

DRIVERS OF ORGANISATIONAL PERFORMANCE: A STATE OWNED ENTERPRISE PERSPECTIVE

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DECLARATION

By submitting this thesis electronically, I declare that the entire of the work contained therein is my own, original work, that I am the authorship owner thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

This study seeks to analyse the historical performance of State Owned Enterprises (SOEs) in sub-Saharan Africa, and to investigate and explain factors that combine to influence SOE performance with the aim of proposing an SOE-specific administrative framework. The thesis is structured as a collection of four essays.

In the first essay, performance trends of 23 SOEs selected from 10 countries across sub-Saharan Africa are analysed. The analysis covers a 12-year period from 2001 to 2012, performing comparisons across six different industries. From the results, the telecommunications industry comes out as the best performer compared to all other sectors in the study, with an above average financial and productivity performance. This result is attributable to the competition induced efficiencies common in this sector. The high levels of independent regulation of the industry across Africa are credited for reduced direct political interference which is often blamed for diminished productivity and general performance in other SOE dominated industries. Conversely, the power and postal industries are below average performers when performance is measured in both financial and productivity terms. These two industries in particular have often been identified as being burdened with diverse stakeholder needs and massive political pressures, both with a noticeable negative impact on firm performance.

The second essay examines the empirical evidence on factors that influence performance of State Owned Enterprises. With a focus on power utilities, the essay investigates how such several factors interact with each other to influence ultimate performance. The study takes liquidity, board strength, extent of stakeholder representation on the board of directors and government's involvement in pricing as proxy variables for resource-based, agency, stakeholder and public choice theories respectively. Using performance as the dependent variable, the study variables are modelled in a regression model empirically estimated using a linear mixed model within the framework of longitudinal data analysis. The analysis reflect that good SOE performance could be explained in terms of the agency and resource-based theories, with a positive correlation between good performance and strong boards as well as good liquidity profiles. A wider stakeholder representation on SOE boards correlates negatively with performance. Similarly, the higher the level of government involvement in the tariff setting process, the weaker the performance results. Based on the results, the essay concludes that the performance of SOEs is underpinned by a plethora of organisational issues: agency, public policy, stakeholder and resource-based issues.

The third essay selects an SOE, the Botswana Power Corporation which has gone through checkered performance trends over a 15-year period up to 2014. Using a case analysis approach, the essay takes a broader view in interrogating and explaining how several factors interact with each other to influence performance, focusing mainly on governance, resource availability, and political and stakeholder interactions. It does so in a context of organisational theories which, when applied to an SOE setting tend to display some degree of tension amongst each other. The essay concludes that much of the good organisational performance is explained by tenets underpinning the agency, stewardship and resource-based theories while a blanket pursuit of the stakeholder theory undermined the sustainable performance of BPC. A number of factors with an overriding and negative effect on BPC's performance are consistent with postulations based on the public choice theory, but the essay exposes the lack of rigour in the generalised views which suggest that politicians always act in self-interest.

In the fourth and final essay, the Botswana Telecommunications Corporation, being an SOE that has maintained a long history of impressive performance is chosen for a case analysis. The analysis covers an 18-year period to 2012 and also focuses on governance, resource availability, political and stakeholder interactions, all considered in the context of organisational theories. The findings support the widely held view that agency and resource-based theories explain good performance, but they challenge the popular view that political influence is always driven by self-interests. A concept of positive public choice, under which such influence is driven by stakeholder interests and sustainability emerges. The case reveals that a selective approach to stakeholders defined how BTC crafted its good performance in a politically conducive environment.

In summary, the following points emerge from the four essays: 1) African SOEs in the telecommunications industry perform better than those in other industries, typically due to competition induced efficiencies, whilst those in the power and postal sectors display below average performance; 2) the agency and resource-based theories can best explain good performance in SOEs, whilst slow to negative performance can be explained in terms of the public choice theory; 3) an indiscriminate pursuit of stakeholder interest contributes to poor SOE performance, and with this there emerges a counterproductive external influence best explained in terms of both the stakeholder and public choice theories.

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DEDICATION

This piece of work is dedicated to my family, in particular my wife, Mrs. Osego Mbo for the understanding and support she afforded me during the entire period of my study.

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CHAPTER ONE: INTRODUCTION

1.1. Background

The history of State Owned Enterprises (SOEs) spans over decades, and they have evolved over time to serve different purposes in various economic sectors across the world, even more so in less developed territories. Despite their proven importance in sub-Saharan Africa, where they operate in virtually all sectors (Kikeri and Kolo, 2006), SOEs in this region have a long history of poor performance dating back to the 1970s (Nellis, 2005). The reasons for such poor performance are only vaguely documented and are often argued along the lines of inefficiencies inherent in government's involvement. This study seeks to contribute to the SOE literature by examining the factors to be considered if SOE performance is to be improved.

Compelling statistics reflect the continuing relevance of SOEs; by the late 2000s they still accounted for 20% and 5% of global investments and total employment respectively and up to 40% of total output in some countries (World Bank, 2007). The relevance of SOEs in China, whose economy is expected to surpass that of the United States of America by the end of 2016 (Elwel and Labonte, 2007), is emphasised in (Ralston *et al.*, 2006) where the role of the economically dominant SOEs is pitched at the nucleus of the nation's economic advancement. China's SOE reforms (with no privatisation) have been generally regarded as a vital social experiment providing a key reference to policy alternatives that seek no change in ownership (Aivazian *et al.*, 2005). In Singapore, a country widely recognised for productivity, Wicaksono (2009) establishes a heavy reliance on SOEs for driving public policy. The author also notes that the country's SOEs do not merely survive competition, but surpass private companies in profit generation and wealth creation within the Singaporean economy.

Despite the widely held negative view on SOE performance, which unfortunately is often tied to the ownership structure, there exist a considerable number of examples of SOEs that have sustained good performance over long periods of time. The multi-award winning Singapore Airlines, the Indian Bombay Transport Authority, Brazil's EMBAER, the French GROUPE Renault and Korean POSCO are few of such examples (Cheng, 2007). Qatar

Airlines, voted the world's best airline of 2011¹, plays a major role in the country's economy with a majority shareholding by the Government. SOEs in many Organisation of Economic Cooperation and Development (OECD) countries have for some time represented a substantial part of the Gross Domestic Product (GDP), employment and market capitalisation. Such entities have been prevalent in key sectors such as energy, transport and telecommunications (OECD, 2005).

Amongst other regions of the world, sub-Saharan Africa is one of those presenting a compelling case for the continuing existence of SOEs. For a start, up to 63% of the world's Fragile States² are in the sub-Saharan Africa region (World Bank, 2011) where state support remains the main critical factor in infrastructure and service delivery (see Foster, 2008). Privatisation in this region, as an alternative to the SOE model has faced significant public resistance, possibly influenced by lack of empirical evidence supporting its success within Africa in general (Fritz and Menocal, 2006). In fact, authors such as Aivazian et al., (2005) and Moushibahou (2010) have found no real evidence of organisational success which can be seen as a direct outcome of privatisation. The same goes for Cayón-Costa and Vergés-Jaime (2011) who argue that corporatisation, and not necessarily privatisation is what has been empirically found to introduce improved performance in SOEs.

In addition to this, infrastructure sectors in particular require significant capital outlay which can not necessarily be recovered through commercial operations mainly due to the economic conditions prevailing in sub-Saharan Africa, see (Buchs, 2003). Such a dynamic renders the infrastructure sectors less attractive for private investors, while at the same time underscoring the importance of continued state participation.

A further, and equally central consideration is the strategic importance of infrastructural sectors like airlines, bulk water distribution, power transmission, among others to governments, (Bozec *et al.*, 2002). This is so particularly in a sub-Saharan context where majority of countries are at different levels of socio-political and economic conditions. This implies a deliberately prolonged state participation in these sectors going into the future.

¹ Skytrax 2011 awards, (www.worldairlineawards.com)

² The World Bank defines a Fragile State as a low income country or territory with a Country Policy and Institutional Assessment (CPIA) score of 3.2 or below.

These considerations epitomise the importance of improving organisational performance of SOEs, particularly in sub-Saharan Africa where they are expected to lead in the requisite state intervention (Sturesson et al., 2015). This thesis examines the fundamental drivers of SOE performance in selected Sub Saharan African countries. The thesis brings clarity to the seemingly contradicting theories that have for years been used to explain and predict organizational behavior and sets the tone for future policy direction.

Operations of State Owned Enterprises are influenced by many different factors, however the inherent link between their administration and country level political cycles is one that cannot be ignored (Xu *et al.*, 2001; Mwaura, 2007). This is because such a link has some obvious implications on their performance (Carney *et al.*, 2011). The precise impact of political influence on SOE performance depends on its nature and vary case by case (Hellman and Schankerman, 2001), but SOEs in less politically stable regions tend to display more strain, possibly with performance trends that become almost inexplicable unless addressed in a dedicated study beyond the focus of this study.

Various organisational theories have been relied on in explaining and predicting organisational performance. However, the extent to which such theoretical underpinnings can aid the understanding of firm performance in the context of SOEs remains an unexplored area (Bozec *et al.*, 2002). In addition, the interplay of the various theories in explaining the performance of SOEs is a unique phenomenon often overlooked in research. Consequently, most studies have relied on single theories in interrogating organisational performance. However, the complexity of SOEs demands a broader based approach; by their nature they are unique businesses often modelled around political cycles. The inherent influence imposed by politics often exposes such enterprises to a myriad of competing stakeholder needs. The agency problem and its impact on SOE performance is not as well understood from an SOE perspective. The problem is fraught with issues that make it difficult to comprehend and manage, including flawed governance structures (World Bank, 2006), ill-defined property rights, ambiguous objectives (Shirley, 2008), and weak managerial incentives (Bolton, 1995). Beyond placing blame for poor SOE performance and inefficiencies on political interference, existing studies have not provided consensus on what could be the fundamental drivers of performance in these enterprises and this is an area towards which this study seeks to contribute.

1.2. The context of sub-Saharan Africa

As at 2011, the sub-Saharan Africa region accounted for just 2% of the world nominal GDP despite a 12% stake in the world population (Population Reference Bureau, 2013). This compares unfavourably with other regions of the world, for instance Latin America and the Caribbean, which account for 8% of both the world GDP and population³. Some historic reasons have been presented as accounting for this phenomenon; sub-Saharan Africa lagged behind in economic advancement mainly due to the brief nature of the 'import substitution' phase of economic structural adjustments compared to other regions (Mkandawire, 1988). This phase lasted for just over a decade (post-colonial) from the 1960s, whereas such adjustments were already underway as early as the 1930s in Latin America (Sundaram *et al.*, 2011). Such structural adjustments brought with them a boost in local economic production, aided in part by deliberate measures to support public investments and SOE subsidies. SOEs thus became very instrumental in the infrastructural developments which in turn provided environments conducive to business operation. In contrast to this, today the SOEs in sub-Saharan Africa are still faced with the same responsibilities of filling in the gaps where the private sector cannot intervene.

SOEs in sub-Saharan Africa face significant challenges. In fact, it was on account of persistent problems facing SOEs that the South African president, in 2012 appointed a special 'Presidential Review Committee' (PRC) on South African State Owned Entities to consider a range of aspects including SOEs' strategic importance and value creation, governance, performance measures and most importantly compliance with government's development and transformation agenda. From the onset, the PRC pointed out a significant problem concerning the proliferation of SOEs and their subsidiaries all which were estimated to be no less than 715 at the inception of the commission. The problem of proliferating SOEs, often operating with overlapping mandates and responsibilities was noted earlier in Botswana, where it prompted a wide ranging SOE rationalisation program (The Economist, 2012). This program is still on-going.

³ 2012 World Development Indicators Database, World Bank

Amongst the many findings of the PRC, issues of poor performance, lack of defined government relations, lack of accountability over performance outcomes as well as lack of adherence to government's development agenda came out as glaring issues that need urgent attention. The committee identified the following key challenges as key for South African SOEs; 1) lack of a common/national agenda for SOEs, 2) lack of commonly agreed priority areas and sectors for SOEs, 3) difficulties regarding the balancing of commercial and non-commercial objectives of SOEs, 4) under capitalisation which partly result from blurred mandate (economic vs social) and, 5) lack of appropriate leadership. Out of the review, which by far remains the most comprehensive and targeted to date, the PRC made a set of recommendation with a three- phase timeline spanning 2012 to 2025. Key amongst the recommendations are SOE categorization framework, defined oversight structures (SOE council of ministers and SOE authorities), introduction of a common management system, capacity building for SOEs, review of SOE mandates, a common remuneration landscape and a new and focused SOE legislation. Progress in implementation of those adopted remains at its infancy.

Outside South Africa, challenges such as inappropriate remuneration packs, excessive state interference, corruption and looting and blurred operational mandate add to the challenges the PRC observed as prevalent in the South African case (Mutanda, 2014).

1.3. Problem statement

The case of SOEs presents a unique case and as discussed previously, there are SOEs that have really performed well (Singapore Airline, Bombay Transport Authority, Botswana Development Corporation, Qatar Airlines etc.). On the other hand, many SOEs have failed, and continue to do so. Of a particular interest as well is the fact that some SOEs have performed extremely well in some years and not so well in other years (Botswana Telecommunications Corporation, Botswana Power Corporation are good examples in this regard). However, all these dimensions have not, and still do not take away the vital role of SOEs: providing key infrastructure and services where it makes no business sense for the private sector to invest. This calls for a need to introspect on areas of focus if maximum

value is to be derived from SOEs. Despite a chequered history of poor performance, SOEs remain very central to the economic advancement agenda in many sub-Saharan African countries. Nevertheless, there remains insufficient understanding of what fundamentally influences performance in SOEs, given their unique nature; SOEs operate in politically exposed environments, serving wide ranging stakeholder interests whilst simultaneously pursuing vague objectives.

Various theories exist that can be used to predict and explain the behavior of organizations. However, when applied to SOEs, the theories tend to inter and intra contradict them. Five of such theories are the Agency theory (Jensen & Meckling, 1976, Eisenhardt, 1989), Public Choice Theory (Niskanen, 1971; Tullock, 1976; Krueger 1990), Stewardship theory (Donaldson ,1990; Barney ,1990), the Stakeholder theory (Freeman, 1994) and the Resource based theory (Hamel & Prahalad, 1994)

Whilst under the Agency theory, Corporate Governance measures have over the years developed to guard the actions of the supposedly self-centered managers [agents] against relegating the principals interest, the Agency problem continues to exist in the SOE scene mainly because it is rarely clear who precisely represents the Principal [state]. There has however been some cases where the state, acting as the principal has exerted enough pressure on SOEs and put in place enough incentives and policies that fully supported agents to act in the principal's interest. On the other hand, there are many cases, typically in African countries where SOE failures have been blamed on a lapse in managerial controls resulting in corrupt managerial actions, that is, some SOE failure cases have been attributed to the Agency Problem itself.

Under the Public choice theory, SOEs have been thought to fail as a result of excessive influence of politicians on the decision making and operations of such enterprises, such political figures having been appointed to office by the voting public which in turn does not have any motive to monitor their decisions and performance. This theory therefore, tends to imply that SOEs will operate in line with the interest of the politicians and not necessarily on management's self-interest as posited by the Agency theory.

Whilst the Stakeholder theory holds that in an organizational set up, interests of all stakeholders should be reconciled and managed in a manner that brings about optimal firm

performance, it has been established that in an SOE set up such interest can be difficult to reconcile as the stakeholders are diverse in nature and possess very divergent interests. The Public Choice theory on the other hand seems to be in conflict with the view that stakeholder interests can be reconciled as it clearly views political interests as detrimental to firm performance when let to rule the firms.

Whilst the Stewardship theory views managers as good wardens of the Principals who will always act in the best interest of such Principals, the Agency Problem (under the Agency theory) has been proven in a good number of cases, with managers acting not in the best interest of the enterprise owners but rather on those of their own. The cases of corruption that continue to be reported worldwide, to a large extent affecting SOEs, bears testimony to many cases of managerial self-interest.

The quest in literature to explain organisational performance through certain theoretical underpinnings has not yielded much consensus from an SOE perspective, with certain theories often displaying some level of tension amongst themselves. For instance, the agency theory (Jensen and Meckling, 1976) is founded on non-aligned interests between the agents and the principals, whereas the stewardship theory (Donaldson,1990; Barney,1990) is premised on the opposite. Whilst some level of complementarity is observed between the stewardship and the resource-based theory (Wernerfelt, 1984), a public choice based argument is often presented asserting that highly resourced public enterprises tend to attract political manipulation for personal gain (Mwaura, 2007). Similarly, an indiscriminate attempt to satisfy all stakeholder needs may, as suggested by the Stakeholder theory undermine good performance due to the heterogeneous nature of SOE stakeholders.

Clearly, factors affecting and influencing SOE performance are diverse and no single theory has been conclusively found to explain them most effectively. Thus, this clear gap in the literature is not assisting the policy conundrum insofar as improving SOE performance is concerned, hence this study.

1.4. Objectives and research questions of the study

1.4.1. Specific objectives

This study seeks to examine factors that explain SOE performance. Specifically, the objectives of the study are:

- i. to analyse the performance of SOEs in sub-Saharan Africa;
- ii. to examine factors driving SOE performance
- iii. to examine what combination of variables, taken in the context of organisational theories, combine to influence SOE performance; and
- iv. to propose a governance framework specific to SOEs.

1.4.2. Research Questions

The research questions are listed below.

1. What are performance trends of SOEs in sub-Saharan Africa?
2. What are the significant performance drivers of SOE performance?
3. Which combination of competing theories of organisational performance best explains SOE performance?

1.5. Significance of the study

SOEs operate in a unique situation often exposing them to a wider range of variables with the potential to influence performance more than in other business types. This uniqueness stems from the fact that, in addition to the economic objectives, SOEs always have certain ill-defined social objectives that tend to expose them to political interference. The stakeholder interests SOEs have to deal with are typically vast and conflicting. Arising from this scenario, SOE performance becomes a function of a combination of factors that vary from those expected from other types of enterprises, and such a combination is only vaguely appreciated in literature, hence the need for this study.

Despite the existence of theories that predict and explain organisational performance, the application of such theories to an SOE structure tends to display tension amongst some of

these theories, an issue that has thus far been overlooked in previous research work, which has taken a single factor/ theory approach in attempting to explain SOE performance. This study introduces a new perspective by considering how a range of variables, taken in the context of organisational theories, interplay with each other to influence SOE performance. The findings of this study provide an important insight to policy makers by proposing an SOE management framework that supports better performance.

1.6. Chapter Organization

The thesis is a collection of four standalone essays structured around themes which are in line with the objectives and research questions. The first chapter introduces the thesis; chapter two addresses all relevant methodological issues, and gives a detailed account of approaches taken. The rest of the chapters presents the four standalone essays. Chapter three is an empirical essay on the performance of SOEs in Sub Saharan Africa. Chapter four empirically examines the drivers of organization performance in Sub Saharan Africa. The fifth and sixth chapters are in-depth case studies focusing on two individual SOEs, with the aim of investigating performance drivers through qualitative analyses. A summary of study conclusions and contribution is presented in Chapter seven, along with the study limitations.

