EFFECT OF AUDIT COMMITTEES' COMPOSITIONS ON THE FINANCIAL PERFORMANCE OF SELECTED SOUTH AFRICAN STATE-OWNED ENTERPRISES

BY

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DISSERTATION

Submitted in fulfilment of the requirement for the degree of

MASTER OF COMMERCE

of

ACCOUNTING

in the

FACULTY OF MANAGEMENT AND LAW

At the

UNIVERSITY OF LIMPOPO

SUPERVISOR: PROF MB FAKOYA

2019

DEDICATION

This dissertation is dedicated to my sisters Audrey and Chitsana Nchabeleng and my late aunt, Ms Seroroke Elizabeth Matseba.

DECLARATION

I declare that the "**EFFECT OF AUDIT COMMITTEES' COMPOSITIONS ON THE FINANCIAL PERFORMANCE OF SELECTED SOUTH AFRICAN STATE-OWNED ENTERPRISES"** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

..... **.....**

Full names Date

ACKNOWLEDGEMENT

I am indebted to my supervisor, Prof MB Fakoya. Thank you for guiding, motivating and supporting me throughout the study. I sincerely appreciate the inputs and constructive academic criticisms you gave me throughout the study. Thank you!

Special thank you to my sisters, Ms Audrey and Chitsana Nchabeleng, for the unconditional support and words of encouragement throughout the study.

I also appreciate and acknowledge the support given by my aunt, Ms Norah Matseba.

ABSTRACT

The apparent weaknesses in corporate governance of state-owned enterprises and poor audit reports have heightened the concern of investors and the state as the major shareholder of these enterprises returns. Audit committees as a mechanism for good corporate governance plays a major role in enterprise performance. These state-owned enterprises play a vital role in the economy of South Africa. This study examines the effect of audit committee composition (independence, gender diversity, financial expertise and size) on financial performance measured by return on assets using major state-owned enterprises listed on Schedule 2 of PFMA. The results show that the audit committee size, gender diversity and financial expertise has an insignificant positive relationship with ROA, whereas the independence of audit committee members has an insignificant negative association. The result of the study may be beneficial to various stakeholders and boards of enterprises to make some proper decisions on audit committee composition to attract more investors and at the same time safeguarding the investments of shareholders.

Keywords: corporate governance, audit committee, enterprise performance

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CHAPTER ONE: GENERAL INTRODUCTION

1.1 Introduction

This is the introductory chapter for the study. The chapter comprises of the background of the study, followed by the motivation, statement problem, objectives, research hypothesis, scope, definition of key concept and the structure. It also provides a brief overview of the theoretical framework. Further, a summary of the research is provided, followed by a discussion on the significance of the study and conclusion.

1.2 Background

The past few years have seen several well-known state-owned enterprises with significant international operations become mired in financial scandals. According to the National Treasury 2014/15 annual report, state-owned enterprises (SOEs) had a net asset value in the 2014/15 financial year of R305 billion. However, their return on equity has dropped from 7.5% in 2011/13 to minus 2.9% in 2014/2015. Most of the decline is the result of large losses at the Central Energy Fund and South African Airways (SAA). These returns, the Treasury said, were "dismal" when compared with enterprises in the private sector. Moreover, government guarantees to SOEs (standing at R467 billion), had reached the upper limit of what could be considered prudent in the context of total government debt and low economic growth. Corruption Watch named local government in 2013 as the most corrupt institution in South Africa (Corruption Watch, 2013). The Solidarity Research Institute, in its research concluded that, "Municipal managers, CFO's and Mayors in numerous public entities around the country have, with impunity, siphoned off millions meant for serving the need of residence," (Brink, 2013: 2). For example, SOEs failures in South Africa include those of SAA, Eskom, Passenger Rail Agency of South Africa (PRASA), South African Broadcasting Corporation (SABC),

South African Post Office (SAPO), the travel gate scandal and more (Mutize & Gossel, 2017). The Auditor-General South Africa (AGSA), Kimi Makwetu, has reported a slight improvement in the audit results of national and provincial governments over the past three years (2013-14 to 2015-16). Releasing the audit outcomes of national and provincial government departments and public entities (auditees), Makwetu revealed that in the three-year period under review (2013-14 to 2015-16), 24 % of the auditees improved their audit results; 14% regressed; while the results of the majority (62 %) remained unchanged (AGSA, 2016).

The AG's latest report as of 16 November 2016 covers a total of 484 auditees, which include 169 national and provincial departments and 315 public entities with a total budget of R1.2 trillion for the year under review. Only 34% of the public entities and 26% national and provincial departments received clean audits in 2015-16 (AGSA, 2016). In diminishing the weaknesses in corporate governance, several mechanisms are introduced among which is the adoption of an Audit Committee(AC). The South African King IV Code of Corporate Governance and Sec 77 of the Public Finance Management Act (PFMA) made provision for the establishment of the AC (South Africa, 1999:63). Under Chapter 3 of the Treasury Regulations, AC must review the effectiveness of the internal control systems and internal audit functions and the risk management issues of an institution. The South African King IV Code of Corporate Governance identified issues relating to "combined assurance" which recognised that internal and external auditors could not be experts in everything and that there were areas where management would be experts (IoDSA, 2016).

ACs play an essential role in ensuring that an entity functions according to good governance, accounting, audit standards and monitors the adoption of appropriate risk management arrangements (National Treasury, 2012). The AC has always had a role to play in the relationship with enterprise auditors and approving various types of services provided by

auditors (IoDSA, 2016). The Corporate Laws Amendment Act (CLAA) (Act No 24 of 2006) created an obligation to appoint an audit committee for SOEs and set out specific duties. The new Companies Act, 71 of 2008 (the Act), identified the AC as a statutory board committee that all public enterprises or SOEs, or other enterprises that have voluntarily decided to have an audit committee, shall have the AC appointed by shareholders, not the Board of Directors (Act No 71 of 2008:174). Previously the audit committee was a sub-committee of the Board. Section 94 (7) of new Companies Act, state the primary purpose of an audit committee as to provide oversight of the financial reporting process, the audit process, the system of internal controls and compliance with laws and regulations. Audit committees will consider internal controls and review their effectiveness. Responsibilities of the audit committee typically include: Overseeing the financial reporting and disclosure process. Monitoring choice of accounting policies and principles, overseeing hiring, performance and independence of the external auditors (Act No 71 of 2008).

South African enterprises are to comply with the Companies Act 71, of 2008 (Act No 71 of 2008), which requires an enterprise to establish an audit committee that has at least three independent directors as members and has a specific responsibility that is set out in the act (KPMG, 2013). KPMG (2015) suggested that the diversity of the audit committee is also key to the committee's ability to deliver on its agenda. Iyer, Bamber and Griffin (2013) revealed that financial expertise of audit committee as a crucial factor. The study done by Lee (2014) on the independence of audit committee members influenced the effectiveness of the committee.

King IV requires an independent and suitably skilled audit committee, appointed by the shareholders. This committee also has statutory duties in terms of the Companies Act 71 of 2008, apart from the board of directors (Act No 71 of 2008:176). The duties of the audit

committee are extensive and include overseeing integrated reporting, external audit, internal audit, the risk management process and the finance function effectiveness (Act No 71. 2008 of 176). Part of its function in relation to risk management is to oversee the Information Technology (IT) risks and fraud risks as they relate to financial reporting and the internal financial controls, and this includes reporting to the board on the effectiveness thereof. The board in turn should report on the effectiveness of the system of internal controls. The effectiveness of the audit committee in the study will be measured by the size of the committee, the independence of members, female members on board and their financial expertise in the field.

1.3 Motivation

SOEs make essential contributions towards economic development, not only locally, but also regionally and internationally, in that they attract and source capital equipment, finance and partnerships (Fourie, 2014). These SOEs support the government in addressing matters of social and economic transformation, and in closing the gap between rich and poor, and rural and urban populations (Presidential Review Committee, 2013:7). The performance of SOEs is therefore, of critical priority to improve the living condition of the citizenry. Thus, the establishment of an audit committee is deemed critical as an additional internal control mechanism to enforce good governance in enterprises to improve their performance and generate more profit (Deloitte, 2015). Section 94 (7) of the Companies Act 71 of 2008 states the function of audit committees, which among them is to review financial statements quarterly and annually in public enterprises. In addition, members will often discuss complex accounting estimates and judgments made by management and the implementation of new accounting principles or regulations. In terms of National Treasury (2002), the audit committee must operate in terms of a written terms of reference, which must deal adequately with its

membership, authority and responsibilities. The terms of reference must be reviewed at least annually to ensure relevance. Also, the audit committees must interact regularly with senior financial managers such as the CFO and the Board of Directors and comment on the capabilities of these managers. It is the audit committee's responsibility to seek outside consultation where there is a solemn need to appoint and conduct a special investigation to resolve critical accounting practices identified.

Section 94(7)(a) and 94(8) of new Companies Act 71 of 2008 deals with the responsibilities of the audit committee regarding the external audit. External auditors are also required to report to the committee on a variety of matters, such as their views on management's selection of accounting principles, accounting adjustments arising from their audits, any disagreement or difficulties encountered in working with management, and any identified fraud or illegal acts. The King IV report addresses specific gaps in the effectiveness of the audit committee in public entities and SOEs (IODSA, 2016). The first gap being the removal of the responsibility for electing the chairperson of the audit committee from the audit committee itself to the board. The second gap, being that of members serving in many audit committees in various institutions which results in insufficient time for the member to fully invest his/her time in the operation and understanding of each institution which may result in fraudulent activities (IoDSA, 2016). Therefore, it is critical for audit committee members to be fully committed to SOEs and carry out their duties with outmost diligent and determination to strengthen good corporate governance. As such, it is the significance of the audit committee and the contribution of SOEs has on the economy of South Africa which motivated the researcher to examine these variables.

1.4. Significance of the study

SOEs are now important stakeholders and contributors toward supporting and promoting urban growth and development. The relevance of SOEs in emerging economies is in the provision of essential services such as energy, transportation, water and others services fundamental to government developmental agenda for national growth (Aproskie, Hendriksz & Kolobe, 2014: 2; Ngonini, 2014: 406). Moreover, SOEs have significant influence in shaping the urban landscape. Marx (2009) argues that the effective functioning of audit committees in the public sector should be examined. Given that the public sector forms an essential part of the economy, it is, therefore, crucial to investigate the effective delivery of public services. Marx (2009) argues that having effective audit committees in these SOEs can significantly increase the level of reliability of financial reporting, internal controls and risk management systems. As such, the study examines the impact of an audit committee's composition on the financial performance of SOEs. Hence, management of the SOEs could find this study useful as it investigates the outcome of their performance about the audit committee functions, which points to some possible areas where additional efforts are required for improvement. Also, the National Treasury, Department of Public Enterprise and SEC could use the findings for policy intervention. The outcome of this study will provides empirical evidence on the effectiveness of the audit committee and its attributes regarding performance, compliance and confidence of investors. The study also opens a dialogue for academics to search and delve deeper into the topic to enhance the knowledge and improve the audit committee's function and performance.

The significance of the study will be addressed in the following areas: industry, environmental, academia and society.

1.4.1 Industry

The study will contribute significantly to industry through maximising local content in encouraging growth in local industry with the emphasis on Small, Medium and Micro Entrepreneurs (SMME), Black Women-Owned (BWO) and Broad-Based Black Economic Empowerment (BBBEE) entities. This includes skills training or transfer for the youth of South Africa. The results from this study will encourage SOEs to pay more attention to the audit committee and its contribution to its financial performance and help them consider the strategic relationship between their financial indicators such as return on assets (ROA) with the composition of audit committee.

1.4.2 Academia

This study will expand existing knowledge and literature on the composition of the audit committee and SOEs and open a discussion for further research on the audit committee and management of SOE's.

1.4.3 Society

The society will benefit from the research study because SOEs can improve their performance in terms of service delivery, eradication of unemployment which stood at 27.6% as per Statistics South Africa and economic development because of the effectiveness of the audit committee.

1.5. Statement of the problem

The effectiveness of the role of audit committees had been under scrutiny over the past few years owing to failures of public sector enterprises both locally and internationally. In South

Africa, the challenge is that SOEs like the South African Airways (SAA), South African Broadcasting Corporation (SABC), Eskom and South African Express (SAE) are mired in financial scandals and these SOEs significantly contributes to economic growth, development and the gross domestic product (GDP) of the country through investments in high-growth industries such as transportation, energy, information and communication technology and export industries (Abrahams, 2011). These financial scandals revealed the need for audit committees in these SOEs to improve its role as watchdogs to ensure effectiveness of the internal control systems for improved financial performance. As mentioned by Amer, Ragab and Shehata (2014), an audit committee is regarded as an additional control mechanism of good governance to improve enterprise performance and monitor management from manipulating figures for their own interest as supported by agency theory (Emmanuel, Ayorinde & Babajide, 2014; Deloitte, 2015). Therefore, poor performance by SOEs may have been the results of non-adherence to good corporate governance practices. As such, it is crucial to provide evidence on the inadequacies or otherwise of the monitoring role of audit committees and address the concerns raised on whether their existence enhances enterprise financial performance. The significance of audit committees was emphasised in the South African King IV Code of Corporate Governance which advocated the increasing responsibilities and authority of audit committees (IoDSA, 2016). The Code further provided guidance on membership requirements and the committee composition to include more independent directors with financial expertise or experience. The Audit Committee Forum, a joint initiative between KPMG and The Institute of Directors in Southern Africa (IoDSA) was established among others to serve as a technical resource and sounding board for audit committee members and senior management (IoDSA, 2016) to improve good governance in enterprises. Because of the significant contribution of SOEs to the economy and the essential role of audit committees in forging economic growth and development, it has become necessary to examine whether the composition of audit

committees in South African SOEs has any influence on its financial performance. Moreover, there are few previous studies in South Africa that has examined the influence of audit committees' composition on their financial performance (measured as ROA) of major SOEs under Schedule 2 of PFMA.

1.6. Objective of the study

The aim of the study is to examine whether the audit committee has an influence on the financial performance, that is, ROA of SOEs and public entities. The specific objectives of the study are to:

- Examine the relationship between audit committee size and ROA of selected major SOEs listed under Schedule 2 of PFMA.
- Examine the relationship between audit committee gender diversity (female members on board) and ROA of selected major SOEs listed under Schedule 2 of PFMA.
- Examine the relationship between an audit committee with independent directors and ROA of selected major SOEs listed under Schedule 2 of PFMA.
- Examine the relationship between audit committee financial expertise and ROA of selected major SOEs listed under Schedule 2 of PFMA.

1.7. Research hypothesis

Based on the research problem and objectives, the following research hypotheses were formulated:

H_1: There is no relationship between an audit committee size and the ROA of selected major SOEs listed under Schedule 2 of PFMA.

H_2: There is no relationship between an audit committee gender diversity (female members on board) and the ROA of selected major SOEs listed under Schedule 2 of PFMA.

H_3: There is no relationship between an audit committee with independent directors and the ROA of selected major SOEs listed under Schedule 2 of PFMA.

H_4: There is no relationship between an audit committee with financial expertise and the ROA of selected major SOEs listed under Schedule 2 of PFMA.

1.8. Scope of the study

This study examines the effect of composition of the audit committee on performance of the SOEs. SOEs are important stakeholders and contributors toward supporting and promoting economic growth and development. They provide a vital contribution and output products as well as providing employment and capacity building. They include Transnet, Telkom, SABC, Eskom, SAA, Denel, the Post Office, all enterprises crucial for infrastructure. Audit committee in the context of this study was examined through its four basic attributes (size, independence, financial expertise/experience and gender diversity of the committee). This is to have a specific basis for policy and decisions recommendations from the results. The concept of performance in this study covers both financial and non-financial performance. The financial performance covers the ROA and the leverage ratio as a control variable.

1.9 Definition of key concepts

Key concepts include: the audit committee, stakeholders, corporate governance, a SOE, internal audit and controls, quality control, quality management and quality systems.

The audit committee always had a role to play in the relationship with enterprise auditors and approving various types of services provided by auditors. The Corporate Laws Amendment

Act (CLAA)(Act No 24: 2006) created an obligation on widely held entreprises to appoint an audit committee and set out specified duties. The new Companies Act, 71 of 2008 (Act No 71: 2008) identified the audit committee as a statutory board committee that all public entreprises or state-owned entreprises, or other entreprises that have voluntarily decided to have an audit committee, shall have appointed by shareholders, not the Board of Directors. Previously the audit committee was a sub-committee of the Board (Act No 71: 2008).

The definition of corporate governance most widely used is "the system by which enterprises are directed and controlled" (IoDSA, 2016). More specifically it is the framework by which the various stakeholder interests are balanced, or, as the International Finance Corporation (IFC, 2016) states, "the relationships among the management, Board of Directors, controlling shareholders, minority shareholders and other stakeholders.

IIASA describes an Internal Audit as a multidimensional discipline that spans over all sectors that have evolved to a critical position within enterprises. The internal auditor is often described as the enterprise's critical friend – the independent advisor who can challenge current practice, champion best practice and be a catalyst for improvement with the objective of ensuring that the enterprise can achieve its strategic objectives (IIASA, 2017).

Quality control – Auditors are required to comply with professional and technical standards on quality control when carrying out an audit activity (Marx, Greeff & Koen, 2006:38).

A quality management system (QMS) is a collection of business processes focused on consistently meeting customer requirements and enhancing their satisfaction. It is aligned with an enterprise's purpose and strategic direction (ISO9001:2015).

Internal control - is an essential component of management activity and a specific human activity, serving both management and business partners, public authorities or even the public (Daniela & Attila, 2013).

Stakeholder - The traditional definition of a stakeholder is "any group or individual who can affect or is affected by the achievement of the enterprise's objectives" (Freeman, 1984).

1.10. Structure of the study

The remaining chapters of this study are organised as follows:

Chapter One - General introduction

This is introductory to the dissertation. It started with the background of the research problem, to allow the users to relate the problem and its origin. The chapter also outlined the problem statement and the aim of the study. Lastly, the chapter indicated the significance of the study.

Chapter Two: Literature review

In this chapter, the study will review related theory and extant literature. An overview of legislation applicable such as PFMA (Act 1, 1999), Companies Act (Act 71, 2008), Treasury Regulations and Code of corporate governance King IV (IoDSA, 2016).

Chapter Three: Research methodology

This chapter will describe the overall research methodology used in this study. It will outline the research method and design appropriateness, the population, sample and sampling procedures, data collection, the operational definition of research variables and data analysis.

Chapter Four: Analysis and results

The chapter will address the analysis and results based on the research problem and questions. Statistical and non-statistical techniques were employed to analyse the data.

Chapter Five: Conclusion

The chapter will present the summary of the results, recommendations, future researchers, limitation of the study and the conclusion.

1.11 Summary of the chapter

The chapter provided the background to the study, the research problem and the objectives of the study. The problem statement, objectives of the study, research hypotheses and summary of research approach were covered in this chapter. The next chapter will review the relevant literature about the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Chapter One provided the background of the study, and among others, the chapter discussed the research problem, the aim of the study, a brief overview of research approach and the significance of the study. In this chapter, the study reviews related theories and extant literature identified. An overview of applicable legislation and audit committee, corporate governance and concept of SOEs were discussed. The section discusses the related literature and a summary of the section was also presented.

2.2 Theoretical framework

This section discusses underlying theoretical frameworks used in this study. Two theories are discussed in this section, namely the stakeholder and agency theories.

2.2.1 Stakeholder theory

Stakeholder theory is a theory that addresses morals and ethics within an enterprise for the smooth running of the business with its stakeholders, which among others includes customers, service providers, society, government and different political parties with each having its goals and objectives (Moriarty, 2016). Alrieke, Rotter and Mark-Herbert (2016) supported the findings of Jo, Song and Tsang (2015) that an enterprise's success depends on its ability to manage the relationship with its stakeholders to achieve its targeted goal. Bonnafous-Boucher and Rendtorff (2016a) state that stakeholders should be used to democratise business ethics, as the foundation stone of a more just and responsible corporate world.

According to Moriarty (2016), stakeholder theory also incorporates economic and ethical issues that address accountability and social responsibility to present transparency and fairness to all stakeholders with the intentions and objectives of benefiting everyone involved in the business. For stakeholders' interests to receive appropriate consideration by enterprises, stakeholders must be able to influence sound decision-making in ways other than voting, by deliberation and access to courts (or the corporate equivalent) (Moriarty, 2016).

Kristen (2015) explains that all enterprises are composed of procedures and activities, action plans, various sections and sub-sections with the primary aim of generating revenue, attracting lucrative investments and other business opportunities from different resources. Hence, Avetisyan and Ferrary (2013) state that an enterprise's attention should not only focus on customers since each stakeholder is equally important in its economic progress. The stakeholders include the society, investors, employees, service providers, customers and different political parties in the environment of the enterprise's operations, in addition to the public (Jo, Song & Tsang, 2015). Borlea, Achim and Mare (2017) mention that the board of directors, must ensure good corporate governance in creating an atmosphere of security by considering and maintaining the interest of the different stakeholders. Park and Ghauri (2015) specify that when stakeholders become aware of the ethical implication of an enterprise's actions, confidence is increased or up-surged in the credence that the enterprise will keep its quality standards to enhance corporate reputation. Therefore, it is of critical importance for SOEs to generate sufficient returns on assets (ROA), equity (ROE) and investments (ROI) to contribute strategically in promoting economic development without draining national resources, as according to Budget Review (2016), some SOEs still receive a financial injection from the government. For example, the Budget Review (2016), reported that the going-concern for the SOEs' status depends on state guarantees totalling R19.1 billion whereas the

government continues to help SOEs like the SAA to secure funding with its existing lenders. SOE boards should then protect the assets of stakeholders and ensure that they receive good returns on their investment. SOEs should then monitor and assess their performance by regarding the interests of its stakeholders and improve their returns which will boost investors' confidence.

Jo *et al.* (2015) argue that some enterprises cannot increase its value if it ignores the interest of its stakeholders, including not only financial claimants but also customers, employees, government officials and communities. Olsen (2017) states that the government have powers and capacities that other stakeholder does not have hence, the state can influence both the legitimacy of specific stakeholders and the possible set of transactions between them. In such circumstances, Kallamu and Saat, (2015) states that an audit committee is the most important committee based on their role and function within an enterprise, by ensuring adherence to internal policies and procedures, minimising and managing risk and guarding the interest of all stakeholders. Also, as an established mechanism to strengthen corporate governance, the audit committees assure stakeholders of accurate and transparent financial information. Hence, Ioana and Mariana (2014) state that by building and upholding the confidence of stakeholders and the public, the image of the SOEs will be enhanced.

