementing the carbon tax?

Scope and delimitation

This paper will focus solely on the Carbon Tax Act of South Africa and no other South African Tax Acts.

Literature review

Many countries and regions around the world have recognised the need to implement carbon pricing mechanisms, including carbon taxes, as part of their broader climate policy portfolios (Ghazouani, Xia, Jebli & Shahzad, 2020). Among the top 20 carbon emitters worldwide, South Africa is one of the continent's biggest producers of carbon dioxide (Tiseo, 2023; Greaver, 2021). As the main source of energy generation, coal is extremely vital to the country's economy, which adds to the country's carbon emissions. As a result of such high emissions, there arose a need for the country to curb its emissions (McSweeney & Timperley, 2018).

The South African government introduced the Carbon Tax Act 15 of 2019 (Carbon Tax, 2019), which represented a significant step towards addressing climate change and shifting to a low-carbon economy in the country (World Wildlife Fund, 2019). The introduction of the South African carbon tax was part of the government's broader efforts to reduce GHG emissions and fulfil its commitment under the Paris Agreement, Kyoto Protocol and Poznan United Nations Climate Change Conference (Devarajan, Go, Robinson & Thierfelder, 2009). This commitment was to maintaining carbon emissions between 398-510 million metric tonnes of carbon dioxide (MtCO₂) of carbon emissions in the period of 2021-2025 (World Bank Group, 2017).

The carbon tax was designed to place a price on carbon dioxide (CO₂) emissions from large industrial emitters, such as power plants, refineries, and cement producers (Hughes, 2017). It was structured as a tax on the carbon content of fossil fuels, with an initial rate of R120 per tonne of CO₂ equivalent (International Monetary Fund, 2023). The tax rate would be set to increase annually by inflation, providing a clear price signal for businesses to internalise the environmental costs of their emissions and incentivise investments in cleaner technologies and practices (Steenkamp, 2022). In the 2024 budget speech, the finance minister announced that the carbon tax rate was increasing from R159 to R190 per tonne of CO₂ equivalent effective from 1 January 2024 until the next budget speech (National Treasury, 2024).

A framework that can be used to understand the reason for taxing emissions is the Pigouvian tax theory. "The Pigouvian tax is used to cover the negative externalities of the production process in the product's marginal cost" (Manta, Doran, Bădîrcea, Badareu & Țăran, 2023:1722). The Banzhaf (2020a) argues that although externalities are difficult to define, they are generally an unpriced impact on those who are not involved in a decision or transaction with economic substance.

One of the key features of the South African carbon tax is its revenue recycling mechanism, which aims to minimise the economic impact on businesses and households while promoting sustainable development (National Treasury, 2011). However, according to Alton, Arndt, Davies, Hartley, Makrellov, Thurlow and Ubogu (2014) the implementation of the carbon tax has not been without challenges and controversies. Critics have raised concerns about the potential impact of the tax on the competitiveness of domestic industries, particularly in energy-intensive sectors such as mining and manufacturing.

Certain elements of the carbon tax contribute to the Carbon Tax Act being rendered ineffective, among some of these elements is that there are generous tax-free allowances, the most carbon intensive sector, being the energy sector is effectively not taxed due to the phased-in approach of the tax and the tax rates in general are too low to enable the tax to be effective in reducing the emissions (Qu, Suphachalasai, Thube & Walker, 2023).

METHODOLOGY

The qualitative research methodology provides an understanding of real-world issues. Therefore, this type of research is concerned with exploring and providing answers to the questions of why and how, instead of how much or how many (Tenny, Brannan & Brannan, 2022). A qualitative research approach was explored for this study to explore why the carbon tax was implemented to meet the primary objective.

Tenny et al. (2022) is of the view that when a researcher reports on qualitative research this should detail and describe the background of the environment in question. As such the data used for the study includes journal articles, the Carbon Tax Act (legislation), working papers, and discussion papers. The study was subjective in nature because existing materials were analysed to enhance comprehension of the data gathered, hence the researchers' interpretations affected the study's arguments (Creswell, 2014). The focus in the analysis of the legislation will be on the implementation of the tax by the government, and the context to which the tax is applied. As such it follows that the focus of the legislation is the 'allowances' and 'persons to which the tax is imposed on'. The study follows a similar approach to previous studies on the carbon tax (Greaver, 2021).