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CHAPTER TWO: METHODOLOGY

2.1. Introduction

This chapter outlines the methodological issues relating to the study and provides a detailed account of the approaches adopted.

2.2. Research Methods

A wide array of research techniques has been applied over time, with the choice of one design over the other inherently determined by the study at hand, i.e. the nature of the research problem it seeks to address. The various designs of research broadly fall into three categories of research approaches, these being Quantitative, Qualitative and Mixed Methods (Creswel, 2014). Below is a discussion of a range of methodologies considered at the initial states of this study.

2.2.1. Qualitative approaches

These approaches to research are often characterised by an intention to gain an in-depth understanding in a given setting, using methods that tend to generate words (rather than numbers) for data analysis (Patton and Cochran, 2002). A qualitative approach to research is accompanied by freedom from presumptions as the focus is to gain understanding from data as and when the analysis progresses, as opposed to quantitative methods (see below) where the researcher typically starts with an understanding to be tested (BCPS, 2006). A further advantage of this approach is its ability to simplify and manage data without destroying complexity and context, particularly when handling research problems with which a preemptive reduction of data will prevent discovery (Atieno, 2009).

Qualitative research is, however, not without limitations, the widely recognised one being the small size of populations normally targeted in this type of research. This tends to create reluctance to extend findings to wider populations by other researchers (Creswel, 2014). In addition, no attempt is made to assign frequencies to features identified in the data; consequently, a random occurrence receives the same amount of attention as the more frequent ones.

Under the broader category of the Qualitative approach to research we find a number of techniques, each suited to specific research problems at hand.

Narrative research – Moen (2006) views this research technique as a frame of reference, a way of reflecting during the entire inquiry process, a research method, and a mode for representing the research study. This view of narrative research has been suggested earlier by Connelly and Clandinin (1990) who described it as both the phenomenon and the method. With this technique, the researcher collaborates with the research subjects in documenting a narrative as data is sequentially presented. It thus has an advantage of limiting the scope for distortion (Zinchenco, 1985). In its pure form, the narrative technique has widely been applied in studies concerning human behavioural sciences as opposed to organisational and business science (Banks, 1982; Bell, 1988; Brody, 1987; Heilbrun, 1988; Polinghorne, 1988).

Case study – A case study approach to research facilitates the exploration of a phenomenon within its context, but using a variety of data sources to that ensure the phenomenon is explored from multiple lenses (Baxter and Jack, 2008). Case studies generally fall into three main categories, these being exploratory, descriptive and explanatory (Yin, 2003). Below is a table by Baxter and Jack (2008) outlining a wider variety of different categories, and definitions.

Table 2.1: Definitions and Examples of Different Types of Case Studies

Case Study Type	Definition	Published Study Example
Explanatory	This type of case study would be used if one were seeking to answer a question that sought to explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies. In evaluation language, the explanations would link programme implementation with program effects (Yin, 2003).	Joia (2002). Analysing a web - based e-commerce learning community: A case study in Brazil. <i>Internet Research</i> , 12, 305-317.

Exploratory	This type of case study is used to explore those situations in which the intervention being evaluated has no clear, single set of outcomes (Yin, 2003).	Lotzkar & Botorff (2001). An observational study of the development of a nurse-patient relationship.
Descriptive	This type of case study is used to describe an intervention or phenomenon and the real-life context in which it occurred (Yin, 2003).	Tolson, Fleming, & Schartau (2002). Coping with menstruation: Understanding the needs of women with Parkinson's disease.
Multiple-case studies	A multiple case study enables the researcher to explore differences within and between cases. The goal is to replicate findings across cases. Because comparisons will be drawn, it is imperative that the cases are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory (Yin, 2003).	Campbell & Ahrens (1998). Innovative community services for rape victims: An application of multiple -case study methodology.
Intrinsic	Stake (1995) uses the term intrinsic and suggests that researchers who have a genuine interest in the case should use this approach when the intent is to better understand the case. It is not undertaken primarily because the case represents other cases or because it illustrates a particular trait or problem, but because in all its particularity and ordinariness, the case itself is of interest. The purpose is NOT to come to understand some abstract construct or generic phenomenon. The purpose is NOT to build theory, although that is an option, (Stake, 1995).	Hellström, Nolan, & Lundh (2005). "We do things together" A case study of "couplehood" in dementia. <i>Dementia</i> , 4(1), 7-22.

Instrumental	Is used to accomplish something other than understanding a particular situation. It provides insight into an issue or helps to refine a theory. The case is of secondary interest; it plays a supportive role, facilitating our understanding of something else. The case is often looked at in depth, its contexts scrutinised, its ordinary activities detailed, and because it helps the researcher pursue the external interest. The case may or may not be seen as typical of other cases (Stake, 1995).	Luck, Jackson, & Usher (2007). STAMP: Components of observable behaviour that indicate potential for patient violence in emergency departments. <i>Journal of Advanced Nursing</i> , 59, 11-19.
Collective	Collective case studies are similar in nature and description to multiple -case studies (Yin, 2003)	Scheib (2003). Role stress in the professional life of the school music teacher: A collective case study. <i>Journal of Research in Music Education</i> , 51,124-136.

Source: Baxter and Jack (2008)

However, these categories are not necessarily hierarchical despite the common misconception, but rather as strategies that can be applied across a variety of purposes (Platt, 1992) for which a case study approach has been identified as appropriate.

Yin (2003) identifies four scenarios under which the case study should be considered, these being when:

- the study seeks to answer 'how and why' type of questions;
- the behaviour of research subjects is fixed and incapable of being manipulated;
- there is need to interrogate all relevant facts in their own context; or
- there is ambiguity between the phenomenon and the context.

The case study method presents a set of significant advantages including the following: a) data examination is conducted within the context of its use (Yin, 1984); b) a variety of techniques can be applied to allow for other forms of qualitative methods as well as quantitative methods (see Block, 1986; Hosenfeld, 1984); and c) the qualitative narrative

often presents an opportunity to cut through real life complexities while maintaining originality and testability (Eisenhardt, 1989).

Disadvantages of this approach include limited scope for generalisation of findings, lack of sufficient rigour as well as the cumbersome nature of case studies (Yin, 1984).

Other qualitative approaches - In addition to the other techniques discussed in detail, there exist other qualitative methods that include *Phenomenology* and *Ethnographies*, which are however barely relevant to the nature of the research problem which the current study seeks to address.

2.2.2. Quantitative approaches

These are also various social research techniques that employ empirical methods and statements (Cohen, 1980) in order to explain phenomena by collecting numerical data that are analysed using statistical methods (Creswell, 1994). The choice of the quantitative approach as a method of research depends on the research question(s) at hand, but the following have been cited as key advantages incorporated in the use of quantitative approaches to research by Yauch and Steudel, (2003): a) a quick turnaround due to the relative ease in analysing data; b) and the approach dealing with numerical and factual data which can facilitate inter-organisational comparisons as well as across-time analysis within the same entity.

However, the method does have its own disadvantages, Dudwick *et al.*, (2006) observe the approach as requiring extensive data which can cost massive resources to obtain. The authors also criticise the quantitative approaches of their inability to capture very important characteristics within a research population, typically those that, although extremely relevant, cannot readily be reduced to numbers.

Quantitative techniques fall under two broad categories, these being experimental and non-experimental techniques (Creswell, 2004).

Experimental research design - With this technique, the researcher's interest is in the effect of a change in environment on the dependent variable. This is observed using standardised procedures to hold the dependent variable constant, while the experiential variables are modified by the researcher (Ross and Morrison, 2003). A number of authors have hailed experimental research methodology as the only one that can truly test a hypothesis concerning cause-and-effect relationships, thus providing a real solution to both practical and theoretical research problems (Gay, 1992; Moore and McCabe, 1993; Dallal, 1999). A distinctive feature, perhaps peculiar to experimental research design emerges; such designs are developed to answer pre-existing hypotheses formulated by the experimenter in a quest to address research questions.

Experimental research designs typically take one of three forms, depending on the phenomenon at hand.

The first of these is the Randomised Controlled Trials, which are seen as the strongest form of collecting un-biased primary evidence (Greenhough, 2001). This method makes use of randomised sampling, with room for an additional control group. Despite its advantages, however, four types of bias are still associated with this approach, these being measurement, attrition, performance and selection bias (Jadad, 1998; Elwood, 1998).

The second is the Quasi-experimental approaches in which case the research subjects are not randomised to specific environments, leaving the researcher with limited control over independent variables. Putting it differently, a researcher pursuing a quasi-experimental approach will typically rely on a pre-existing population, but with an additional control group. This approach suffers from its inability to control for heterogeneity between research subjects, making it less appealing for certain research problems (Robson, 1993).

Third are Single subject designs, which seek to reveal a generic nature of a response to a specific intervention. With this approach, the researcher has the latitude to perform multiple iterations with variables in order to account for causal-effect relationships that occur. However, changes are not always associated with the variables being modified.

Non - experimental designs - This is a broad category of all techniques that involve neither the manipulation of independent variables nor the random assignment of research subjects to conditions. Such approaches may take the form of surveys, correlational research or

causal-comparative inquiry, among others. Whilst the specifics of each phenomenon ordinarily dictate when to opt for the non-experimental research design, they are very relevant for studies whose research questions are broad and exploratory in nature, see (Bushman and Huesmann, 2001). Econometric techniques are the most advanced and widely used methods in this approach. These techniques permit the fusion of economic theory and statistical approaches in the analysis of institutional and other numerical data (Hood and Koopmans, 1953), based on the development of probabilistic models and statistical inference in studying relationships between variables.

A generic econometric model takes the form:

$Y = \beta_1 + \beta_2 + \dots + \beta_k + \varepsilon_k =$ where β is a vector of unknown parameters and ε is the error term.

Okun (1975) proposes a number of advantages associated with econometrics and these include:

- the mathematical interrelationships in econometric models achieving consistency within the component elements of equations; and
- limited bias in modelling and enhanced reproducibility of outcomes.

2.2.3. Mixed Methods

As a rather newer approach to research design, Mixed Methods entail the combining or integration of qualitative and quantitative techniques within different phases of a broader research process (Tashakkori and Teddlie, 2008; Creswel, 2014). The approach focuses on collecting and analysing both qualitative and quantitative forms of data in a broader study (or a series of studies) as the view here is that such a combination yields a better understanding of research problems than when each applied in isolation (Creswell and Clark, 2011). Creswel (2014), while acknowledging the existence of many designs in the Mixed Methods field, identifies three forms as being the primary ones:

Convergent parallel mixed methods – with these techniques, the research integrates qualitative and quantitative data so as to provide a more comprehensive approach to analysing the research problem. The process of collecting both forms of data typically

happens concurrently, hence parallel, and any inconsistencies are probed in the design. This approach would be more suited to research questions which are complex, and require substantial iteration between possible meanings of outcomes from both quantitative and qualitative analysis. Its biggest disadvantage, however, is that the process of concurrently performing the two techniques, including the continuous switch between them, can be cumbersome and difficult to define (Creswel, 2011).

Explanatory sequential mixed methods – unlike with parallel mixed methods, a researcher taking this approach would conduct a quantitative research, whose analysis would then feed into a detailed qualitative inquiry. This approach affords the researcher an opportunity to explore and explain the findings from the quantitative research further through a comprehensive qualitative inquiry. This method is mostly suited for studies with a strong quantitative perspective, but whose findings deserve explanation through structured inquiry. Its main advantage is that it is straightforward and easy to apply due to the distinction between phases, which are also easier to describe than concurrent phases (Creswel, 2011). The shortcomings of explanatory sequential methods are more pronounced when there is a difficulty in identifying the set of results from the quantitative study to carry forward to the qualitative phase, as well as when sample sizes differ across phases.

Exploratory sequential mixed methods - ordered just like explanatory sequential mixed methods. However, coming with them, the researcher would start with the qualitative research and then move on to quantitative research. It therefore stands to reason that they are best suited for studies with much strong emphasis on quantitative aspects, where results from the qualitative research can then be applied in developing an instrument to use in the quantitative phase. Just like the explanatory sequential mixed methods, the challenges of the exploratory sequential mixed methods are more pronounced when there is a difficulty in identifying which aspects of outcomes of the first phase to carry to the next.

2.3. Sampling techniques

A wide array of sampling techniques has evolved over time, each suited to specific research scenarios. The following have emerged as popular; a) Probability sampling; b) Purposive sampling; c) Convenience and; d) Mixed Methods sampling. Below is a detailed discussion of each.

2.3.1. Probability Sampling

These are sampling techniques in which each unit in a target population has a non-zero probability of being selected as part of the sample. The techniques give every unit an equal chance of being selected from the population (Fink, 1995), thereby eliminating the research bias during the selection process (Frey *et al.*, 2000). The elimination of bias enhances the scope for generalisation of research findings from data obtained through probability sampling. In addition to eliminating researcher bias, probability sampling provides the researcher with an opportunity to calculate specific bias and error with respect to collected data (Latham, 2007). A number of probability sampling types exist and Table 2.2 below gives an outline of these.

Table 2.2: Types of probability sampling

Type of Sampling	Selection Strategy
Simple	Each member of the study population has an equal probability of being selected.
Systematic	Each member of the study population is either assembled or listed; a random start is designated, then members of the population are selected at equal intervals.
Stratified	Each member of the study population is assigned to a group or stratum, then a simple random sample is selected from each stratum.

Cluster

Each member of the study population is assigned to a group or cluster, then clusters are selected at random and all members of a selected cluster are included in the sample.

Source: Henry (1990).

2.3.2. Purposive sampling

Also referred to as judgmental sampling, this technique affords the researcher the opportunity to pick samples on the basis of their desirable qualities. It does not require a pre-determined number of subjects, neither does it need any underlying theory (Etikal *et al.*, 2016). This method is typically used in qualitative research that require information - rich cases (Patton, 2002). A strong feature associated with purposive sampling is that it affords the researcher an opportunity to spend resources only on those samples within a wider population that will add real value to the attainment of the research objective, (Etikal *et al.*, 2016). Consequently, it is time saving as well.

2.3.3. Convenience Sampling

This is a non-random (or nonprobability) sampling technique where each member of a target population is selected on the basis of meeting a certain criterion like accessibility, geographical proximity, data availability or similar (Etikal *et al.*, 2016). The objective of the researcher is to collect data from research subjects who are accessible to the researcher and who meet a certain criterion, with an assumption that there is homogeneity amongst the members of the target population (Palinkas *et al.*, 2013). The technique, however, suffers from bias (Mackey and Gass, 2005) and an inability to deal with cases of significant outliers (Hatch and Lazaraton, 1991). The major advantage of this form of sampling is that it is ordinarily cheaper and easier to execute.

2.3.4. Mixed Methods Sampling

Mixed Methods sampling techniques entail sampling strategies that employ a combination of probability sampling and non-probability sampling. The probability sampling techniques are employed with a view to increase external validity, whilst the use of non-probability techniques, typically purposive (rather than convenience) is applied to increase transferability (Teddlie and Yu, 2007). Thus, these sampling techniques have the advantage

of enhancing the scope for generalising findings to wider populations, although with a significant disadvantage concerning their cumbersome nature.

2.4. Measuring performance

Measuring the performance of organisations is a topical issue in organisational science. The broad nature of the subject makes it one that must always be pursued in the context of the phenomenon being studied (Hofer, 1983). At the most basic level, performance measurement considers the outcomes of management decisions, and also the rate of executing such decisions by an organisation. Since management decisions are contextualised to the objectives of the organisation, and its environment, it follows that any basis selected for measuring performance should be reflective of the specific circumstances of the organisation being studied (Chenhall, 2003). Such a view to performance measurement is very critical in the context of the current study as the nature of the organisations in question is rather unique. For instance, SOEs are often saddled with vague objectives that need to be properly dissected into those that are economic in nature and those that are social. This symbolises the need for the adoption of broad based performance measures for SOEs, in particular.

To achieve this, one needs to adopt an approach that would cover different perspectives within a single phenomenon. Such an approach would be one that unifies financial and non-financial measures (Combs *et al.*, 2005; Venkatraman and Ramanujan, 1986). Such an approach to measuring performance has been adopted by a number of studies in the past, see (Cheung *et al.*, 2012; Kanyoma, 2008; Omran, 2001; Clive, 2004).

2.4.1. Financial Measures

These are predominantly based on accounting information and often criticised for being based on the past, with limited scope for aiding future explorations (Helfert, 2003). However, financial measures still remain very popular and relevant, in that, rather than being merely measures of performance, some of the 'return based' measures assist in illustrating efficiency in the employment of capital, and the extent of opportunity costs as well as levels of risk accommodated in pursuing business opportunities (Drury, 2008).

Financial measures of performance are broad and include: 1) Profitability measures (e.g. Return on Assets, Return on Investment and a broad range of margin based measures); 2) Efficiency (e.g. sales turnover, receivables turnover); 3) Liquidity (e.g. current ratio, quick ratio) and, 4) Solvency (e.g. Debt to asset ratio, debt to equity ratio). For this study, such measures remain relevant given the commercial mandate that the SOEs in question have, along with other non-commercial objectives.

2.4.2. Non-financial measures

These measures focus on the non-financial aspects of the firm, but may combine operational data with accounting and other economic information. A very distinctive feature of these measures stems from the view that high performance in non-financial aspects tends to lead to good financial performance in future (Banker *et al.*, 2000), hence the importance of tracking such performance trends.

An excessive focus on non-financial measures of performance, however, may result in some significant consequences which can in turn compromise performance measurement intentions; first, they tend to create some pervasive incentives when focus shifts to achieving isolated targets, while compromising on more strategic intentions (Hawkins and Hastie, 1990). Secondly, they can be difficult to compute objectively in a timely and efficient manner (Chow and Vanderstede, 2006). Nonetheless, performance measurement based on non-financial measures appeals for SOEs given the tradeoffs that frequently and constantly need to take place between financial (the commercial mandate) and non-financial (the social mandate) performance outcomes.

Non-financial measures can be grouped into three broad categories and these are: 1) Internal Operational measures (e.g. labour productivity, machine productivity and production volumes); 2) Employee orientated measures (e.g. employee satisfaction, employee turnover and employee development) and 3) Customer orientated measures (market share, customer retention and customer satisfaction), all which are very relevant for utility companies in particular, which in the case of sub-Saharan Africa are mostly SOEs.

2.4.3. Integrated approaches

Due to the importance of both financial and non-financial measurers, as well as their respective weaknesses and advantages, the two approaches can be viewed as complementary rather than competing. Other integrating approaches to performance measurement have emerged, the most common being the Balance Score Card which benefits from both approaches in a cohesive manner. The Total Factor Productivity, an econometric technique model can also be seen as integrating. Such integrated approach comes out as being best applicable in an SOE environment where performance objectives are two-pronged, i.e. social vs economic objectives.