The stakeholder theory is the output of the work of previous studies produced by Berle and Dodd in 1930s, (Dodd, 1932). Dodd (1932) opines that board of directors as the custodian of enterprises believes that they have the responsibility to protect the interest of stakeholders and their social conduct. However, Ahmadi and Bouri (2016) conclude in their study that business strategists must be aware of the needs of their stakeholders. As such, Avetisyan and Ferrery (2013) suggest that an enterprise's responsibility is to serve others (customers, employees, society and suppliers, its shareholders). Furthermore, SOEs should incorporate the interests of

these diverse stakeholders in the business, understand their values and also offer a way to promote enterprise's responsibility (Mishra & Suar, 2010). Avetisyan and Ferrery (2013) argue that the board of directors as management of a corporation must develop and maintain their relationships to inspire their stakeholders and create an environment where everyone involved performs to achieve the goals, mission and values of the enterprise promises. Moreover, SOEs are essential stakeholders and contributes toward supporting and promoting urban growth and development (Ovens & Associates. 2013). SOEs form one of the largest sectors of the economy not only in South Africa but also in many African countries and contributing significantly towards national development (OECD, 2014). Additionally, Riner (2017) concludes that an audit committee adds value to an enterprise through its ability to provide independent assurance to the board that the information and actions of management are in the best interest of the enterprise. Hence, the importance of the effectiveness of the composition of the audit committee to the financial performance of SOEs and its obligation to economic growth its relevant to the study.

2.2.2 Agency theory

Agency theory explains the relationship between the principals and agents (Hannafey & Vitulano, 2013). Shareholders, management, external actors like creditors and investors are referred to as the agents (Brealey, Myers & Allen, 2017), and the theory about these different interests are referred to as the agency theory (Yazdanfar & Ohman, 2014). Bosse and Phillips (2016) believe that the agency theory is a fundamental theory of economic enterprise and management which concentrate on enterprise's risk management policies, enterprise structure, reimbursement, incentives, and other payment plans. Agency theory originated early in the 1970s by scholars like Stephen Ross and Barry Mitnick (Mitnick, 2006). It has been embraced widely in various research areas such as in management field in identifying whether the

management in the Shariah-approved entreprises in Malaysia will fulfil their interest through earnings management (Abdullah, 2013). Also, in the information and communication technology (ICT) field, in determining how to encourage the academic employee to continue with the use of ICT in management (Boe, Gulbrandsen, & Sorebo, 2015). And lastly, in supply chain management (SCM) to achieve a more significant understanding of the correlation between the logistic service providers and the shipper (Kudla & Wissing, 2012).

According to Bosse and Phillips (2016), the agency theory can be used to understand various enterprise's activities as the dominant theory of economic enterprise and management. However, once agents are appointed, they tend to be opportunistic, placing their interest ahead of the principals (Evans & Tourish, 2016). With the high percentage of corruption by agents, the agency theory assumes that there will be conflict of interest if the agent pursues its interest, thereby encouraging the principal to put monitoring mechanisms in place to minimise and control self-interest activities of the agent (Jensen & Meckling, 1976; Fama & Jensen, 1983) such as the segregation of duties between the agent and the principal (Hannafey & Vitulano, 2013). Therefore, to avoid or control self-interest activities by the agent, policies and procedures should be adopted to ensure that there is proper segregation of duties between the agent and the principal. Similarly, enterprises should pay more attention towards professional accountability, i.e., how truthful the two parties are towards their profession in reinforcing good corporate governance to yield profitability in SOEs.

Bosse and Phillips (2016) state that the principal must monitor the activities of the agent and reward his or her activities to ensure that the agent acts accordingly. Meanwhile, audit committees are established as a measure to enhance good corporate governance, and many studies have proved that the composition of the audit committee reduces fraudulent activities and self-serving nature of agents (Huang & Thiruvandi, 2014; Lee, 2014; Terblanche, 2012).

Kallamu and Saat (2015) state that the board of directors should put proper mechanisms in place such as audit committees with financial and legal expertise, establish the number of meetings to be held by the audit committee, determine the size of the audit committee and ensure the independence of the audit committee to reduce corrupt practices by agents. Additionally, Madi, Ishak and Manaf (2014) observe that due to the availability of asymmetric information the agent would seek an opportunity to maximise personal benefits instead of the best interests of the principal. However, the lack or failure of adequate monitoring by the principal may lead to falsification of or hoarding of information (Boe *et al.,* 2015). Lee (2014) supports the argument of the agency theory that a higher the number of independent audit committee members will improve enterprise performance since the agency theory assumes that managers are usually selfish and act with individualistic actions. Baccouche (2015) opines that audit committee that is held by non-executive directors with various relevant qualifications, knowledge and experience of the related business field and with gender diversity can act as a useful monitoring tool to improve the integrity of financial information and solid reputation thereby eliminating the conflict of interest by an agent.

Bosse and Phillips (2016) stressed that the agency theory provides a basis for the governance of enterprises through various internal and external mechanisms. Terblanche (2012) indicates that, universally, SOEs are created as distinct legal enterprises wholly owned by the state or enterprises in which the state may be a majority shareholder. They operate the state's commercial affairs often with public policy objectives. An agency relationship is a contract whereby the principal appoints an agent to perform some services on their behalf, which may involve delegating some decision-making authority to the agent (Jensen & Meckling, 1976). The term "agency problem" according to Kulik (2005) was added to agency theory which occurs when the principal and the agent have different goals and conflicting interest. Moreover,

the World Bank has identified corruption by public office holders as a significant reason for the diversion of public resources into private accounts for personal benefits for the inefficiency in SOEs (Adisa, 2013).

In the South African context, SOEs appoint the agents (executive managers) often deployed by the ruling party who acts as the principal (shareholder), and this is accountable for the inefficiency of these SOEs (Zu & Kaynak, 2012). Terblanche (2012) states that the political appointment of incompetent individuals and political meddling in SOEs by the ruling party are some of the reasons for corruption and non-adherence to good corporate governance practices failing the SOEs. Desai and Olofsgard (2011) argue that politicians require firms to provide goods of political value for economic privileges (known as the elite exchange). Also, Domadenik, Prašnikar and Svejnar (2015) state that when corruption is not penalised because of weak political institutions, the level of corruption will increase.

Kanyane and Sausi (2015) indicate that political interference and conflict of interest is appalling in the SOEs' sector and it is a global challenge because many countries have the same challenges. Further, van Staden (2017) argue that political interference (e.g. in the procurement process, the appointment of an administrator) in the running of SOEs are substantial especially in sub-Saharan Africa and negatively affects the performance of SOEs. For example, the South African Public Protector's office investigated the SABC for allegations of maladministration, systemic corporate governance deficiencies, abuse of power and the irregular appointment of the Chief Executive Officer of the SABC. At PRASA, the Office of Public Protector (Public Protector, 2016: 3) investigated allegations of victimisation of employees, maladministration relating to financial mismanagement, procurement processes not correctly followed, e.g. with the appointment of Vimtsire Security Services Enterprise and Royal Security.

In brief, the SOEs Policy Dialogue Report (2012: 11) state that there is an aspect of political interference by the ruling party in government which is always confused with intercession and interface. Therefore, the existence of an audit committee is crucial to SOEs as a measure for good corporate governance and a monitoring mechanism to align the interests of agent and principal (Madi *et al.,* 2014). Kallamu and Saat (2015) opine that audit committees have emerged as an essential governance mechanism aimed at safeguarding the rights of investors by reducing information asymmetry and providing true and fair information about the enterprise. Similarly, Aanu, Odianonsen and Foyeke (2014) indicated that audit committee's role is significant for the protection of shareholders and other stakeholders' interests.

This study is therefore supported by the agency theory, because of the psychological credence that conflict of interest exists between the agents (board of directors) and the principals (owners which is the state), and that the audit committee is a control mechanism in the equation. That is, while management is self-serving agents, an act that erodes economic performance, the audit committee is expected to ensure management act in the best interest of all stakeholders. Thus, its positive relationship is expected on an enterprise's financial performance.

2.3 Legislative overview

This section discusses underlying legislative frameworks relating to this study.

2.3.1 Overview of state owned enterprise in South Africa

The PFMA was promulgated in 1999 and became effective on 1 April 2000. The PFMA gave effect to the provisions in the Constitution of the Republic of South Africa, No. 108 of 1996 (South Africa, 1996), relating to national and provincial spheres of government PFMA (Act 1 of 1999). The steering Point Companies Act Series, No. 4 (PWC, 2012) states that the PFMA

established the term ‘national government business enterprise’, which is defined in Section 1 “as an entity which:

- is a juristic person under the ownership control of the national executive;
- has been assigned financial and operational authority to carry on business activity;
- as its principal business provides goods or services by ordinary business principles; and
- is financed fully or substantially from sources other than
    - the National Revenue Fund; or
    - by way of tax, levy or other statutory money (PWC, 2012).”

The Companies Act, 2008 (Act 71 of 2008) established the term ‘state-owned enterprise’, which is defined in Section 1 as: …" an enterprise that is registered regarding this Act as an enterprise, and either

- is listed as a public entity in Schedule 2 or 3 of the Public Finance Management Act, 1999 (Act No. 1 of 1999); or
- is owned by a municipality, as contemplated in the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000), and is otherwise similar to an enterprise referred to in paragraph (a).”

The Department of public enterprise (2002) states that South African SOEs form a significant portion of vital industries with a total asset of R755.4 billion that drive the economy by providing factor inputs, with three key inputs, electricity, transportation and telecommunications dominated by SOEs. Vergotine and Thomas (2016) documented that SOEs play a central role assisting governments to promote the well-being of citizens in

developing countries. Twenty-one (21) SOEs are classified as Schedule 2 major public entities. These major SOCs contribute substantial financial, investment, labour, technology, and infrastructure resources, and are dominant across sub-Saharan Africa's transport, freight logistics, communication, energy, and defence-related sectors (Department of Public Enterprises, 2015:22). Furthermore, scholars such as Bantug (2014), Kowalski, Buge, Sztajerowska and Egeland (2013) and Chavez and Torres (2014) affirm that SOEs also play a critical role in job creation for its citizens in the roll-out of goods and services. Without these key SOEs, the resources, tourism, information technology and manufacturing sectors among other things could not function effectively. These sectors are principal drivers of the formal sector economy and provide for the bulk of economic growth (Department of Public Enterprises, 2002). The Department of Public Enterprises (DPE) is the government shareholder representative, with oversight responsibility for some Schedule 2 SOEs, such as Transnet Limited, SAA, Eskom, Pebble Bed Modular Reactor, Denel, Alexkor Limited, South African Forestry Enterprise Limited and Ariviakom (Pty) Ltd.

The Government, as a major shareholder in SOEs face a wide range of risks associated with the operations of SOEs, including financial, reputation, political and operational risks. SOEs are critical vehicles for the delivery of goods and services and can contribute to the sustainable economic growth of developing countries (Radasi & Barac, 2015). The contribution of SOEs to the South African economy is illustrated in Figure 2.1 which represents the DPE SOEs asset value.

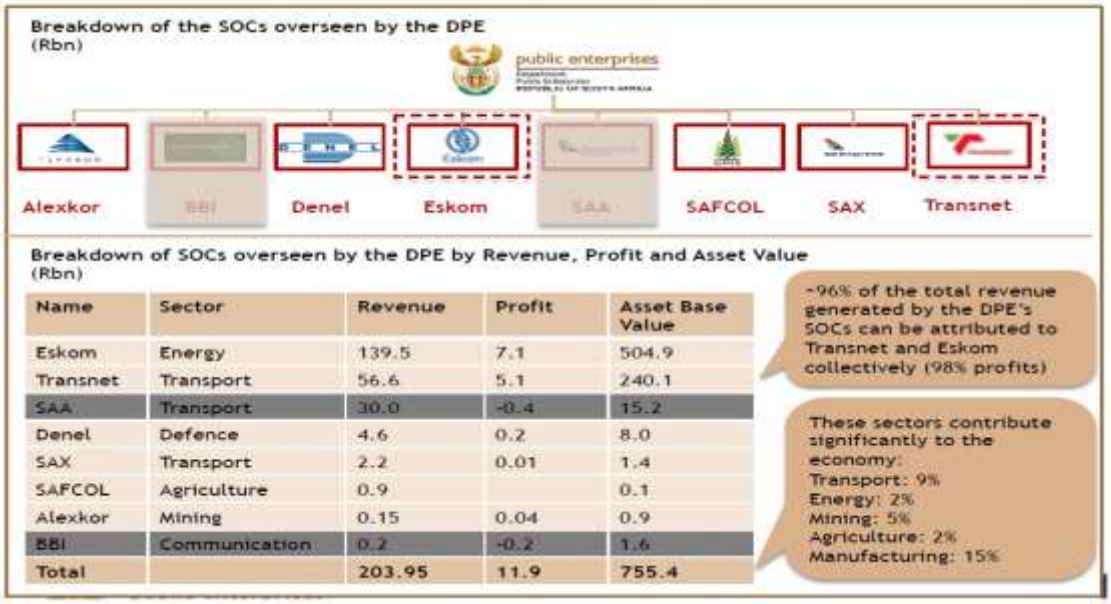

Figure 2. 1: Breakdown of SOEs overseen by the Department of Public Enterprises

Sourced from DPE (Accessed: 11 November 2017)

The critical importance of SOEs as strategic providers to all sectors of the economy, clearly demonstrates the relevance of SOEs in emerging economies, particularly where they operate in strategic sectors with responsibility for the provision of services that are deemed to be of national interest (Aproskie *et al.*, 2014: 2) and fundamental to the government's development agenda (Ngonini, 2014: 406). On 12 May 2010, the President of South Africa publicly announced the appointment of the Presidential State-Owned Entities Review Committee to review the role of SOEs (Chabane, 2010: 1). Nellis and Kikeris (1989: 667) explain that governments often decree that their SOEs must operate in a commercial, efficient and profitable manner, but at the same time, they insist that SOEs must:

- provide goods and services at prices less than cost-covering,
- serve as creation centres of employment,
- receive their supplies from state-sanctioned suppliers, and

- choose plant locations on political rather than commercial grounds.

The OECD Guidelines on Corporate Governance of SOEs (2005: 3,18) underscores ways of balancing the state's responsibility to implement its ownership functions (such as selection and nomination onto supervisory boards) actively, while at the same time resisting inappropriate political interference in the governance of SOEs. Klapper and Love (2002: 36) write that the ownership of the state, when exercised in a professional and responsible manner, attempts to improve corporate governance in all sectors of the economy. SOEs are different from private corporations in that the choice of managers may be made on a political basis rather than merit (Kanyane & Sausi, 2015). Perhaps this explains why in the SOEs' context, governance structures are convoluted with a political cloud and unmerited compensations (Kanyane & Sausi, 2015).

2.3.2 The Constitution

The Constitution of the Republic of South Africa (1996) enshrines the rights of all South Africans to equality and provides for specific measures taken to redress historical imbalances. The acts of law and prescribed policies address this constitutional imperative (Bronstein & Olivier, 2011: 196). The Constitution aims to dismantle the machinery of apartheid and transform society in all areas from education to the arts, from health care to the justice system. Key values and principles found in the Constitution have given rise to policies of affirmative action, black economic empowerment, gender equity and environmental policy. These principles and values have an inherent influence on legislation and policies that impact on SOEs.

2.3.3 Public Finance Management Act (Act 1 of 1999)

The Public Finance Management Act (PFMA) is a key element set to improve management of government finances. It intends to secure accountability and sound management of the revenue, expenditure, assets and liabilities of public sector institutions. The establishment of an audit committee is emphasized under Section 77 of the Act. Furthermore, the statutory requirements are outlined to achieve the objectives of the Act. As mentioned by the National Treasury (2002) the audit committees of SOEs may also be shared between an SOE and its subsidiaries.

2.3.4 Code of Corporate Governance: King IV (IoDSA, 2016)

Corporate governance referred to as King I was published in 1997, King II followed in 2002 on Corporate Governance, King III in 2009 and in 2016 King IV was published. The reports established recommended standards of code of conduct for the boards and directors of listed enterprises, SOEs and other public, private and non-profit entities which included not only financial and regulatory aspects, but also advocated an integrated approach that involved all stakeholders including SOEs (Kanyane & Sausi, 2015). The intention was to provide guidelines on the implementation of corporate governance, suggesting by implication, a consistent standard to which SOEs can adhere (Kanyane & Sausi, 2015). These codes of corporate governance are concerned with the role and responsibilities of the governing body and its interaction with management and other material stakeholders. The governing body is the focal point of corporate governance in an enterprise, and hence the primary audience of King IV (IoDSA, 2016).

2.3.4.1 Objectives of King IV

These objectives are to:

- Promote corporate governance as integral to running an enterprise and delivering governance outcomes such as an ethical culture, good performance, effective control and legitimacy.
- Broaden the acceptance of the King IV by making it accessible and fit for implementation across a variety of sectors and enterprise of all types.
- Reinforce corporate governance as a holistic and interrelated set of arrangements to be understood and implemented in an integrated manner.
- Encourage transparent and meaningful report to stakeholders.
- Present corporate governance as concerned with not only structure and process, but also with an ethical consciousness and conduct.

From the above, it is observed that the objectives of King IV play a significant role in enforcing and promoting good corporate governance. Professionals like the CEO, the board of directors, the shareholders and the audit committee need to cooperate and mutually run enterprises for the interest of all the stakeholders. Therefore, the audit committee must maintain its commitments to code of conduct, ethics and values in enterprises, for its composition to be effective to discharge its functions in improving enterprise's overall performance.

2.3.4.2 Corporate governance reform

The first King Report was instrumental in raising awareness of what constitutes good governance, both in the private and public sectors. It offered to enterprises and SOEs a coherent and disciplined governance framework that was relevant to local circumstances and offered practical guidance (IoDSA, 2016). Some of the more significant measures that reinforced the corporate responsibility issues highlighted in the King Report included:

- the revision of the listing requirement of the former JSE, first in 1995 and again in 2000 (KPMG, 2013),
- Labour Relations Act (1995),
- The Basic Conditions of Employment Act (1997),
- The Employment Equity Act (1998)
- The National Environmental Management Act (1998).

The above Acts supports SOEs in promoting economic development and social justice. The Acts are therefore relevant to this study as they assist the audit committee to fulfil its corporate governance and overseeing responsibilities about an enterprise's financial reporting; internal control and risk management systems; and internal and external audit functions. Also, the acts encourage the audit committee to promote fair and equal rights between all stakeholders and for the enterprises to adhere to policies and procedures to enforce good corporate governance which will lead to the better financial performance of SOEs.

2.3.4.3 Key principles of King IV (IoDSA, 2016)

The philosophy of the report revolves around leadership, sustainability and corporate governance which are relevant to the administration of SOEs. To facilitate an understanding of the thought process, debate and changes in the report, the following fundamental principles should be highlighted:

- The governing body should lead ethically and effectively.
- The governing body should govern the ethics of the enterprise in a way that supports the establishment of an ethical culture.

- The governing body should ensure that the enterprise is and is seen to be a responsible corporate citizen.
- The governing body should appreciate that the enterprise's core purpose, its risks and opportunities, strategy, business model, performance and sustainable development are all inseparable elements of the value creation process.
- The governing body should ensure that reports issued by the enterprise enable stakeholders to make informed assessments of the enterprise's performance and its short, medium and long-term prospects.
- The governing body should serve as the focal point and custodian of corporate governance in the enterprise.
- The governing body should comprise the appropriate balance of knowledge, skills, experience, diversity and independence for it to discharge its governance role and responsibilities objectively and effectively.
- The governing body should ensure that its arrangements for delegation within its structures promote independent judgement and assist with the balance of power and the effective discharge of its duties.
- The governing body should ensure that the evaluation of its performance and that of its committees, its chair and its members, support continued improvement in its performance and effectiveness.

From the above discussion, it was noted that the principles of King IV were designed to help strengthen good corporate governance by stipulating good practices on leadership for sustainability in the corporate world. These principles carry essential elements for different committees of the enterprise, i.e. audit committee and the board of directors. Furthermore, the principles also outline the importance of gender diversity, skills and knowledge and

independence of members to discharge their roles and responsibilities effectively to improve enterprise's performance.

2.4 Companies Act (Act 71 of 2008)

The Companies Act (Act 71 of 2008) was established to promote compliance with the Bill of Rights as provided for in the Constitution of the Republic of South Africa in the application of company law with the aim for enterprises and SOEs to operate in the best interest of all stakeholders. Section 94 (Act 71 of 2008) also requires enterprises to have an audit committee, and Section 94(2) and further states membership requirements as stipulated in Section 94(4) and (5). The provision of section 94(4) of the act outlined the composition of the audit committee which includes the following (Act, 2009):

- The committee must consist of at least three members that are directors of the enterprise and meet the minimum qualification
- Member must not be part of the daily operational activities of the enterprise;
- Members are not full-time employees of the enterprise
- Members are not material supplier or customer of the enterprise, which could result in the independence of such a director being questioned.

As such, SOEs should ensure compliance with the provision of section 94(4) of Companies Act for enterprises to adequately perform its duties and responsibilities to improve the financial performance of SOEs. Also, for the audit committee to function effectively and efficiently, SOEs should comply with other relevant legislations, policies and procedures applicable to SOEs in South Africa such as PFMA (Act 1 of 1999), King IV, JSE requirements (KPMG, 2013), CLAA (Act 24 of 2006), etc.

The duties of audit committee according to section 94 (7), among other things, are as follows:

- The appoint the external auditor and determine the audit fees and terms of engagement;
- To ensure that the appointment of the auditor complies with the provisions of the Companies Act and any other legislation;
- To determine the nature and extent of any non-audit services and preapproved any proposed agreement for the provision of non-audit services;
- To prepare a report, to be included in the annual financial statements for that financial year;
- To receive and deal appropriately with any concerns or complaints, whether from within or outside the SOE or on its initiative, relating to:
- The accounting practices and internal audit of the SOE;
- The content or auditing of the SOE's financial statements;
- The internal financial controls of the SOE; or
- To make submissions to the board on any matter concerning the SOE's accounting policies, financial control, records and reporting; and
- To perform other oversight functions determined by the board.

From the above discussion, it was noted that for SOEs to achieve sustainable economic growth board of directors should enforce robust monitor tools to ensure compliance to legal and regulatory provisions, its articles of association, code of conduct, by-laws and the rules established by the board.

2.5 International Financial Reporting Standard (IFRS)

As per the new Enterprises Act and King IV the audit committee is responsible for the quality of the financial statement, reports and records, hence the audit committee should be familiar with the accounting standard required for disclosure of the financial statement. The South African Institute of Chartered Accountants (SAICA, 2015) emphasises the preparation of the annual financial statements. In South Africa, the disclosure of annual statements of enterprises is informed by International Financial Reporting Standards which consist of 28 IAS statements, 26 IFRIC and SIC interpretations and 14 IFRS statements (SAICA, 2015).

2.6 Conceptual framework on audit committee

The audit committee had received attention since 1970, because of the well-known Watergate investigation, corporate scandals and bankruptcies, which have placed substantial emphasis on corporate accountability to maximise stakeholder's confidence in the quality of enterprise's financial reporting (Braiotta, 2004:438). Thus, the JSE Limited, the new Enterprises Act No 71 of 2008, MFMA Act No 56 of 2003 and PFMA Act No 1 of 1999 requires public entities and SOEs to appoint an audit committee (Cascarino & Van Esch 2007:190). Corporate governance in the public sector is dependent on the performance and effectiveness of audit committees, and due to the myriad of developments such as King I, King II, King III and the recently published King IV, as well as legislation such as PFMA, it becomes imperative that the effectiveness of audit committee be measured or assessed (Dintwe, 2016).

Audit committees can be, measured against, many indicators and characteristics in an enterprise. The number of members, the audit committee structure regarding the proportion of non-executive members, annual frequency of meetings, the members' professional experience in finance and accounting, members' independence and the position of the audit committee

regarding corporate governance (namely the entity's compliance with the Corporate Governance Code). As a result, the audit committee is one of the key committee that assist the board of director to carry out their responsibility within SOEs.