FINDINGS AND DISCUSSIONS

Reduction of carbon emissions

South Africa's GHG emissions are categorised as Scope one, Scope two, and Scope three. Scope one emissions refer to a company's direct GHG emissions from all sources, including owned sources (McSweeney & Timperley, 2018). Scope two emissions include indirect emissions, which arise, perhaps, from generated power that is used by the company in consideration for heating, cooling, or other purposes, such as steam generation. Scope three emissions are all those other indirect emissions that occur in an organisation's activities such as waste disposal (Kabundu, Mbanga & Makasa, 2023).

When the Carbon Tax Act in South Africa was implemented in 2019, it was implemented in a phased approach aimed to provide a manageable transition for businesses while steadily increasing the Tax's impact on reducing GHG emissions. There were three phases under which the carbon tax would be rolled out. There

would be an implementation of phase one that runs from 1 June 2019 to 31 December 2022. The second phase would run from 2023 to 2030, and phase three would begin in 2031 until the government determines that there is a need to adjust the tax framework further (National Treasury, 2019).

During phase one of the carbon tax roll-out, all companies that generate scope one emissions will be subject to the carbon tax, except Eskom. Putting this into context, Eskom accounts for about 42% of South Africa's carbon emissions with emissions in 2023 reaching 191 MtCO₂, yet the company is exempt from paying any carbon taxes under phase one (Qu *et al.*, 2023). Its exclusion is due to its financial limitations and as an effort to manage the effect on electricity prices (National Assembly Committee, 2021). However, during phases two and three, when Eskom is no longer exempted, more revenue will be collected because all consumers will be affected by electricity price increases arising from the carbon taxation of Eskom. There will be no carbon tax-related indirect subsidisation of electricity for all consumers of Eskom's power (Nemavhidi & Jegede 2023).

In its first Nationally Determined Contribution (NDC) plan under the Paris Agreement, the South African government set GHG emission reduction targets of about 28% by 2030 (Climate Action Tracker, 2023). Emissions in South Africa have decreased from 464 MtCO₂ of carbon emitted in 2019 to 402 MtCO₂ in 2023 (Budget, 2023). According to the South African Institute of Chartered Accountants (SAICA) (2024), in the response to the public comments on the discussion paper on phase two of the carbon tax issued by the National Treasury, the 2019 to 2020 decline in GHG emissions could likely be due to strict lockdowns as a result of the COVID pandemic and not as a result of the introduction of the carbon tax.

Kessides (2020) agrees with the narrative that decline is not due to the introduction of the carbon tax but rather that this decrease in the emissions can be largely attributed to the constant breakdowns at Eskom Holdings SOC Ltd (Eskom), which is the top carbon emitter in the country. These breakdowns were caused by inadequate generating capacity (South Africa generates approximately 47 000 megawatts (MW) versus an installed generation capacity of 52 000 MW), as well as operational, maintenance, and breakdown concerns at ageing, inadequately maintained power plants.

In phase one, the carbon tax applies to all sectors of the economy except for agriculture, forestry and other land uses (AFOLU). This was done to focus on the major industrial sources of emissions during phase one. It covered direct emissions from industrial processes, combustion of fossil fuels, and certain other activities (Zireva, 2020). In February 2022 Finance Minister, Mr Enoch Godongwana, announced that phase one of the Carbon Tax Act would be extended until 2026. The main reason for this was to assist the recovery of the country's economy after the Covid-19 pandemic (Abidnor & Sithole, 2024). The significant feature of phase one is that the generous tax allowances which significantly reduce the carbon tax liability of companies, are fully applicable (Kabundu *et al.*, 2023).

According to the National Treasury (2019) most of the allowances except a few such as the trade exposure allowances, will not be applicable, and Eskom will also cease to be exempted from the carbon tax during phase two. In November 2024, the phase two carbon tax discussion paper was published for public comment, with a deadline for public comments of 13 December 2024. As part of the Stakeholder Consultation Workshop held on 16 January 2025 on the discussion paper an overview of the proposals was presented (National Treasury, 2025).