2.5. The design of the study

The study pursues a very broad topic in organisational science, focusing on a rather unique type of organisation whose performance trends, though somewhat documented in literature are not much appreciated from the perspective of what drives them. The study selects a wide array of variables, seeking to investigate how they interplay each other to influence performance towards a certain direction and this is done from a perspective of some seemingly contending but popular organisational theories.

Due to the breath of the topic, the study is broken down into a series of four separate but interconnected essays whose findings eventually combine to answer the overall research questions as well as addressing its objectives. Each of the essays take its own perspective as outlined in Table 2.3 below.

Table 2.3: An outline of the approach adopted in the study

SN	Topic	Focus
1	Performance of State Owned Enterprises: sub-Saharan Africa overview ⁴	The essay takes a quantitative form, and uses econometric techniques in analysing performance trends in 23 SOEs across 10 sub-Saharan countries operating in six different industries. The essay seeks to

⁴ Under review in a journal

		investigate and compare performance patterns across countries and industries.
2	Drivers of Organisational Performance in State Owned Enterprises ⁵	Flowing from the findings in the preceding essay, this essay then selects the Power industry (whose aggregated performance is below average) in which five utilities are selected for detailed inquiry into the variables influencing their performance in a certain direction. The essay takes a quantitative approach using econometric techniques.
3	Performance drivers in SOEs: Botswana Power Corporation (BPC) Perspective ⁶	This essay takes a qualitative approach, selecting one power utility from the preceding essay (a below average performer) and undertakes a detailed case analysis based on a 15-year period. This approach gives the researcher an opportunity to validate some inconclusive findings from the quantitative study.
4	Performance of SOEs: Evidence on Botswana Telecommunications Corporation ⁷	In addition to the preceding essay, this essay also takes a qualitative approach, but selects an above average performer from the telecommunications industry (also an industry with an above average performance) for a detailed case analysis.

⁵ Accepted for publication and forthcoming in the International Journal of Productivity and Performance Management

⁶ Published in Risk Governance and Control: Financial Markets and Institutions (2016)

⁷ Accepted for publication and forthcoming in the International Journal of Social Economics

A detailed analysis of literature in the subject of SOE performance⁸ has revealed the relevance of the following organisational theories to the debates on SOE performance; the agency theory (Jensen and Meckling, 1976; Eisenhardt, 1989). The stakeholder theory popularised by (Freeman, 1994). The public choice theory (Niskanen, 1971; Tullock, 1976 and Krueger 1990) and the resource-based theory (Wernerfelt, 1984).

2.6. Methodology

2.6.1. Research techniques

Given its broad nature, the study ultimately takes the form of a complex undertaking, calling for an innovative use of qualitative and quantitative methods, and so mixed methods have been adopted. The study begins with two successive quantitative studies, each with a different focus, followed by two further successive qualitative inquiries taking the form of case analysis. Thus, the broader study makes use of Explanatory sequential mixed methods, with limited application of the parallel mixed methods approach. This approach is influenced mainly by the fact that the research problem centers mainly around quantitative performance data, which however needs a great deal of qualitative analysis in order to deduce more meaning from the analysis of quantitative data and trends (see Creswel, 2011).

2.6.2. Sampling methods

In determining how to sample the SOEs for the study, the following factors were taken into consideration: a) there was no inherent need to have a pre-determined number of units in the sample for this particular study, although it was important to cover the sub-Saharan Africa region as widely as practically possible; b) Only certain types of organisations were relevant, i.e. non- privatized SOEs operating along commercial lines; and c) The qualitative analysis required information rich cases which could provide the breadth of scenarios requisite for the type of inquiry at hand. These types of characteristics have been associated with the purposive sampling techniques (Patton, 2002; Etikal *et al.*, 2016). Thus, both the

⁸ See detailed discussion on main submission.

successive quantitative and qualitative studies making up this research work are based on SOEs selected using the purposive sampling method.

2.6.3. Qualitative phases of the study

The quantitative phase of the research (made up of two studies) was followed by two successive qualitative studies. In choosing the qualitative methods to apply, the following were considered as main determining factors. The first was the need to interrogate all relevant facts within their context. There was also an element of ambiguity between phenomenon and context. Thirdly, there are ‘how’ and ‘why’ questions the studies need to answer. From the various forms of case studies outlined by Baxter and Jack (2008), the explanatory type of case study comes highly recommended for research with the outlined characteristics, mainly because of its ability to cut through the complexities of each case (Johansson, 2003) whilst maintaining originality and testability (Eisenhardt, 1989). Thus, the qualitative phase of the research takes the form of two successive explanatory case studies, each focusing on a peculiar but rich case.

2.7. Review of previous studies

Although the present study takes a unique approach not adopted in previous studies, an extensive review of research work carried out on SOEs, albeit from a different perspective was conducted. Table 1.1 below highlights some of the key studies reviewed.

Table 1.1: Summary of previous studies reviewed

Author/s	Description and Methodology	Main Empirical findings and Conclusion
Omran (2001)	The study evaluates performance of newly privatised firms. Accounting-based performance measures are adopted to evaluate a sample of newly privatised Egyptian firms against that of SOEs.	Significant improvement in profitability, efficiency and dividend pay-out ratios are evident post privatisation. This comes with negligible reduction in leverage, employment, and risk, capital expenditure and output show following privatisation. Matching sample firms (privatized) to control firms (SOEs), it emerges that privatized firms do not experience any significant

		improvement in their performance, which questions the benefits of privatisation.
Beugre (2002)	The study attempts to develop a framework explaining the effectiveness of privatisation in emerging economies by building on the growing literature on transformational leadership. Drawing from the literature on organizational leadership	Although privatisation has been considered as a strategy for improving the performance of state-owned enterprises in emerging economies, the simple transfer of ownership from public to private hands per se will not necessarily reduce costs nor will it enhance the quality of goods and services. Rather, the pros and cons of privatisation in emerging economies should be measured against the standards of good managerial practices. The findings further suggest that transformational leadership would successfully drive the transition from state owned enterprises to private enterprises.
Halkos (2002)	The study compares performance of SOEs against that of private companies. It is based on a sample of 23 State owned manufacturing enterprises that operated continuously from 1978 to 1991. Adopting the use of ratio analysis, the performance of sampled enterprises is compared to the average efficiency of the industry sectors these firms belong. To ensure the higher comparability, firms are grouped into 10 two digit Standard Industrial Classification, and the ratios are divided by the number of firms. Then the performance is compared on the basis of corresponding average two-digit industry ratios. Ratios used were ROA, Profit margins, Remuneration per employee, Net profit per employee, Liquidity and Machinery Depreciation ratio, high ratios reflect high performance	State own enterprises appear to exhibit inferior efficiency compared to their private counterparts. State Controlled Entities are managed with a model, which diverge from the respective one of the private firms in economic efficiency terms , Cost of labour being one of the main drivers of SOE inefficiencies. Continued state support ensures continued operations of SOEs despite their financial failures, but introduces excessive state interference in prices, investment decisions and recruitment of personnel. This setting ultimately contributes to SOE inefficiency.
Maheshwari and Ahlstrom (2004)	Examines corporate decline and turnaround in an environment with numerous challenging environmental constraints: the state-owned sector	This research found that the business environment, the firm's decision-making process, its leadership characteristics, and

	<p>in India. The firm studied in this article was a major producer of a key niche vehicle in India—the motor scooter. This firm, Scooters India Limited (SIL) had more than 3000 employees and annual revenue of US\$ 50 million annually. Using a qualitative research approach, the study performs an in-depth case study of a state-owned enterprise in India. This study examines the process that led to decline and subsequent turnaround of the firm after making losses for 25 years from inception, especially the constraints of operating as a state owned firm in a transition.</p>	<p>the stakeholders' responses influence the firm's action choices during a turnaround process. This study also shows that in addition to the strategic and operational changes so commonly associated with firm turnaround, the importance of leadership and the basic credibility of the firm's top management with major stakeholders and government officials also play key roles in the turnaround.</p>
Aivaziana <i>et al.</i> , (2005)	<p>The study employs a unique database compiled from two enterprise surveys conducted by the Chinese Academy of Social Sciences (CASS) in 1995 and 2000 and avails annual data on 442 SOEs from 1990 to 1999. This study was a contributor to a larger survey and employed questionnaires administered on those in charge with factory operations and governance as well as on those in charge with finances. The study sample comprises SOEs selected from 34 different manufacturing industries across four provinces in China. Corporate performance is measured in terms of profitability, efficiency (output and sales) and investment ratios (investment to assets and investments to sales).</p>	<p>Targeted internal governance reforms can introduce efficiencies within SOES. Corporatisation has a significant positive impact on SOE performance, even without an element of privatisation. This presents a real policy alternative to privatisation. The study further projects corporatisation as a likely predecessor of privatisation, in cases where the former is being pursued.</p>
Berg <i>et al</i> (2005)	<p>The study reviews forces that shaped the development of the Ukrainian electricity sector over the past decade, and presents the regulatory constraint in a stylized form. The study further empirically investigates the performance of distribution utilities and explain the results in terms of regulatory incentives and differential managerial behaviour within state-owned and privatized firms.</p>	<p>Privately owned firms respond to incentives that add to net cash flows (associated with reducing commercial and non-commercial network losses). However, they also respond more aggressively than do state-owned distribution utilities to mark-up (cost-plus) regulatory incentives that increase shareholder value but decrease cost efficiency.</p>

Gupta, (2005)	<p>The study aims to investigate whether the operating performance of firms depends on the share of equity sold. The study controls for other factors that can also affect performance, such as manager incentives.</p> <p>Several approaches are adopted to address the potential endogeneity of privatisation. To minimize the possibility of simultaneity between privatisation and performance, the authors investigate the impact of the lagged share of private ownership on current performance. Firm fixed effects specification that addresses selection bias that may arise are also estimated. The specifications include firm-specific controls and year dummies to control for contemporaneous macroeconomic shocks. The assumption of strict exogeneity in the fixed effects model is relaxed and an estimation of the dynamic GMM model developed by Arellano and Bond (1991) is performed while potential dynamic selection bias is controlled for using the method proposed by Frydman et al. (1999). Thus, the control group is restricted to firms that are likely to share similar unobserved and time-varying characteristics as the partially privatised enterprises.</p>	Using data on Indian state-owned enterprises the study finds that that partial privatisation has a positive impact on profitability, productivity, and investment.
Goldeng <i>et al</i> , (2008).	<p>The study investigates the effect of market competition on SOEs. It utilises a comprehensive panel data set containing accounting information for all registered companies in Norway over the period 1990 to 1999. Both the ownership and market structure effects on performance are modelled, leaving out naturally monopolistic SOEs that provide public Goods under regulated markets. Profitability is adopted as the main performance measurer.</p>	<p>Increased competition is less detrimental to SOE performance than to Private Company performance.</p> <p>Less efficient SOEs competing with privately owned companies are expected to suffer in performance outcomes.</p>
Choudhury and Khanna (2009).	The study is based on the leadership reforms at 42 government owned labs in India, a setting where	Even in the absence of property rights, SOEs may significantly improve performance through

	<p>privatisation was perceived a sub optimal option. Data from the 42 labs pertaining to the period 1995 – 2006 was collected on all directorships in order to test the proposition that new directorship aim for increased operational performance in an SOE set . The study analyses the impact of director change on the level of U.S. and domestic patents. The analysis deal with count data and based on Hausman Hall and Griliches (1984), in the base case, therefore a fixed effects Poisson model adjusted for quasi-maximum likelihood estimation and robust standard errors as described by Wooldridge (1999) was adopted.</p>	<p>appropriate of the right type of leadership, this is the case with the 42 Indian state-owned laboratories. Appropriate policy and leadership changes have a significant positive impact on SOE performance.</p>
Eljelly. A.M.A, (2009)	<p>This study examines the relationship between firm ownership and corporate performance in Saudi Arabia, using a sample of Listed Private Companies (LPCs) and Listed Government Related Companies (LGRCs). The study compares the operating and market performance of the LPCs and LGRCs during the period 2000-2003. The study adopts a combination of profitability based measures of performance (Return on Equity, net profit margin), operational efficiency (Return on Assets) as well as market valuation based measures.</p>	<p>LGRCs outperform or match the performance of LPCs. More specifically, the study finds that LGRCs tend to mostly outperform LPCs in terms of profitability, as measured by Return on equity (ROE) and Net Profit Margin (NPM), operating efficiently, as measured in terms of Return on assets (ROA), and match them in their stock market risk adjusted performance. The study concludes that these results may have implications for the issue of privatisation programs which the government has recently started.</p>
Richard <i>et al.</i> , (2009)	<p>The study analyses the long-term performance of privatisation, that is, IPOs of former State Owned Enterprises by measuring unadjusted and excess returns in average annual and cumulative terms.</p>	<p>The results show negative abnormal price performance during the first post initial trading day, and subsequently thereafter. On average, privatisation offers year one returns which can be 50% lower than market returns over the same time period. On the other hand, the state of economic development of the privatizing country and the initial return do</p>

		not appear to have a long-term impact on performance.
Al-Qudah (2011)	This study examines the impact of privatisation by using a unique sample of 23 Jordanian privatized firms through the period 1992-2005, offering some unique performance measures not commonly adopted in previous studies. A double pronged approach to performance measurement is adopted and incorporate operating efficiency measured by turnover ratio and market performance measured by market value ratio. Panel data analysis is employed to determine the impact of privatisation on firms' efficiency and performance.	Privatisation has a positive and significant impact operating efficiency and on performance as measured by market value ratio. This finding is consistent with most of the existing evidences on the impact of privatisation on performance and efficiency. The results also show that strategic partnership has a positive and significant impact on privatised firms operating efficiency and market value. In general Liquidity has a positive impact on privatized firms' operating efficiency and performance. Further, the firms' specific effect (size) is a significant performance determinant since it influences operating efficiency and performance of privatized firms'. The study also finds that openness of the economy is also a factor that affects privatized firms operating efficiency and performance.
Bhatti and Sarwet (2012)	Analyses financial performance of SOEs in emerging economies, with specific reference to Pakistan Railways during the period 2001 to 2011. The aim is to highlight those factors that have contributed to the poor financial performance of Pakistan Railways. The study is based on a review of official documents and work practices, including interviews with senior managers and officials. The report focuses on audited financial statements from the last eleven years.	The major causes of poor financial performance are bad financial management practices; a deficient management information system; absence of key performance indicators; incompetent management policies; and corruption – (which is concluded to be a common factor in all organizations with poor salary structures) and political interference.

2.8. Description of methodology adopted per essay

2.8.1. Essay 1: Performance of State Owned Enterprises: sub-Saharan Africa overview

Various studies have adopted different approaches to measuring performance, with some focusing on productivity and profitability (Majumdar, 1997; Xu *et al.*, 2001), whilst some attempt to use broader based measures encompassing operational efficiency, productivity, employment, output and value creation (Cheung *et al.*, 2012; Kanyoma, 2008; Omran, 2001 and Clive, 2004).

Following an argument presented by Combs *et al.* (2005) and Venkatraman and Ramanujan (1986), that a unified approach to performance measurement would be one that captures both financial and non-financial variables, this essay adopts a two pronged measurement approach; financial (return on assets) and productivity (total productivity factor).

Return on Assets (ROA) - ROA represents the final operating result of an entity within the context of capital employed in the business and it is highly regarded for its ability to capture wide aspects of operations into one composite indicator (see Siminica *et al.*, 2012). Thus, the ratio measures the return on capital employed and typically computed as Net Profit divided by Net Assets (Uyar, 2009). Other approaches to measuring the return on capital invested disaggregate Return on Assets into various components, for example, Asset Turnover and Profit Margins per unit of capital. However, such an approach has not been found to provide any incremental information (Fairfield and Yohn, 2001). In this study, the composite ROA is computed as Net Income divided by Total Assets. Net Income is after interest, but before tax, as enterprises in the study sample receive different tax treatment, with some enjoying a complete exemption. Total assets are represented by an average of the value of total assets at the beginning of the year and that of assets at the end of the year. Fixed assets are taken at net values. For the purposes of analysis, monetary values were converted to nominal United States Dollar (USD) values using average annual exchange rates.

Total Factor Productivity (TFP) - From its original version by Solow (1957), the application of TFP in empirical studies has substantially increased, with accompanying improvements in methodological approaches (Beveren, 2012). Bartelsman and Doms (2000) attribute this upsurge in the interest in TFP to an increase in the availability of data at micro levels.

Several approaches have been proposed for estimating TFP using micro-level panel data, often with the advantage of limiting the analysis to micro-econometric approaches (Del Gatto *et al.*, 2010). Such an approach permits the reliance on enterprise-level data that is much richer for analysing heterogeneity across firms (Harris and Moffat, 2011). A widely adopted approach to TFP estimation takes output as a function of inputs employed in generating such output and firm productivity (Beveren, 2012). The majority of studies taking this approach measure output in terms of adjusted sales values (deflated logarithms), whilst inputs are usually the adjusted values of capital employed, total labour costs and material inputs into the production process (Harris and Moffat, 2011; Katayama *et al.*, 2009; Raheman, 2008; Pyo *et al.*, 2006; Meyer and Vickers, 1997).

Beveren (2010) outlines a comprehensive and very useful demonstration of the methodological approaches to the estimation of TFP. These later represent a strong form of reference in Harris and Moffat (2011):

At its very basic form, estimating TFP departs from the production function itself, given as:

$$Y_{it} = A_{it} K_{it}^{\beta k} L_{it}^{\beta l} M_{it}^{\beta m} \quad (1)$$

Where Y_{it} represents the production output of entity i , at time t . A_{it} is the unobservable factor. K_{it} , L_{it} and M_{it} represent capital, labour and materials in that order.

In order to handle more appropriately the non-linear relationship that may exist between the dependant and independent variables, the absolute values of the variables are often transformed into their logarithmic form in practice. This logarithmic transformation is also a convenient way of converting significantly skewed variables into a substantially normal form. Logarithmically transforming variables in (1) results in:

$$Y_{it} = \beta_0 + \beta_k k_{it} + \beta_l l_{it} + \beta_m m_{it} + \varepsilon_{it} \quad (2)$$

$$\ln(A_{it}) = \beta_0 + \varepsilon_{it}$$

; where K, L and M represent the natural logarithms of the values for capital, labour and materials respectively. β_0 is a measure of the mean efficiency level across entities, ε_{it} denotes the time and entity level deviation from the mean. This is then decomposed into observable and unobservable components, resulting in:

$$Y_{it} = \beta_0 + \beta_k k_{it} + \beta_l l_{it} + \beta_m m_{it} + v_{it} + u_{it}^q \quad (3)$$

Where $\omega_{it} = \beta_0 + v_{it}$ and u_{it}^q denote entity level productivity and measurement error related deviations from the mean respectively.

In empirical research, (3) is often estimated, followed by a step involving solving for ω_{it} .