2.7 Concept of corporate governance in South Africa

The Corporate Laws Amendment Act (CLAA) (2006) created an obligation on widely held enterprises to appoint an audit committee and set out specified duties. The new Companies Act, 71 of 2008 (the Act), identified the audit committee as a statutory board committee that all public enterprises or SOEs, or other enterprises that have voluntarily decided to have an audit committee, shall have appointed by shareholders, not the Board of Directors. The public-sector entities operate within a unique regulatory framework of legislation and regulations for compliance. The King IV is clear on who is charged with specific governance responsibilities, and its application is encouraged. King IV, defines corporate governance as the exercise of ethical and effective leadership by the governing body towards the achievement of ethical culture, excellent performance, effective control and legitimacy (IoDSA, 2016).

Armstrong, Segal and Davis (2006) state that corporate governance has been a reasonably well-developed concept in South Africa since the establishment of the King Committee on Corporate Governance in 1992, at the instigation of the Institute of Directors of Southern Africa (IoDSA) and the release of the first King Report in November 1994, which took its name from the Chairman of the Committee, Mervyn King, a prominent businessman and High Court Judge. It was not stimulated by any significant crisis in the corporate sector at that time; instead, it concerned the competitiveness of the South African private sector following the readmission of the country to the global economy following its transition to a fully-fledged democracy after the collapse of apartheid (Armstrong *et al*., 2006). King IV (IoDSA, 2016) describes the basic

good governance principles, to achieve four outcomes: effective leadership with an ethical culture, value creation in a sustainable manner, adequate and effective controls, and trust and confidence in the legitimacy of the enterprise's operations. Jesover and Kirkpatrick (2005) state that the OECD principles of corporate governance provide specific guidance to policymakers, regulators and market participants in improving the legal, institutional and regulatory framework that underpins corporate governance, with a focus on publicly traded enterprises.

The first King Report drew attention to the importance of a properly functioning board of directors as a critical ingredient of good corporate governance (IODSA, 2016). It advanced many of the standards and principles advocated in the plethora of national codes that were adopted, particularly in the Commonwealth countries, following the release of the Cadbury Report in the United Kingdom in 1992 (IODSA, 2016). The King Report was distinguished by its integrated approach to good governance regarding financial, social, ethical and environmental practise, to serve the interests of a wide range of stakeholders (Armstrong *et al*., 2006). This probably reflected the considerable role that business has played in South Africa in both social and economic issues, especially during the period leading up to the political transition from a white minority-dominated system to a democratically elected black majority government (Armstrong *et al*., 2006).

2.8 Definition of corporate governance and key principles by OECD

The definition of OECD illustrates the principles of corporate governance and demonstrates that it is concerned with both the internal aspects of the enterprise, such as internal control and the external aspects, such as an enterprises relationship with its shareholders and other stakeholders.

The IFC (2016) defined corporate governance as: “the structures and processes for the direction and control of entreprises. Corporate governance concerns the relationships among the management, board of directors, controlling shareholders, minority shareholders and other stakeholders. It contributes to sustainable economic development by enhancing the performance of enterprises and increasing their access to outside capital. Thus, SOEs were established to ensure the country’s economic sustainability and self-sufficiency i.e. Eskom being the largest producer of electricity in South Africa (approximately 95%) and Africa (approximately 45%) (Eskom 2011(a):13), Denel being a major participant in South Africa’s defence-related industries and SAPO being the national postal system. Shbeilat (2014) and Dintwe (2016) argue that there has been a proliferation of studies about corporate governance in South Africa and the audit committee as the corporate overseer. Scholars such as Campbell and Minguez-Vera (2008) and Afify (2009) have made submissions regarding corporate governance, and some have explicitly referred to the audit committees, their composition as well as their responsibilities. A distinctive work that is presented by van der Nest, Thornhill and de Jager (2008) looks at how active the audit committees have been in the South African context.

Additionally, Writer (2017) mentioned that the public perception of SOEs in South Africa has not been good. He further mentioned that the rating agency S&P Global and Fitch downgraded South Africa's credit rating to full junk status - whereby the country's local and foreign currency debt is rated at sub-investment grade (Writer, 2017). Mutize and Gossel (2017) reveal that the current economic predicament in South Africa is the result of mismanagement mainly created by the looting of SOEs. McGregor (2015) argued that the many court cases and scandals in South African SOEs reflect self-interest rather than a commitment to the wellbeing of the entity or the country. As a result, the audit committee should reinforce good corporate governance by

minimising risk and commit enterprises to their policies thereby restoring investors' confidence.

2.8 OECD principles of corporate governance

Under Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD, 2015) shall promote policies designed to:

- Achieve the highest sustainable economic growth and employment and a rising standard of living in member countries, while maintaining financial stability, and thus, to contribute to the development of the world economy;
- Contribute to sound economic expansion in the member as well as non-member countries in the process of economic development; and
- Contribute to the expansion of world trade on a multilateral, non-discriminatory basis by international obligations.

Based on the above principles of OECD, the audit committee as a mechanism for good corporate governance will be more effective in assisting on the transparency and integrity of financial reporting and, thereby, maintain the investors' confidence. Therefore, the basic principles of good corporate governance are an essential element for investment decisions, financial stability and economic growth. That is, adherence to policies and procedures, laws and regulations and international standards will ensure higher returns on assets, equity and investments which will also ensure the creation of employment, combat crime and corruption and improve the living condition of the citizen.

OECD (2015) states that for good corporate governance, the state must avoid either undue political interference or lack of oversight due to passive state ownership that results in negative performance. As such, it is important for the ownership entity to focus on the effective exercise of ownership rights. It further mentioned that the state as an owner should typically conduct itself as any major shareholder when it can significantly influence the enterprise and be an informed and active shareholder when holding a minority post. SOEs should, therefore, observe high standards of responsible business conduct. Since the principles were agreed in 1999, they have formed the basis for corporate governance initiatives in both OECD and non-OECD countries alike (OECD, 2014). Moreover, they have been adopted as one of the Twelve Key Standards for Sound Financial Systems by the Financial Stability Forum. Accordingly, they form the basis of the corporate governance component of the World Bank/IMF Reports on the Observance of Standards and Codes (ROSC) (OECD, 2015)

The principles are intended to assist OECD and non-OECD governments in their efforts to evaluate and improve the legal, institutional and regulatory framework for corporate governance in their countries. Additionally, the principles are to provide guidance and suggestions for stock exchanges, investors, corporations, and other parties that have a role in the process of developing good corporate governance. Corporate governance reforms, new legislation and best practice guidelines introduced globally during the past several decades have bolstered the audit committee's role and responsibilities in the financial reporting process (Sultana, Singh & van der Zahn, 2015). The OECD principles focus on publicly traded enterprises, both financial and non-financial (OECD, 2014). However, to the extent they are deemed applicable, they might also be a useful tool to improve corporate governance in non-traded enterprises, for example, privately held 20 and SOEs. The Principles represent a basis that OECD member countries consider essential for the development of good governance

practices (OECD, 2015). The OECD principles presented cover the following areas: ensuring the basis for an effective corporate governance framework; the rights of shareholders and key ownership functions; the equitable treatment of shareholders; the role of stakeholders; disclosure and transparency; and the responsibilities of the board. Government and the SOEs should recognise and respect stakeholders' rights established by law or through mutual agreements (OECD, 2014).

2.9 Audit committee performance measures

In South Africa, it is compulsory for SOEs to establish an audit committee (IoDSA, 2016; Act 1 of 1999; Act 71 of 2008; Act 24 of 2006) to prevent fraudulent activities and provide accurate financial information within SOEs. Companies Act 71 of 2008 states that an audit committee is a governance control designed to oversee financial reporting, internal controls to assess risk and audit activities (Lin, Hutchinson & Percy, 2013). The audit committee plays an important role in the effectiveness of corporate governance in monitoring the activities of the enterprise within the scope of its terms of reference or audit committee charter (Lee, 2015; Ng, 2013). OECD (1999, 2004) indicate that in strengthening the monitoring role of corporate governance, one approach is to strengthen the audit committee thereby reducing or eliminating the possibility of fraudulent accounting practices as it happened in Enron's case. Lee (2015) support the notion that the composition of an audit committee is a vital governance instrument as the presence of outside directors are a monitoring tool against the action of managers and a safeguard to shareholders' interests.

Zabri, Ahmad and Wah (2016) find that the presence of a committee and the committee's specific qualities of independence, financial expertise, and an increased activity positively correlate with reduced frequencies of internal control problems. Furthermore, Iyer, Bamber and

Griffin (2013) found that audit committee's experience is valued positively by the board of directors when designating an audit committee member as a financial expert. Hence, Contessotto and Moroney (2014) and Abernathy, Beyer, Masli and Stefaniak (2015) suggest that audit committee effects are likely to reduce financial reporting lead times. In the study, Lee (2015) indicates that though the audit committee's responsibility is to guard against the questionable conduct of management, it does not have the power to demand the directors or senior management to correct their misconduct, nor can it directly report such incidences to the external and higher level regulatory institutions. As such, Lee (2015) concludes that the effectiveness of the audit committee controls is bound to be negatively affected. Even though the audit committee has the function of proposing the appointment or dismissal of the external audit institutions, such proposals cannot take effect until approved by the board of directors.

2.10 Audit committee as a phenomenon of good corporate governance

Audit committees originated in the private sector and were initially introduced in large enterprises. These committees were first introduced in 1872, with the first audit committee being established by the Great Western Railway in the United Kingdom (Marx, 2009c: 13, as cited in Brewer, 2011: 11). Audit committees were established as subcommittees of the board of directors, and because of this structural arrangement, they became accountable to the board (AI-Lehaidan, 2006:37). Section 76(4)(d) and section 77 of the PFMA (PFMA 1 of 1999), in combination with Treasury Regulation 3.1.8, require each departmental accounting officer to set up an independent audit committee. The PFMA requires that the audit committee meet at least twice annually, in addition to meeting with the Auditor General (AG) at least once per a calendar year (Act 76 of 1999).

Van der Nest *et al.* (2008) state that the National Treasury (2001:2) cites audit committees as being an integral part of the process of transparency, accountability and improved financial management. This is the reason why audit committees have become a legislative requirement for government. Regarding the PFMA, 1999 audit committees are compulsory for national and provincial government departments, as well as for public entities under the control of the government (Act 1 of 1999). Expanded accountability extends to the sphere of local government; audit committees have become a legal requirement for all municipalities regarding the Local Government: Municipal Finance Management Act, 2003 (Act 56 of 2003).

The Companies Act determines that the shareholders at every annual general meeting must appoint an audit committee for public enterprises and SOE (Act 71 of 2008). The King IV Code of Corporate Governance, 2016 sees an audit committee as a committee established to oversee the accounting and financial reporting processes of the issuer and audits of the financial statements of the issuer (IoDSA, 2016). Section 76(4)(d) and section 77 of the PFMA (PFMA, 1999), read in conjunction with Treasury Regulation 3.1.8, require each departmental accounting officer to set up an independent audit committee. The committees established regarding these regulations must operate in compliance with written terms of reference. The PFMA requires that the audit committees meet at least twice annually, in addition to meeting with the Auditor General (AG) at least once in a calendar year.

In addition to the requirements outlined above, Treasury Regulation 3.1.8 and the PFMA require that the committee members meet annually, independently of management of the department concerned. Regarding the chairperson of the audit committee, Section 76(4)(d) and 77 of the PFMA, read together with Treasury Regulation 3.1.4, requires the chairperson to be independent, knowledgeable of the status and position for which they have been selected, and must have the requisite business, financial, and leadership skills. The selected chairperson may

not be an employee of the department concerned. Concerning the activities of the audit committee, Treasury Regulation 3.1.10(g) requires the audit committee to coordinate all assurance activities in the department, which includes the activities of internal audit, external audit, other assurance providers, and management. Additionally, Treasury Regulation 3.1.13 sets out the requirements relating to the audit committee's review of and reporting on financial controls, and on the quality of management in the institution. Regarding risk management, Treasury Regulation 3.1.10(c) requires the audit committee to review the key areas of risk to be covered by the internal and external audit. Treasury Regulation 3.2.7(a) requires that the strategic internal audit plan is based on key areas of risk facing the institution and consider its risk management strategy.

2.10.1 Effectiveness of audit committees

Zabri *et al.* (2016) and Ng (2013) state that an audit committee's effectiveness depends on its character. Moreover, a comprehensive assessment of the effectiveness and contribution of the audit committee to enterprises should be conducted, considering its charter and the responsibilities of the audit committee is anticipated to accomplish (Deloitte, 2009). Also, Leblanc (2007) emphasised the importance of private meetings with the head of internal and external audit *(*for example, *private, in camera, executive sessions or consultations outside of meetings)* which would contribute significantly to the audit committee's efficiency. Therefore, there should be an open and complete channel of communication where questions are asked in a safe environment, pursuing substantial matters to a satisfactory resolution that will advance internal control, thereby improving enterprise's performance (PwC & IIARF, 2011). Dobija (2015) and Ng (2013) emphasises that there are five (5) characteristics of an audit committee to function effectively. The characteristics according to the study, precisely relates to the composition of the audit committee, which is defined as follows:

- The chairperson of the audit committee should be independent.
- The audit committee members must have financial and expert knowledge of the industry.
- The audit committee must be diverse.
- There should be a consideration of the size of the audit committee.
- The audit committee charter should be established.

The study concludes that all the variables of audit committee effectiveness work together to improve enterprises' profitability, but investors pay more premiums on some of the audit committees' characteristics than others, and, all the characteristics put together. Moreover, the study infers that audit committee effectiveness do have an impact on an enterprise's value, but the degree of the impact differs from profitability to investors' confidence and whether on individual or collective basis.

2.10.2 Chairpersons of audit committees

Ng (2013) stresses that the independence of the chairperson as an important element and play a fundamental part in ensuring the effectiveness of an audit committee. Salloum, Azzi and Gebrayel (2014) conclude in their study that members of the audit committee who are also executive members of a department can weaken the effectiveness of audit committees in influencing decision-making. Hence, Ferreira (2008) asserts that in South Africa, the Corporate Laws Amendment Bill of 2006 stipulates that the chairpersons is appointed on their personal capacity as provided in the PFMA (Act 1 of 1999) and may not be an employee of the department. This observation is emphasised in the National Treasury of 1999 of South Africa. Turley and Zaman (cited in Sarens, 2013) provide evidence that the role of the chairperson of the audit committee plays a crucial role in affecting governance outcomes. Deloitte (2014)

recommends that the main requirements to be considered when recruiting new audit committee members should be the independence of individual members and then the other attributes can be considered. Bello (2014) argued whether an audit committee should be chaired by the accounting officer or by an independent director. Additionally, Deloitte (2014) maintains the argument that the chairperson of the audit committee should be independent and should not be chairperson of the board of directors for the committee to function effectively.

2.11.3 Duties and responsibilities of the chairpersons of audit committees

The WSP Global Inc. (2015) describes the primary duties and responsibilities of the Chair of the Audit Committee. Therefore, for the audit committee to be effective, the chairperson should perform his duties as summarised below:

The chairperson of the audit committee should establish procedures or measures to administrate the audit committee's work and ensure that the committee discharges its functions fully. The chair should also make sure that there is an effective relationship between management and the members of the audit committee to promote good corporate governance and for the growth of the enterprise (PwC & IIARF, 2011: 86). Hence, the chairperson should prepare in advance the audit committee meeting agendas to ensure that all required business is brought before the audit committee to enable it to effectively and efficiently execute its duties and responsibilities. Furthermore, the chairperson of the audit committee should encourage a free and open discussion at the meetings to ensure that the interest of all stakeholders is met. From the above, it is essential for the chairperson of audit committee to have required skills, experience and be independent to be able to oversee members and further ensure that they have the right information to perform their duties effectively which will improve enterprises returns.

2.11 The functions of audit committee

The audit committees became more efficient and effective in executing their duties and responsibilities when members are aware of what is expected of them, embrace and understand their functions but also recognizing the necessary mechanism to put in place to function effective (KPMG, 2006: 12). Although Badolato, Donelson and Ege (2013) found that the status of the audit committee is key to the performing of its function, the task for the audit committee has advanced in response to changes in the business environment and managerial practices. KPMG (2006: 12) classifies the responsibilities of the audit committee under three key areas of responsibility. That is, to assess the risk and control environment, to oversee financial reporting and to evaluate audit processes. Therefore, for enterprises to operate in the best interest of all stakeholders, good corporate governance should be enforced and it all depends on a strong board of directors, the audit committee, internal auditors, external auditors and management of enterprises. It is the relationship of all these corporate principals that is fundamental to the effectiveness and efficiency of the audit committee. Al-Baidhani (2016) indicated that good corporate governance is now measured a basic requirement to accept and index an enterprise in most of the Stock Exchange Markets all over the world. Criúana and Fülöp (2014) concluded in their study that the role of the audit committee in corporate governance is essential.

Poor performance, mismanagement of government funds and lack of accountability by public entities and government departments, have elevated the demand for audit committees as required in terms of Section 76(4)(d) and section 77 of the PFMA (Act No 1 of 1999) and increased the pressure for corporate accountability by related stakeholders (AI-Lehaiden, 2006:10). In addressing these key governance challenges, an audit committee was established as a monitoring mechanism, a pillar that can contribute positively towards restoring integrity

in all spheres of government institutions' accountability processes (Braiotta, 2004: xvi). Section 166(20) (a) of MFMA (Act No 2003) describes an audit committee as an independent advisory body to the municipal council and management with the purpose of providing advice on local government matters and assisting the local government to perform efficiently. Marx (2009:1a) attests that an audit committee can provide the acclaimed benefits only if it is appropriately constituted and its role is explicitly understood by all parties concerned. The functions of audit committee are explained in the sections below.

2.11.1 Assessing the risk and control environment

As discussed above, emphasis is placed on the audit committee to monitor risk management processes within the enterprise. It also indicates the level of expertise the audit committee should have to perform these functions. Without the background knowledge on risk management and assessment, it might be an impossible task for the audit committee to identify risks that have the likelihood to affect the enterprise's performance. Therefore, for audit committee members to effectively perform its functions, members should have the right expertise and should be properly measured.

2.11.2 Overseeing financial reporting

The responsibilities of the audit committees is to assist management to oversee all financial reporting to provides accurate and suitable information to users. The King Report IV (2016) states that the audit committee must assist the board (management, in the public-sector context) to discharge its duties regarding the preparation of accurate financial statements in compliance with all applicable regulations, legislation and applicable accounting standards. When the audit committee reviews financial statements, they must focus on specific issues such as materiality, compliance with accounting policies, significant changes and areas susceptible for fraud (PwC

& IIARF, 2011). According to Terrell and Zanni (2002: 54), monitoring of the financial reporting process in enterprise activities on the responsibilities of the Chief Financial Officer (CFO). Moreover, CFOs should be prepared to respond to the expectations that audit committees will place on sound financial management and the quality of financial reporting of the enterprise. Open dialogue between the CFO and the audit committee is imperative for them to meet each other's expectations.

2.11.3 Evaluating the audit process

Briaotta (2004: 83) states that both the audit committee and external audit share an objective regarding the financial affairs of the enterprise. Public Audit Act (2004) states that in the public sector the mandate of external audit is normally governed by legislation (Act 25 of 2004), and the audit committee is only involved in overseeing the actual audit and receiving the findings. In terms of the audit committee's relationship with internal audit Meyers and Ziegenfuss (2006: 53) emphasise the importance of the audit committee having an open line of communication with the chief audit executive. The audit committee is also required to monitor the performance of internal and statutory auditors, to review internal audit findings, investigate and implement corrective actions as well as to correct internal control weaknesses (Salvioni, Bosetti and Almici, 2013).

2.11.3.1 External audit

The role of the audit committee is to ensure that the financial reporting process and the system of internal controls adhere to recognised standards. The audit committee must review the plan of the external auditors and obtain audit reports and recommendations (van der Nest, 2008).

2.11.3.2 Internal audit

According to van der Nest (2008), the audit committee should have an open direct relationship with the head of internal audit and should meet with her/him on a quarterly basis. The audit committee should discuss the following issues: the functions of the internal audit; the terms of reference; control environment and; internal audit findings. Vasile and Ghită (2016) stated that financial oversight of the financial reporting process is one of the major responsibilities of audit committee members. Therefore, the audit committee must be directly involved in the appointment, replacement, dismissal and reappointment of the director of internal audit and, similarly, the audit committee must be responsible for recommending to the board of directors' external auditors selected by the enterprise and eventually for determining the correctness for giving up their services (Vasile & Ghită, 2016). The audit committee should ensure that the reporting structure of the internal audit activity reflects its enterprise's independence and objectivity by making sure that the chief auditor's executive report goes directly to the accounting officer. The audit committees review the audit reports and assess the management comments in respect of the findings and ensure that management has implemented the important recommendations. During follow-up audit cases, recommendations which were not implemented should be reported to the audit committee. The audit committee should approve the internal audit charter for the internal audit

2.12 Importance and benefits of effective audit committee

The South African Companies Act 71 of 2008 (Act 71, 2008) states that an audit committee is a mechanism for good corporate governance and was designed to oversee financial reporting, assessment of risk, developing internal control to minimise the risk and monitoring of audit undertakings (Lin *et al.*, 2013).South Africa is one country where the establishment of an audit

committees is deemed compulsory for government departments and public entities as documented in the public service legislation such as the PFMA and the National Treasury (van der Nest, 2008). As such, for an audit committee to be effective, knowledgeable members with financial accounting, auditing and corporate law expertise should be part of the composition KPMG (2009). Ferreira (2008) further states that the lack of skills, knowledge and appropriate experience deters the members to perform their duties with due diligence. Ioana and Mariana (2014) observe that audit committees strengthen the internal control of an enterprise and by merely doing so, it raises investors' confidence in the quality of financial information provided.

National Treasury (2001: 14) listed the following benefits of an active audit committee:

- ensuring an independent internal and external audit function, which operates efficiently and effectively, is ensured;
- it gives stakeholder confidence that the enterprise's risk management practices, internal controls procedures are applied in the enterprise;
- ensuring the accuracy and integrity of financial reports to all users and enforcing and maintaining good corporate governance practices;
- ensuring compliance with legislation, applicable laws and regulations are adhered to;
- creating and maintaining effective anti-fraud policies and procedures.

In summary, audit committee as an instrument for good corporate governance, it is vital for enterprises to have audit committees to ensure better financial performance and good reputation of the enterprise. Therefore, the effectiveness of an audit committee has a positive impact on financial performance of SOEs. Furthermore, Contessotto and Moroney (2014) note that audit committees enhance the integrity of financial statements and reduce the incidence of audit risk which enhances the quality of reported figures thereby swelling the confidence of stakeholder.

This assertion is supported by Aanu *et al.* (2014) stating that the audit committee's role is very important in protecting the shareholders and other stakeholders' interests. According to Al-Saeed and Al-Mahamid (2011), there are three advantages which can be derived from audit committees; these are:

- To assist an enterprise in improving and maintaining the quality of financial reporting;
- To provide and maintain the independence of internal and external auditors and;
- To provide and boost the morale and confidence of the end-users of financial statements on quality financial reporting.