The next section aims to discuss the multiple tax allowances contained within the Carbon Tax Act that are available to provide relief to taxpayers, as well as the suggested proposals that will affect the allowances during phase two implementation.

The role of carbon tax allowances

According to Metcalf (2021), since the amount of carbon emitted by companies is constant, the Pigouvian tax theory is a good policy tool for taxing carbon emissions because this implies that emitters will pay for the consequences of their actions. The carbon tax is calculated as the sum of the total carbon emissions multiplied by the applicable rate of tax (Pooe, 2022). However, the rate of tax to be applied (being the rate announced by the minister) can be reduced by tax-free allowances that taxpayers are entitled to up to a limit of 95% (Zireva, 2020).

Allowances are a common feature in carbon pricing mechanisms worldwide, aligning South Africa's approach with international standards. This helps in maintaining consistency with global climate policies

and practices through global integration (Kalaba, 2020). Allowances are contained in Part II from sections seven to 13 of the South African Carbon Tax Act (Carbon Tax Act, 2019). They are integral to achieving a balance between environmental objectives and economic realities and provide a mechanism to protect industry competitiveness, encourage emission reductions, address equity concerns, and ensure effective policy implementation (Vuzane, 2020).

By incorporating allowances, South Africa aims to create a carbon pricing system that supports both its climate goals and economic stability, facilitating a smoother transition to a low-carbon economy (National Treasury, 2019). The allowances protect companies' competitiveness as they mitigate the financial burden on industries, particularly those that are energy-intensive and face international competition. Without these allowances, these industries might experience increased operational costs, potentially making them less competitive globally (Winkler & Marquard, 2011). In addition, allowances are crucial for trade-exposed sectors to prevent a competitive disadvantage against companies in countries without similar carbon pricing mechanisms (Deloitte, 2023). Included in the Act are the following allowances:

Basic tax-free allowance for fossil fuel combustion emissions

Most sectors of the economy have a 60% tax-free allowance for energy combustion emissions, which means they are not required to pay taxes on such emissions (National Treasury, 2018). The basic tax-free allowance was a uniform technical threshold applied to all sectors as part of the phasing in of the tax, allowing participants to adapt to it, reflecting an acceptable threshold of emissions space for industries, above which the tax will apply. A maximum of 100% applies to the AFOLU sectors exempted in phase one (Steenkamp, 2022). As part of the carbon tax phase two discussion paper that was issued for public comment in November 2024, in 2026, the allowance will be reduced by 10% and 2.5% per year from 2027 to 2030 (du Toit, 2024).

Allowance in respect of process and fugitive emissions

GHG emissions from chemical processes (e.g. coal gasification, crude oil cracking, cement, iron, steel, glass, ceramic, and some compounds like calcium

carbide and titanium dioxide) have set chemical interaction and reaction ratios that have limited mitigation options in the short to medium term (Davis Tax Committee, 2015). Therefore, reducing these carbon emissions would need completely new innovative processes to be devised based on diverse chemical interactions, which in many cases are not possible. To remedy this, all manufacturing sectors generating process pollutants were provided a higher basic allotment of 70%. These sectors include the iron and steel manufacturers and cement, lime and glass manufacturers. In addition, a 10% allowance is given for fugitive emissions from the coal mining industry (Pooe, 2022).

Performance allowance

There is a 5% allowance for top achievers, and it rewards early adopters of the tax and their proactive efforts to minimise carbon intensity. This is computed using an agreed-upon GHG emissions intensity benchmark for the sector or subsector, considering both direct and indirect emissions (National Treasury, 2019). There is a proposal for an increase of 5% increase for fuel combustion emissions which will then take the performance benchmark allowance to 10% for fuel combustion in phase two (du Toit, 2024).

Allowance for trade exposed sectors

A maximum of 10% trade exposure allowance has been provided for all sectors except the AFOLU sector, which is excluded from the first phase of the implementation of the tax. This allowance is to compensate trade-exposed businesses that had an initial disadvantage and that were sensitive to potential international competitiveness after the tax was introduced (Nong, 2020). According to du Toit (2024), as there is a proposed increase in the performance benchmark allowance and carbon offset allowance, the trade exposure allowance will be phased out for fuel combustion in phase two.