Entity level productivity is then calculated as:

$$\widehat{\omega}_{it} = \widehat{v}_{it} + \widehat{\beta}_0 = Y_{it} - \beta_k k_{it} - \beta_l l_{it} - \beta_m m_{it} \quad (4)$$

Following the description by Beveran (2010), total output in this essay is estimated as follows:

$$Y_{it} = \alpha_i + \alpha_L L_{it} + \alpha_M M_{it} + \varepsilon_{it} \quad (5)$$

Where:

Y represents total output, measured as the logarithm of revenue in dollar terms;
L represents labour employed, measured as the logarithm of total staff costs in dollar terms;

M represents materials employed, measured as the logarithm of cost of sales in dollar terms; and

K represents capital, measured as the logarithm of total capital employed terms in dollar terms.

ε is the composite error term.

Equation (5) is then directly estimated via panel data modelling through the use of the Stata statistical software to obtain TFP as follows:

$$\ln TFP_{it} = y_{it} - \alpha_L l_{it} - \alpha_M m_{it} - \alpha_K k_{it} = \quad (6)$$

This essay bases its analysis on data obtained across 23 SOEs from 10 sub-Saharan African countries operating in six different industries, and covers a period from 2001 to 2012. The SOEs selected are those in which the government has either a shareholding in excess of fifty per cent or is in possession of strategic control by means of shareholder agreements, and the focus is only on those operating along commercial lines with their principal source of revenue being customer charges (fares and tariffs). The study also focuses on those industries in which the SOE business model is prevalent, these being the power, telecommunications, airline, rail, water and sanitation industries. The selection of SOES within the respective countries is also based on available and consistent data.

A full list of the SOEs in the sample, along with their assigned identifier numbers (1-23) is in Appendix I. Table 2.4 depicts the country and industry make-up of SOEs in the sample.

Table 2.4: Sample analysis by country and industry

By Country		By industry	
Botswana	5	Power	5
Ethiopia	1	Postal	3
Ghana	1	Telecommunications	3
Kenya	1	Water and Sanitation	6
Lesotho	1	Airlines	4
Malawi	1	Rail and Transport	2
Mauritius	2		
Namibia	3		
Swaziland	1		
South Africa	7		
Total	23	6	23

The data has predominantly been obtained from audited annual financial statements and other publicised annual reports of the SOEs in the sample. The major source of information has been the websites of the SOEs where available; however, in some cases hard copies have been formally requested and granted.

2.8.2. Essay 2: Drivers of Organisational Performance in State Owned Enterprises

Whilst the findings in the preceding essay reflects the power industry as a poor performer compared to other sectors, it remains the single major cornerstone in economic advancement drives being pursued by many African governments. Yet, important challenges remain.

The sub-Saharan electrified minority still faces complex problems including intermittent power supply, prohibitive pricing and constrained access to main grid lines. The generation capacity remains the lowest in the world and has been facing a stagnated growth (Eberhard, 2008). Various industry diagnostic research work has pointed to a glaring growth deficit which must be plugged if the 2030 target for full industrial power access is to be attained in sub-Saharan Africa. A growth rate of 13% is required, but historical trends have stagnated at around 1.7% over the recent past decade (Bazilian *et al.*, 2012).

Whilst important milestones have been achieved around the world in the privatisation of SOEs, marked state participation in the sub-Saharan power sector continues to sustain the greatly desired industrial growth and economic performance, notably through the SOE business model whose performance remains central to the sectorial reform initiatives (Tallapragada, 2009). This could be because experience in sub-Saharan Africa privatisation transactions shows that issues and pitfalls have not fundamentally changed since the early days of privatisation itself (Buchs, 2003), with only 2% of the African power generation having been privatised, and a meagre 6% of its distribution having been privatised by the 2000s (UNIDO, 2008). This phenomenon projects the importance of the SOE business model in the very crucial power sector in sub-Saharan Africa for some time to come, hence the need to focus on its performance through the respective utilities. The poor performance of such SOEs is a widely documented phenomenon (Boko and YuanJan, 2011; Xia and Chen, 2007; Elwel and Labonte, 2007; Kikeri and Kolo, 2006). Unfortunately, this widely publicised poor performance of SOEs is not accompanied by sufficient empirical evidence on what fundamentally drives SOE performance.

The study focuses on five countries whose power utilities have experienced very little to no degree of privatisation, and it selects four such power utilities from the following countries: Botswana, Mauritius, Namibia and South Africa. Owing to the inherent linkages between political cycles and SOEs, the study focuses on these countries for their relative political stability during the study period. Given the monopolistic nature of the power industry in Africa, the study selected the only power utilities found in each of the selected countries, and so the study is based on four utilities. Data on the SOEs constituting the sample has predominantly been obtained from the audited annual financial statements and other publicised annual reports of these entities. This is for a 20-year period spanning from 1994 - 2013. Thus, the study is based on a panel data of four utilities over a 20-year period across four countries, yielding 80 observations.

The audited annual financial statements provide quantitative data whilst the rest of the qualitative information is available from narratives in the annual reports (e.g. size of work force, strength of the board and its composition etc.).

This essay employs panel data modelling to examine the drivers of SOE performance. Panel data is constituted from a sample of entities over time period. Analysing panel data entails a set of econometric models constructed from a combination of time series and cross-sectional data.

Panel data analysis assists in resolving the difficulty of making inferences about the change dynamics, but from a cross-sectional perspective. The techniques also aid in minimising the effects of omitting variables that have a correlation with explanatory variables.

A further strength of panel data analysis is that it allows the researcher to control for individual heterogeneity as it assumes that individual entities are heterogeneous. As an example, different SOEs will differ in terms of their political landscape, history and mandate disposition. The analysis provides a large number of data points thereby improving on efficiency of the econometric estimates, through the increase in the degrees of freedom, and a reduction in the collinearity amongst the explanatory variables (Hsiao ,1986).

Thus, a major strength of panel data has to do with its ability to isolate the effects of characteristics specific to individual entities.

The panel model is therefore generally expressed as

$$Y_{it} = X_{it}\beta + \varepsilon_{it} \dots i = 1, \dots n \text{ and } t = 1, \dots T \dots \dots \dots (7)$$

The use of panel data methods is due to the fact that the data involves two dimensions these being; individual cross-sectional units in the study, being the SOEs. For model construction purposes these are denoted by the subscript i , and the time series dimension is denoted by subscript t , in the context of n , being the number of observations.

Panel data modelling techniques have gained currency due to the superior advantages they provide. The increase in the use of panel data techniques has been aided by among other factors; (i) data availability; (ii) greater capacity for modelling the complexity of human behavior than a single cross-section or time series data, and (iii) challenging methodology, (Hsiao, 2010). The techniques provide a wide range of advantages and these are listed below.

- There is improved accuracy in model parameter inference. Panel data analysis yields a higher degree of freedom, with increased variability of samples when compared to cross-sectional data analysis (typically with a T value of 1), or time series (typically involving a single subject, N=1). See (Hsiao *et al.*, 1995).
- There is the ability to control the impact of omitted variables as they capture information on both the intertemporal dynamics, as a result the individuality of study subjects may then allow the researcher to control the effects of unobserved variables (see MaCurdy, 1981).
- Another advantage is the simplification of computation and statistical inference as two dimensions are involved in panel data analysis, these being the cross-sectional and time-series dimensions.

Whilst the method has its own disadvantages, these tend to be dealt with by splitting the approach into two forms, each addressing a set of shortcomings in such a way that the disadvantages of the other becomes advantages of the other (Hsiao, 2010).

For a given panel data structure;

$$y_{it} = x_{it}\beta + z_i\delta + u_i + \varepsilon_{it} \quad (8)$$

Where;

x_{it} is a $1 \times k$ is a vector of variables that vary over individuals and time,

β is a $k \times 1$ is a vector of coefficients on x ,

z_i is a $1 \times p$ is a vector of time-invariant variables that vary only over individuals,

δ is the $p \times 1$ is a vector of coefficients on z_i ,

u_i is the individual-level effect, and

ε_{it} is the disturbance term.

Panel data model estimation generally takes two forms: fixed effects and Random Effects.

The Fixed Effects model explores the relationship between the predictor and the dependent variable within an entity, and it is mostly appropriate in phenomena wherein the interest lies in analysing the impact of variables that vary over time. This approach does offer flexibility in handling time variant and time invariant variables simultaneously, whilst presenting an opportunity to control for the unobserved heterogeneity across firms and countries (see Baltagi, 2001).

The FE makes the assumption that the regression function remains constant over time and space. With a one-way FE model, each cross-sectional unit is permitted to have its own constant term, with the slope estimates (β) remaining constrained across units, as is the σ_ε^2 . This is known as the least-squares dummy variable (LSDV) model, since it is equivalent to including $N-1$ dummy variables in the OLS regression of y on x , inclusive of a unit's vector.

Unlike with the fixed effects model, the random effects model assumes that the variation across entities is random and uncorrelated with the independent variable in the model. As explained by Green (2008), what separates the random effects from fixed effects is whether the unobserved individual effects carry elements that correlate with the regressors in the model. This model has been adopted by a researcher who believes that differences across

entities have some influence on the study variable. This model is credited for its ability to accommodate time invariant variables.

Thus, for a given panel data structure if the individual effects (u_i) are correlated with the vector of independent variables, then the model is a Fixed Effects estimator and given as $y_{it} = (\alpha + u_i)X'_{it}\beta + \varepsilon_{it}$ but, where the individual effects (u_i) are uncorrelated with the

vector of regressors, then the model becomes a Random Effects model and is given as

$$y_{it} = \alpha + X'_{it}\beta + (u_i + \varepsilon_{it}). \quad (9)$$

Empirically, it is always difficult to select the appropriate estimator. A standard hausman test is performed across panel data regression models to test for random and fixed effects, after which a determination is made as to which one to go for, and for this essay, the fixed effects method was adopted after the test.

Dynamic Panel-data results may indicate presence of a lagged dependent variable and other regressors. In such a scenario, the correlation results in a large sample may entail a bias in estimating the coefficients of the lagged dependent variable (Nickell, 1981). Unfortunately, increasing the number of units in the sample (N) does not solve this problem. An auto-regressive model, with no additional regressors will therefore appear in the following form:

$$y_{it} = \beta + \rho y_{i,t-1} + x_{it}\beta_2 + u_i + \varepsilon_{it} \quad (10)$$

Both the constant term and the individual effect are thus removed from the first difference transformation.

$$\Delta y_{it} = \rho \Delta y_{i,t-1} + \Delta x_{it}\beta_2 + \Delta \varepsilon_{it} \quad (11)$$

With the availability of an Instrumental Variable (IV), instruments for the lagged dependent variable can be constructed from the second and third lags of y and this can either be in the form of lagged levels or differences.

An approach proposed by Arellano and Bond (1991) is widely adopted for the purposes of estimating a Dynamic panel-data model. The Arellano-Bond technique operates through the specification of a model, as a system of one equation per period, while allowing the

instruments applying to the individual equations to vary. These instruments include appropriate lags of the levels of endogenous variables included in the equation in a differentiated form as well as the exogenous regressors. Unlike time series analysis, dynamic panel techniques do not rely on arbitrary prior restrictions, hence their ability to uncover unpredicted dynamic relationships between variables (Nerlove, 2002).

The specific model adopted for this study was constructed following the one proposed by Dewenter and Malatesta, (2001) and modified by Bozec *et al.*, (2002). In this case, the model is further augmented by allowing for a vector of variables measuring organisational theories.

The model is stated as:

$$Y_{it} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_{it} + \lambda(control) + \varepsilon_{it} \quad (12)$$

Where:

Y_{it} = the performance measure for SOE i at year t

$LIQdty$ = Liquidity

$BODst$ = Board Strength

$BODdiv$ = Diversity of the board in terms of stakeholder representation

$GOVinv$ = Extent of Government's involvement in pricing decisions

ε_{it} = Error term

Whilst various studies have accepted and adopted different approaches to measuring performance, there is a school of thought suggesting that a more comprehensive approach is one that combines both financial and non-financial measures (see Combs *et al.*, 2005; Venkatraman and Ramanujan, 1986).

This essay follows this line of thinking and adopts broader based measures encompassing operational efficiency, productivity and financial performance. The study uses the following performance variables: profitability measure (gross profit margin), productivity (total factor productivity), and operational efficiency measure (gigawatt hours sold per employee), and thus presents a real opportunity to base findings on a composite type of a measure.

Under the financial measure, gross profit is selected as it remains the most comparable metric across the power utilities in question, with revenue (power sales) and cost of sales (inputs and direct labour) being determined in a uniform manner without specific adjustments.

The application of TFP on micro-level panel data, such as the one in this essay has seen an upsurge mainly due to its ability to permit the reliance on enterprise-level data that is much richer for analysing heterogeneity across firms (Harris and Moffat, 2011). See section 2.1.1 for more details on the usage of the TFP approach.

Measuring efficiency must have a direct link to the core existence of an entity, and be based on core output relative to a major resource maintained for making that output available. Thus, the study selects gigawatt hours sold (net of system and commercial losses often reflective of some level of inefficiencies), as the output and the number of employees as a key resource in producing that output.

Table 2.5 below summarises how each of these measures is derived.

Table 2.5: Description of models (performance measures)

Model	Description	Measurement
GPMG	Gross Profit Margin	$\left(\frac{\text{Sales Revenue} - \text{Cost of Sales}}{\text{Sales Revenue}} \right) + 1$
TPF	Total Factor productivity (Measured by the Solow Residual)	Let g_Y denote the growth rate of aggregate output, g_K the growth rate of aggregate capital, g_L the growth rate of aggregate labour and α the capital share. The Solow Residual is then defined as $g_Y - \alpha * g_K - (1 - \alpha) * g_L$. ⁹
GwhPE	Net Gigawatt hours sold per employee	$\left(\frac{\text{Net gigawatt hours sold}}{\text{Average number of employees}} \right)$

⁹ (Comin, 2006)

This essay approaches the interrogation of performance drivers from an organisational theory perspective, borrowing from existing literature on generic variables known to drive firm performance.

Liquidity: In line with the fundamentals of the resource-based theory, which posits that resources have the capability of driving firm performance (Raza , 2012; Tan and Peng, 2003; Hamel and Prahalad, 1994; Wernerfelt, 1984), the literature identifies firm liquidity as a critical resource in influencing performance in the context of a generic enterprise (Al-Quadah, 2011; Tang and Peng, 2003; Singh, 1986, Bromiley , 1991; Hambrick and D'Aveni , 1988).

Government involvement in pricing decisions: From a public choice theory perspective, politicians, acting through functionaries of government, may exert influence in SOEs, often with a direct impact on organisational performance (Shaw, 2008; Hill, 1999; Downs, 1957). A number of studies suggest ways in which political leadership can hold on to controlling SOEs, and these include the signing-off of any tariffs and service levies proposed by SOEs (Lioukas *et al.*, 1993; Ramamurti, 1987a).

Board Strength: The use of corporate boards is often seen as a panacea for good firm performance by proponents of the agency theory (Raelin and Bondy, 2013; Jensen and Meckling, 1976). However, having a board in place is not a solution by itself, its strength weighs more in determining a board's effectiveness in driving performance.(Ongore and K'Obonyo, 2011; Wicaksono, 2009; Ross, 1973).

Board stakeholder diversity: The proponents of the stakeholder theory are of the view that good firm performance arises from a reconciliation of various stakeholder interests in operating enterprises (Freeman, 1994). Various factors are indicative of how an enterprise subscribes to the tenets of the stakeholder theory, amongst them is the extent to which the board composition drawn from various stakeholder groups (Brenner and Cochran, 1991, Jones and Wicks, 1999).

Firm age and size: These have been suggested to have a bearing on firm performance (Lioukas *et al.*, 1993; Kim and Chung, 2008; Aivazian *etal* 2005) and as such, they are incorporated in the study.

Table 2.6 shows how each of the explanatory variables is measured. The table also depicts the theoretical underpinnings of the model as well as the theoretical expectations.

Table 2.6: Definition of proxy independent variables

Variable	Theory	Measurers	Predicted relationships
Liquidity (LIQ)	Resource-based theory	$= \frac{\text{Current Assets}}{\text{Current liabilities}}$	Liquidity is positively correlated to good performance in line with the resource-based theory (Tan and Peng, 2003; Singh, 1986; Bromiley, 1991; Hambrick and D'Aveni, 1988; Chudson, 1945)
Government involvement in pricing decisions	Public choice theory	Score =1 if Tariffs are determined by government Score = 0 if tariff setting is regulated by an independent body	Higher levels of government (political) involvement are negatively correlated to performance in line with the public choice theory (Mwaura, 2007; Shaw, 2008; Anthony, 1957; Hill, 1999)
Board Strength	Agency theory	Assessed in terms of the following skills: i)power, engineering or related, ii) Financial management, iii) Environmental and social Management, iv) Legal, v) Human Capital Management Scores: 1 if 3 or more of the above, 0 if 2 of less	In accordance with the agency theory, the strength of the board, as measured by diversity of skills, is positively correlated to performance (Ongore and K'Obonyo, 2011; Ross, 1973; Leech, 1986; Toninelli, 2000 and Wicaksono, 2009)
Board stakeholder diversity	Stakeholder theory	Assessed in terms of representation on the board from the following stakeholder groups: i)Public Sector, ii) Private Sector, iii) Civic Organisations, iv) Legal, v) General Public	According to the stakeholder theory, a wider stakeholder representation on boards is positively related to performance. (Freeman, 1994; Brenner and Cochran, 1991, Jones and Wicks, 1999).

		<i>Scores: 1 if 3 or more of the above, 0 if 2 or less</i>	
Age	Control Variable	<i>Number of years in operation</i>	Firm age is expected to be conversely correlated with profitability, but a positive correlation is expected between age and productivity. (Majumdar, 1997; Dogan, 2013)
Size	Control Variable	<i>Natural Logarithm of dollar value of capital assets</i>	Firm size is expected to display a positive correlation with profitability, but a negative correlation with productivity. (Majumdar, 1997; Dogan, 2013)

Three performance models are then estimated as follows:

$$\text{Total Factor Productivity} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_{it} + \lambda(\text{control}) + \varepsilon \quad (13)$$

$$\text{Gigawatt Hours per employee} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_{it} + \lambda(\text{control}) + \varepsilon \quad (14)$$

$$\text{Gross profit} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_{it} + \lambda(\text{control}) + \varepsilon \quad (15)$$

In order to control for possible dynamism and ensure model robustness, this essay also estimated a dynamic version of the panel data model using the Arellano-Bond technique (Arellano and Bond, 1991). This technique is informed by the inability of the Instrumental Variable approach to exploit all the information available per sample.