According to the argument above, the presence of an audit committee will help ensure good corporate governance, investors' confidence, enhance internal control, improve financial reporting and guard the interest of all stakeholders which will ultimately help in the enterprise financial performance and economic development of the country. Moreover, audit committees through their role in overseeing the financial reporting process enhance the quality of information flow between the shareholders and management (Abdulsaleh, 2014). Similarly, Catikkas and Alphaslan (2013) believe that the main reason for enterprises to establish audit committees is to assist management to resolve challenges faced by the enterprises and to ensure good corporate governance within enterprises, both in the public and private sector.

2.13 Composition of audit committee

Al-Matari, Al-Swidi, Fadzil and Al-Matari (2012) indicate that some audit committee characteristics such as size and independence of audit committee has increasingly continued to prove to be a mechanism of good corporate governance in measuring enterprise performance. Kamolsakulchai (2015) suggests that the composition of an audit committee determines the

effectiveness of its functions. An audit committee is responsible for overseeing the accuracy and integrity of an enterprise's accounting and financial reporting system, risk management, internal control system, and compliance with relevant laws, rules, and regulations (Adhikary & Mitra, 2016; Amer *et al.,* 2014). The existence and effectiveness of an audit committee enable enterprises to perform better in the financial markets, which, in turn, give the stakeholders confidence when absorbing new customers (Raisi & Pourmiri, 2015; 2016). According to Ng (2013) and Arbenathy, Herrmann, Kang and Krishnan (2013), the efficiency of audit committees is influenced by their composition which have shown a positive impact in sustaining good corporate governance.

Sultana (2015) documented that audit committees have received growing attention in the corporate governance literature over the past two decades. This attention came after a series of global corporate accounting scandals such as the collapse of Enron in October 2001; WorldCom in 2002 filed for bankruptcy; HIH, Australia's second-largest insurance enterprise, that was in provisional liquidation on 15 March 2001. Other financial crises include the Asian Financial Crisis that began in July 1997, Global Financial Crisis which happened between 2007 - 2008). Investors are now showing a keen interest in the diversity of thought within the board of directors. Investors believe that board composition, diversity, and assessment should be a board priority in the coming years (Bricker& Fitts, 2017). Additionally, they argue that by supporting and providing additional understanding into how the audit committee executes its duties and responsibilities would make the disclosures more effective.

Hamdam, Sarea and Reyad (2013); Fulop (2013) and Aanu *et al.* (2014) investigated the relationship between audit committee characteristics, namely size of the committee, financial expertise and independence of members on performance, which includes financial, operating and stock performance. The study showed that the audit committee has an impact on financial

and stock performance of the enterprise. On contrary, Salloum *et al.* (2014) examine four characteristics of the audit committee (that is size, composition, the frequency of meeting and financial expertise) and found that distressed banks have a significant negative relationship with the meeting frequency of the audit committee.

However, based on the above discussion, the composition of the audit committee is vital in enhancing enterprise financial performance and strengthening good corporate governance.

2.13.1 Audit committee size and enterprise performance

Several authors have examined the relationship of audit committee size and enterprise performance with many of these studies proving that the committee size has an influence on enterprise performance (Alqatamin, 2018; Herdjiono & Sari, 2017; Zubair, 2016; Amer *et al.*, 2014; Salloum *et al*., 2014; Al-Matari, Al-Swidi & Bt Fadzil, 2012; Heenetigala &Armstrong, 2011; Obiyo & Lenee, 2011; Swamy, 2011; Reddy, Locke & Scrimgeour, 2010; Kyereboah-Coleman & Biekpe, 2006; Premuroso & Bhattacharya, 2007). For an audit committee to perform its responsibilities effectively, the committee should comprise of at least three members, of whom the majority should be non-executive members as well as the chairperson of the committee. The requirement for three members is also supported by the PFMA (Act No 1 of 1999) which states that the audit committee should consist of three members, of whom one should non-executive member. Ng (2013) supports the notion by other authors that audit committees should consist of three members who will be responsible for performing the committees' roles.

Lisic (2014) states that there is a positive correlation between a larger audit committee and larger monitoring capacity and found a positive relationship with the size of the audit committee and their effectiveness. Aryan (2015) supports the study by Lisic (2014) suggesting

that enterprises should focus on the audit committee size and the frequency of meetings as they have positive relationships to profitability. Narwal and Jindal (2015) opine that board size, board meeting and non-executive directors do not have a significant association with profitability. In contrast, Lisic (2014) explains that when audit committee size gets too large, audit committee effectiveness will likely decrease due to the free-rider problem and when audit committee members hold too many board positions, they might be too busy to spend enough time in each enterprise, thereby decreasing audit committees' effectiveness. Poudel and Hovey (2013) conclude that it is likely that larger audit committees have better resources than smaller audit committees when it comes to the evaluation of financial statements and decision making. The decision-making literature argues that when there is an increase in the number of people on the audit committee there is an increase in performance, and this decreases the chances for wrongdoing because collusion becomes more difficult. Zare, Khedri and Farzanfar (2013) found a significant relationship between audit committee size and the enterprise' profitability. Amer *et al.* (2014**)** used the audit committee size as a variable in their study to oversee the impact of audit committee characteristics on enterprise's performance in Egyptian enterprises listed under stock exchange which the measurement of ROE, ROA and Tobin's Q (TQ). Pearson correlation coefficients showed that the more audit committee in the enterprise, the lower the ROE and TQ. Amer *et al.* (2014); Azim (2012) and Al-Rassas and Kamardin (2015) state that the audit committee with a diffusion responsibility due to its large size may affect their task and directly affect the enterprise's performance.

De Oliveira Gondrige, Clemente and Espejo (2012 argue that a large board size would bring diverse members who would, in turn, bring in skills, knowledge, expertise, different opinions which would yield investment proposals that would benefit all stakeholders. Huang and Thiruvandi (2014) found that fraud frequently dropped to 14% in groups with three audit

committee members, and to 1% in groups with five to six members. This indicates that larger audit committees are less associated with fraudulent activities. Poudel and Hovey (2013) also argue that there is a mixed result regarding the audit committee size and its enterprise's performance.

Bouaziz (2012) found a significantly positive relationship between the characteristics of the audit committee and financial performance on their study which examined the impact of the composition of the audit committee on the financial performance (ROA and ROE) of Tunisian enterprises using a sample of 26 enterprises listed on the Tunis Stock Exchange. Zubair (2016) supports the finding of the study of Bouaziz (2012) concluding that the size of the audit committees has a significant positive impact on the financial performance measured ROA and ROE. In contrast, Al-Matari *et al.* (2012), MoIlah and Talukdar (2007), Bozec (2005) in their studies found negative correlations between audit committee size and enterprise performance. Amer *et al.* (2014) and Azim (2012) Al-Rassas and Kamardin (2015), Matari *et al.* (2012) and De Oliveira Gondrige *et al.* (2012) studies found a positive relationship between audit committee size and enterprise performance. Hambrick, Werder and Zajac (2008) found that smaller boards were incompetent of making strategic decisions and changes because of inadequacy to consider various options and opportunities for enterprise growth. Conversely, several authors have found a positive impact in favour of smaller boards and believe large boards lead to insubordination, unnecessary dispute and waste of time in decision-making as they suffer from social loafing. Thus, their knowledge and skills remain unutilized (Dharmadasa, 2014; Huang & Thiruvandi, 2014). The findings from the above discussion are inconsistent with findings of most scholars that reviewed that audit committee size has shown a negative impact on enterprise performance. Therefore, the size of the audit committee may have an inverse relationship with enterprises' profitability.

2.13.2 Audit committee independence and enterprise performance

The independence of the audit committee has been widely researched in a variety of prior studies and has been of significant interest to reformists, regulators and researchers (Blue Ribbon Committee, 1999; Abbott, Park & Parker, 2000). It has been widely argued as being one of the key characteristics associated with the effectiveness of the audit committee (Lee, 2014; Naimah, 2017). The King IV Code of Corporate Governance (IoDSA, 2016) views an audit committee as an important mechanism of corporate governance because non-executive members of the audit committee can, through various monitoring processes monitor the dubious conduct of managers. Kallamu and Saat (2015) indicate that the independence of the audit committee can positively affect an enterprise's performance due to diverse background and expertise. Additionally, Riner (2017) states that the audit committee adds value to an enterprise through its ability to provide independent assurance to the board that the information and actions of management are in the best interest of the enterprise. Bansal and Sharma (2016) argue that the reporting of accurate and correct financial information is the basis on which investment is made and emphasises the independence of the audit committee as a body to prevent questionable activities.

Furthermore, Bansal and Sharma (2016) conclude that audit committees' independence and frequency meetings can improve the performance of the enterprise as some corporate governance mechanisms. Moreover, the presence of non-executive members in the committee will ensure the trust of stakeholders, especially the investors (Leung, Richardson & Jaggi, 2014). Arslan, Zaman and Malik (2014) observe that independent audit committees improved the quality of audit reports and enhanced performance of the enterprise. Also, the South African Treasury Regulation 27.1.3 stipulates that the chairperson of the audit committee should be

independent, have relevant qualification and skills about the position and may not be the chairperson of the board of directors of that enterprise (PwC & IIARF, 2011).

Wu, Hsu, and Haslam (2016) conclude that failed enterprises with higher proportions of independent non-executive directors and financial expertise on the audit committee are more likely to receive auditor going-concern modifications before failure. However, there is no significant relationship between non-audit services fees and the likelihood of receiving a going-concern modification (Wu *et al.,* 2016). The evidence further suggests that the association between non-audit services and auditors' reporting decisions is subject to audit committee characteristics. Wu *et al.* (2016) argue that where the audit committee is more independent and includes a more significant proportion of financial experts, auditors providing the client with non-audit services are less likely to issue a standard unmodified going-concern report before failure. Tanyi and Smith (2015) believe that independent audit committee members with financial expertise serving in multiple boards have a high percentage of irregular accruals due to their busy schedule and are more likely to meet or beat earnings benchmarks.

Ng (2013) views the independence of the audit committee members as a major characteristic for the board to be active. Naimah (2017) and Kallamu and Saat (2015) support the study of Ng (2013) that the characteristics of the audit committee such as the proportion of independent members in the audit committee will positively influence financial performance. Additionally, as a monitoring tool for enhancing good corporate governance, the audit committee will bolster service delivery and accountability in the public sector (van der Nest *et al.,* 2008). Audit quality and the integrity of financial reports as well as the quality of the system of internal control in an entity necessitates an independent audit committee that acts as a link between management, internal and external audit. Beasley (1996) wrote that an independent audit committee would ensure that the financial reporting process of enterprises is accurate and reliable by

continuously monitoring manipulative activities and self-centred managers. Furthermore, Beasley (1996) mentions that governance codes all over the world require enterprises to set audit committees and ensure their independence.

In South Africa, the PFMA and new Companies Act stipulate the requirements of the establishment of the audit committee. Enterprises that have more independent members in their audit committees have a lesser probability of becoming victims of fraud (Beasley, 1996). Bouaziz (2012) found a positive correlation between the independence of the audit committee and enterprise performance. Similarly, Black, Kim, Jang and Park (2015) supposes that the independence of the audit committee is positively related to enterprise performance. Ruia (2016) states that independence of audit committees is expected to enhance the quality of monitoring since they are not associated with the enterprise either as administrators or human resources; therefore, they would act as the shareholders' overseer. In conclusion, audit committees that comprise of non-executive members are more effective and are more likely to meet corporate governance requirements. Furthermore, the independence of audit committee is crucial for its effectiveness to improve enterprise's performance and the confidence of investors. Hence, the independence of the audit committee is a vital factor in safeguarding the interest of all stakeholders.

2.13.3 Audit committee gender diversity and enterprise performance

Various studies have addressed the research questions relating to the effectiveness of the board of directors and audit committee member when women are members (Alqatamin *et al.,* 2017; Alqatamin, 2018; Miller & del Carmen Triana, 2009; Nielson & Huse, 2010). The role of women in society is changing, not only in the private and public sector but also in the corporate world and field of politics (Huse, 2013). This is recognised by South Africa's Constitution (Act

No 1 of 1996) where, the Women Empowerment and Gender Equality Bill calls for 50% women representative in decision-making positions. However, according to Statistics South Africa women only comprised 24% of heads of SOEs. McKinsey Global Institute (2015) published a report that focused on the substantial potential associated with narrowing the gender gap in work and in society. The report suggests that in a scenario in which every country matched the fattest progress toward gender parity made within its region, $12 trillion could be added to global GDP in 2025. Other studies have found that gender diversity of audit committees plays a significant role in corporate governance (Thiruvandi & Huang, 2014; Gavious, Segev & Yosef, 2012; Ittonen, Miettinen & Vähämaa, 2010) and is associated with financial performance of enterprises (Carter, D'Souza, Simkins & Simpson, 2008; Wakaba, 2014). Additionally, Liu, Wei and Xie (2014) find that enterprise performance is positively related to board gender diversity, especially to the presence of female executive directors. According to Carter, Simkins and Simpson (2003); Erhardt, Werbel and Shrader (2003); Carter *et al.* (2008); Campbell and Minques-Vera (2008) and Bear *et al.* (2010), a higher proportion of women directors at the board correlates with better financial performance and further improve productivity and creativity within an enterprise. A more diverse audit committee member lead to a better understanding of markets that are themselves diversified regarding gender, creativity, innovation and improved decision-making as well as improved enterprise performance.

Moreover, Gao and Zhang (2011) attest to the study of Bear, Rahman and Post (2010) stating that as the percentage of female board members' increases, the more discussions at board meetings, the discussions are smoother and peaceful, and directors pay closer attention to the interests of other stakeholders and not just stockholders; therefore, corporate reputation improves. Similarly, Dennis and Kunkel (2004) argue that the more women are involved and

appointed in the board, that put the enterprise in a favourable position since women are more competent, active/potent, emotionally stable, logical and less aggressive than their counterpart. Hence, gender diversity promotes a balance of power which yields a better understanding of the business world since a wide array of skills and experience are brought on board. As a result, the presence of female audit committee members would minimise potential fraudulent activities or corruption as they tend to take their responsibilities and duties with diligence and integrity.

For instance, Bernardi, Bosco and Vassill (2006) found that enterprises with higher percentages of women on their boards were more likely to be on 100 best entreprises to work for and most ethical entreprises. Levi, Li and Zhang (2014) found that female directors assist in creating shareholder value through their influence on the acquisition. Also, as Bernardi, Bosco and Columb (2009) indicated, enterprises with gender diversity are more likely to participate in activities demonstrating corporate social responsibility and more likely to include pictures of the board members in their annual performance reports since women are perceived as innovative, creative and minorities (Bernardi, Bean & Weippert, 2002; 2005). Therefore, there is a need for a female member in the various boards to accelerate enterprise performance since women are more determined, diligent and likely to have better attendance at meetings than male members (Stewart & Munro, 2007; Bernardi & Threadgill, 2010).

Furthermore, a lack of gender diversity could threaten output or lead to less creative thinking and creative problem-solving. On the contrary, some empirical studies have established a negative impact on the enterprise performance of gender diversity (Rose, 2007; Carter, D'Souza, Simkins & Simpson, 2010). In support, Ahern and Dittmar (2012) have found a negative effect of gender diversity on enterprise performance. Similarly, Bosch (2014) found no evidence that enterprises with gender diversity have better enterprise performance. Matsa

and Miller (2013) further show that the presence of more female directors on Norwegian corporate boards is associated with fewer employee layoffs, higher labour costs, and lower profits. Therefore, the presence of female members in various boards will ensure profitability in enterprises as a more versatile team brings in skills and experience from a different perspective which will ensure that the interest of all stakeholder is protected.

2.14.4 Audit committee expertise and enterprise performance

The experience and knowledge in accounting and auditing related issues is considered as an important measurement for an audit committee. This can benefit the audit committee members to be more acquainted with financial and operational reports and enable them to assess accounting issues, make informed decisions and determine appropriate resolutions Abernathy *et al.* (2015) and Aanu, Odianonsen and Foyeke (2014). Consequently, audit committee members with financial expertise put the enterprise in an advantageous position because it is possible to transfer their skills and knowledge to other members with non-accounting skills or experience. Previous studies have suggested that the performance of audit committee is affected by the financial expertise (Iyer *et al.*, 2013; Keune & Johnstone, 2012), industrial expertise (Cohen, Hoitash, Krishnamoorthy & Wright, 2014) and prior experience (Sultana *et al*., 2014). Cohen *et al*. (2014) state that stakeholders, primarily investors, viewed the audit committee as more independent and competent to make informed investment decisions when there is no relationship either socially or professionally between the audit committee members and Chief Executive Officer (CEO). Ng (2013) argues that audit committee expertise is considered as an essential governance characteristic for an audit committee to carry out its responsibilities effectively and protect the interests of the shareholders. Lee (2014) and Krishnan and Visvanathan (2008) indicates that there is a positive correlation between expertise and independence and the effectiveness of the audit committee. Sultana, Singh and

van der Zahn (2015) supports the arguments of agency and resource dependency theory which states the importance of the inclusion of audit committee members with prior experience corporate governance and audit committee for more effective monitoring. Lisic, Neal, Zhang and Zhang (2016) opine that the inclusion of expert audit committee members does not mechanically translate into more effective monitoring, instead, that the substantive monitoring effectiveness of audit committees is contingent on CEO power. Amer *et al.* (2014) in their study shows that an audit committee's financial expertise results showed a significant positive relationship with ROE, ROA, and Tobin's Q which is supported by Lee (2014), stating that as audit committee financial expertise increases, the enterprise financial performance will increase. In contrast, the study of Adhikary and Mitra (2016) did not find any significant association between audit committee independence and the presence of experts in the audit committee, percentage of insider ownership, free cash flow, and enterprises profitability.

Abernathy *et al.* (2015) and Sharma & Iselin (2012) argue that when an audit committee has a high number of members with financial expertise, there would be an improvement in the overall financial reports of an enterprise. Sultana (2015) states that financial experts are recognised as the principal individuals within an audit committee with a higher responsibility for the financial reporting process due to their superior knowledge and understanding of financial matters and reporting issues. Defond, Hann and Hu (2005) indicate that by having some larger audit committee members with financial expertise would improve and strengthen enterprise's overall internal control. Ame (2013) opines that audit committee independence is promoted to improve corporate governance in non-financial enterprises is not applicable to financial enterprises. Bouaziz (2012) found that the audit committee's independence has a significant positive impact on financial performance measured by ROA, and the impact on ROE is insignificant.

Saat, Karbhari, Xiao, Ashikin and Heravi (2012) indicate that the audit committee's existence improves enterprise performance when there is a high percentage of independent audit committee members with expertise as an accountant or financial reporting experience. Contrarily, Alqatamin (2018) conclude that there is no positive correlation between audit committee members with a financial background and the enterprise's accruals quality.

However, Sultana (2015) found that audit committee member with financial expertise will be encouraged to support and maintain conservative accounting because the adoption of conservative accounting practices improves enterprise stock performance, positively affects stakeholders value, controls agency problems, attracts positive reviews from investors and regulators compared to aggressive accounting practices. Also, Sultana (2015) support the finding by Baxter and Cotter (2009) and Cohen *et al.* (2014) that the presence of an audit committee member with financial expertise improves the effectiveness of the committee. Chan, Liu and Sun (2013) argue that experienced audit committee members have greater expertise, reputation, commitment and willingness to perform better monitoring roles and found that enterprises with long-tenured audit committee members pay lower audit fees.

In summary, audit committee members with financial knowledge, relevant exposures, qualification background and experience improve the oversight function of the audit committee and its ability to effectively and efficiently simplify the process of the financial reporting and eliminate any fraudulent activities. That is, the audit committees with financial expertise create effective monitoring function.

2.14 SOE related legislation

In South Africa, the following legislation applies to SOE's audit committees. These legislation are imperative to the effectiveness of the audit committee and the financial performance of the

SOEs. However, non-compliance to these laws are the issues which, are impeding to committee's effectiveness after a thorough examination from literature review above:

- *The Public Finance Management Act (Act No. 1 of 1999) (PFMA)* makes it compulsory for all national or provincial public-sector enterprises to establish an (or share an established) audit committee.
- *The Companies Act (Act No. 71 of 2008)* for public entities that are registered as enterprises.
- *The King Report on Governance for South Africa (King IV)*

The following are challenges which were identified from literature regarding audit committees within SOEs:

- The independence of the audit committee may be negatively affected due to previous/current relationships of audit committee members or the audit committee and political standing, among other factors.
- Inadequate support for the audit committee by management.
- Audit committee often is combined with the risk committee.
- The audit committee members serving on numerous committees within an enterprise and another enterprise (the busy schedule of audit committee members).
- Lack of monitoring and evaluation of the existence of the audit committee.
- Lack of authority for the audit committee to hold management and board of directors accountable for negligence which results in lack of accountability.

From the above, it is probable that the composition of the audit committee affects an enterprise's financial performance and its reputation. An enterprise's financial performance is, therefore, likely to be adversely affected, if audit committee members of SOEs are not given

authority to act were crucial and adequate support regarding training and skills transfer development. The audit committee to be effective and improve enterprise performance, enterprises should adhere to IoDSA (King IV, 2016) and relevant laws and regulations governing SOEs. Therefore, support from all stakeholders is deemed crucial in assisting the audit committee in performing its functions effectively.

2.15 Summary of the chapter

The chapter discussed different aspects of the existing literature including the analysis and the theoretical frameworks. From the literature reviewed above, it indicates that there are few such studies regarding the impact of audit committee component on ROA which have been carried out within SOEs in South Africa. The chapter discussed two theories namely the stakeholder and agency theory. The study noted that when audit committee is effective, this may lead to good ethical behaviour when an enterprise considers all stakeholders' interest whilst if not will lead to fraudulent activities. The stakeholder theory encourages enterprises to consider the interest of all stakeholder, that is, suppliers, customer and shareholders and to act in the best interest of and promote the norms and values of the society.

The chapter also reviewed audit committee and SOEs' in South Africa. Based on the review, it is probable that SOEs are facing challenges on accelerating profitability due to the complicity of good corporate governance hence the ineffectiveness of the audit committee component on enterprise performance as highlighted under sub-headline 2.14. Moreover, it is likely that SOE with effective audit committees relating to enterprise performance are more profitable than those without audit committee.

The chapter further discussed the composition of the audit committee, which includes audit committee size, independence, gender diversity and expertise of members. The importance of

proper or effective audit committee practices is emphasised with adherence to good corporate governance as the most preferred. Moreover, for the enterprises to maintain increased financial performance they need to adopt proper corporate governance practices as outlined under Code of corporate governance King IV (IODSA, 2016), PFMA Act 1 of 1999 (South Africa, 1999) and The South African Companies Act 71 of 2008 (Act 71, 2008).