Carbon budget allowance

Carbon budgets created by the Department of Forestry, Fisheries and the Environment (DFFE) were intended to offer a cap on GHGs, or a GHG emissions allowance, against which physical emissions from a business's operations over a specified period would be monitored (Milanzi, 2022). Companies taking part in phase one of the carbon budget scheme will receive an additional 5% tax-free allowance provided they stick to

the determined carbon budget (National Treasury, 2018). In phase two, it is proposed that the carbon budget allowance will only be phased out from 1 January 2026 and not 1 January 2025 as previously planned (du Toit, 2024).

Carbon offset allowance

The carbon tax allows all businesses to use carbon offsets to offset up to 10% of their combustion emissions, 5% of their total fugitive emissions, and/or 5% of their total process emissions from their tax liability (National Treasury, 2019). The National Treasury (2025) proposes to increase carbon offset allowance by 15% to a maximum of 20% for process or fugitive emissions and 25% for combustion emissions.

After adding all the possible allowances a company can qualify for, it is clear that these allowances can be seen to be excessive since businesses may end up only paying between 5% to 10% of the initial tax liability which would not impact their cashflows significantly compared to a tax liability of 100% (International Monetary Fund, 2023). Therefore, these allowances are hindering businesses' ability to reduce their carbon emissions due to the big buffer that they provide them which has a knock-on impact on the effectiveness of the carbon tax itself (Creamer, 2021).

Implementing a carbon tax is often presented as an effective market-based approach to mitigate climate change by internalising the external costs of carbon emissions. However, like any policy, it can lead to unintended consequences that need careful consideration and management (Greaver, 2021). The next section will focus on the unintended consequences of implementing the carbon tax. The section will touch on aspects like economic displacement, consumer behaviour and costs, environmental and social equity issues and global implications.

Unintended economic implications

Taxes are an unavoidable evil, as the reason behind them is simple. Imposing taxes on activities should result in a decrease in their production. Therefore, it is better to tax the things we want less of, such as pollution and carbon emissions, than to tax income, which we all want more of (Banzhaf, 2020b). South Africa's electricity generation is heavily reliant on coal, a major source of carbon emissions (McSweeney & Timperley, 2018). A carbon tax would likely increase

electricity prices, affecting both residential and commercial consumers. As a result, carbon taxes can be regressive, meaning they disproportionately affect lower-income households who spend a larger share of their income on energy, specifically coal, electricity, paraffin, and liquified petroleum gas (LPG) (Klausbruckner, Annegarn, Henneman & Rafaj, 2016). Furthermore, rural areas where transportation costs are higher and alternative energy options are less available can be disproportionately affected by a carbon tax. This can thus reduce the income of those who already need it the most and in turn exacerbate existing economic disparities between urban and rural regions (Goldblatt, 2010).

South Africa's economy relies heavily on industries like mining, manufacturing, and power generation, which are energy-intensive and contribute significantly to carbon emissions. A carbon tax would increase operational costs for these sectors due to higher prices for carbon emissions (Winkler & Marquard, 2011). This could lead to reduced profit margins or increased prices for goods and services (Greaver, 2021).

The increased operational costs for businesses may be passed on to consumers in the form of higher prices for goods and services. This could affect household budgets, especially for low-income families. While intended to encourage energy efficiency and adoption of low-carbon technologies, a carbon tax can also lead to unintended behavioural changes (Jagers, Martinsson & Matti, 2018). For example, individuals might choose to travel less, which could have negative economic impacts on sectors like tourism and transportation. Consumers and businesses may shift towards cheaper, less carbon-intensive alternatives, which might not necessarily be the most environmentally beneficial options in the long term (Metcalf & Stock, 2023).

South Africa also exports many goods produced in energy-intensive industries. A carbon tax might increase the cost of these exports, potentially reducing their competitiveness in global markets. This is especially true if trading partners do not have similar carbon pricing mechanisms (Kuik & Hofkes, 2010). In April 2023, the European Parliament approved the phased-in implementation (over the transitional period 2023- 2025) of a carbon border adjustment mechanism (CBAM). The CBAM is designed to maintain the competitive edge of European Union (EU) exports while curbing carbon leakage by aligning the carbon

pricing of imported goods with that of locally produced goods in specific industries. Therefore, the CBAM will impose a carbon price on imports whose embedded emissions have been priced lower than the EU's carbon price (European Commission, 2023).