2.8.3. **Essay 3:** Performance drivers in SOEs: Botswana Power Corporation (BPC) Perspective and **Essay 4:** Performance of SOEs: Evidence on Botswana Telecommunications Corporation

These are case analyses, following through performance trends and their underlying influential variables over a 15-year period (BPC) and an 18-year period (BTC). The cases largely center around variables that emerge as significantly correlated to performance in the previous quantitative essay. This perspective presents an opportunity to gain an in-depth understanding of how several variables combine to influence the performance of State Owned Enterprises, hence the choice for an ontological approach. The approach naturally presents an advantage of cutting through the complexities (Johansson, 2003) whilst maintaining originality and testability (Eisenhardt, 1989).

The essays are primarily based on secondary data obtained from publicly available audited financial statements, annual reports, relevant statutes and policy documents. However, the studies make limited use of primary data collected through face to face and paper-based interviews with senior managers selected on the basis of their involvement with core operations of the corporations in the study. These interviews were mainly for validation and clarification.

The BPC case focuses on a 15-year time period spanning from 2000, the year the Corporation's performance (by various measures) started an impressive upward trend which lasted up to 2005/06 when it reversed, reaching an all-time low in 2014. During this 15-year stage, BPC went through phases which make the period an interesting one for this study.

The BTC case considers an 18-year period spanning from 1995 to 2012. The year 1995 marked the beginning of extensive changes in the telecommunications industry, prompting gradual but comprehensive organisational transformation within BTC, lasting until 2012, when the corporation was ushered in for a privatisation initially scheduled for 2013. This makes the period 1995 to 2012 an interesting one for the study.

Firm performance is a widely researched area, but its measurement remains largely left to interpretation under a variety of settings. However, it is widely acknowledged that a more unifying approach to measuring firm performance would be one that consists of both financial and operational variables (Combs *et al.*, 2005; Venkatraman and Ramanujan,

1986). Despite the upsurge in popularity of financial measures of performance over the decades (Carton and Hofer, 2006; Richard., *et al.*, 2009), Cameron (1986b) has put forward a compelling case on the relationship between financial and operational measures, arguing that good financial performance logically precedes good operational performance. This view introduces the importance of focusing on industry-specific operational measures, combined with the generic financial measures in assessing organisational performance.

Given the broad nature of factors identified as influencing SOE performance, studies in this subject have adopted a wider spectrum of performance measurers, and in line with literature, these often incorporate both financial and non-financial aspects (e.g. Aivazian, *et al.*, 2005; Bozec, *et al.*, 2002; Li and Xia, 2007). These essays adopt broad performance measurers covering financial (revenue and profitability) and non-financial outcomes (efficiency and other operational measurers). The selection of non-financial measures is also influenced by the non-financial performance goals of SOEs.

The analysis is conducted within the context of organisational theory, according to which each independent variable is a proxy of a specific organisational theory as indicated in Table 2.7 below. (See section on a discussion on the choice of exploratory variables).

Table 2.7: Variables and underpinning theory

Theory	Examples factors
Agency	<ul style="list-style-type: none"> • Board effectiveness, relationship between board and management, Experience, qualifications and attendance record of board members • Performance management and measurement mechanisms in place (including management contracts) • Reward schemes in place
Resource-based	<ul style="list-style-type: none"> • Liquidity, asset base, strategic licences (and other intangible resources)
Stakeholder	<ul style="list-style-type: none"> • Extent of stakeholder diversity in boards • Stakeholder focus in crafting business and operational strategies • Nature of non-economic transactions
Public choice	<ul style="list-style-type: none"> • The link between political choices and corporate goals • The legal and regulatory environment • Extent of political directives in company operations • Level and nature of consultation with Ministry authorities in resource allocation and price setting • Nature of non-economic transactions

2.9. Conclusion

The present study is very broad and potentially complex, thus, it demands an innovative use of a variety of approaches in order to produce meaningful deductions in a quest to address its objectives. Mixed methods of research, aided by mixed sampling methods were carefully adopted in designing the study, which has been phased in two successive steps, one made up of two quantitative studies and the other made up of two qualitative inquiries. Such an approach enhances the soundness of overall findings.

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CHAPTER THREE: PERFORMANCE OF STATE OWNED ENTERPRISES: SUB-SAHARAN AFRICA OVERVIEW¹⁰

3.1. Introduction

This essay analyses performance across 23 State Owned Enterprises selected across 10 different sub-Saharan African countries, representing six industries. The relevance and importance of SOEs in the context of sub-Saharan Africa is supported by compelling evidence, including the fact that they operate virtually in all sectors (Kikeri and Kolo, 2006). State enterprises contributed up to 40% to the total output in developing countries by mid 2000s (World Bank, 2007), whilst accounting for up to 25% of service delivery (Vagliasindi, 2008). Despite their proven importance in sub-Saharan Africa, SOEs are often associated with a history of uneven performance dating back to the 1970s (Nellis, 2005), but even then, their performance trends have been inadequately documented in literature. In this essay, performance patterns across different SOEs selected from 10 sub-Saharan Africa countries are established.

Governments continue to own enterprises for a variety of reasons, which are in general the same as those that gave rise to the SOE concept in the early 20th century. In sub-Saharan Africa such reasons include driving economic development in sectors where private sector participation is not optimal, but again this rationale can be a deliberate stance by governments to retain control over sectors deemed as strategic (Bozec *et al.*, 2002). For these and other reasons, it is almost by default that SOEs continue to dominate infrastructural sectors such as power, air transport, water and sanitation, railways and telecommunications (Nellis, 2005). Consequently, SOEs are widely expected to remain an important instrument in driving societal and public value creation in developing countries, given the right context (Sturesson *et al.*, 2015). In the light of such a legitimate expectation, paired with the inefficiencies and inconsistent performance they are generally known for (Boko and YuanJan, 2011), there is a case for the literature on this subject to be enriched with SOE performance trends, drawing from real SOEs operating in different environments and industries. Existing studies in the subject of SOE performance have tended to be too narrowly focused in scope, often referring to a single SOE, or a handful SOEs in the same

¹⁰ Under review in a journal

country or industry (Villalonga, 2000, Aivazian *et al.*, 2005; Etukudo, 1997; Bozec *et al.*, 2002 and Moushibahou, 2010). Even then, the objective in many of such studies has been biased towards performance comparisons between SOEs and private sector as well as pre- and post-privatisation performance (Aivazian *et al.*, 2005; Bozec *et al.*, 2002). Consequently, a gap has remained in terms of systematically understanding the performance patterns of SOEs across countries and industries and once this gap has been filled, important lessons could be discerned to guide the quest for improving SOE performance.

Against this background, this essay analyses and explains the performance patterns of selected African SOEs focusing on the following industries: power, telecommunications, railways, water, postal services and air transport. These industries were chosen, based mainly on the fact that they are the ones through which African states predominantly adopt the SOE model for service and infrastructure delivery.

The remainder of the essay is structured as follows: the next section gives a conceptual framework and brief literature overview followed by a section outlining the approach, after which an analysis section follows before conclusions are presented.

3.2. Overview of Relevant Literature

Attempts have been made to define the SOE business concept in universally accepted terms, but there is often a difficulty in that such enterprises vary in shape and form from one country to the next. Similarly, the usage of State Owned Enterprises as a term in itself is not a universally adopted practice. A 2012 South African Presidential Review Committee (PRC) on State Owned Entities observed the fundamental mandate of SOEs as a generic determinant of the appropriate naming convention, with the terms ‘public entities, state-owned agencies, non-commercial state-owned entities’ often adopted for service delivery orientated non-commercial state owned bodies. On the other hand, those with a commercial mandate are often referred to as ‘commercial state-owned entities, government-owned corporation, government-owned business, government linked company, quasi-

governmental organisation, state-owned company, state-owned enterprise, publicly-owned corporation, government business enterprise, or parastatals', (PRC, 2012).

The specific terms adopted, as they relate to the definition of SOEs will however still differ across territories and a number of factors influence such a variation including level of state ownership, definition of state, legal status and the position in the hierarchy of public administration (Sturesson *et al.*, 2015). The Organisation for Economic Co-Operation and Development (OECD) has offered a somewhat neutral definition, which broadly defines SOEs as enterprises where the state has significant control through full, majority or significant minority ownership (OECD, 2005). This essay adopts this definition, but with yet another variation in that it focuses only on SOEs operating along commercial lines, typically adopting cost plus profit-based models mostly common in power, telecommunications, railways, airlines, postal and water industries, among others.

Organisational performance is a widely studied subject in organisational science with a variety of measurement methods proposed across the literature. A universally acceptable approach to measuring performance has been seen as one that incorporates both financial and operational measures (Ketchen and Bergh, 2005; Venkatraman and Ramanujam, 1986). Supporting this view is the popular argument that operational performance is merely an antecedent of financial performance (Cameron, 1986b), and vice versa. Thus, from a financial performance perspective, profit-based measures such as return on assets have been widely relied upon, (Carton and Hofer, 2006; Richard *et al.*, 2009) whilst operational performance, defined from an efficiency perspective, has in many cases been measured in terms of Total Factor Productivity (Bartelsman and Doms, 2000). TFP is an approach combining profitability and productivity based measures and has the advantage of permitting comparability across firms, industries and countries.

3.3. Approach

3.3.1. Measure of Performance

Various studies have adopted different approaches to measuring performance, with some focusing on productivity and profitability (Majumdar, 1997; Xu *et al.*, 2001), whilst some attempt to use broader based measures encompassing operational efficiency, productivity, employment, output and value creation (Cheung *et al.*, 2012; Kanyoma, 2008; Omran, 2001 and Clive, 2004). In this essay, performance is measured from two perspectives; financial (return on assets) and productivity (total productivity factor).

Return on Assets (ROA) represents the final operating result of an entity within the context of capital employed in the business and it is favourably regarded for its ability to capture wide aspects of operations into one composite indicator (see Siminica *et al.*, 2012). Thus, the ratio measures the return on capital employed and typically computed as Net Profit divided by Net Assets (Uyar, 2009). Other approaches to measuring the return on capital invested disaggregate Return on Assets into various components, e.g. Asset Turnover and Profit Margins per unit of capital. However, such an approach has not been found to provide any incremental information (Fairfield and Yohn, 2001). In this study, the composite ROA is computed as Net Income divided by Total Assets. Net Income is after interest but, before tax, as enterprises in study sample receive different tax treatment, with some enjoying a complete exemption. Total assets refer to an average of the value of total assets at the beginning of the year and that of assets at the end of the year. Fixed assets are taken at net values. For the purposes of analysis, monetary values were converted to nominal United States Dollar (USD) values using average annual exchange rates.

From its original version by Solow (1957), the application of the Total Factor Productivity (TFP) in empirical studies has substantially increased, with accompanying improvements in methodological approaches (Beveren, 2012). Bartelsman and Doms (2000) attribute this upsurge in the interest in TFP to an increase in the availability of data at micro levels.

Several approaches have been proposed for estimating TFP using micro-level panel data, often with the advantages of limiting the analysis to micro-econometric approaches (Del Gatto *et al.*, 2010). Such an approach permits the reliance on enterprise-level data that is

much richer for analysing heterogeneity across firms (Harris and Moffat, 2011). A widely adopted approach to TFP estimation takes output as being a function of inputs employed in generating such output and firm productivity (Beveren, 2012). The majority of studies taking this approach measure output in terms of adjusted sales values (deflated, logarithms etc.), whilst inputs are usually the adjusted values of values of capital employed, total labour costs and material inputs into the production process (Harris and Moffat, 2011; Katayama *et al.*, 2009; Raheman, 2008; Pyo *et al.*, 2006; Meyer and Vickers, 1997).

In this essay, TFP is estimated in terms of the Cobb-Douglas function as follows:

$$Y_{it} = \alpha_i + \alpha_L l_{it} + \alpha_M m_{it} + \alpha_k k_{it} + \varepsilon_{it} \quad (1)$$

Where:

Y represents total output, measured as the logarithm of revenue in dollar terms;

L represents labour, measured as the logarithm of total staff costs in dollar terms;

M represents materials, measured as the logarithm of cost of sales in dollar terms;

K represents capital, measured as the logarithm of total capital employed terms in dollar terms.

Equation (1) is then directly estimated via panel data modelling through the use of the Stata statistical software to obtain TFP as follows;

$$\ln TFP_{it} = y_{it} - \alpha_L l_{it} - \alpha_M m_{it} - \alpha_k k_{it}$$

3.3.2. Data

This essay basis its comparisons on data obtained across 23 SOEs from 10 sub-Saharan African countries operating in six different industries, and covers a period from 2001 to 2012. The SOEs selected are those in which the government has either a shareholding in excess of fifty percent or is in possession of strategic control by means of shareholder agreements, and the focus is only on those operating along commercial lines with their principal source of revenue being customer charges (fares and tariffs). A full list of the SOEs in the sample, along with their assigned identifier numbers (1-23) appears in Appendix I. Table 3.1 depicts the country and industry make up of SOEs in the sample.

Table 3.1: Sample analysis by country and industry

By Country		By industry	
Botswana	5	Power	5
Ethiopia	1	Postal	3
Ghana	1	Telecommunications	3
Kenya	1	Water and Sanitation	6
Lesotho	1	Airlines	4
Malawi	1	Rail and Transport	2
Mauritius	2		
Namibia	3		
Swaziland	1		
South Africa	7		
Total	23	6	23

Data has predominantly been obtained from audited annual financial statements and other publicised annual reports of the SOEs in the sample. The major source of information has been the websites of the SOEs where available; however, in some cases hard copies have been formally requested and granted.

3.4. Analysis of Findings

3.4.1. Descriptive Statistics

A table of descriptive statistics is presented below:

Table 3.2: Descriptive statistics

Variable	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	-10%	14%	4%	0.05
Total Factor Productivity	0	3.182	1.625	1.033

Table 3.2 above reflects depressed financial performance amongst the SOEs in the sample, with an average return on assets of just 4%.

The SOEs analysed display a considerable degree of variation in their performance measured in terms of TFP. A standard deviation of 1.033 reflects significant differences in productivity levels amongst the SOEs in the sample, possibly symbolising the broad range of contextual issues affecting SOE productivity (including country context, nature of industry, and the economy-wide free rider problem, among others).

3.4.2. Firm performance – return on assets

A graphical presentation of performance comparisons is given in Appendix II (Figures 1-5). Figures 1 and 2 present a comparison of firm financial performance across industries and countries as well as between firms. SOEs in the telecommunications sector outperform the rest of the SOEs for the period covered by the study, with an industry ROA average of 12% against an overall 4% for all industries in the sample. A plausible reason for such a trend would be that telecommunications as a sector has been an early starter in matters of market liberalisation and independent regulation, creating healthy competition through efficiencies, whilst political involvement has become gradually restrained since the 1980s (Gasmi *et al.*, 2011). Another dimension is that, unlike other SOE dominated industries, the telecommunications sector often faces little pressure to deliver on essential and basic social services, with real chances to concentrate on the economic objectives (see Aharoni, 1981) by focusing on more profitable stakeholder segments. Their corporate governance structures are typically pro-private sector, with all supportive performance monitoring and improvement infrastructure in place. Market competition from the private sector often dictates the need to maintain the requisite resources (including competent employees). The rail sector is marginally above average in its financial performance, whilst the airline and water industries are at the average.

During the period covered by the study, the power and postal industries displayed below average financial performance and several reasons could explain such a picture. Chiwaya *et al.*, (1996) blame the almost chronic poor performance of power utilities on excessive involvement of the state which has led to systemic problems like poor governance, sub optimal tariff structures and compromised operating models. Among other factors, postal services, particularly in a sub-Saharan Africa context, are often riddled with the needs of

geographically dispersed stakeholders, with far less flexibility in defining areas of business that best define good business performance (Mokoena and Mbohwa, 2013).

At an individual firm level, the Botswana Telecommunications Corporation, Telkom Namibia, Telkom South Africa, Ethiopian Airlines, Water Utilities Corporation (Botswana) and the Bloemfontein Water Board (South Africa) display above average financial performance compared to the rest of the SOEs in the sample. Conversely, SOEs like Botswana Post, Ghana Electricity Company, and the Botswana Power Corporation post financial performance below the average of the sample.

3.4.3. Firm performance – Total Factor Productivity

The airline, rail and telecommunications sectors displayed above average performance in total factor productivity terms during the period 2001-2012. Isaksson (2007) identifies several factors that typically drive TFP, amongst them capital intensity, skill of the workforce, innovation, competition and financial resources. Competition in the airline and telecommunications sectors is widely acknowledged for its power to force innovative approach to business and a scramble for a highly skilled workforce. In Figure 5 one can also observe that the rail sector in particular displays higher productivity levels than its peers.

The power and postal sectors fall below the average performance of the industries in the sample, whilst the water sector is at the average. Although capital intensity within the power sector would be expected to account for a growth in TFP, sub-Saharan Africa power utilities are notorious for aged and hence less efficient plants (Tallapragada, 2009), and typically face resource constraints to maintain them or foster innovation. Mokoena and Mbohwa (2013) note the lack of innovation in the African postal sector to be exposing it to unprecedented levels of competition from electronic forms of communication, but again riddled with the responsibilities of reaching out to widely dispersed stakeholders who often make limited usage of innovative technology-based business offers. The slow pace of change in the business landscape of the postal service can be seen as inhibiting the attraction of modern human skills into the sector.

In addition to the airlines, South Africa's Telkom and Transnet have posted above average performance compared to the rest of the SOEs in the sample and this can be attributed to competition induced productivity and innovative business operations as discussed above.

All water utilities in the sample fall below the average performance of the SOEs in the study, although the trend is more obvious in the case of the Lesotho Water and Sewerage Authority, the Blantyre Water Board, the Amatola Water Board and the Swaziland Water Services Corporation. (These three utilities operate in difficult geographical terrains that could easily impact on productivity). The Botswana Power Corporation, Nampower and the Central Electricity Board of Mauritius also display performance which falls below the average of SOEs in the sample.

Overall, the telecommunications industry emerges out as the best performer compared to all other sectors in the study. This sector displays an above average financial and productivity performance over the period covered by the study. This result is plausible, given the competition induced efficiencies common in this sector. The high levels of independent regulation of the telecommunications industry across Africa are credited for the reduced political interference, which is often blamed for subdued productivity and general performance in other SOE dominated industries.

Conversely, the power and postal industries are below average performers when performance is measured in both financial and productivity terms. These two industries in particular have been identified as often having been burdened by diverse stakeholder needs and massive political pressures, both with a noticeable negative impact on firm performance.

Telkom South Africa emerges as an above average performer under each of the performance models, compared to the rest of the SOEs in the sample. On the other hand, the Botswana Power Corporation emerges a below average performer consistently under both performance measures.