On the other hand, the key principles of King IV (IoDSA, 2016) and possibly the benefits of an effective audit committee as a mechanism for good corporate governance were discussed in this chapter. The audit committee plays an essential role in the effectiveness of corporate governance in monitoring the activities of the enterprise (Lee, 2015). Most state-owned enterprises were found to have adopted an audit committee to prevent fraudulent activities, monitor internal control, assess risk and review the financial performance of the enterprises as a way of reducing falsified annual reports and protecting the interest of investors. Moreover, it was noted that it is beneficial to adopt audit committee components to improve the enterprise performance of SOEs regarding ROA. The study also reviewed the impact of audit committee components on enterprises' profitability. It is likely that audit committee components have a positive relationship with the enterprises' profitability. Lastly, the study noted the legislations that are applicable to public sector audit committees which are co-operative to the effectiveness of the committee. The next chapter describes the overall research strategy used for the study.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

In Chapter Two the literature review of the research was provided. The sections below discuss the overall research approach for this study. Section 3.2 describes the research design; Section 3.3 research paradigm; Section 3.4 discusses the research method; Section 3.5 describes the population or study area; Section 3.6 discusses the sample; Section 3.7 discusses the reliability and validity; Section 3.8 discusses ethical consideration; Section 3.9 discusses the definition of research variables; Section 3.10 the data collection and Section 3.11 discusses the measurement of variables. The research design is implemented so that appropriate research methods are used to ensure the accomplishment of the aims and objectives as set out in the previous chapters. The motivation for a discussion of the research design and methodology provides an outline for the chapter. Also, data analysis and the summary of the study are discussed.

3.2. Research design

In the study, the researcher's objective is to determine whether the independent variable affected the results, or dependent variable, by comparing two sets of individuals. The research design appropriate for the study is causal research design for it seeks to reveal a cause and effect relationship between two variables i.e. independent and dependent variables. Blaikie (2000: 21) formulates a research design as an integrated statement of and justification for the more technical decisions involved in planning a research project and a process "analogous to the activities of an architect designing a building". Monette, Sullivan and DeJong (2008: 9) and Krueger and Neuman (2006: 12) define a research design as a plan outlining how observations will be made and how the researcher will carry out the project. Therefore, the

research design is appropriate for the study as it will help the researcher in understanding which variables the causes are, and which variables are the effect.

3.2.1 Causal research design

The study adopts the causal research design as indicated above. The study analysed the relationship of the composition of the audit committee to the financial performance of all SOEs in South Africa because they play a major role in economic growth in the country. The study used the size, independence, gender diversity and financial expertise of the audit committee members as independent variables and ROA as the key dependent variable. A causal research design as defined by Labaree (2017) measures what influences a specific change will have on existing norms and assumptions.

Gow, Ian, David, Larcker and Reiss (2016: 477) describe causal research design as a design aiming to investigate the cause and effect relationship or to inquire into an issue that looks at the impact of one variable on the other. Zikmund, Babin, Carr and Griffin (2012) state that casual studies focus on an analysis of a situation or a specific problem to explain the patterns of relationship between variables and it is more concerned with the understanding of the connection between the cause and effect. It plays an instrumental role regarding identifying reasons behind a wide range of processes, as well as, assessing the impacts of changes in existing norms and processes (Zikmund *et al.,* 2012). Researchers such as Heckman and Pinto (2015) and Gow *et al.* (2016) have used a causal research design. Therefore, by applying secondary data collection in this study benefits future researchers with a high quality of data source (Cheng & Phillips, 2014) and brings a fair outcome as it is nonreactive or unobtrusive (Little, Vyain, Scaramuzzo, Cody-Rydzewski, Griffiths & Strayer, 2014).

3.3 Research paradigm

This study adopts a positivist research paradigm since the quantitative research method was implemented to examine the effectiveness of the composition of audit committees on the financial performance of all SOEs listed in Schedule 2 of PFMA for a period of twelve (12) years, 2006 to 2017. This was done by investigating the SOEs integrated annual reports and sustainability reports to attain a robust and reliable conclusion of the study. By adopting the positivist paradigm, the theory can be generalized to a more considerable degree to make future predictions because of the quantitative method or approach (Johnson & Onwuegbuzie, 2007). The positivist paradigm enabled the researcher to carry out research that is broad, to be applied universally. Furthermore, as Johnson (2014) has indicated, the quantitative data will pave the way to further research and can help researchers to make scientific assumptions.

The term paradigm originated from the Greek word 'paradeigma' which means pattern. The term was first used by Thomas Kuhn (1962) to indicate a conceptual framework shared by a community of scientists which provided them with a convenient model for examining problems and finding solutions (De Vos, Strydom, Fouche & Delport, 2011). McGregor and Murnane (2010: 419) define the research paradigm as a set of assumptions, concepts, values and practices that collectively constitute a way of viewing reality. Barker (2003: 312) defines a paradigm as a model or pattern containing a set of legitimated assumptions and design for collecting and interpreting data. According to TerreBlanche and Durrheim (1999), the research method has three key dimensions: ontology, epistemology and methodology. According to them, a research paradigm is an all-inclusive system of correlated practice and philosophy that describe the nature of enquiry along these three dimensions.

Babbie and Mouton (2010) opine that research paradigms naturally reflect a theory about the reality of the world and desire. Established on this credence, Guba and Lincoln (1994) distinguish between positivist, post-positivist and postmodernist enquiry, grouping postmodernism and post-structuralism within 'critical theory'. However, Neuman (2011: 94) described a research paradigm as a theory that can range from thought patterns to action. In this sense, a paradigm refers to the established research traditions in a discipline (Mouton, 1996: 203), or a philosophical framework, as Collis and Hussey (2009: 55) opine. A paradigm includes accepted theories, backgrounds, methods and models, the body of research and methodologies; and it could be a structure or framework for observation and understanding (Creswell, 2007:19; Babbie, 2010:33; Rubin & Babbie, 2011:15; Babbie, 2011:32).

3.4 Research method

The study adopted a quantitative research design to test the hypothesis and allowed the researcher to examine the relationship between the two variables. The results provided numerical data that can be analysed statistically as the researcher looks for a correlation between two variables. Most research studies are informed by and established on certain theoretical standpoints called methodologies. Methodology concerns the general theoretical perspective of the research, that is, the overall nature of the research activity. Leedy and Ormrod (2010: 12) agree with Babbie and Mouton (2008: 74) that research methodology refers to the researcher's general approach in carrying out the research project. Mouton (2001: 56) views research methodology as focusing on the research process and the kind of tools and procedures to be used. For this study, a research method is a bounded system used in the empirical investigation (Pickard, 2007). Pickard (2007) outlines eight research methods as case study, survey, experimental research, ethnography, Delphi study, action research, historical research and grounded theory.

Therefore, a quantitative research method was appropriate to address the objectives and hypothesis of the research.

3.4.1 Quantitative research method

This research adopts a quantitative research method. It has been considered appropriate to adopt the quantitative, due to inconclusive and contradictory results in the literature review. The study analysed the relationship between independent variables, which is the composition of the audit committee (size, independence, financial expertise and gender diversity), and the dependent variable, that is the financial performance of SOE's on ROA. Quantitative research focuses on data that can be measured, involves counting and measuring of events and performing the statistical analysis of a body of numerical data (Goertzen, 2017). The quantitative section deals with the statistical analysis and numerical data to provide quantitative information (Lundh, 2005: 128; Thiétart, 2007; Goertzen, 2017). Quantitative research requires objectively evaluating the data which consist of numbers, trying to exclude bias from the researcher's point of view (Smith, 2013). The main concerns of the quantitative paradigm are that measurement is reliable, valid, and generalizable in its clear prediction of cause and effect (Park & Park, 2016).

The use of the quantitative approach (regression analysis) will enable the researcher to test for a possible link between the two variables. In his study, Naidoo (2017) used a quantitative research method to measure the relationship between the level and type of corruption, and the institutional characteristics of government departments. Similarly, Molina-Azori′n, Tari′, Pereira-Moliner, López-Gamero and Pertusa-Ortega (2015) used a quantitative method to measure the effects of quality and environmental management on competitive advantage. Harwell (2011) states that quantitative research methods attempt to maximise objectivity,

replicability, and generalization of results, and are typically interested in prediction. Integral to this approach is the expectation that a researcher will set aside his or her experiences, perceptions, and biases to ensure objectivity in the conduct of the study and the conclusions that are, drawn. Babbie (2010) argues that quantitative research focuses on the collection of numerical data and generalisation to explain a phenomenon. According to Williams (2007), quantitative research starts with identifying a research problem and the formation of a hypothesis, a literature review, and a quantitative data analysis.

Furthermore, Maree and Pietersen (2007: 149) classify quantitative research designs in two main categories, namely experimental and non-experimental designs. As such, quantitative research is described as a systematic empirical investigation that encompasses figures and dimension, therefore emphasising frequencies and statistics. For example, Struwig and Stead (2001: 7) emphasise that quantitative research require that data be collected and expressed in numbers. Leedy and Ormrod (2005: 179) describe quantitative research as the method that yields numerical data that can be summarised through statistical analysis. Gorman and Clayton (2005: 3) opine that quantitative researchers observe the world as a collection of empirical, observable events and facts that can be expressed mathematically. Pickard (2007: 18) avers that quantitative research starts with a theoretical framework established from the literature review in chapter two; from this framework, a hypothesis can emerge, and variables within the hypothesis can be identified. A hypothesis concept can be interpreted as research aims and objectives. Therefore, the most appropriate research method would be chosen, calculation of the sample and designs the data collection mechanisms within that method, and data collection, processes and analyses the outcome of the study. When data analysis is complete, there would be ample of evidence that contradicts or support the hypothesis. Generalisations are then made

based on the results, or in the case of experimental research, general laws are formulated (Pickard, 2007; Struwig & Stead, 2001).

In summary, quantitative research is appropriate for the study as it allows the researcher to measure and analyse data. The relationship between an independent and dependent variable is studied in detail. This is advantageous because the researcher is more objective about the results of the research. Therefore, quantitative research can be used to test hypotheses in experiments because of its ability to measure data using statistics.

3.5 Target population

The population of SOEs comprised of all 21 Schedule 2 SOEs listed in PFMA (Republic of South Africa 2010: 1-2) from which a total of 21 were purposefully chosen. The selection of SOEs was based on the overall SOE dominance across sub-Saharan Africa, the value of assets, and shareholder reporting responsibility to the Department of Public Enterprises (Republic of South Africa, 2002: 1-2). A research population is defined as the total number of items about which the researcher wishes to conclude (Degu & Yigzaw, 2006; Banerjee & Chaudhury, 2010; Lengerer, Schroedter, Boehle & Wolf, 2012). The population, as defined by Saunders, Lewis and Thornhill (2012) is a subset of targeted population and in the study the population consist of a list of SOEs stated under PFMA Schedule 2 as at 24 February 2017. The study covers twelve (12) years (2006-2017) to yield a reliable, accurate presentation and robust conclusion. The study focused on the influence the audit committee has on ROA as the key dependent variable for the study. The asset values of the SOEs overseen by the DPE was noted in Table 2.1 and collectively, valued at R755.4 billion. They also span essential areas that impact development in South Africa like diamond mining; provision of infrastructure for telecommunications; provision and maintenance of equipment used by the country's defence force; generation of the

country's electricity; the growing of timber and its processing; the local, regional and intercontinental operations relating to the delivery of freight and mail and passenger transport services, and focused freight transportation. The services mentioned above are essential for the efficient running of the economy and the overall development of the country. They also contribute to the Gross Domestic Product (GDP) of the country.

3.6 Sample size

Sampling is the selection of a subset of persons or things from a larger population, also known as a sampling frame (Scott & Morrison, 2007: 219); with the intention of representing the population (Gall, Gall & Borg, 2007: 166; Neuman, 2011: 246). The study used purposive sampling procedure. According to Wanjohi (2012), in a purposive sampling procedure, the researcher chooses the sample based on whom he/she thinks would be applicable to the study. He further states that the primary objective of purposive sampling is to arrive at a sample that can answer the research objectives.

A sample of 21 SOEs classified under the PFMA Schedule 2 also known as major SOEs was selected. This represents 100% of the population, using a purposive or judgmental sampling procedure since it does not involve a programmed number of subjects, neither does it need any underlying theory (Etikan, Musa & Alkassim, 2016). Sekaran and Bougie (2013) refer to the population as the entire group, events, or things of interest that the researcher wishes to investigate, and the sample is a subset of the population. The PFMA Schedule 1, 2, 3A, 3B, 3C AND 3D as at 24 February 2017 lists approximately 300 public enterprises consisting of nine constitutional institutions; 21 major public entities (SOEs); 153 national public entities; 26 national government business enterprises; 72 provincial public entities; and 18 provincial government business enterprises. Therefore, twenty-one (21) major SOEs were selected as they

contribute significantly to the GDP of South African economy. The selection of a purposive sample is often accomplished by applying expert knowledge of the target population to select in a non-random manner a sample that represents a cross-section of the population (Henry, 1990), and the sample of the study is referred to below.

The twenty-one enterprises that are listed within the PFMA Schedule 2 are:

- Airports Enterprise South Africa (ACSA)
- Alexkor Limited
- Armaments Corporation of South Africa Ltd (ARMSCOR)
- Air Traffic and Navigation Services Enterprise of South Africa (ATNS)
- Broadband Infraco
- Central Energy Fund Limited (CEF)
- Development Bank of Southern Africa (DBSA)
- DENEL
- ESKOM
- Industrial Development Corporation (IDC)
- Independent Development Trust (IDT)
- Land Bank
- South African Nuclear Energy Corporation (NECSA)
- Post Office South Africa (SAPO)
- South Africa Express (SAE)
- South Africa Airways (SAA)
- South African Broadcasting Corporation Limited (SABC)
- South African Forestry Enterprise Limited (SAFCOL)

- Telkom SA Limited
- Trans-Caledon Tunnel Authority (TCTA)
- Transnet Limited

The above is a list of all major SOEs sampled for the study, which represent 100% of major SOEs in South Africa.

3.7. Reliability and validity

This section discusses how validity and reliability was achieved in the study.

3.7.1 Validity

Validity was achieved in the study as the researcher used published information on enterprises' websites, the National Library of South Africa and Parliamentary Monitoring Group website. Furthermore, the introduction of the Generally Recognised Accounting Practice (GRAP) to the three spheres of government (South Africa 1996: 216) according to Section 216 in the Constitution that prescribe measures to ensure transparency in SOEs would also ensure validity. The PFMA (Act 1 of 1999) addresses this requirement, by requiring the public-sector entities to comply with GRAP, to be prescribed by an Accounting Standards Board (ASB). GRAP would apply to: all levels of government (national, provincial and local), all public entities, and parliament and provincial departments.

Validity is the degree that qualitative data can accurately gauge what the researcher is purported to measure (Gay, Mills & Airasian, 2009: 375). Wienclaw (2015) defines validity as the degree to which a survey or other data collection instrument measures what it purports to measure. Lissitz and Calico (2012) documented the meaning of validity as a process of evidence

gathering and theory construction, which must underpin any interpretation of the assessment results. According to Babbie (2013: 191), validity is a measure that accurately reflects the concepts it is intended to measure. In other words, as stated by Leedy and Ormrod (2005: 28), "the validity of a measurement instrument is the extent to which the instrument measures what it is supposed to measure". In affirmation, Bolarinwa (2015); Wienclaw (2015); Leedy and Ormrod (2013: 89); Nardi (2006: 58) and Gray (2004: 219) opines that an instrument is valid if it measures what it was intended to measure. Also, the instrument should cover all the research issues about both content and detail.

From the above discussion, the study will achieve validity since data were collected from published annual reports of SOEs that have been audited according to GRAP.

3.7.2 Reliability

This study achieved reliability by ensuring that the source of the data was received directly from SOEs' websites and the National Library of South Africa which are publicly available. Neuman (2011: 208) refers to reliability as a measure of dependability, as it deals with the consistency of the results of the analysis (Adams, Khan & Raeside, 2014: 245). According to Bolarinwa (2015) reliability refers to the degree to which the results obtained by measurement and procedure can be replicated.

Reliability is the consistency of measurement (Creswell, 2009: 149; Delport, 2005: 162; Kumar, 2011: 181). It is the extent to which results are similar to different forms of the same instrument or occasions of data collection (McMillan & Schumacher, 2001: 245). This means that if another person carrying out the research follows the same procedure of measurement and then gets the same result, over a specified period, the instrument is reliable.

According to Bell (2010: 119), reliability is the extent to which a test or procedure produces similar results under constant conditions on all occasions. Kumar (2011: 182) indicates that reliability may be affected by factors such as the unclear wording of questions, changes in physical setting, particularly in interviews and laboratory testing, respondents and interviewer's moods. It includes the nature of interaction among the respondents and with the interviewer and the regression effect of the instrument.

Neuman and Kreuger (2003: 179 - 180), as well as Salkind (2006: 108), suggest the following procedures to increase the reliability of measures:

- Increase the number of items or use multiple indicators of a variable.
- Eliminate items that are unclear.
- Increase the level of measurement.
- Standardise the conditions under which the test is taken.
- Moderate the degree of difficulty of the instrument.
- Minimise the effects of external events.
- Maintain consistent scoring procedures.
- Use pre-tests, pilot studies and replications.

Having perfect reliability is rare. The above procedures will ensure the maximum level of reliability of a measure. Therefore, the study achieved reliability as the data collection was obtained from reliable sources SOEs' website, National Library of South Africa and Parliamentary Monitoring Group website.

3.8 Ethical considerations

For the study, information of the sampled SOEs was obtained from the published financial data of the SOEs websites. This study considered ethical issues because the sources mentioned above regarding the information required for the study, is legally permitted to be accessed by the public. Therefore, the study did not require ethical clearance from the Turfloop Research Ethics Committee (TREC) since the data for the SOE's sampled for the research is publicly available.

3.9 Operational definition of research variables

The possible relationship between audit committee components, i.e. size, independence, financial expertise and gender diversity and return on asset was evaluated in this study. The study used a quantitative method to the measure the relationship between two variables.

The regression equation is as follows:

$$ROAit = \alpha_{it} + \beta SZAUDC_{it1} + \beta FEMOB_{it2} + \beta INDIR_{it3} + \beta FINEXP_{it4} + \beta LEVERAGE_{it5} + \varepsilon$$

Where:

α=intercept,

β= gradient/slope,

ε=error

ROA = Return on assets

SZAUDC=Audit committee size

FEMOB= Female members on board

INDIR = Independent directors

FINEXP = Financial expertise

LEVERAGE = Leverage

As indicated above, the regression equation with the description of the formula, was employed to achieve the outcome of the study.

3.9.1 Dependent variable

In this study, ROA was used as a dependent variable. According to Wilkinson (2013), ROA discloses how much returns an enterprise generates from its total assets. Gallo (2016) state that ROA basically shows how effective an enterprise is in using its assets to generate profit. Prior studies such as Siminica, Circiumaru and Simion (2012), Khalaf (2013), Doğan (2013), Heikel, Khaddafi and Ummah (2014), Aanu *et al*. (2014) and Vătavu (2015) used ROA as a dependable variable. In this study, ROA was used as a dependent variable since ROA is a financial ratio used to measure the degree to which the assets have been used by an enterprise to generate profits.

3.9.2 Independent variables

Independent variables are audit committee size, independence, financial expertise and female members on the board.

3.9.2.1 Audit committee size

Higher profitability on returns can be achieved if SOEs adhere to good corporate governance. Audit committees are instituted as a mechanism to enforce good corporate governance, hence, Section 76 of the PFMA refer to the responsibility of National Treasury to formulate

regulations relating to Audit Committees, PFMA (Act 1 of 1999). The reason for the policy was to reinforce good corporate governance for SOEs to yield more profitability and attract good investments. In addition, audit committee size to some degree has an impact on the financial goals of an enterprise (Herdjiono & Sari, 2017). This led to the researcher to test the impact of the audit committee size on ROA.

3.9.2.2 Independent directors on audit committee

Ernst & Young (2012) found that independent directors are playing a major supervisory role in enterprises, avoiding the occurrence of unwanted situations and their consequences. The objective of the enterprise is to make a profit or economic gain (Wang, Lu & Wang, 2014) and the independent directors being the major player in an enterprise's performance has led the researcher to test the impact of independent directors on ROA.

3.9.2.3 Gender diversity of the board

Walter (2014) found that diversity is essential to growth and prosperity of any enterprise; for instance, gender, culture, age and perspective. According to a series of catalyst studies, there is a clear and positive correlation between diversity and financial performance of enterprises. Prior studies such as Lückerath-Rovers (2013), Zabri *et al.* (2016) and Alqatamin *et al.* (2017) used gender diversity as an independent variable to test its relationship on enterprise performance. This led the researcher to also test the impact of the gender diversity of the audit committee on ROA.

3.9.2.4 Financial expertise of the board

A enterprise's profitability depends on the effectiveness of the board, but for the board or the enterprise to function effectively, experienced and qualified members of the board should be

appointed. Sultana *et al.* (2015) support the argument of agency and resource dependency theory which states the importance of the inclusion of audit committee members with prior experience in corporate governance and audit committee for more effective monitoring. Prior research (Aanu *et al.*, 2014; Sultana *et al.*, 2015; Herdjiono & Sari, 2017) have used financial expertise as independent variable. This has driven the researcher to experiment the relationship between financial expertise of board members and ROA.

3 .9.3 Control variables

The analysis of the effect between composition of the audit committee and enterprise's profitability alone does not justify the results from this study. Previous researchers used the control variables in their studies to justify their results (Saeidi, Sofian, Parisa-Saeidi & Saeidi 2015; Chen, Ong & Hsu, 2016; Bansal & Sharma, 2016; Sturesson & Kallum, 2017). The objective of using control variables is to control for factors that may influence the regression result. Therefore, this study considered leverage as the control variable as explained below.

3.9.3.1 Leverage

According to Tsuruta (2015); Vithessonthi and Tongurai (2015); Fosu, Danso, Ahmad and Coffie (2016) and Peavler (2017), leverage is a ratio of long-term total book value of debt to total book value of assets which is used as a measurement of enterprise financial risk. Prior studies such as Danso and Adomako (2014) and Fuso *et al.* (2016) used leverage as a control variable. In this study, leverage was also appropriate to control other variables, namely: enterprise's value and profitability.

3.10 Data collection

This study used a secondary data collection method. By using this method to collect data, it enables the researcher to obtain financial data from sustainability reports and annual integrated financial statements from 2006 to 2017 (twelve years) from enterprises' websites. The method of data collection for these involves the financial statements (statements of financial position and income statements) of all SOEs listed under PFMA Schedule 2. The data for the audit committees' independent variables (size, independence, financial experience and gender diversity) were sourced from the non-financial statements of the annual reports and the dependent variable – financial performance of SOEs in terms of ROA were obtained from financial statements of the annual report.

Moreover, the researcher used related peer-reviewed articles and information on the enterprises' Internet sources. Leedy and Ormrod (2013) explain that data collection starts once the research problem has been identified and the research design described. According to Struwig and Stead (2001: 80), there are two different types of data, which could be collected, namely primary and secondary data. They describe primary data as new data, which is collected, whereas secondary data is data which is available from resources other than data from the current research project. Struwig and Stead (2001: 80) stipulate that "secondary data can be classified into three broad categories, namely raw data already collected, summaries of numbers (e.g. figures supplied by Statistics South Africa, SOE's annual reports) and written dissertations and essays (e.g. books, journals and theses)."

In gathering this data, the researcher conducted an intensive literature review by reviewing relevant textbooks on audit committee and SOEs, research which were conducted, journal articles and relevant legislation and international standards on the related topic of the study.

Therefore, the study used secondary sources of data based on the hypotheses of the study and the estimation of the models of the study require the use of quantitative data.