According to the European Commission (2023), during the transition phase from 2023 to 2025, importers will not incur costs for reporting the emissions included in their CBAM imports. From 2026, they are required to declare and use CBAM certificates to compensate for their emissions. After 2034, importers will incur and pay the full cost of imported goods. Therefore, in the long term, the implementation of the EU CBAM will raise the price of South African exports to European markets, as the EU is South Africa's biggest trading partner. Therefore, South Africa's competitiveness and, consequently, the value of its upcoming exports to the EU will decline. However, this will largely depend on whether alternative, less carbon-intensive options are available (Gasealahwe, Makrelov & Ragavaloo, 2024).

Carbon leakage refers to the phenomenon where industries move their production to regions or countries with less stringent environmental regulations to avoid a carbon tax could occur in South Africa. This can undermine the effectiveness of the tax in reducing global emissions and the economic growth of South Africa if it simply shifts emissions rather than reducing them overall (Garidzirai, 2020). According to Gasealahwe et al. (2024), a more consistent carbon tax is necessary to mitigate this risk as it will provide financial resources that are significant enough to assist the economy's transition and potentially counter any adverse effects of a higher carbon price. On the upside, the carbon tax could incentivise businesses to invest in energy-efficient technologies and renewable energy sources to reduce their tax burden. This can drive innovation and lead to long-term cost savings and environmental benefits (Steckel, Renner & Missbach, 2021).

The next section discusses whether the research questions have been addressed and further discusses the study's limitations, implications and areas for future research.

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Conclusion

The objective of this study was to explore whether the South African carbon tax is achieving its desired goals and outcomes. To achieve this, the study set out to make a determination of whether the emissions had reduced as a result of the tax being implemented, establish the role that allowances play in assisting the tax to reduce emissions and identify unintended consequences that came as a result of the implementation of the tax.

The findings revealed that although the emission had reduced, it was debatable whether the decrease was as a result of the implementation of the tax, or due to factors such as the COVID pandemic and breakdowns at Eskom (SAICA, 2024; Kessides, 2020). The findings also revealed the carbon tax in its current state, offered a carbon pricing mechanism that was too lenient as taxpayers ended up with significantly low carbon tax liabilities and as a result, the tax did not sufficiently encourage GHG emission mitigations within the South African economy (International Monetary Fund, 2023; Zireva, 2020).

The findings also revealed that allowances play a crucial role in protecting industry competitiveness and ensuring effective policy implementation (Vuzane, 2020). However, due to their excessive nature, the allowances could hinder businesses from actually reducing their carbon emissions, which would then ultimately impact the effectiveness of the carbon tax itself (Creamer, 2021). The generous allowances, followed by the low rate charged on carbon emissions, hampered the carbon tax from achieving its desired goals and outcomes (Kabundu *et al.*, 2023). The phase two discussion paper also revealed that most of the allowances will not be phased out completely in phase two as initially expected but will be phased out gradually.

Lastly the implementation of the tax could be seen as regressive, as areas where alternative energy options are less available could be disproportionately affected by requiring them to spend more on energy and transport where they already have less (Goldblatt, 2010). Therefore, the carbon tax should maintain the commitments to price neutrality on electricity as this

protects the most vulnerable people from future price increases. It must, however, be supported by a legislative decision from the government to decrease the general carbon intensity of the electricity mix, in addition to increasing the quantity of renewable energy on the grid.

Limitations

The Carbon Tax Discussion Paper: Phase Two of the Carbon Tax was only briefly explored in relation to some of the allowances, and no other elements of the paper were discussed in detail. Therefore, the study may overlook other aspects of phase two that may have been relevant for the study, resulting in a gap in relation to the insight that may be obtained and other unintended consequences that may occur.

Implications

Insights from the study could assist the South African government in preventing any unintended economic consequences and disruptions, and in making sure that companies maintain their competitiveness while still meeting the established emissions reduction targets.

Recommendations for future research

It is recommended that future research be performed once phase two has been implemented to examine how allowances will influence taxpayers' carbon tax liabilities, and what impact Eskom being taxed will have on the emissions, seeing that the energy sector accounts for the most emissions and identify further unintended consequences.

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