3.5. Conclusions

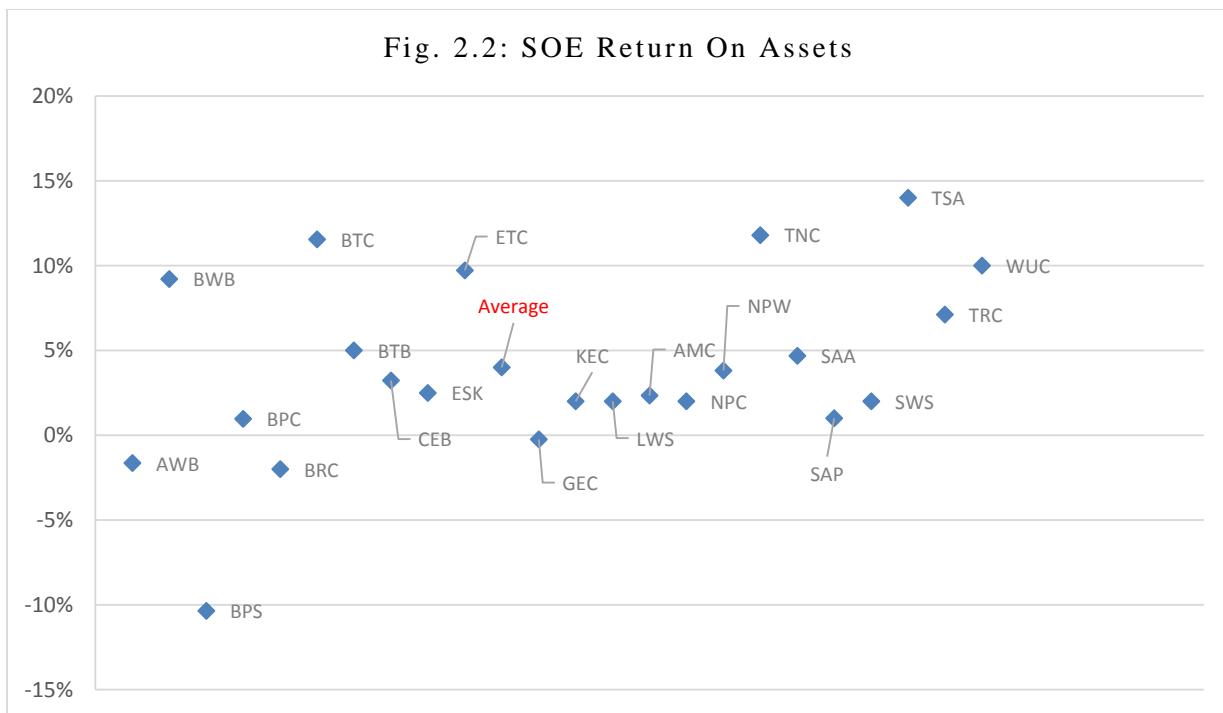
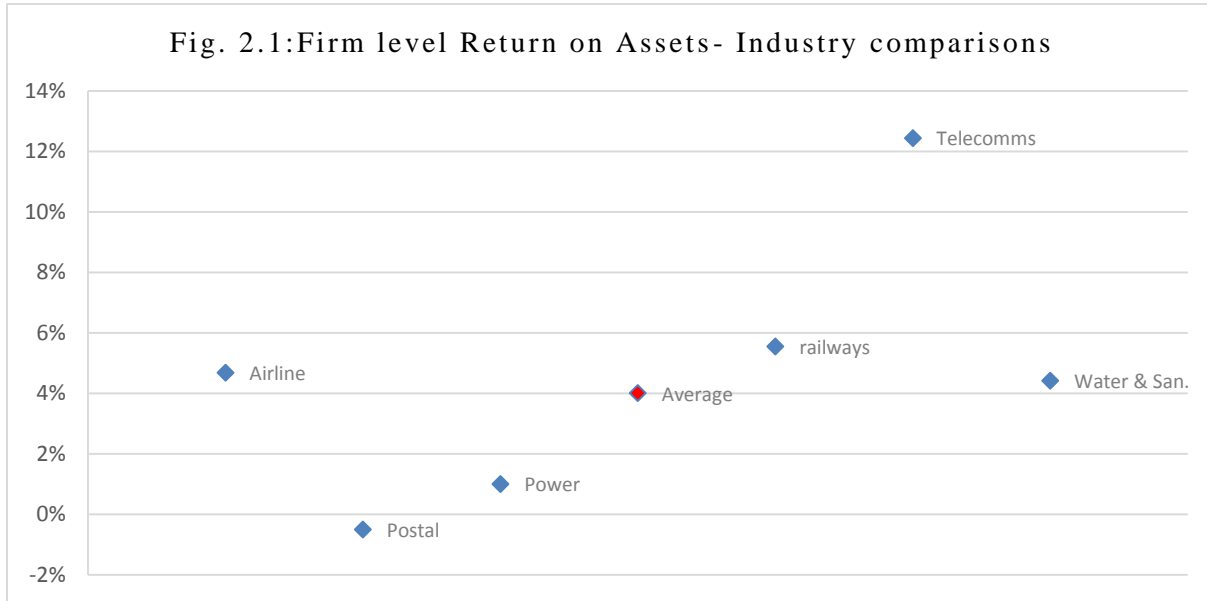
This essay aimed to analyse and explain performance patterns of SOEs over a 12-year period, with emphasis on firm level and across industry comparisons. The essay uses data from 23 SOEs selected from six industries in ten sub-Saharan Africa countries. Based on the analysis presented, the telecommunications sector emerges as an above average performer compared to other industries in the sample, and this is so across both models of

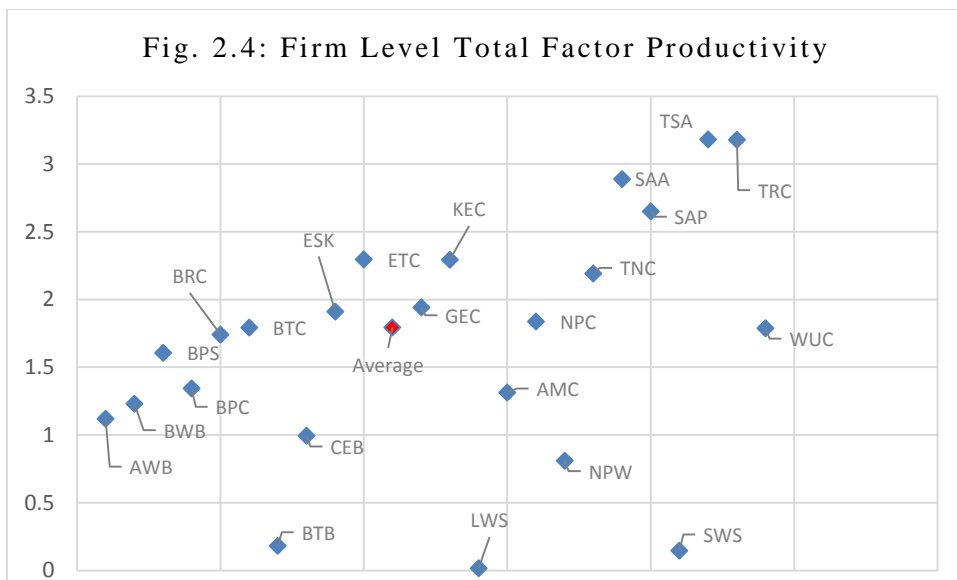
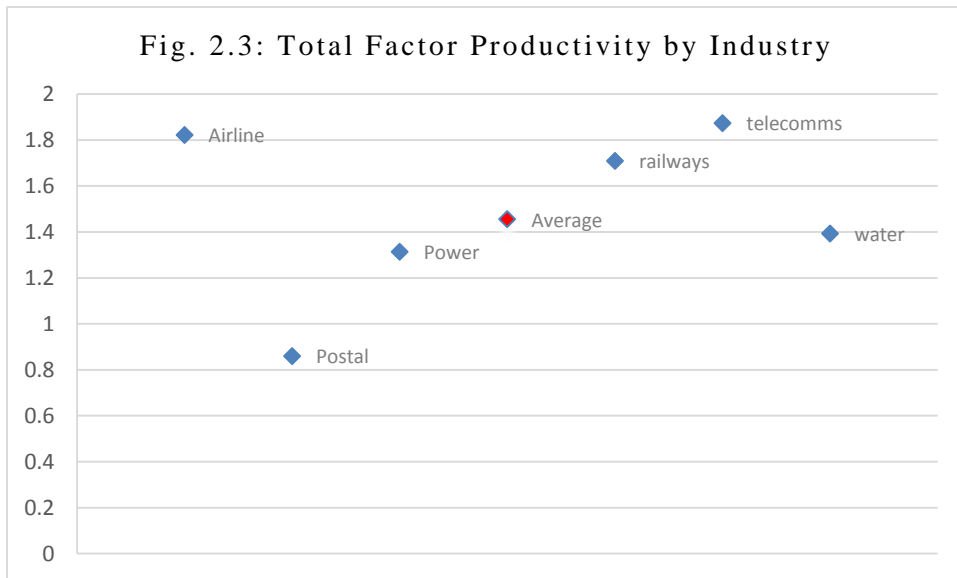
performance adopted in the study. Conversely, the power sector is a below average performer under both performance models. The study further reveals Telkom South Africa and the Botswana Power Corporation as occupying the extreme ends of above and below average performance respectively. Among other factors contributing to such a result are competition induced efficiencies, independent market regulation and the extent and basis of government involvement in the industry operations.

APPENDIX A: LIST OF SOEs IN THE SAMPLE BY INDUSTRY AND COUNTRY

SOE full name	Code	Country	Industry
Amatola Water Board	AWB	South Africa	Water and Sanitation
Bloemfontein Water Board	BWB	South Africa	Water and Sanitation
Botswana Post	BPS	Botswana	Postal Services
Botswana Power Corporation	BPC	Botswana	Power
Botswana Railways	BRC	Botswana	Rail
Botswana Telecommunications Corporation	BTC	Botswana	Telecommunications
Blantyre Water Board	BWB	Malawi	Water and Sanitation
Central Electricity Board	CEB	Mauritius	Power
Eskom	ESK	South Africa	Power
Ethiopian Airlines	ETC	Ethiopia	Airline
Ghana Electricity Company	GEC	Ghana	Power
Kenyan Airways	KEC	Kenya	Airline
Lesotho Water and Sewerage Authority	LWS	Lesotho	Water and Sanitation
Air Mauritius	AMC	Mauritius	Airline
NamPost	NPC	Namibia	Postal Services
NamPower	NPW	Namibia	Power
Telcom Namibia	TNC	Namibia	Telecommunications
South African Airways	SAA	South Africa	Airline
South African Post Office	SAP	South Africa	Postal Services
Swaziland Water Services Corporation	SWS	Swaziland	Water and Sanitation
Telkom South Africa	TSA	South Africa	Telecommunications
Transnet	TRC	South Africa	Rail
Water Utilities Corporation	WUC	Botswana	Water and Sanitation

APPENDIX B: COMPARISON OF PERFORMANCE ACROSS FIRMS AND INDUSTRIES





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CHAPTER FOUR: DRIVERS OF ORGANISATIONAL PERFORMANCE IN STATE OWNED ENTERPRISES¹¹

4.1. Introduction

Despite the publicised inefficiencies and poor performance of State Owned Enterprises, or SOEs (Boko and YuanJan, 2011), compelling evidence suggests that SOEs remain relevant. Such relevance and popularity is more pronounced in developing countries, typically in sub-Saharan Africa where SOEs operate virtually in all sectors (Kikeri and Kolo, 2006). This is particularly so in the infrastructural sectors where huge capital requirements and low returns serve as a disincentive for the private sector (Bozec *et al.*, 2002). Given this importance and the central role SOEs play in developing countries, it becomes imperative to understand the factors that fundamentally drive their performance, yet this remains a poorly researched area in organisational science. Existing studies have taken a rather narrow focus in this field, concentrating mainly on the prevailing SOE inefficiencies while proposing alternative business models. Examples of these are Boko and YuanJan (2011), Elwel and Labonte, (2007), Mwaura, (2007), Kikeri and Kolo, (2006), Fritz and Menocal, (2006), Buchs, (2003). This approach taken by such studies, however, fails to contribute to a clear understanding of performance drivers in SOEs, which remains a critical gap. The clear understanding of factors that combine to influence SOE performance, which is the focus of this essay, is essential for any attempts to improve performance in these often strategic enterprises.

Whilst attempts have been made in the literature to explore those factors that drive organisational performance, such research work has adopted a generic perspective, which fundamentally fails to recognise the uniqueness of SOEs. Further, such studies (Putterman, 1993; Xu *et al.*, 2001; Stan *et al.*, 2013; Mwaura, 2007 and Shirley, 2013) have considered performance variables in isolation, whilst in a practical organisational setting ultimate

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performance is a product of many variables interacting with each other, an aspect which this essay addresses.

Various organisational theories have been relied on in explaining and predicting organisational performance. However, the extent to which such theoretical underpinnings can aid in the understanding of firm performance in the context of SOEs remains an unexplored area (Bozec *et al.*, 2002). In addition, the interplay of the various theories in explaining the performance of SOEs is a unique phenomenon often overlooked in research. The complexity of SOEs demands a broader based approach; by their nature they are a unique business model often modelled around political cycles (Toninelli, 2000). The inherent influence from politics often exposes such enterprises to a myriad of competing stakeholder needs (Heath and Norman, 2004). The agency problem and its impact on SOE performance is not as well understood from an SOE perspective (Li and Xia, 2007; Bolton, 1995). The problem is fraught with issues that make it difficult to comprehend and manage and these include: flawed governance structures (World Bank, 2006), ill-defined property rights, ambiguous objectives (Shirley, 2008) and weak managerial incentives (Bolton, 1995). Beyond placing blame for poor SOE performance and inefficiencies on political interference, existing studies have not provided consensus on what could be the fundamental drivers of performance in these enterprises. Such researchers include Hertog, (2010); Shaw, (2008); Mwaura, (2007); Hill, (1999) and Downs, (1957).

The SOE dominated African power sector is often characterised by deficient infrastructural development that fails to sustain desired levels of economic development (Davidson and Mwakasonda, 2003). Owing to prevailing inefficiencies and sub-optimal investment outcomes, sub-Saharan Africa electrification levels have been lagging behind, remaining below 30% by 2011 (Findt and Scott, 2011).

Although enterprises are affected by many different factors in their ordinary course of business, SOEs face a common phenomenon of political interference (Xu *et al.*, 2001; Mwaura, 2007), often with some obvious implications on their performance (Carney *et al.*, 2011). The precise impact of political influence on SOE performance varies from one geographical setting to another (Hellman and Schankerman, 2001). SOEs in less politically stable regions tend to display more strain, possibly with performance trends that become

almost inexplicable unless addressed in a dedicated study beyond the focus of this essay. Thus, the research direction pursued by this essay selects enterprises in countries that have sustained relative political stability over the study period. A number of studies have mentioned Botswana, Namibia, Mauritius and South Africa as countries that have enjoyed sustained stability in their politics during the period covered by this study (Zafar, 2011; Plane and Vencatachellum, 2009; African Economic Outlook, 2003; Matlosa, 2000). This essay therefore has selected the power utilities in Botswana, Namibia, Mauritius and South Africa.

The remainder of this essay is structured as follows: section 2 gives an overview of literature, followed by the methodology in section 3. The analysis and findings are presented in section 4, followed by the conclusions in section 6.

4.2. Literature Review

Governance has been cited as a factor with influence on firm performance (Putterman 1993; Nayyar 1990). Boards are often projected as stewards of good governance in firms, wherein they protect the interests of the shareholders against those of managers who tend to be blamed for pursuing self-interests (Carney *et al.*, 2011). Thus, according to the agency theory, the existence of strong boards is expected to drive good performance in a firm. However, two problems arise when such a view is applied to the SOE context, meaning that the relevance of the agency theory to SOEs is barely appreciated. First, the agent-principal relationships in SOEs are often unclear (Toninelli, 2000), and secondly, the corporate objectives (to be pursued by agents) are often too broad and vague, encapsulating both the social and financial perspectives (Aharoni, 1981). The broad nature of SOE objectives on the other hand derives from the nature of their stakeholders as these are often heterogeneous groups. This fact presents a further problem of compromised firm performance in pursuit of divergent stakeholder interests (Carney *et al.*, 2011). This line of argument is a direct criticism of the stakeholder theory which postulates that good firm performance arises from a reconciliation of various stakeholder interests (Freeman, 1994). Given their ownership structures, SOEs are often exposed to almost that type of unlimited political influence that comes with pronounced negative consequences on their performance (Cuervo-Cazurra and Dau, 2009). Thus, heightened political interference often associated with SOEs contributes to bad performance (Xu *et al.*, 2001). A good resource base is also

known to influence firm performance positively (Peteraf, 1993; Majumdar, 1996; Raza, 2010 and Hoskisson *et al.*, 2000), although the undue political interference in the administration of SOEs can substantially undermine such positive impact (Stan *et al.*, 2013; Xu *et al.*, 2001).

Organisational theory posits that organisations are rational institutions existing to serve human needs through the attainment of established objectives in the provision of utilities and products (Shafritz *et al.*, 2011). This tends to imply that the determination of the level of organisational performance is inherently linked to the extent to which human needs are met. However, this becomes a complex undertaking given that organisations are affected, influenced and pressured by their technical and institutional environments (Scott, 1998). This view of an organisation conforms to the broad theory that organisations are open systems with a tendency to depend on resource availability (Pfeffer and Salancik, 1978) and are affected by stakeholder preferences and related societal values (Meyer and Rowan, 1991). According to organisational theory, the dependence on resources exposes organisations to the will and discretion of those in power to control the resources (Hardy, 1996), and in the case of SOEs, this includes politicians.

Given these, certain organisational theories become prominent in the attempt to explain firm performance in the specific context of SOEs. These include the agency theory (Jensen and Meckling, 1976; Eisenhardt, 1989), the stakeholder theory popularised by (Freeman, 1994), the public choice theory (Niskanen, 1971; Tullock, 1976; Krueger 1990) and the resource-based theory (Hamel and Prahalad, 1994).

The agency theory has dominated corporate governance literature, and has been explained as applying to all settings based on an agent-principal relationship (Jensen and Meckling, 1976). The theory is premised on the agency problem which arises when firm managers (agents) pursue their personal interests which are at variance with those of the owners (principals). Several approaches have been adopted to deal with this problem, the most common being the appointment of boards of directors (Heath, 2009). In recent times managerial incentives and award of ownership stakes to managers have also increasingly become common (Raelin and Bondy, 2013). These approaches are based on the ability to identify principals and agents distinctively. However, when applied in the SOE context the

process of identifying the principals, or their representatives can be complicated (Toninelli, 2000). Who are the principals- the people, the government, the state or the ministers?

In most cases (typically in the power sector), SOEs tend to exist as natural monopolies for which an agency-principal approach becomes inappropriate as it breeds inefficiencies and managerial indiscipline (Worch *et al.*, 2013). Monopolistic environments are also known for encouraging information asymmetry, typically resulting from rent seeking managers who selectively disclose and manipulate business and industry data (Fremeth and Holburn, 2009; Goldeng *et al.*, 2004). The fundamental result of information asymmetry is chronic industrial inefficiency (Pamacheche and Koma, 2007), which in turn promotes poor performance at enterprise level.