3.10.1 Types of data

This section discusses the varieties of data (quantitative and qualitative) to be employed in the study to achieve the objectives of the study.

3.10.1.1 Financial data

The financial data used in this study consists of ROA which were measured in percentage and audit committee components which were numbers.

3.10.1.2 Non-financial data (audit committee's practices)

Audit committee components were measured in numbers, whereby the enterprises were indicating a decrease or increase as compared to their objectives or their prior year results.

3.11. Measurement of variables and model's specification

The variables of the study are the audit committee composition as the independent variables (audit committee size, audit committee independence, audit committee financial expertise and the female members of the board). The dependent variable, on the other hand, is the financial performance of SOEs (measured by ROA as a key dependent variable). The measurement of the variables is presented in Table 3.1 and Table 3.2.

Table 3. 1: Dependent variable

Dependent Variable	Acronym	Measurement	Source
Return on Assets	ROA	Measured as a ratio of earnings before interest and taxes to total assets	Alqatamin (2018)

Table 3. 2: Independent variable

Variables Description	Acronym	Measurement	Source
Audit Committee Size	SZAUDC	Measured as a total number of audit committee members.	Zábojníková (2016) and Alqatamin (2018)
Audit Committee Independence	INDIR	Measured as a total number of the audit committee members that are all non-executive directors that were appointed at the AGM in each accounting period.	Ame (2013); Kallamu and Saat (2015) and Zábojníková (2016)
Audit Committee Financial Expertise	FINEXP	Measured as a total number of the audit committee which currently has (or had previously) work experience as certified chartered accountants, chief financial officers, financial controllers, or any other significant accounting positions in each accounting period.	Zábojníková (2016) and Herdjiono and Sari (2017)
Audit Committee Gender Diversity (Female Members on the board)	FEMOD	Measured as a total number of females the committee have during an accounting period.	Cohen *et al.* (2014); Herdjiono and Sari (2017); Alqatamin (2018)

3.12 Data analysis

The section discusses the type of data to be used in the study to address the objectives and answer the hypothesis as outlined in Chapter One.

3.13 Legislative documentation

The study gathered information from academic books, government documents, legislations, journals, research reports, news articles and reports of SOEs and Public Institutions Listed in PFMA Schedule 1, 2, 3A, 3B, 3C and 3D as at 24 February 2017.

3.13.1 Indicate aspects of analysis to be covered

According to Niles (2009) data analysis is a body of methods that help to describe facts, detect patterns, develop explanations and test hypotheses.

3.13.2 Quantitative data analysis

Quantitative data analysis use numbers to determine and describe patterns in the data. It is the most commonly used techniques in the field of the social sciences (Babbie, 2010:422). The data collected in this study were analysed by the researcher concerning the results of the annual reports of sampled SOEs and were processed and evaluated using descriptive analysis. The results of the analysis were presented, using pie-charts, bar graphs with the use Stata Analytical Software. The method of data collection for these involved the financial statements (statements of financial position and income statements) of the sampled SOEs for all the period covered by the study (2006-2017) and the market values from the JSE daily listings for those SOEs that are listed on JSE like ESKOM, Transnet and Telkom. The data for the audit committees' variables (size, independence, financial experience and gender diversity) were sourced from the non-financial statements of the annual reports and accounts.

Achieving the objectives and validity of the results the researcher used two methods of regression; panel data analysis and pooled regression. It also made use of selected SOEs

integrated reports and sustainability reports between 2006 and 2017 to examine any association of the audit committee and enterprises' profitability, that is the ROA.

3.13.3 Panel data analysis

The panel data technique was adopted to examine the effect of the audit committee components on ROA. Panel data refers to a dataset constructed from recurring cross-sections and the longitudinal section over (Van Hoof & Lyon, 2013).

3.13.4 Multiple linear regression analysis

Multiple regression analysis can be used to determine the correlation between a variable and a combination of two or more other variables (Babbie, 2013: 467). This regression model is concerned with finding a correlation between many variables and can be expressed in the form of an equation (Adams *et al.,* 2014: 202; Babbie & Mouton, 2010: 646). This study has four independent variables, namely audit committee composition (size, gender diversity, independence and expertise) which are known to influence the dependent variable, the SOE's profitability that is ROA. The study applied this second quantitative method using the Stata Analytical Software.

3.14. Summary of chapter

This chapter explained the research methodology employed in this study. The chapter explained the adoption of quantitative methods, which helped the researcher to address the objectives of this study. This study adopted a causal research design. With a casual research design, the study could address the impact of audit committee composition on an enterprise performance targets and, the relationship between the audit committee components and ROA was analysed with the use of a causal research design. This study used a quantitative approach.

The approach was appropriate for this study because it enabled the researcher to test for possible relationships between the audit committee components (measured in size, independence, gender diversity and expertise) and enterprise performance (measured in Rands).

The researcher's source of data was from published integrated financial and sustainability reports of the selected SOEs. The researcher believes that the adoption of the methods mentioned above as appropriate to fulfil the objectives of this study. In the next chapter, the research discusses the presentation and interpretation of results of the study.

CHAPTER FOUR: DISCUSSION, PRESENTATION AND INTERPRETATION OF RESULTS

4.1 Introduction

The previous chapter described the overall research methodology used in this study. It outlined the research design and method appropriateness, the population, sample and sampling procedures, data collection, the operational definition of research variables, data analysis, and the summary of the chapter was presented in the last section of the chapter. This chapter provides the analysis of the results based on the research problem, hypothesis and questions. In this chapter, statistical techniques were employed to analyse the data. As mentioned in Chapter Three, the results are based on a quantitative method.

4.2 Panel data analysis

The raw data was obtained from the SOEs sustainability reports and integrated annual reports, which were captured into an excel sheet as shown in Table 4.16 of the Appendix. The Stata 12 software was employed to analyse the relationship between ROA and audit committee composition that is audit committee size, independence of members with financial experience and gender diversity. A control variable was included to justify the results. The control variable used was the leverage (debt ratio).

4.3 Statistical models and tests

Statistical models such as the fixed effect and random effect model were performed. After that, the Hausman test was conducted to decide on the appropriate model. Moreover, the following tests were run to justify and enhance the validity of the panel data results: autocorrelation test, covariance matrix, scatter, multicollinearity, normality and homo/heteroscedasticity.

4.3.1 Descriptive statistics

Table 4.1 presents the descriptive statistics of the variables used in this study. The dependent variable is the ROA as a proxy for SOEs financial performance; the independent variables are the composition of the audit committee and leverage the control variable. The continuous variables' descriptive statistics included the mean, standard deviation, and minimum and maximum, which are obtained with the help of Stata to summarise the ROA, size of the audit committee, female members on board, independent directors, financial expertise and leverage as shown in Table 4.1.

Table 4. 1: Summary of descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	252	1.076984	13.81876	-86.5	71
Audit committee size	252	4.626984	1.718121	0	9
Female members on audit committee	252	1.857143	1.20235	0	6
Independent directors	252	4.357143	1.655436	0	9
Financial expertise	250	2.912	1.502426	0	7
Leverage	252	57.11008	33.85123	-33.41	177.11

* 8 variables, 252 observations pasted into the data editor

Source: Authors' results of descriptive statistics from Stata (2018)

Table 4.1 shows 252 observations for a period of twelve years (2006 – 2017) for 21 SOEs listed on PFMA Schedule 2. The mean of the dependent variable, ROA was 1.076984. While those for the independent variables, audit committee size (AUDSIZE), Female members on board (FEBOMOB), Independent directors (INDEXP), members with financial expertise (FINEXP) and leverage (LEVERAGE) was 4.626984, 1.857143, 4.357143 and 2.912 respectively. Moreover, the mean of the control variable, leverage was 57.11008.

The standard deviation which measures the dispersion of variables, for this research it shows the standard deviation of the ROA of 13.81876. Audit committee size has a deviation of 1.718121, female members on audit committee board have a deviation of 1.20235, independent directors have a deviation of 1.655436 and audit committee directors with financial expertise has a deviation of 1.502426. While on the other hand, the control variable in leverage has a deviation of 33.85123. As seen in Table 4.1, the minimum and maximum for the ROA are -86.5 and 71, audit committee size is 0 and 9, female members of audit committee board is 0 and 6, independent directors is 0 and 9, and audit committee directors with financial expertise is 0 and 7. However, leverage as the control variable has minimum and maximum of -33.41 and 177.11.

4.3.2 Multiple regression analysis test

Regression involves correlations of the relationship between sets of variables (Foster, Barkus & Yavorsky, 2006). Multiple regression analysis involves using more than one independent variable to explain the variance in the dependable variable (Sekaran & Bougie, 2010). Regression analysis is one of the most widely used statistical methods in many science disciplines (Hair, Anderson, Tatham & Black, 2010). DeCoster (2004) claimed that a statistical method enables the researcher to predict the value of one variable based on the value of another or more variables. He added that when the regression analysis is run, a regression equation that predicts the dependent variable's value through the independent variables arises. Table 4.2 shows the multi-regression analysis test.

Table 4. 2: Multiregression analysis test

Source	SS	Df	MS		Number of obs = 250		
Model	3559.47994	5	711.895987		Prob> F = 0.0017		
Residual	43397.9086	244	177.860281		R-squared = 0.0758		
Total	46957.3885	249	188.58389		Adj R-squared	=	0.0569
					Root MSE	=	13.336

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
Size of audit committee	1.983065	1.364008	1.45	0.147	-0.70367	4.669797
Female members on board	0.491942	0.895235	0.55	0.583	-1.27143	2.255316
Independent directors	-1.04628	1.396751	-0.75	0.455	-3.79751	1.704947
Financial experience	0.863884	0.713511	1.21	0.227	-0.54154	2.269311
Leverage	-0.0792	0.025604	-3.09	0.002	-0.12963	-0.02876
_cons	-2.6198	2.688537	-0.97	0.331	-7.91551	2.675899

Note: If **p** < 0.05, we can conclude that the coefficients are statistically significant.

Source: Authors' results of descriptive statistics from Stata (2018)

The "R-squared" row symbolises the R^2 value, which is the percentage of variance in the dependent variable that can be explained by the independent variables. From Table 4.2 above, the value of 0.0758 independent variables explains 7.58% of the variability of the dependent variable.

The F-ratio tests whether the overall regression model is a good fit for the data. The output shows that the independent variables statistically significantly predict the dependent variable, $F(5, 244) = 4.00$, $p < .005$ which demonstrated that the regression model is appropriate for the data.

Multiple regression was run to predict the ROA from the size of the audit committee, female members on board, independent directors and financial expertise. These variables statistically

significantly predicted the ROA, F (5, 244) = 4.00, p < .0005, R^2 = 0.0758. All four independent variables are insignificantly to the prediction, p > 0.05. The control variable, leverage added statistically significantly to the prediction, p < 0.05.

4.3.3 Defining of time – series data from Stata 2018

Table 4.3 illustrate the sequences of data listed in time order as derived from Stata (2018).

Table 4. 3: Time series test

```
gen time = _n
time variable:  time, 1 to 252
delta:  1 unit
```

Source: Authors' results of descriptive statistics from Stata (2018)

To benefit from Stata 12's many built-in functions for analysing time-series data, one has to declare the data in the set to be a time-series as illustrated above. Once the data are declared to be time-series, Stata prints out vital data about the time-series. It identifies the name of the time variable, the dates it covers, and the delta that lapses between observations. From the table 4.3, the variable is 1 to 252, and the delta is 1 unit.

4.3.4 Durbin–Watson statistic

Durbin–Watson statistic was employed in the study to distinguish the presence of autocorrelation from a regression analysis. As illustrated in Table 4.4, the Durbin–Watson statistics is 1.524561 with two gaps in the sample.

Table 4. 4: Durbin-Watson statistics test

Number of gaps in sample: 2

Durbin-Watson d-statistic (6, 250) = 1.524561

Source: Authors' results of Durbin-Watson statistic test from Stata (2018)

The Durbin-Watson statistics range from 0 to 4, if the results are close to 2, it means there is non-autocorrelation if the result is 0 to < 2, it indicates positive autocorrelation, and if the results are>2 to 4, it indicates negative autocorrelation. Table 4.4 shows a DW of 1.524561 which is < 2. This means that there is a positive autocorrelation within the variables of the study. Therefore, the study does not reject the null hypothesis of positive autocorrelation at a 5% significant.

4.3.5 Scatterplot test

According to Rumsey (2016), scatterplots tests are useful for interpreting trends in statistical data, as it shows possible relationships between two variables. As demonstrated in Table 4.5, the results display data from five variables; the ROA, audit committee size, the number of female members on the committee, independent director and financial expertise on leverage to test their correlation.

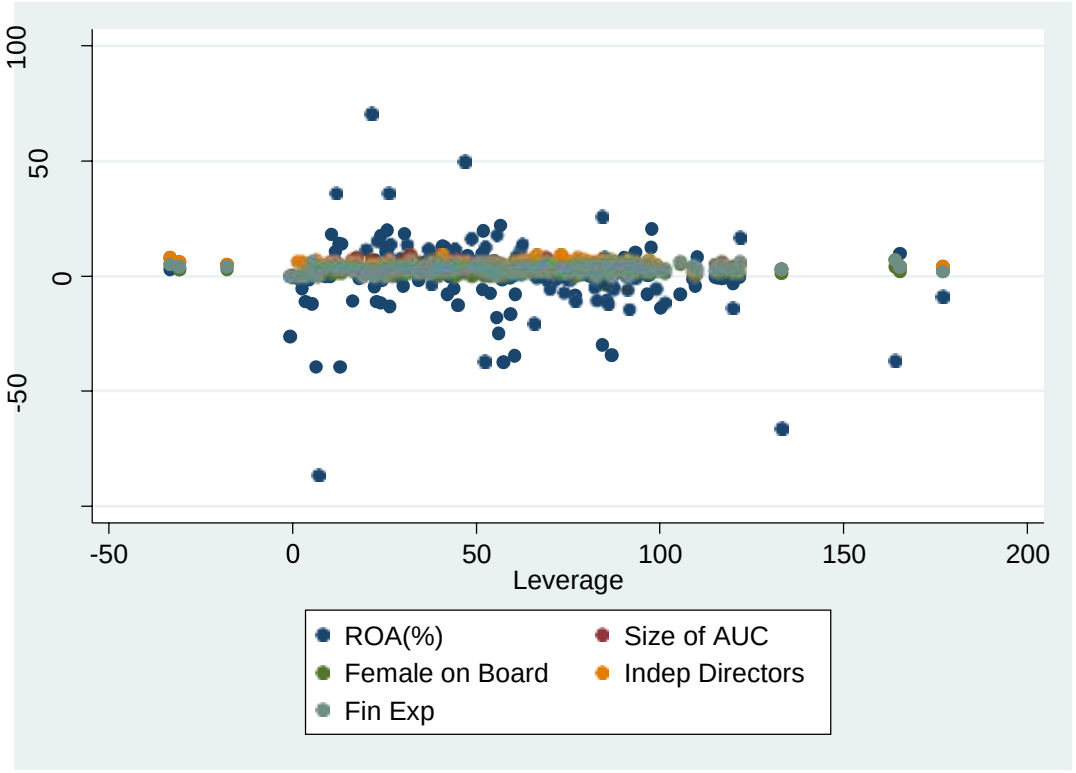

Figure 4. 1: Scatter plot test

Source: Authors' results of Scatterplot test from Stata (2018)

Table 4.5 reveals a no correlation between audit committee size, gender diversity, independent directors and financial expertise on leverage. The line moves horizontally neither decreasing or increasing at 0 means, which indicates that there is no correlation between selected audit committee composition on leverage. Moreover, the results show an inverse or negative correlation between the ROA and leverage, hence, as the leverage increases the ROA decreases and vice versa. The study reveals a solid negative relationship at -50 to - 100.

4.3.6 Multicollinearity test

Multicollinearity is an incident of excessive intercorrelations or inter-associations between the independent variables and dependable variables, Williams (2015) and Mamun, Yasseer,

Rahman, Wickramasinghe, and Nathan (2014). The multicollinearity test results are demonstrated in Table 4.6.

Table 4. 5: Multicollinearity test

Variable	VIF	1/VIF
Size of the audit committee	7.66	0.13048
Independent directors	7.45	0.134263
Female members on board	1.63	0.612882
Financial expertise	1.61	0.621573
Leverage	1.05	0.948955
Mean VIF	3.88	

Source: Author's results of multicollinearity from Stata.

For improvement of the regression validity, the multicollinearity test was executed. Multicollinearity can create a problem in regression as it can lead to a situation where the independent variables are closely correlated with one another, leading to a bias in the probability values (*p*-values). In testing for the presence of multicollinearity, the Variance Inflation Factors (VIF) test was performed in Stata 12. This test measures how the standard errors inflate the coefficients in the regression model, leading to a bias in the *p*- values. An ideal VIF should not be more than four times the square of the standard errors. Therefore, based on the mean VIF (3.88) and the individual VIF of the independent variables as shown in Table 4.6, no multicollinearity is present. However, there is a collinearity between size of the audit committee and independent directors which could have been removed although kept because these two variables are significant in determining the effectiveness of audit committee's composition. Moreover, the mean VIF of 3.88 as indicated in Table 4.6 shows no heteroscedasticity or multicollinearity.

4.3.7 Heteroscedasticity test

Table 4.7 illustrate whether data has a constant variance and whether data has heteroscedasticity.

Table 4. 6: Breusch-Pagan/Cook-Weisberg test for heteroscedasticity

Ho: Constant variance

Variables: fitted values of ROA

$chi^{2(1)}$ = 2.63

Prob> chi^2 = 0.1052

Source: Author's results of heteroscedasticity from Stata (2018)

According to Williams (2015a), if error terms do not have a constant variance, they are said to be heteroscedastic, on the other side, when the variance of the error term is constant is called homoscedasticity. A significant chi-square would indicate that heteroscedasticity (Williams, 2015a). In this study, the chi-square is 0.1052. Therefore, heteroscedasticity is not present. Hence, it is homoscedastic which is good for the model. Table 4.8 presents the panel data results using covariance matrix test.

4.3.8 Covariance matrix test

Covariance matrix test was performed to measure the relationship between two variables. The results in Table 4.8 therefore, test for the covariance or correlation between audit committee compositions as outlined in Chapter 1 and leverage.

Table 4. 7: Covariance matrix of coefficients of regress model

e(V)	Size of the audit committee	Female members on board	Independent directors	Financial experience	Leverage	_Cons
Size of the audit committee	1.860517					
Female members on board	0.035595	0.801445				
Independent directors	-1.63378	-0.38174	1.950914			
Financial experience	-0.35445	-0.01499	0.111996	0.509098		
Leverage	0.001432	-0.00195	-0.00169	-0.00227	0.000656	
_cons	-0.60869	0.161099	-0.45559	-0.1734	-0.02651	7.228232

Source: Author's results of covariance matrix test from Stata.

In these results, the covariance between audit committee size and gender diversity is approximately 0.035595, which indicates that the relationship is positive, while on independent directors -1.63378 and financial expertise -0.35445, the values indicate a negative relationship. The covariance between gender diversity and independent directors is approximately -0.38174, and the covariance between gender diversity and financial expertise is approximately -0.01499. These values indicate that both relationships are negative. The covariance between independent director and financial expertise is approximately 0.111996, and the covariance between independent director and leverage is approximately -0.00227. As demonstrated in Table 4.8, the correlation command reveals a clean correlation matrix (or covariance matrix with the covariance option).

4.3.9 Correlation matrix test

A correlation coefficients matrix was employed to check for the incidence of multicollinearity between independent variables, as used in previous studies (Kallamu & Saat 2015; Alqatamin *et al.,* 2017). Murtagh and Heck (2012) suggest that 80% is considered the start of a

multicollinearity problem which may impair the regression analysis. The result of the correlation analysis presented in Table 4.9 shows no collinearity problem between the explanatory variables, since the highest correlation is between the audit committee size, with a coefficient of 2.91% and independent directors, with a coefficient of 11.24%. This is less than 80%, so the multicollinearity problem does not affect the data set used in this study.

Table 4. 8: Correlation matrix of coefficient of regress model

e(V)	Size of audit committee	Female members on board	Independent directors	Financial expertise	Leverage	_Cons
Size of audit committee	1					
Female members on board	0.0291	1				
Independent directors	-0.8575	-0.3053	1			
Financial expertise	-0.3642	-0.0235	0.1124	1		
Leverage	0.041	-0.0851	-0.0471	-0.1242	1	
_cons	-0.166	0.0669	-0.1213	-0.0904	-0.385	1

Source: Author's results of correlation matrix test from Stata.

As seen from Table 4.9, the correlation between the independent variable size of the audit committee and itself is a perfect 1.0000. The same applies to all independent variables females on board, independent members and members with financial expertise of 1.0000. Moreover, the control variable is perfectly correlated as expected at 1.0000. Table 4.9 also shows a weak positive correlation between the size of the audit committee and female members on board of 0.0291. On the other hand, the table presents a weak but negative correlation between the size of the audit committee and independent directors of -0.8575 and the financial expertise of -0.3642. With the variable female on board, Table 4.9 shows a weak and negative correlation with independent directors at -0.3053, financial expertise at -0.0235 and leverage at -0.0851. Moreover, the independent director variable shows a positive correlation with financial expertise at 0.1124 and a negative correlation with leverage at -0.0471. Lastly, the financial expertise shows a weak negative relationship with leverage at -0.1242.

4.3.10 Fixed effect model of ROA

The panel data set for the study is as below, which the *xtset* shows that for enterprises selected, data are available for 2006 to 2017.

panel variable: cocode (strongly balanced)

time variable: year, 2006 to 2017

delta: 1 unit

Table 4. 9: Input data for fixed effects model on the ROA

Table 4.10 shows a fixed effect model to test whether independent variables has a significant influence on the dependent variable.

Fixed-effects (within) regression				Number of obs		=	250
Group variable: cocode				Number of groups		=	21
R-sg: within	=	0.0855		Obs per group: min		=	11
between	=	0.0836			avg	=	11.9
overall	=	0.0673			max	=	12
				F(5,224)		=	4.19
corr(u_i,Xb)	=	-0.1463		Prob > F		=	0.0012

Table 4. 10: Fixed effects model result

ROA	**Coef.**	**Std. Err.**	**T**	**P>t**	**[95% Conf.**	**Interval]**
Size of audit committee	2.305525	1.608788	1.43	0.153	-0.86477	5.475821
Female members on board	0.901405	0.937645	0.96	0.337	-0.94633	2.749138
Independent directors	-0.67796	1.592828	-0.43	0.671	-3.8168	2.460886
Financial expertise	-0.10424	0.826997	-0.13	0.900	-1.73393	1.525445
Leverage	-0.09844	0.035563	-2.77	0.006	-0.16852	-0.02836
_cons	-2.557	3.183003	-0.80	0.423	-8.82946	3.715459
sigma_u	6.16645					
sigma_e	12.47824					
rho	0.196277	(fraction	of variance due		To	u_i)

Note: number of Obs = 252: total number of observations (rows); Number of groups = 7: total number of groups (enterprises) = 21; If this is <0.05 then the model is fine. F (5.224) = 4.19; prob > F = 0.0012: this is a test (F) to see whether all the

coefficients in the model are different than zero; Corr (u_iXb) = -0.0673: the errors ui are correlated with the regressors in the fixed effects model.

F test that all u_i = -0.1463 F (20, 224) = 4.19 Prob> F = 0.0012

Note: sigma_u = sd of residuals within groups ui; sigma_e = sd of residuals (overall error term) ei; Rho = 19.63% of the variance is due to differences across panels; 'rho' is known as the intra-class correlation; t = *t*-values test the hypothesis that each coefficient is different from 0. In rejecting this, t-value should be higher than 95% confidence. If this is the case, then the variable has a significant influence on the dependent variable(y). The higher the *t*-value, the higher the relevance of the variable; p > *I t I* = two-tail p-values test the hypothesis that each coefficient is different from 0. In rejecting this, the p-value has to be lower than 0.05 (95%, or choose an alpha of 0.10), if this is the case, then the variable has a significant influence on the dependent variable (y).

Source: Author's results of fixed effects model from Stata (2018).

From Table 4.11, the relevant results to take note of are the p-values and the coefficient of the regressors. The significance level is set at 95% levels with *p*-values higher than 0.05 to be insignificant. The results in Table 4.11 shows that there is a positive, but insignificant relationship between the ROA and audit committee size represented by a coefficient of 2.305525 and a *p*-value of 0.153. The correlation between gender diversity (female member on board) and ROA showed a positive but insignificant result represented by a coefficient of 0.901405 and *p*-value of 0.337.

Also, the result revealed a negative but insignificant relationship between independent directors and financial expertise leverage on ROA represented by a coefficient of -0.67796 and -0.10424 and a *p*-value of 0.671 and 0.900. However, the results had shown a negative and significant correlation between ROA and leverage.

4.3.11 Random effect model of ROA

Table 4.12 shows the observation and group for the research and to check for coefficients in the model.

Table 4. 11: Input data for random effects model on return on asset

Random-effects GLS regression					Number of obs		=	250
Group variable: cocode					Number of groups		=	21
R-sg: within	=	0.0840			Obs per group: min		=	11
between	=	0.0498				avg	=	11.9
overall	=	0.0725				max	=	12
					F(5,224)		=	21.06
corr(u_i,X)	=	0 (assured)			Prob>F		=	0.0008

Note: number of Obs = 250: total number of observations (rows); Number of groups = 21: total number of groups (enterprises); If this is <0.05 then the model is ok. Wald $chi2_{(5)}$ = 21.06; Prob > $chi2$: 0.0008 this is a test ($chi2$) to see whether all the coefficients in the model are different than zero; Corr (u_i,X) = 0 (assumed).

Source: Author's results of random effects model from Stata (2018).

Table 4. 12: Random effects model results for ROA

ROA	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Audit committee size	2.173437	1.46874	1.48	0.139	-0.70524	5.052115
Female members on board	0.728709	0.897136	0.81	0.417	-1.02965	2.487063
Independent directors	-0.81313	1.472013	-0.55	0.581	-3.69822	2.071963
Financial expertise	0.303819	0.760239	0.40	0.689	-1.18622	1.79386
Leverage	-0.08821	0.030009	-2.94	0.003	-0.14703	-0.0294
_cons	-2.80025	3.082796	-0.91	0.364	-8.84242	3.241918
sigma_u	5.285166					
sigma_e	12.47824					
RHO	0.152108	(fraction	of variance due		to	u_i)

Source: Author's results of random effects model from Stata (2018).

From Table 4.13, the relevant statistics to take note of are the coefficient and the *p*-values. The significance level is set at 95% levels with p-values greater than 0.05 interpreted to be insignificant. The results show the coefficient of 2.173437 and *p*-value of 0.139. The results show that there is a positive, but an insignificant association between ROA and audit committee

size. Also, the results show a positive, but an insignificant relationship between ROA and female members on board, demonstrated by 0.728709 of coefficient and 0.417 of the *p*-value.

Moreover, the results show that there is a negative and insignificant correlation between independent directors and ROA, demonstrated by the coefficient of -0.81313 and *p*-value of 0.581. Furthermore, the results also show that there is a positive yet insignificant correlation between financial expertise and ROA, represented by a coefficient of -0.303819 and *p*-value of 0.689. Lastly, the results showed a negative, but significant correlation between leverage and ROA, demonstrated by -0.08821 of coefficient and 0.003 of the *p*-value. In deciding between fixed effects model and random effects model for ROA, the Hausman test is appropriate, where the null hypothesis confirms that the preferred model is the random effects model, while the alternative is the fixed effects model. Table 4.14 present Hausman test results for ROA.

4.3.12 Hausman test of ROA

Table 4.14 using Hausman test is used in the study to establish the relationship between dependent and independent variable.

Table 4. 13: Hausman test result for ROA

	(b) **Fixed**	**(B)** **Random**	**(b-B)** **Difference**	**sqrt(diag(V_b-V_B))** **S.E.**
Audit committee size	2.305525	2.173437	0.132088	0.656508
Female members on board	0.901405	0.728709	0.172696	0.272625
Independent directors	-0.67796	-0.81313	0.135171	0.608505
Financial expertise	-0.10424	0.303819	-0.40806	0.325516
Leverage	-0.09844	-0.08821	-0.01022	0.019085

Source: Author's results of Hausman test from Stata.

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$chi^{2(5)}$ = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 2.87

Prob>chi^2 = 0.7193

The results from Table 4.14 from the Hausman test run indicate the use of the random effects model since prob >chi^2 = 0.7193 is greater than 0.05. Therefore, the study used the results from the random effects model to establish the relationship between ROA (dependent variable) and the independent variables (audit committee composition and leverage). The following section discusses the results of the study.

4.4 Discussion of the results

The previous sections apply statistical models and tests to enhance the validity of the results. The study performed the Hausman test to decide between the fixed effects model and random effects model. The random effects model was chosen since Pro>chi^2 is greater than 0.05 and fixed effects model was rejected. In this section the study further discusses the results based on the selected model.

4.4.1 Random effects model: Relationship between ROA and audit committee composition

The aim of this study was to determine whether there is a link between the audit committee composition and the ROA. Therefore, one of the objectives is to examine the relationship between audit committee composition and return on asset on SOEs listed under PFMA Schedule 2 for the period of twelve years (2006 – 2017). In examining the hypothesis, two-panel data analysis techniques were used namely the fixed effect and the random effect model. The reason for using both models was to accommodate for the problem of unobserved heterogeneity in the relationship between the audit committee composition and enterprise performance. In selecting on which model to employ between fixed and random effects, the Hausman test was run. Therefore, the results from the Hausman test run suggested the use of random effects model to test all four hypotheses. As demonstrated in Table 4.13, the results from the random effects model show a positive, insignificant correlation between two variables that is, four components of audit committee and ROA. Since the confidence interval was set at 95% and *p*-values less than 5%, the fixed effects model is statistically insignificant in this study. The random effect model was accepted as the probability of chi^2 is 0.7193, which is more than the 0.05. The implication of the results of the random effects model in Table 4.13 were discussed per hypothesis below.

4.4.1.1 Random effect model: Audit committee size and enterprise performance (ROA) (H_1)

Chapter One of this study stated the research hypothesis (H_1), indicating that there is no relationship between audit committee size and ROA. One of the objectives of this study is to determine whether there is a link between audit committee size and the ROA. Variation from

the random effects model is assumed to be uncorrelated with the independent variables included in this model. Therefore, the random effects model was employed to explain the difference across 21 SOEs and the impact it has on the ROA. Based on Table 4.13, a significant statistic where the confidence interval was set at 95% and *p*-values less than 5% regarded to be significant. The random effect model was accepted as the probability of chi^2 is 0.05. The results, therefore, revealed that there is a positive, but an insignificant association between the ROA and audit committee size as demonstrated by the coefficient of 2.173437 and p-value of 0.139. The results of the study indicate that audit committee size (AUDSIZE) does not influence the financial performance of enterprises reflected by the ROA. However, on the contrary, based on agency theory the audit committee as a mechanism for good corporate governance is of critical importance as it reduces the agency conflicts between the agent and principal and further helps to align management's objective with those of various stakeholders, which are to maximise enterprise performance. As such, agency theory hypothesises an inherent moral hazard regarding principal-agent relations that gives rise to agency costs (Islam, 2010). Additionally, the audit committee is one way to diminish this incentive problem hence the audit committee assist the work of the board of directors, which is to safeguard and increase enterprise performance (Alchain & Demsetz, 1972; Fama & Jensen, 1983). Similarly, the results of the study are comparable to the results of Borlea, Achim and Mare (2017), Bansal and Sharma (2016) and Dharmadasa *et al.* (2014) who contends that audit committee size has an insignificant and positive impact on the accounting-based measures of ROA. However, Al-Matari *et al.* (2012), MoIlah and Talukdar (2007); and Bozec (2005) in their studies found negative correlations between audit committee size and enterprise performance. Therefore, this study concludes that there is no correlation between audit committee size and the ROA meaning that the size of the audit committee does not influence return on asset. A sample size may not be sufficient to influence financial performance.

In contrast, the result does not agree with the results of few studies such as Amer *et al.* (2014); Azim (2012); and Al-Rassas and Kamardin (2015) who claimed that audit committee size was significantly related to enterprise performance. These studies suggest that the size of audit committee improve corporate governance which helps increase enterprise performance. Poudel and Hovey (2013) also argue that there is a mixed results regarding the audit committee size and its enterprise's performance. Some studies showed a positive relationship between audit committee size and an enterprise's performance (Ilaboya & Obaretin, 2015; Heenetogala & Armstrong, 2011), while other studies are in contrast stated that there is no relationship between audit committee's size and performance (Mollah and Talukdar, 2007).

In a nutshell, the results of this study support the hypothesis that audit committee size does not influence enterprise performance as measured by ROA.

4.4.1.2 Random effect model: Gender diversity (female directors) and enterprise performance (ROA) (H_2)

As stated in Chapter One, research hypothesis (H_2), indicated that female members of the audit committee board do not have any impact on ROA in SOE listed under Schedule 2 of PFMA. In using the results, the study attempts to determine whether to accept the hypothesis. Based on Table 4.13, a significant statistic where the confidence interval was set at 95% and *p*-values less than 5% regarded to be significant. The random effect model was accepted as the probability of chi^2 is > 0.05. The results, therefore, revealed that there is a positive effect, but an insignificant relationship between ROA and female members on the board (gender diversity) as demonstrated by the coefficient of 0.728709 and *p*-value of 0.417.

The relationship between gender diversity and enterprise performance appears to be more obscure. Similarly, Bianco, Ciavarella and Signoretti (2011), Daunfeldt and Rudholm (2012),

Schwizer, Soana and Cucinelli (2012), and Stigring and Lyxell (2011) all failed to identify any significant relationship between gender diversity and an enterprise's performance measures reflected by ROA. Differing with the results of this study, Lückerath-Rovers (2013) and Alqatamin (2018) found a significant relationship between the enterprise's performance and gender diversity of the audit committee. However, greater gender diversity could lead to over monitoring in enterprises as explained in the paper of Adams and Ferreira (2009), which provided evidence that female directors act differently than male directors, even after controlling for observable characteristics. Hence, the study accepts the hypothesis that there is no correlation between gender diversity on ROA. Statically the study found a positive link between their variables with a *p*-value of greater than 5%.

4.4.1.3 Random effect model: Independent directors on AC and enterprise performance (ROA) (H_3)

This study aimed to determine whether there is a link between audit committee independent directors and ROA. Therefore, one of the objectives is to examine the impact of audit committee independent directors on ROA in SOEs listed under Schedule 2 of PFMA for twelve years (2006-2017). Based on Table 4.13, a significant statistic where the confidence interval was set at 95% and *p*-values less than 5% regarded to be significant. The random effect model was accepted as the probability of chi^2 is > 0.05. The results, therefore, revealed that there is a negative, but an insignificant association between the audit committee independent director and ROA, demonstrated by the coefficient of -0.81313 and p-value of 0.581.

In this study, the results of the impact of independent directors (INDIR) of the audit committee on ROA showed the negative but insignificant relationship. The outcomes are similar to that of Borlea *et al.* (2017) and Al-Matari *et al.* (2012) who found a negative but insignificant

relationship between independent directors and ROA. Moreover, Borlea *et al.* (2017) assessed the independence of directors and the results pointed out a negative but also insignificant relationship between this characteristic of board members and enterprise's performance which is reflected by ROA. The results of this study are also comparable with many results of studies conducted by Choi and Hasan (2005), Mahadeo, Soobaroyen and Hanuman (2012), Al-Matari *et al.* (2012), van Essen, van Oosterhout, Hans and Carney (2012) and Akpan and Amran (2014). On the contrary, Aanu *et al.* (2014) revealed that the presence of an independent directors would minimise the reporting and communication of wrong accounting information thereby improving the confidence of investors about the enterprise which will directly improve the enterprise's performance. The study by Mamun *et al.* (2014) was also supported by that of Aanu *et al.* (2014) which states that independent audit committee is positively related to financial performance. Although non-executive directors bolster investors' confidence, alleviate agency problems and eradicate opportunistic behaviour in enterprises, the results of this study show that independent directors and ROA are not associated with each other.

4.4.1.4 Random effect model: Financial expertise and enterprise performance (ROA) (H_4)

From the hypothesis (H_4) as stated in Chapter One, the objective of the study among others, is to determine whether there is a link between audit committee financial expertise and ROA. Therefore, one of the objectives as per hypothesis (H_4) is to examine the impact of audit committee size on ROA in SOEs listed under Schedule 2 of PFMA for twelve years (2006-2017). Based on Table 4.13, a significant statistic where the confidence interval was set at 95% and *p*-values less than 5% regarded to be significant. The random effect model was accepted as the probability of chi^2 is > 0.05. The result indicates that audit committees containing members with accounting or financial experts only do not seem to influence ROA as the

estimated coefficient of FINEXP is positive but insignificant, demonstrated by the coefficient of 0.303819 and *p*-value of 0.689.

This study's results are supported by results by Aryan (2015) who stated that audit committee with financial expertise was not related to enterprise performance as financial experts only help to dissuade management from committing fraudulent activities, wasteful expenditures and irregularities. Similarly, Leong, Wang, Suwardy and Kusnadi (2015) also found a positive but insignificant relationship between the two variables. Hence, the results support the hypothesis that audit committee members with financial expertise do not have a relationship with enterprise financial performance measured by ROA.

4.5 Qualitative data analysis

In this section, the study reviewed the annual integrated financial reports and sustainability reports of the sampled major SOEs listed under schedule 2 of PFMA.

4.6 Summary of annual integrated reports of selected SOEs

As indicated in Chapter Three, the sample of the study is 21 major SOEs. The previous section presented results based on the quantitative data analysis. However, this section is aimed to achieve the overall valid, consistent, and comparable results from their reports. The study reviewed all SOEs selected from 2006 to 2017 to get comparable results to support the quantitative results. According to the results, the sample shows that all SOEs have appointed an audit committee for the period 2006 - 2017. Results show an average audit committee size of 4.6 which comply with PFMA Section 76 and 77(Act No. 1 of 1999), the Companies Act, Section 94(Act No. 71 of 2008), Treasury Regulations 3.1 and 27.1 which states that an audit committee must comprise of at least three members. This recommendation is also supported

by the King IV Code of Corporate Governance (IoDSA, 2016). However, in the study, the size of the audit committee failed to prove its impact on SOEs financial performance.

In assessing the independence of directors, the sample reveals that there is a balance on the audit committee with 94% of independent and non-executive directors on the 100% selection of SOE listed in schedule 2 of PFMA. The study supports the agency theory that non-executive directors provide good corporate governance as they guard the interest of stakeholders. However, the relationship between independent directors and enterprise performance reflected by ROA revealed an insignificant and negative correlation. The results are in line with many results of studies such as van Essen *et al.* (2012), Akpan and Amran (2014) and Mahadeo *et al.* (2012).

Meanwhile, diversity is a multi-faceted concept which includes skill and experience, age, gender, ethnicity, geography and culture (Deloitte, 2015). In analysing the diversity of the audit committee, the researcher explicitly focused on the component of gender (female directors on board). A ratio of 1.8 represents the number of female directors in the audit committee of the sampled 21 major SOEs in SA. In other words, major SOEs in South Africa has approximately 40% of women on the audit committee board. Contrariwise, the impact of gender in the study was found to be insignificant on enterprise performance.

Furthermore, the integrated report analysed in the study included information on the qualifications and experience of the audit committee members. The sample reviewed reveal that in most SOEs audit committees, a member with financial expertise such as a Chartered Accountant was present as required by Companies Act (Act No. 71 of 2008) and King IV (IODSA, 2016). The study reveals that out of the average of three members of the audit committee, one is a qualified Chartered Accountant (CA(SA)) or in possession of Bachelor of

Commerce (BCom) degree. However, the inclusion of financial expertise in the quantitative analysis of the study showed a positive but insignificant association with enterprise performance.

In conclusion of the sample of major SOEs in South Africa, having an audit committee in an enterprise to assist the board of directors to perform its activities effectively does not necessarily imply a significant increase in enterprise performance. Similarly, the results are supported by that of Borlea *et al.* (2017) and Al-Matari *et al.* (2012).

4.7 Summary of chapter

The overall aim of this study was to examine the relationship between various audit committee characteristics, such as the audit committee size, gender diversity (female members), the financial expertise of its members and its independence, and the enterprise performance reflected by ROA. This chapter present the analysis of data and results of the study from the statistical analysis to achieve the aim, objectives and the research hypothesis identified. The results revealed a positive but insignificant link between audit committee size, gender diversity and financial expertise on ROA. However, results show an insignificant but negative association of independent director on enterprise's performance reflected by ROA; the results are in line with quantitative results.

Furthermore, the study used legislative documents to explain the data to ensure consistency with the results of the statistical analysis. From the explanations, the study shows an overview of South African SOEs, compliance with mandatory legislation and Treasury guidelines and GRAP. Comparable to any other country, South Africa has its laws and regulations to safeguard the public funds and all the state's resources. The study found that enterprises are fully compliant with these legislations. Therefore, compliance with laws by the SOEs will assist in

eradicating possible conflict between the principal and the agency's fraudulent activities which will improve their reputation thereby increasing investors' confidence. On the other hand, the outcome of sampled SOEs reveals that the problem in SOEs is not related to the implementation of legislation but to the human factor that interferes with good corporate governance practices.

The new Companies Act requires that the audit committee report is included in the annual financial statements of an enterprise (Act No. 71 of 2008). Surprisingly, 100% of the sample complied with this statutory requirement by including the audit committee report in the annual financial statements. However, the sample showed that the audit committee in most SOEs was combined with the risk committee which in the researcher's opinion might weaken the effectiveness of the audit committees. The results indicated that most of the SOEs are working towards good corporate governance with the primary objectives of enforcing governance principles of accountability, fairness, transparency and responsibility and by so doing ensuring economic sustainability of the country.

In conclusion, as per the results of the study, it was noted that the challenges that SOEs are facing are not entirely due to the ineffectiveness of the audit committee but due to other factors such as lack of capacity, poor working conditions and serious leadership failures within SOEs and the government.

Furthermore, as AGSA (2016) indicated, the political leadership in SOEs are also found to be inconsistent – at some SOEs, there is a high level of involvement, while at others the required decision-making and policy direction are not adequate. The other pressing issue is lack of accountability within not only the SOEs but also in government where dubious actions of financial misconduct go unpunished.

Consequently, the audit committee as the mechanism for good corporate governance does not seem to have adequate corporate masculinity within SOEs to take drastic actions on mismanagement of funds, fraud and corruption and conflict of interest by management. In other words, the functions of the audit committee might be undermined and unsupported by the board of directors who are the accounting authority within many enterprises. Thus, the sound institutional arrangement between line function department must be noted as information asymmetry undermines planning, execution and accountability corporate governance. In the next chapter, the study discusses the summary, conclusion and recommendations of the results.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the results, recommendations, future researchers, limitations of the study and the conclusion. The conclusions are based on the four objectives of this study, which were the composition of the audit committee (size, gender diversity, financial expertise and independent directors) in the SOEs on enterprise's performance reflected by ROA.

5.2 Summary of the study

The study achieved its aim and objectives through discussion of different aspects of the existing literature including the analysis and the theoretical frameworks. From the literature reviewed above, it indicates that there are few such studies regarding the impact of audit committee composition or characteristics on enterprise performance reflected by ROA which have been carried out within SOEs listed under Schedule 2 of PFMA in South Africa. The chapter discussed two theories namely the stakeholder and agency theories. The study noted that when enterprises manage or adhere to good corporate governance, it leads to good reputation and consider the main objectives of their establishment. The stakeholder theory encourages enterprises to consider the interest of all stakeholders to improve enterprise's reputation thereby attracting more investors. The agency theory, on the other hand, encourages a good relationship between the agent and the principal to act in the best interest of the enterprise to achieve enterprises' goals which are to generate profit.

Chapter Two provided an overview of corporate governance in South Africa. It reveals that SOEs are facing challenges on enterprise performance due to the ineffectiveness of the

characteristics of the audit committee. Moreover, enterprises that have effective audit committee are associated with better internal control, risk management and ethical decision making which minimise fraudulent activities, therefore, improving enterprise's reputation and performance. The chapter further discussed the related legislation that governs public entities and corporate governance in South Africa. The importance of SOEs in the South African economy is highlighted. Moreover, the review of extant literature suggests that for enterprises to improve the effectiveness of audit committee and maintain increased financial performance, they should adopt a proper audit committee charter. On the other hand, the audit committee functions, roles, responsibilities and possible benefits of the establishment of the AC were reviewed. Lastly, the chapter discussed the relationship between audit committee composition and enterprise performance, followed by the summary.

Chapter Three explained the research methodology used in this study. The chapter explained the adoption of a quantitative method, which helped the researcher to address the objectives of this study. The study adopted a causal research design. With the casual research design, the study could address the impact of audit committee composition that is the size of the audit committee, gender diversity, independent directors and financial expertise on enterprise performance reflected by ROA. The approach was appropriate for this study because it enabled the researcher to test for possible relationships between audit committee composition on ROA (measured in Rand). Data was sourced from published integrated financial and sustainability reports of the selected SOEs. The study used major public entities in South Africa listed under Schedule 2 of PFMA as the population because it was easy to obtain valid and comparable sustainability reports and integrated annual financial statements from the enterprise' websites, parliamentary monitoring group (PMG) website and the National Library of South Africa (NLSA). These major SOEs were chosen among other public entities because they contribute

substantially to the economic growth and the GDP. Independent and dependent variables were defined, and ROA was used as the dependent variable with the audit committee composition as the independent variable. The control variable was described. The objective of using control variables is to control for factors that may influence the result of the regression analysis. Leverage was used as a control variable in the study. Lastly, a Panel data analysis was discussed.