As argued by Toninelli (2000) the agency theory has greatly influenced the architecture of modern day governance structures, which are however often seen as less effective in the context of the politically exposed SOEs (Mwaura, 2006). Political influence and interference often undermine enterprise performance through management and governance structured around political cycles, rather than being based on pure business rationale and commercial merit (see Mwaura, 2006).

In line with the agency theory, the following hypothesis is offered with respect to firm performance.

H1: Strong governance is positively linked to good firm performance.

From a resource-based theory perspective, organisations will perform better if they own and control those resources capable of driving sustainable performance (Wernerfelt, 1984; Barney, 1986). This capability can be leveraged if firms have the internal capacity to innovate strategies with an entrepreneurial mindset (Christensen *et al.*, 1987 and Raza, 2012). However, a study by Worch *et al.*, (2013) identifies high ambiguity in SOE objectives as a huge stretch to internal capabilities, often resulting in a capability gap. This is in agreement with an earlier finding by Spiller, (2010) that multiple objectives faced by SOEs are an important reason for performance deficiencies due to the capability gap. The capability gap results when there is an insufficient availability of competencies, skills and experiences within an organisation (Lavie, 2006) to pursue identified priorities. A further dimension, which is considered under the public choice theory, is that well-resourced SOEs

are often known for attracting higher levels of political influence (Mwaura, 2007). Nonetheless, the fundamentals of the resource-based theory influence the hypothesis below.

H2: The availability of adequate resources has a positive association with firm performance.

A stakeholder view of the firm demands that an organisation's existence be linked to the interests of its stakeholders (Jones and Wicks, 1999). An enterprise will excel if it balances the needs of all stakeholders (Freeman, 1994). SOEs face a wide range of stakeholders which Kamal (2010) divides into two broad groups: 1) the primary stakeholders comprising shareholders, lenders, consumers, employees, suppliers and managers; and 2) the secondary stakeholders, comprising the local community, the media, the government, special interest groups and the general public. A number of studies have found an intra and inter stakeholder group heterogeneity from which diverse but legitimate expectations are derived (Wicaksono, 2009; Donaldson and Preston, 1995; Aguilera and Jackson, 2003). Such diverse interests then become a source of confused priorities for SOEs which fail to strike an optimal balance in their attempts to pursue and satisfy these interests. The concept of a stakeholder approach has been largely motivated by a perceived moral deficiency of a purely shareholder approach (Boatright, 2006). It imposes a social obligation on SOEs which, however can be difficult to effectively institutionalise as it suggests broadened managerial responsibilities over a variety of secondary stakeholder groups. Hypothesis 3 is set out below.

H3: The more widely the interest stakeholder groups are considered in the administration of firms, the better the firm performance.

SOEs are exposed to political interference and influence at varying degrees, depending on their demographic existence and perceived level of importance in the socio-economic space. Under the public choice theory, politicians are depicted as rent seekers who will, depending on how effective mechanisms meant to monitor their performance are, act according to self-interest (Hill, 1999; Shaw, 2008). Given that executives and boards of SOEs are appointed by, or with the influence of political leaders (Xu *et al.*, 2001), their duty

to deal with political influence becomes a complex one. Political interference normally manifests itself through various effects, including SOEs run along geo-political lines as opposed to business rationale (Carney *et al.*, 2011). Such interference is known to undermine good corporate performance (see Hill, 1999) due to compromised governance practices and other costly non-economic politically motivated transactions.

Studies have suggested various forms of measuring such interference including: the extent to which key decisions are subject to vetting by the political leadership; the number of political directives in a year, and political representation on the boards of SOEs (See Bortolotti and Pinotti, 2008). A number of authors, including Xu *et al.*, (2001) and Bortolotti and Pinotti, (2008) have found such undue political interference in the governance and management of SOEs to be negatively correlated to good enterprise performance. Such a finding supports a conclusion by a variety of studies that the success of SOEs depends on lessened political influence (Xu *et al.*, 2001). Accordingly, hypothesis 4 is stated below.

H4: The higher the level of political interference in the administration of firms, the lower the firm performance.

Clearly, the literature on organisational theories depicts a level of tension amongst the theories which are reviewed from an SOE perspective. Resources drive performance, but also attract higher levels of political interference, which come in the form of politically motivated governance and management structures. The agency problem may not be effectively resolved in SOEs, given such political interference. A stakeholder-centric view imposes a burden of social responsibility which is almost impossible to institutionalise effectively if an optimal balance on stakeholder priority is not struck. This has been found to exacerbate the very same agency problems which agency theorists seek to resolve. Finally, so much depends on political influence, if self-serving politicians are in charge of resolving the agency problem, directing the use of resources and determining the stakeholder disposition of public enterprises.

The sub-Saharan electrified minority still faces complex problems including intermittent power supply, prohibitive pricing and constrained access to main grid lines. The generation capacity remains the lowest in the world and has been facing a stagnated growth (Eberhard,

2008). Various industry diagnostic research work has pointed to a glaring growth deficit which must be plugged if the 2030 target for full industrial power access is to be attained in the sub-Saharan Africa. A growth rate of 13% is required, but historical trends have stagnated at around 1.7% over the recent past decade (Bazilian *et al.*, 2012).

Whilst important milestones have been achieved around the world in the privatisation of SOEs, marked state participation in the sub-Saharan power sector continues to sustain the much desired industrial growth and economic performance, notably through the SOE business model whose performance remains central to the sectorial reform initiatives (Tallapragada, 2009). This could be because experience in Sub-Saharan Africa privatisation transactions shows that issues and pitfalls have not fundamentally changed since the early days of privatisation itself (Buchs, 2003), with only 2% of the African power generation having been privatised, with a meagre 6% of its distribution having been privatised by the 2000s (UNIDO, 2008). This phenomenon reveals the importance of the SOE business model in the very crucial power sector in Sub Saharan Africa for some time to come, hence the need to focus on its performance through the respective utilities.

However, the poor performance of such SOEs is a widely documented phenomenon (Boko and YuanJan, 2011; Xia and Chen, 2007; Elwel and Labonte, 2007; Kikeri and Kolo, 2006). Unfortunately, this widely publicised poor performance of SOEs is not accompanied by sufficient empirical evidence on what fundamentally drives SOE performance.

4.3. Methodology

4.3.1. Data

The study focuses on five countries whose power utilities have experienced very little to no degree of privatisation, and selects four such power utilities from the following countries: Botswana, Mauritius, Namibia and South Africa. Owing to the inherent linkages between political cycles and SOEs, the study focuses on these countries for their relative political stability during the study period. Given the monopolistic nature of the power industry in Africa, the study selected the only power utilities found in each of the selected countries, and so the study is based on four utilities. Data on the SOEs constituting the sample has predominantly been obtained from the audited annual financial statements and other

publicised annual reports of these entities. This is for a 20-year period spanning from 1994 to 2013. Thus, the study is based on a panel data of four utilities over a 20-year period across four countries, yielding 320 observations.

The audited annual financial statements provide quantitative data whilst the rest of qualitative information is available from narratives in the annual reports (e.g. the size of work force, strength of the board and its composition etc.).

4.3.2. Model Estimation

The researcher adopts the model proposed by Dewenter and Malatesta, (2001) and adopted by Bozec *et al.*, (2002). The regression mode is empirically estimated using the linear mixed model within the framework of longitudinal data analysis. The linear mixed modelling approach was selected for two main reasons: first, its flexibility in handling both time variant and time invariant variables in the model, and secondly the need to control for unobserved heterogeneity across the firms and countries (see Baltagi, 2001). This model is augmented by allowing for a vector of variables measuring organisational theories. The model is stated as:

$$Y_{it} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_{it} + \lambda(control) + \varepsilon \quad (1)$$

Where:

Y_{it} = the performance measure for SOE i at year t ;

$LIQdty$ = Liquidity;

$BODst$ = Board Strength;

$BODdiv$ = Diversity of the board in terms of stakeholder representation;

$GOVinv$ = Extent of Government's involvement in pricing decisions;

ε = Error term.

4.3.3. Measure of Performance

Various studies have measured performance in different ways, with some focusing on productivity and profitability. The current study, however, uses more broad based measures encompassing operational efficiency, productivity and financial performance. The study uses the following performance variables; profitability measure (gross profit margin), productivity (total factor productivity) and operational efficiency measure (gigawatts produced per employee).

SOE Performance (Y_{it}) is thus measured under three different models as outlined in Table 4.1:

Table 4.1: Description of models (performance measures)

Model	Description	Measurement
GPMG	Gross Profit Margin	$\left(\frac{\text{Sales Revenue} - \text{Cost of Sales}}{\text{Sales Revenue}} \right) + 1$
TPF	Total Factor productivity (Measured by the Solow Residual)	Let gY denote the growth rate of aggregate output, gK the growth rate of aggregate capital, gL the growth rate of aggregate labour and α the capital share. The Solow Residual is then defined as $gY - \alpha * gK - (1 - \alpha) * gL$. ¹²
GwhPE	Net Gigawatt hours sold per employee	$\left(\frac{\text{Net gigawatt hours sold}}{\text{Average number of employees}} \right)$

4.3.4. Choice of independent variables

This essay approaches the interrogation of performance drivers from an organisational theory perspective, borrowing from existing literature on generic variables known to drive firm performance.

Liquidity: In line with the fundamentals of the resource-based theory, which posits that resources have the capability to drive firm performance (Raza, 2012; Tan and Peng, 2003;

¹² Comin (2006)

Hamel and Prahalad, 1994; Wernerfelt, 1984). The literature suggests firm liquidity as a critical resource in influencing performance in the context of a generic enterprise (Al-Quadah, 2011; Tang and Peng, 2003; Singh, 1986, Bromiley, 1991; Hambrick and D'Aveni, 1988).

Government involvement in pricing decisions: From a public choice theory perspective, politicians, acting through functionaries of government, may exert influence in SOEs, often with a direct impact on organisational performance (Shaw, 2008; Hill, 1999; Downs, 1957). A number of studies suggest ways in which political leadership can hold on to controlling SOEs, and these include the signing-off of any tariffs and service levies proposed by SOEs (Lioukas *et al.*, 1993; Ramamurti, 1987a).

Board Strength: At the nucleus of good governance are independent corporate boards (Jan and Sangmi, 2016). The use of boards is often seen as a panacea for good firm performance by proponents of the agency theory (Raelin and Bondy, 2013 Jensen and Meckling, 1976), and this position derives from their perceived effectiveness in guarding the interests of the shareholders. However, having in place a board by itself is not a solution, rather, its strength weighs more in gauging the intended effectiveness in driving organisational performance. (Ongore and K'Obonyo, 2011; Wicaksono, 2009; Ross, 1973). While a number of factors have been proposed as possible determinants of board strength, the extent of skills diversity within a single board is a popular indicator (Toninelli, 2000; Wicaksono, 2009). A common skills set would combine finance, economics, Human Capital, Industry Specific and Legal, and the more these are present in a board, the stronger it is perceived to be.

Board stakeholder diversity: The proponents of the stakeholder theory are of the view that good firm performance arises from a reconciliation of various stakeholder interests in operating enterprises (Freeman, 1994). A number of factors are indicative of how an enterprise subscribes to the tenets of the stakeholder theory, amongst them is the extent to which the board composition draws from various stakeholder groups (Brenner and Cochran, 1991, Jones and Wicks, 1999).

Firm age and size: These have been suggested to have a bearing on firm performance (Lioukas *et al.*, 1993; Kim and Chung, 2008; Aivazian *et al* 2005) and as such, they are accounted for in the study.

Table 4.2 shows how each of the explanatory variables are measured. The table also depicts the theoretical underpinnings of the model as well as theoretical expectations.

Table 4.2: Definition of proxy independent variables

Variable	Theory	Measurers	Predicted relationships
Liquidity (LIQ)	Resource-based theory	$= \frac{\text{Current Assets}}{\text{Current liabilities}}$	Liquidity is positively correlated to good performance in line with the resource-based theory (Tan and Peng, 2003; Singh, 1986; Bromiley, 1991; Hambrick and D'Aveni, 1988; Chudson, 1945)
Government involvement in pricing decisions	Public choice theory	Score =1 if Tariffs are determined by government Score = 0 if tariff setting is regulated by an independent body	Higher levels of government (political) involvement are negatively correlated to performance in line with the public choice theory (Mwaura, 2007; Shaw, 2008; Anthony, 1957; Hill, 1999)
Board Strength	Agency theory	Assessed in terms of the following skills: i) power, engineering or related, ii) Financial management, iii) Environmental and social Management, iv) Legal, v) Human Capital Management Scores: 1 if 3 or more of the above, 0 if 2 or less	In accordance with the agency theory, the strength of the board, as measured by diversity of skills is positively correlated to performance (Ongore and K'Obonyo, 2011; Ross, 1973; Leech, 1986; Toninelli, 2000 and Wicaksono, 2009)
Board stakeholder diversity	Stakeholder theory	Assessed in terms of representation on the board from the following stakeholder groups: i) Public Sector, ii) Private Sector, iii) Civic Organisations, iv)	According to the stakeholder theory, a wider stakeholder representation on boards is positively related to performance. (Freeman, 1994; Brenner and Cochran, 1991, Jones and Wicks, 1999).

		<i>Legal, v) General Public</i> Scores: 1 if 3 or more of the above, 0 if 2 or less	
Age	Control Variable	<i>Number of years in operation</i>	Firm age is expected to be conversely correlated with profitability, but a positive correlation is expected between age and productivity. (Majumdar, 1997; Dogan, 2013)
Size	Control Variable	<i>Natural Logarithm of dollar value of capital assets</i>	Firm size is expected to display a positive correlation with profitability, but a negative correlation with productivity. (Majumdar, 1997; Dogan, 2013)

Three performance models are then estimated as follows:

$$\text{Total Factor Productivity} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_5 + \lambda(\text{control}) + \varepsilon \quad (2)$$

$$\text{Gigawatt Hours per employee} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_5 + \lambda(\text{control}) + \varepsilon \quad (3)$$

$$\text{Gross profit} = \alpha_1 + \beta_1 LIQdty_{it} + \beta_2 BODst_{it} + \beta_3 BODdiv_{it} + \beta_4 GOVinv_5 + \lambda(\text{control}) + \varepsilon \quad (4)$$

4.4. Analysis and findings

The descriptive statistics are presented in Table 4.3:

Table 4.3: Descriptive statistics

Variable	Minimum	Maximum	Mean	Std. Deviation
Gross profit	0	1.609	1.277	0.280
GWh per employee	0.7	4.1	1.959	0.881
Total factor productivity	0.020	1.016	0.340	0.241
Liquidity	0.5	4.94	2.250	1.177
Size	4.263	9.971	7.841	1.601
Age	23	90	51	19.343
	Score	Frequency		
Government involvement	High	50%		
	Low	50%		
Board Strength	Strong	50%		
	Moderate	50%		
Board stakeholder diversity	High	74%		
	Low	26%		

Note: Under 'Level of frequency', each of the individual variables is measured per the criteria set out in table 2.6 (page 36) and defined as either high or low as follows: High for a score of 1, and low for a score of 0.

The sampled utilities are significantly different in terms of efficiency, with a minimum gigawatt per employee at 0.7 against a maximum of 4.1. This huge discrepancy is reflected by a standard deviation of 0.88. On average, these utilities have been operating for the past 51 years, accumulating capital assets, generation and transmission capacity. Utilities that have been slow (due to a number of reasons) in increasing generation capacity and maintaining existing facilities will naturally achieve lower gigawatt hours per employee compared to those that have been actively doing so.

There is an even spread in terms of the extent to which governments are involved in tariff setting processes, reflecting a gradual shift towards eventually handing over the process to independent regulatory bodies who act on market forces. Such a gradual shift is compensated for by the same split in terms of board strength, which is presumably a critical factor in an environment of market forces. Interestingly, the involvement of a broader stakeholder base in the administration of SOEs is prevalent.

Table 4.4: Regression Results

	Productivity	Efficiency	Profitability
	(1)	(2)	(3)
	Total Factor Productivity	Gigawatt hours per employee	Gross Profit
Liquidity (Resource-based theory)	0.042 (0.001)	0.096 (0.020)	0.096 (0.000)
Board Strength (Agency theory)	0.168 (0.001)	0.391 (0.022)	0.203 (0.059)
Board Stakeholder diversity (Stakeholder theory)	-0.128 (0.188)	-0.582 (0.072)	-0.074 (0.714)
Government involvement in pricing (Public choice theory)	-0.128 (0.099)	-0.041 (0.873)	-0.007 (0.964)
Size (Control variable)	-0.164 (0.000)	0.236 (0.000)	-0.077 (0.036)
Age (Control Variable)	0.030 (0.000)	-0.052 (0.000)	-0.008 (0.041)
Diagnostic tests			
<i>No. of observations</i>	80	77	80
<i>F-stats</i>	41.77	26.26	10.79
<i>R²-within</i>	0.816	0.670	0.304
<i>Hausman tests</i>	84.24	157.65	21.11
<i>Prob>chi²</i>	0.000	0.000	0.002
<i>Estimators</i>	Fixed effects	Fixed effects	Fixed effects

The dependent variable is in column (1), **Total Factor Productivity (Solow Residual)** : Let gY denote the growth rate of aggregate output, gK the growth rate of aggregate capital, gL the growth rate of aggregate labor and α the capital share. The Solow Residual is then defined as $gY - \alpha * gK - (1 - \alpha) * gL$. In column (2), **gigawatts per employee** (total gigawatt hours sent out/ average number of employees). **Gross profit** in column (3) is computed as [(sales revenue-cost of sales)/sales revenue]. To eliminate negative values (for input into the statistical software), 0.91382 was added across to the nominal gross profit margin values. These dependent variables are regressed against four organisational theories based on pre-determined proxy variables; resource-based theory (liquidity, measured as current assets/current liabilities), agency theory (board strength measured in terms of assigned scores), board stakeholder diversity (variety of stakeholder representation on board measured by assigned scores) and public choice theory (extent of government's involvement in the tariff setting process). **Age and size** effects are controlled for by variables **age** (number of years in operation) and **size** (natural logarithm of dollar value of capital assets). p-values are reported in parentheses.

Following the standard procedure of testing for fixed and random effects, the Hausman test was performed across all three models, upon which the fixed effects model was established as being appropriate for all the three. The results of the Fixed Effects model are shown in columns 1-3 in Table 4.4.

4.4.1. Model 1: Gross Profit Margin (Profitability)

Under this financial performance model, performance is positively correlated with the liquidity and board strength variables, whilst it correlates negatively with the board stakeholder diversity and government involvement in pricing variables. This implies that, the more financial resources a firm has, and the stronger its board is, the better it will perform. The positive influence of firm liquidity on its firm performance has been credited because of its ability to assist enterprises to negotiate early payment discounts, and take advantage of opportunistic procurement, as well as negotiating better supplier terms (Tang and Peng, 2003; Leiblein, 1996). SOEs in the infrastructure sectors, power utilities in particular have substantial procurement spend, characterised by high trade creditor balances and massive supply contracts, and thus a good base of monetary resources has the ability to drive good financial performance.