Chapter Four presented the analysis of data and the results of the study from the statistical analysis using the Stata 12 software to achieve the objectives and identified research hypothesis. The study examined whether enterprise performance reflected by ROA is associated with AC characteristics (size, independence, gender diversity and expertise), focusing on a sample of 21 SOEs classified as major public entities under Schedule 2 of PFMA over twelve years, 2006 - 2017 period. Panel regressions were used to examine the effect of AC characteristics on ROA using two measurements of expertise (proportion/number). The results revealed that there is a positive but insignificant association between audit committee size and ROA. From this study, it was evident that audit committees of the South African SOEs were still dominated by a 60% male to 40% female. There was however, an insignificant positive association of gender diversity represented by the number of females on the AC on ROA. Moreover, a positive but insignificant correlation also was revealed on financial expertise and ROA whilst the independent directors showed a negative but insignificant association with ROA. On the other hand, the study used legislative documents to explain the data to ensure consistency with the results of the statistical analysis. By emphasising the significance of the AC as a corporate governance mechanism to enforce good corporate governance, the study's results have implications for both practice and public policy. The results demonstrated the value of a combination of accounting and financial expertise,

independent directors, gender diversity and industry expertise in improving the effectiveness of audit committee thus increasing enterprise performance. The study found that sampled enterprises are fully compliant with legislation and in doing so, the enterprises are working towards improving and protecting their reputation against various stakeholders as to encourage more investment. On contrary, economic crisis within South African SOEs is the direct result of economic mismanagement largely shaped by the looting of state owned enterprises. For example, the incompetence and corruption that pushed entities like SAA, Transnet, ESKOM and the SABC closer to financial collapse. The results of this study added to the existing knowledge and literature on the composition or characteristics of audit committees and enterprise performance. The study opened a dialogue for further research in the field of audit committees, corporate governance and SOEs in South Africa.

5.3 Research limitation

This study has limitations. The study used sustainability reports of selected South African SOEs for data analysis; therefore, these results may not be generalized to other countries due to issues of localised factors. The study used only those SOEs that were listed on Schedule 2 of PFMA in South Africa classified as major public entities, and these were only twenty-one in total. As a result, the outcomes of this study, therefore, may be fully representative of the major SOEs in the South African context as the sample represent 100% of the population.

5.4 Contribution of the study

The study adds to the existing body of knowledge from the South African context that the composition of audit committees in SOEs if done according to the governance regulations may help improve financial stability and enhance economic growth. Moreover, the study's contribution stems from the results that while audit committee composition may be positively

related to financial performance, it is not significance in this regard may be due to other factors such as the lack of financial expertise and political appointments that have eroded their ability to prevent and report fraudulent activities.

5.5 Conclusion

This study investigated the effect of audit committee composition on enterprise's performance among major SOEs listed in Schedule 2 of PFMA over the period 2006 to 2017. The results indicated that audit committee composition (size, independent, gender diversity and financial expertise) have a positive and insignificant effect on enterprise performance measured as ROA. Finally, the results showed a negative and significant association between enterprise performance and leverage. Furthermore, the study reveals that the governance of SOEs, for example SAA, SABC, SAPO and ESKOM among others, is tangled with antagonism, fraud and corruption, which deter the smooth running of the SOE sector and therefore needs established management, boards and audit committees to return SOEs to its glory. On the other hand, the researcher notes that audit committee composition, board of directors' characteristics, good corporate governance in general and SOEs are of critical economic concern to South Africa and necessary to enforce good corporate governance. The results of the study indicate that audit committees comprising members with accounting or financial expertise only do not seem to influence ROA as the estimated coefficient of FINEXP is positive but insignificant. Furthermore, the results, revealed that there is a negative, but an insignificant association between audit committee independent director and ROA whilst female members on the board (gender diversity) showed an insignificant relationship with ROA. Lastly, the results, revealed that there is a positive, but an insignificant association between ROA and audit committee size. Therefore, audit committee composition as a system for good corporate governance is crucial

to reinforce legislative instruments to eliminate fraudulent activities or corruption but failedin the study to prove its significance in association with SOEs performance.

5.6 Recommendation

The following are the recommendations, implications and contributions of this study to the academic, social, industrial and environmental areas.

5.6.1 Academic

The study contributed academically to the academic discourse as the results assisted in advancing knowledge in the research focus of audit committee. This study could benefit to existing literature on the relationship between SOEs performance and the composition of the audit committee seeing, the results indicated a positive and insignificant correlation between ROA and audit committee size, financial expertise and gender diversity and a negative insignificant relationship on independent of the audit committee.

5.6.2 Social

The results of the study could impact positively on the society since the improvements in the running of SOE would advance growth on the economy of South Africa as SOEs plays a major role in the GDP of the country. Also, as the SOEs improve regarding good corporate governance so does investors' confidence which will then yields more investments and profitability in future. Therefore, the study could contribute to the social needs of society such as the creation of employment, better infrastructure and economic development since the level of service delivery had been strengthened.

Moreover, the results of the study impacted positively on society as the success of SOEs would also assist in the eradication of poverty and the high crime rate which will augment the reputation of the country in general.

5.6.3 Industrial

The results from this study provide courage to enterprises to pay more attention to good corporate governance, the importance and benefits of the audit committee and help them consider the strategic relationship between the SOEs performance and characteristics of the board to improve the overall performance of SOEs. The results of the study should be of interest to the management of major SOEs, the Department of public enterprise, boards of SOE and various stakeholders in making appropriate choices about audit committee characteristics and corporate governance tools to improve enterprise performance. Also, the state as the major shareholder in most SOEs may find the results useful regarding understanding corporate governance and making appropriate investment decisions. The results provide policymakers with a superior appreciation of the different characteristics needed by the audit committee, which could be incorporated into future policy formulation to safeguard the wealth of shareholders, protect the interests of different stakeholders and improve the flow of capital and foreign direct investment in SOEs and the economy in general.

The results of the study could be useful to regulators in other authorities in improving the effectiveness of their audit committees, overall corporate governance practices and owner confidence in the enterprise and its stakeholders. Consequently, enterprises should think about appointing independent board members with financial and industrial expertise and paying more attention to diversity in general to the audit committee.

5.6.4 Environmental

The outcome of the study impacted positively on the environment regarding health and safety issues as the risk of non-adherence by SOEs to strict environmental laws and regulations would be protected. As such, the country's natural capital (e.g. forests, fossil fuels, minerals, water) would be maximised fully and sustained adequately to reduce and control the implication of climate change to natural resources as most SOEs depend on natural resources to produce their output such TCTA, SAFCOL, ESKOM. These SOEs would, therefore, be encouraged to become more environmentally friendly and investing more in the climate to conserve nature. Furthermore, society would also be motivated to adapt a greener lifestyle thereby fighting against climate change to protect, preserve and sustain the planet for future generations.

5.6 Future research

Future researchers may opt to contribute to the literature by identifying not only the role of audit committee characteristics but also of the board of directors in general, on enterprise performance represented by ROA, providing data and evidence for the opinion that enterprise performance is determined by specific audit committee and board member characteristics. Hence, further research is needed to provide a global picture within the changing nature of SOEs and management by covering the study over all areas.

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APPENDIX

LIST OF ACRONYMS

Acronyms	
SOE	State-Owned Enterprise
SA	South Africa
PFMA	Public Finance Management Act
GRAP	Generally Recognized Accounting Practise
ROA	Return on Assets
CEO	Chief Executive Officer
CFO	Chief Finance Officer
AC	Audit Committee
AG	Auditor General
ICT	Information and Communication Technology
SCM	Supply Chain Management
DPE	Department of Public Enterprise
PMG	Parliamentary Monitoring Group
GDP	Gross Domestic Product

Table 4. 14: Raw data used for Panel Data Analysis

Enterprise	Co Code	Year	Dependent variable	Independent variable				Control variable
			ROA (%)	Size of AUC	Female on Board	Independent Directors	Financial Expert	Leverage
ACSA	1	2006	7.0	3	1	3	1	37.55
ACSA	1	2007	5.5	6	4	6	3	47.44
ACSA	1	2008	5.4	6	4	6	3	55.37
ACSA	1	2009	2.2	6	4	6	3	65.76
ACSA	1	2010	3.5	6	4	6	3	67.82
ACSA	1	2011	2.2	2	2	2	2	67.06
ACSA	1	2012	0.3	2	2	2	2	67.77
ACSA	1	2013	3.4	5	4	5	4	61.19
ACSA	1	2014	6.6	4	3	4	3	54.68
ACSA	1	2015	6.2	5	2	5	5	49.01
ACSA	1	2016	9.1	5	2	5	5	42.65
ACSA	1	2017	6.8	5	2	5	5	36.91
Alexkor	2	2006	-37.3	3	1	3	1	57.38
Alexkor	2	2007	-4.4	4	0	3	4	109.79
Alexkor	2	2008	-1.3	4	1	2	4	109.03
Alexkor	2	2009	-14.0	3	1	3	2	119.90
Alexkor	2	2010	8.3	3	1	3	2	110.26
Alexkor	2	2011	12.4	3	1	3	2	97.60
Alexkor	2	2012	0.5	3	1	3	2	96.66

Alexkor	2	2013	3.9	3	1	3	2	55.58
Alexkor	2	2014	5.2	4	2	4	4	50.32
Alexkor	2	2015	8.9	4	2	4	4	47.61
Alexkor	2	2016	-5.9	4	1	4	4	51.75
Alexkor	2	2017	0.9	4	1	4	1	52.82
ATNS	3	2006	11.8	4	1	4	2	36.83
ATNS	3	2007	8.4	3	1	3	2	31.74
ATNS	3	2008	4.6	3	1	3	2	35.96
ATNS	3	2009	5.4	3	1	3	2	36.17
ATNS	3	2010	3.9	3	1	3	2	37.09
ATNS	3	2011	13.6	3	1	3	2	31.11
ATNS	3	2012	13.8	3	1	3	2	26.76
ATNS	3	2013	11.6	3	2	3	3	20.07
ATNS	3	2014	13.6	3	2	3	3	12.72
ATNS	3	2015	14.0	5	2	3	5	12.65
ATNS	3	2016	10.5	6	1	4	5	11.64
ATNS	3	2017	0.0	0	0	0	0	0.00
CEF	4	2006	15.3	3	3	3	1	23.01
CEF	4	2007	13.2	4	2	4	4	25.10
CEF	4	2008	7.9	4	1	4	4	29.38
CEF	4	2009	7.5	3	1	3	3	26.96
CEF	4	2010	-0.3	3	1	3	3	29.26
CEF	4	2011	3.8	3	0	3	3	27.07
CEF	4	2012	5.3	3	0	3	3	25.08
CEF	4	2013	2.6	4	1	4	4	37.21
CEF	4	2014	-3.3	4	1	4	4	37.60
CEF	4	2015	-37.0	3	0	3	2	52.40

CEF	4	2016	0.8	4	0	4	3	57.53
CEF	4	2017	-1.7	5	1	5	2	57.00
SAA	5	2006	0.5	4	2	4	2	91.57
SAA	5	2007	-8.3	3	2	3	2	76.88
SAA	5	2008	-10.7	3	2	3	2	85.62
SAA	5	2009	0.0	3	2	3	2	84.64
SAA	5	2010	3.7	4	1	4	3	92.66
SAA	5	2011	5.2	7	2	7	5	79.75
SAA	5	2012	0.4	7	2	7	5	97.06
SAA	5	2013	-7.9	6	5	6	6	105.57
SAA	5	2014	16.5	6	5	6	6	121.91
SAA	5	2015	-36.9	7	4	7	7	164.21
SAA	5	2016	9.6	4	2	4	4	165.41
SAA	5	2017	0.0	0	0	0	0	0.00
SABC	6	2006	12.9	9	2	9	2	40.86
SABC	6	2007	5.3	6	1	4	6	39.75
SABC	6	2008	8.0	7	2	5	4	44.63
SABC	6	2009	-20.3	7	2	3	4	65.77
SABC	6	2010	-10.6	5	0	3	2	76.93
SABC	6	2011	-4.6	5	0	3	2	82.07
SABC	6	2012	5.6	7	2	5	5	77.03
SABC	6	2013	5.1	7	2	5	5	68.22
SABC	6	2014	17.7	5	1	5	5	55.80
SABC	6	2015	-7.8	5	1	5	5	60.67
SABC	6	2016	-7.5	4	0	4	4	53.87
SABC	6	2017	-18.3	3	1	3	0	55.69
ESKOM	7	2006	6.0	6	2	6	2	60.55

ESKOM	7	2007	4.7	5	1	4	5	64.83
ESKOM	7	2008	11.4	6	1	6	3	62.18
ESKOM	7	2009	-5.2	6	1	6	3	70.11
ESKOM	7	2010	-1.1	6	1	6	3	71.47
ESKOM	7	2011	2.9	6	2	6	3	73.41
ESKOM	7	2012	4.4	9	4	9	4	73.04
ESKOM	7	2013	1.5	5	4	5	3	74.74
ESKOM	7	2014	1.5	5	4	5	3	76.28
ESKOM	7	2015	0.7	4	3	4	1	78.28
ESKOM	7	2016	1.8	4	2	3	4	72.67
ESKOM	7	2017	-0.9	4	2	4	2	75.22
TELKOM	8	2006	16.2	4	0	4	4	48.79
TELKOM	8	2007	11.9	5	0	5	5	44.43
TELKOM	8	2008	12.8	3	1	3	2	52.63
TELKOM	8	2009	5.4	4	1	4	3	56.74
TELKOM	8	2010	50.1	6	1	6	4	46.74
TELKOM	8	2011	2.3	5	1	5	3	44.76
TELKOM	8	2012	-0.1	5	2	5	4	42.66
TELKOM	8	2013	-24.9	5	2	5	5	56.21
TELKOM	8	2014	12.5	5	2	5	5	41.26
TELKOM	8	2015	7.1	6	3	6	5	37.98
TELKOM	8	2016	6.0	6	3	6	5	43.13
TELKOM	8	2017	8.1	5	2	5	2	41.92
TCTA	9	2006	-3.3	4	2	3	3	120.05
TCTA	9	2007	-0.6	5	3	5	3	117.64
TCTA	9	2008	-0.8	6	4	5	5	116.95
TCTA	9	2009	-0.3	5	2	3	2	115.14

TCTA	9	2010	-0.6	5	2	5	5	115.89
TCTA	9	2011	0.1	5	1	5	5	116.48
TCTA	9	2012	-1.4	5	1	5	5	82.70
TCTA	9	2013	-2.1	6	1	5	6	85.41
TCTA	9	2014	-5.9	6	1	5	6	87.26
TCTA	9	2015	-0.6	6	1	5	6	93.70
TCTA	9	2016	-5.4	5	2	5	3	98.82
TCTA	9	2017	7.2	5	2	5	2	91.93
SAPO	10	2006	8.1	4	3	4	3	84.91
SAPO	10	2007	5.5	4	3	4	3	82.37
SAPO	10	2008	5.1	4	3	4	3	79.24
SAPO	10	2009	4.4	4	2	4	3	77.42
SAPO	10	2010	3.2	3	1	3	2	76.04
SAPO	10	2011	1.6	6	2	6	3	75.80
SAPO	10	2012	1.6	8	3	8	4	73.86
SAPO	10	2013	-1.7	4	2	4	2	75.44
SAPO	10	2014	3.3	6	1	6	3	78.41
SAPO	10	2015	-14.4	6	1	6	3	91.73
SAPO	10	2016	-11.4	3	1	3	3	101.40
SAPO	10	2017	-0.9	6	2	4	4	92.31
SAE	11	2006	0.0	0	0	0	0	0.00
SAE	11	2007	25.8	7	2	7		84.26
SAE	11	2008	19.6	5	2	3	3	51.89
SAE	11	2009	18.4	7	2	5	4	30.43
SAE	11	2010	6.3	4	1	3	3	41.79
SAE	11	2011	-16.6	4	1	4	2	59.31
SAE	11	2012	-30.0	3	1	3	3	84.46

SAE	11	2013	0.1	5	2	5	2	80.74
SAE	11	2014	-13.9	3	2	3	2	100.29
SAE	11	2015	-8.0	3	2	3	2	96.71
SAE	11	2016	1.0	4	3	4	2	92.85
SAE	11	2017	0.0	0	0	0	0	0.00
Armscor	12	2006	4.8	3	2	3	2	32.78
Armscor	12	2007	9.1	3	2	3	2	40.34
Armscor	12	2008	6.4	4	1	2	3	27.15
Armscor	12	2009	5.6	4	1	2	3	35.42
Armscor	12	2010	-1.9	5	1	4	3	34.30
Armscor	12	2011	2.0	4	0	2	3	39.85
Armscor	12	2012	7.6	7	2	5	3	37.94
Armscor	12	2013	71.0	7	2	5	3	21.47
Armscor	12	2014	4.0	6	1	4	4	34.27
Armscor	12	2015	2.8	5	1	3	1	34.32
Armscor	12	2016	6.8	5	1	3	2	22.43
Armscor	12	2017	-4.5	3	0	3	0	22.24
DENEL	13	2006	-34.4	0	0	0	0	86.87
DENEL	13	2007	-12.0	5	1	5	2	85.95
DENEL	13	2008	-7.2	5	1	5	2	74.17
DENEL	13	2009	-10.8	6	1	6	3	82.90
DENEL	13	2010	-4.9	5	1	5	2	87.26
DENEL	13	2011	2.2	7	2	7	3	87.02
DENEL	13	2012	0.8	6	2	6	2	87.68
DENEL	13	2013	1.1	4	2	4	2	78.28
DENEL	13	2014	2.6	5	3	5	3	79.43
DENEL	13	2015	3.0	4	3	4	3	80.11

DENEL	13	2016	3.5	4	2	4	2	82.15
DENEL	13	2017	2.6	3	2	3	1	78.73
LAND	14	2006	0.1	5	1	4	2	91.26
LAND	14	2007	-0.1	5	2	5	5	90.73
LAND	14	2008	0.1	5	2	5	4	85.83
LAND	14	2009	1.0	5	2	5	4	85.15
LAND	14	2010	2.2	5	2	5	4	78.04
LAND	14	2011	1.6	5	2	5	4	74.10
LAND	14	2012	0.7	8	4	8	5	77.85
LAND	14	2013	1.1	5	3	5	4	80.08
LAND	14	2014	1.2	5	3	5	4	81.46
LAND	14	2015	0.8	6	4	6	4	81.21
LAND	14	2016	0.4	7	5	7	4	85.26
LAND	14	2017	0.8	6	2	4	3	85.80
TRANSNET	15	2006	5.8	6	2	6	3	64.17
TRANSNET	15	2007	9.6	5	2	5	4	51.55
TRANSNET	15	2008	4.9	5	2	5	4	48.25
TRANSNET	15	2009	6.8	6	1	6	6	50.79
TRANSNET	15	2010	2.4	6	2	6	5	53.59
TRANSNET	15	2011	2.7	5	2	5	3	55.91
TRANSNET	15	2012	2.9	6	3	6	4	-30.93
TRANSNET	15	2013	3.1	8	5	8	5	-33.41
TRANSNET	15	2014	5.0	5	3	5	4	-17.78
TRANSNET	15	2015	22.0	4	1	4	2	56.67
TRANSNET	15	2016	0.3	4	1	4	2	59.79
TRANSNET	15	2017	-0.7	4	1	4	2	59.17
Broadband	16	2006	0.00	0	0	0	0	0.00

Broadband	16	2007	-66.3	3	1	3	3	133.14
Broadband	16	2008	6.0	3	1	3	3	50.39
Broadband	16	2009	0.0	5	2	5	4	8.93
Broadband	16	2010	-1.8	4	2	4	3	4.52
Broadband	16	2011	-12.1	6	2	6	6	5.24
Broadband	16	2012	0.0	6	3	6	4	10.26
Broadband	16	2013	-11.0	4	2	4	2	16.33
Broadband	16	2014	-7.8	4	2	4	2	42.27
Broadband	16	2015	-12.7	6	4	6	4	44.98
Broadband	16	2016	-5.5	4	2	4	2	44.03
Broadband	16	2017	-8.6	4	2	4	2	177.11
IDC	17	2006	1.8	0	0	0	0	19.10
IDC	17	2007	7.8	8	3	6	5	17.36
IDC	17	2008	5.1	7	3	6	4	16.13
IDC	17	2009	6.9	5	2	4	4	11.36
IDC	17	2010	18.1	4	1	4	4	10.65
IDC	17	2011	13.9	3	1	3	3	13.18
IDC	17	2012	-0.8	4	2	4	2	18.15
IDC	17	2013	4.1	4	2	4	2	23.74
IDC	17	2014	-11.3	5	2	5	3	22.81
IDC	17	2015	-13.1	7	3	7	5	26.57
IDC	17	2016	-4.4	4	2	4	3	30.10
IDC	17	2017	1.8	5	3	5	2	32.15
SAFCOL	18	2006	10.1	0	0	0	0	25.37
SAFCOL	18	2007	36.0	5	1	5	2	26.07
SAFCOL	18	2008	19.9	3	1	3		25.74
SAFCOL	18	2009	17.4	5	2	5	1	24.02

SAFCOL	18	2010	-11.9	5	2	5	1	24.06
SAFCOL	18	2011	-2.0	5	2	5	3	24.43
SAFCOL	18	2012	5.2	5	2	5	3	23.23
SAFCOL	18	2013	1.9	4	2	4	3	24.17
SAFCOL	18	2014	11.3	4	3	4	2	25.69
SAFCOL	18	2015	2.9	4	3	4	2	26.64
SAFCOL	18	2016	1.2	5	4	5	2	30.48
SAFCOL	18	2017	0.0	0	0	0	0	0.00
DBSA	19	2006	-34.7	4	1	4	2	60.56
DBSA	19	2007	4.7	9	2	7	6	32.32
DBSA	19	2008	4.6	6	2	5	4	52.54
DBSA	19	2009	4.3	5	2	5	3	57.32
DBSA	19	2010	2.0	5	2	5	3	60.37
DBSA	19	2011	0.7	6	3	6	2	62.21
DBSA	19	2012	-0.7	8	5	8	4	66.51
DBSA	19	2013	-1.6	5	5	5	3	69.03
DBSA	19	2014	1.3	8	5	6	6	68.82
DBSA	19	2015	1.8	9	6	9	4	66.62
DBSA	19	2016	3.4	7	5	7	5	64.46
DBSA	19	2017	3.4	4	3	4	3	61.71
NECSA	20	2006	-0.3	4	1	4	2	121.61
NECSA	20	2007	20.5	4	1	4	2	97.91
NECSA	20	2008	7.9	4	1	4	2	90.34
NECSA	20	2009	10.1	4	1	4	2	93.38
NECSA	20	2010	13.6	7	3	7	3	62.65
NECSA	20	2011	7.8	4	3	4	1	60.65
NECSA	20	2012	3.8	3	2	3	1	63.12

NECSA	20	2013	8.2	6	2	6	2	60.94
NECSA	20	2014	0.4	4	2	4	1	60.21
NECSA	20	2015	-0.8	4	2	4	1	74.45
NECSA	20	2016	3.9	4	2	4	0	82.83
NECSA	20	2017	-0.5	5	2	5	2	81.89
IDT	21	2006	-1.0	6	0	6	0	1.37
IDT	21	2007	-5.4	6	0	6	0	2.57
IDT	21	2008	-11.3	5	1	5	0	3.55
IDT	21	2009	0.0	0	0	0	0	0.00
IDT	21	2010	-86.5	0	0	0	0	6.94
IDT	21	2011	-39.5	5	2	5	3	12.88
IDT	21	2012	-26.2	0	0	0	0	-0.73
IDT	21	2013	-39.5	7	3	7	0	6.45
IDT	21	2014	36.1	6	4	6	3	11.86
IDT	21	2015	7.1	5	3	5	2	69.59
IDT	21	2016	-3.8	5	3	5	2	85.05
IDT	21	2017	-6.2	7	5	7	0	91.28