The positive correlation between strength of the board and firm performance is consistent with the findings on generic literature, and this is mainly because boards bring to enterprises objective discipline, rare skills and a clear focus on core objectives (Ongore and K'Obonyo, 2011). However, such a finding is interesting in the context of SOEs in which boards are typically labelled as political appointees lacking the requisite expertise and objectivity (Mwaura, 2007; Bortolotti and Pinotti, 2008), neither are they often expected to focus on good financial performance (Shirley, 2008).

Both the board stakeholder diversity and government's involvement in pricing decisions are negatively correlated to financial performance, that is, the more governments intervene in pricing policies of SOEs, the less profitable the SOEs will be. Similarly, a wider representation of various stakeholders on SOE boards contributes to reduced profitability. In the case of board stakeholder diversity, although displaying statistical insignificance under the model, the finding seems to caution against the generalisation of the stakeholder theory consistent with its criticism, that SOE stakeholder interests are too diverse, often conflicting and at times difficult to define (Donaldson and Preston, 1995; Wicaksono, 2009; Heath and Norman, 2004). The negative relationship between the level of government's intervention in pricing decisions and financial performance confirms the hypothesis. In arriving at their final decisions, political leaders do not necessarily focus on financial

performance but rather on an often ill-defined criterion, harbouring personal rent seeking (Hill, 1999), although in some cases such criteria may be driven by wider societal considerations, often geared towards satisfying conflicting stakeholder interests (Carney *et al.*, 2011; Murdock, 2004).

4.4.2. Model 2: Gigawatt hours per employee (Efficiency)

When performance is measured in terms of efficiency, liquidity emerges as a driver for good performance. Adequate maintenance is cited as being critical for attaining optimal levels of power infrastructure (Mahmoudi *et al.*, 2014), and any utility needs sufficient liquidity in order to carry out maintenance on its infrastructure at adequate intervals. Given this relationship therefore, SOEs with lower liquidity would be expected to be less efficient.

As with the model 1, board strength is positively related to firm performance. This implies stronger boards can contribute to achieving better firm efficiency and this could mainly be by instituting objective discipline.

The board stakeholder diversity variable is only statistically significant under this model, where it displays a negative relationship with efficiency, i.e. SOEs with a wider stakeholder representation on their boards tend to be less efficient. A wider stakeholder representation on a board of a typical SOE means a wider range of conflicting interests with a substantially reduced scope for homogeneity in strategic focus and operational direction. Reconciling the interests of such heterogeneous stakeholder groups without compromising on efficient organisational operations is often an impossible balance to achieve in practical terms (Heath, 2004; Donaldson and Preston, 1995), thus such a finding is expected in the context of SOEs.

4.4.3. Model 3: Total Factor Productivity (Productivity)

The firm's liquidity displays a positive influence on its productivity, meaning that firms with adequate financial resources become more productive. Financial resources are often identified as enabling a firm to acquire optimal technologies, the requisite capital and skilled workforce, all which are critical drivers of productivity (Isaksson, 2007). Similarly, the relationship between board strength and firm productivity also emerges as a supportive one,

implying that strong boards influence the attainment of the right structures, optimal operating models and supportive infrastructure all which are credited with driving productivity.

An inverse relationship emerges between productivity and the level of government involvement in pricing decisions. Government's interference in setting utility tariffs often leads to lower than sufficient pricing (see Shirley, 2008), with a direct impact on the availability of factors that typically drive productivity, such as optimal technologies, requisite capital and skilled workforce.

The econometric estimates reflect firm liquidity as being positively correlated and statistically significant with respect to enterprise performance across all three models, signifying the importance of resources in driving performance. However, it is acknowledged that resources will support SOE performance if an entrepreneurial and innovative mind-set exists on the part of agents managing the entities (Christensen *et al.*, 1987; Raza, 2012) although this research did not bring this aspect into the model.

Given this positive relationship between resource availability and firm performance, the hypothesis that the availability of adequate resources has a positive association with firm performance is thus accepted.

Furthermore, the strength of boards of directors is found to be significantly and positively correlated to firm performance under the three performance models. Although a host of other considerations come into play in appointing SOE board members, the results underscore the importance of skill and capability in such boards.

Such a finding supports agency theory based postulations that strong boards are more effective in dealing with the agency problem and in aiding good overall performance. Thus, the hypothesis that strong governance is positively linked to good firm performance is accepted.

Board stakeholder diversity is statistically significant only under the efficiency based performance measure, where it displays a negative correlation. This implies that governance and operational structures which are biased towards wide attention to diverse stakeholder interests impact negatively on SOE efficiency. A number of previous studies have emphasised the role of stakeholder heterogeneity in undermining efficiency in SOEs

that attempt to satisfy all their stakeholder interests (Donaldson and Preston, 1995; Bozec *et al.*, 2002; Heath and Norman, 2004; Wicaksono, 2009). This would arise, for example as a result of inefficient allocation of economic resources towards addressing stakeholder interests without tangible business outcome (Post *et al.*, 2002; Simmons, 2004). This would in turn undermine the power of organisational resources to drive performance. However, the importance of stakeholders and their diverse interests should not be undermined, but rather it is the optimal balance between satisfying such interests whilst remaining sustainable that must be attained. This study therefore rejects the hypothesis that the wider the interest stakeholder groups are considered in the administration of firms, the better the firm performance.

The extent of government's involvement in the tariff setting process is significant only under the productivity model where a negative correlation with firm productivity is observed. Through undue political pressures, SOEs often engage in counter-productive ways of operating including maintaining excess staffing and idle capacity. Perhaps the distinction between acting in self-interest versus acting for the interest of the wider society (employment creation) becomes blurred when politicians derive personal benefit from pursuing interests of wider stakeholder spectrum, that is, political expediency. This view links back to the issue on stakeholder interests discussed earlier, that, whether pursued out of political pressure or through deliberate enterprise actions, diverse stakeholder interests are potentially detrimental to SOE performance if not well balanced. The theoretical perspective here becomes that the fact the Public choice and stakeholder theories is a combination with a potential to undermine SOE performance. Ultimately, the hypothesis the higher the level of political interference in the administration of firms, the lower the firm performance, is accepted.

The control variables, size and age are statistically significant across all three performance measurers, yet the direction of correlation differs. Size is negatively correlated with enterprise productivity and profitability, whilst positively correlated with efficiency. Whilst in a generic context larger firms may derive efficiencies from economies of scale (Dorgan, 2013), productivity would benefit from firm size depending upon the capacity of labour and the quality of intensive capital (Williamson, 1967). Unfortunately, larger SOEs are known for carrying aged capital assets and large pools of less motivated workforce. In terms of age,

older firms may exploit accumulated experience in order to be more productive. However, efficiency and profitability could be eroded by old plants which are poorly maintained and costly to operate.

In order to control for possible dynamism and ensure model robustness, this research also estimated a dynamic version of the model using the Arellano-Bond technique. The results of the dynamic model do not differ much from those of the static model. These are shown in Appendix 2.

4.5. Conclusion

This essay has investigated the fundamental drivers of performance of State Owned power utilities operating as commercial enterprises. This was done in the context of known organisational theories. The study adopted broad based measures of performance incorporating profitability, efficiency and productivity indicators. The study has revealed that good SOE performance could be explained by the agency and resource-based theories, as it found both strong boards and resource availability to be positively related to all forms of performance. The analysis also reveals that an unbalanced approach to stakeholder interests compromises SOE efficiency. Similarly, a higher level of government involvement in the operations of SOEs is detrimental to SOE performance, thus supporting the notions of the public choice theory.

This study provides some practical insights from both an administration and a policy perspective. First, it reveals the importance of ensuring adequate resourcing of SOEs. Whilst this may sound obvious, resources on their own may fail to drive performance if the boards in place are not sufficiently strong and optimally balanced in terms of stakeholder representation. In other words, appointments to SOE boards should strike a balance between the need for skill diversity and stakeholder representation. Political involvement in the administration of SOEs should be very limited. Rather, the focus of political involvement should be at a policy setting level, including matters concerning regulations. There is need for a regulatory framework supported by precise legal provisions that support restrained political interference in the administration of SOEs. In fact, such frameworks should aim at reinforcing government's ownership rights, and ensure that a good performance disposition is demanded from SOE executives.

This essay further contributes towards filling an important gap in organisational performance literature and it does so from two unique perspectives. The first is that it introduces an SOE-specific focus to the interrogation of organisational performance drivers; and secondly, it incorporates a concept of interrogating multiple performance variables in determining such drivers of SOE performance with the emphasis being on how the multiple variables interplay each other.

APPENDICES

APPENDIX A: Additional post-estimation results

Test for cross-sectional dependence (Parasan-CD test)

Model	Total factor productivity	Gigawatt hours per employee	Gross profit
Pr	0.713	0.792	0.433
Average absolute value of off-diagonal elements	0.167	0.206	0.264

Test for cross-sectional dependence (BP-LM test)

a. Total factor productivity

	_e1	_e2	_e3	_e4
_e1	1.000			
_e2	-0.0365	1.0000		
_e3	-0.2006	0.2961	1.0000	
_e4	0.1762	0.1310	-0.1644	1.0000

b. Gigawatt hours per employee

	_e1	_e2	_e3	_e4
_e1	1.000			
_e2	-0.1235	1.0000		
_e3	0.1735	-0.4209	1.0000	
_e4	0.0589	0.1500	0.3065	1.0000

c. Gross Profit

	_e1	_e2	_e3	_e4
_e1	1.000			
_e2	0.6944	1.0000		
_e3	-0.1133	-0.2433	1.0000	
_e4	0.0769	0.2356	-0.2212	1.0000

APPENDIX B: Dynamic Panel Estimation results (Allerano-Bond Technique)

Dynamic Panel Estimation results

	Productivity	Efficiency	Profitability
	(4)	(5)	(6)
	Total Factor Productivity	Gigawatts per employee	Gross Profit
Liquidity (Resource-based theory)	0.025 (0.043)	0.056 (0.080)	0.074 (0.006)
Board Strength (Agency theory)	0.139 (0.005)	0.222 (0.087)	0.120 (0.026)
Board Stakeholder diversity (Stakeholder theory)	0.085 (0.364)	-0.691 (0.004)	-0.065 (0.743)
Government involvement in pricing (Public choice theory)	-0.160 (0.030)	0.027 (0.888)	-0.118 (0.466)
Size (Control variable)	-0.117 (0.000)	0.115 (0.018)	-0.063 (0.083)
Age (Control Variable)	0.022 (0.000)	-0.020 (0.011)	-0.006 (0.181)
Diagnostic tests			
<i>No. of observations</i>	72	77	80
<i>Prob>chi²</i>	0.000	0.000	0.000

The dependent variable in column (1), **Total Factor Productivity** is computed as $AxK^\alpha xL^\beta$ (K = dollar value of capital assets, L= dollar value of employee costs). In column (2), **Gigawatts per employee** (total gigawatt hours sent out/ average number of employees). **Gross profit** in column (3) is computed as [(sales revenue-cost of sales)/sales revenue]. To eliminate negative values (for input into the statistical software), 0.91382 was added across to the nominal gross profit margin values. These dependent variables are regressed against four organisational theories based on pre-determined proxy variables; resource-based theory (liquidity, measured as current assets/current liabilities), agency theory (board strength measured in terms of assigned scores), board stakeholder diversity (variety of stakeholder representation on board measured by assigned scores) and public choice theory (extent of government's involvement in the tariff setting process). **Age and size** effects are controlled for by variables **age** (number of years in operation) and **size** (natural logarithm of dollar value of capital assets). p-values are reported in parentheses.

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CHAPTER FIVE: PERFORMANCE DRIVERS IN SOEs: BOTSWANA POWER CORPORATION (BPC) PERSPECTIVE¹³

5.1. Introduction

State Owned Enterprises (SOEs) are well known for poor performance and inefficiencies (Boko and Yuan Jain, 2011; Xia and Chen, 2007), but their relevance and importance remain uncontested. The importance of SOEs is evident in developing countries, including in sub-Saharan Africa (Elwel and Labonte, 2007), where they operate in virtually all sectors (Kikeri and Kolo, 2006). Despite their widely publicised poor performance, the literature on what fundamentally drives SOE performance is inadequate. By their nature, SOEs operate in a unique situation and this is often attributed to their ownership structures and ill-defined property rights. SOEs are typically saddled with geo-political driven deliverables of no tangible commercial outcomes (Carney *et al.*, 2011), including contradictory but legitimate expectations from a wide range of stakeholders (Freeman, 1994). This results in a tension that blurs the understanding of what fundamentally influences how SOEs perform, and this is the focus of this essay.

A wide array of variables is thought to drive SOEs performance, and these drivers include political factors, governance and management fundamentals, control of adequate and relevant resources and pursuing stakeholder interest. These drivers are quite often discussed as well within a contextual perspective to these drivers of SOE performance: access to strategic resources and the existence of competition (Stan *et al.*, 2013) has been associated with good performance displayed by many American SOEs. In China, restrained political involvement is a factor widely admired in SOEs (Xu *et al.*, 2001). More recent studies also identify slack as a possible driver of SOE performance (Stan, 2013; Liu *et al.*, 2013; Li *et al.*, 2013).

Management and directorship of SOEs have been found to be a key factor to consider in turnaround situations, wherein a change of boards and executive leadership was found to have significantly positive impact on firm performance (Maheshwari and Ahlstrom, 2004).

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Toninelli (2000) and Mwaura (2007) also observe significant vagueness in SOE objectives which they blame for breeding inefficiencies. The lack of clarity of SOE objectives is seen to be a result of the numerous stakeholders often with conflicting expectations and demands from SOEs (Shirley, 2008). SOEs inherently face a burden of satisfying a range of interests pursued by heterogeneous stakeholder groups, but with limited appreciation of what impact this undertaking has on performance.

From a generic perspective, performance contracts have become popular due to their perceived positive influence on organisational performance. However, empirical evidence on their effectiveness in SOEs remains rather inconclusive; a study analysing the effects of performance contracts on productivity and financial performance of SOEs in Ghana, Senegal, India, Mexico, South Korea and the Philippines found no positive correlation (Shirley, 2008). Perhaps this is not surprising; the success of performance contracts invariably hinges on a supportive governance framework, typically pro-agency theory whose effects become diluted with heightened political interference and the pressure to maximise social benefits often associated with SOEs (Mwaura, 2007).

From this discussion, it can be deduced that the following are drivers of organisational performance in the context of SOEs; restrained political influence, effective governance and management, control of adequate and relevant resources and a balanced approach to pursuing stakeholder interests.

Attempts to explain the poor performance of SOEs with generic organisational theories have also not yielded much consensus, with some of the theories depicting conflicting positions.

Theories that have been commonly referenced in explaining organisational performance include the agency theory (Jensen and Meckling, 1976; Eisenhardt, 1989), the resource-based theory (Wernerfelt, 1984), the stakeholder theory (Freeman, 1994) and the public choice theory (Niskanen, 1971; Tullock, 1976; Krueger 1990). Proponents of the agency theory have argued a case for effective boards as a foundation for dealing with the agency problem, whilst those supporting the resource-based theory emphasise the importance of resources owned and controlled by organisations in driving positive performance. The stakeholder theory holds that a good sense of existence for any organisations is underpinned by its stakeholder disposition and this would, among others be reflected by

stakeholder representation on boards, whilst the public choice theory associates political influence and interference with poor organisational performance.

Still, the application of such theoretical underpinnings to an SOE context has not been adequately explored in academic studies (Bozec *et al.*, 2002). However, such an interrogation remains key, given the extent of interaction of these theories in practical organisational settings, and even more so with SOEs, given their widely acknowledged uniqueness. The unique features of SOEs (heightened political influence, competing but legitimate stakeholder interests, flawed governance structures, the capability gap etc.) tend to imply tension amongst some of the organisational theories which can be best understood through a broad based-approach to academic inquiry. Such an approach will simultaneously interrogate a number of factors under the microscope of organisational theories, thereby dealing with the often overlooked but central question of how different organisational theories interact with each other to influence the performance outcomes of an enterprise.

Most of the studies on the subject of SOE performance, for example Nayyar, (1990); Putterman, (1993); Xu *et al.*, (2001); Stan *et al.*, (2013); Mwaura, (2007) and Shirley, (2013) analyse SOE performance factors in isolation. None of these studies adequately addresses the issue of SOE performance from a perspective of combined several factors. A similar deficiency is observed in studies that review the performance of African SOEs, with quite a number focusing on the effects of privatisation pressures and commercialisation (Godana and Hlatshwayo, 1998; Nellis, 2005; Nellis, 2005b; Adeyemo and Salami, 2008). Similarly, poor governance in African SOEs (commonly due to political interference) is a widely researched area, and many studies blame such governance for poor performance (Mwaura, 2007; Edoun, 2015; Balbuena, 2014).

While all these studies contribute significantly to the debate on SOE reforms, they do not offer much in terms of improving SOE performance without necessarily altering their ownership structures, yet this remains an important dimension, given that the positive effects of privatisation itself are yet to be proven by empirical evidence (Shirley, 2008).

This essay takes a much broader view in analysing and explaining how several factors interact with each other to influence performance. The essay considers governance, resource availability, political and stakeholder interactions. It does so in a context of

organisational theories which, when applied to an SOE setting, tend to display some degree of tension towards each other.

The study focuses on the electricity sector where the SOE business model is heavily relied on by almost all sub-Saharan African countries for the generation and transmission of electric power. Given the profound influence of socio-geo-politics on the governance (and ultimately on the performance outcomes) of SOEs, this study chooses an entity from a country in which relative political stability has been sustained over a long period of time. Thus, the case is based on the Botswana Power Corporation (BPC). The BPC has been in operation since 1970 and provides electricity to individuals and businesses spread throughout the country.

Despite a good performance history, by 2012 the BPC was nearing complete failure, heavily relying on government subventions to sustain core operations. During the four-year period of 2010 to 2014, the corporation barely satisfied the local power demand, mainly due to the dwindling plant availability rates and the prohibitively priced emergency power supplies. Such an operational performance background and history also make the BPC a unique case to study.

The rest of the essay is structured as follows: section 2 gives an overview of the BPC followed by a review of the relevant literature, and methodology in sections 3 and 4 respectively. Section 5 presents a detailed analysis, while section 6 concludes the discussion.

5.2. Review of the literature

In a generic context, performance incentives, the prevalence of the free rider problem and efficient performance monitoring are identified as determinants of organisational performance (Nayyar 1990; Putterman 1993). An SOE context, however, introduces a very distinct perspective with respect to performance objectives. SOEs are by nature saddled with both economic and social objectives, which potentially clash if not well managed. (Aharoni, 1981).

Quite often SOEs are exposed to a wide spectrum of stakeholders without a unifying corporate governance mechanism which monitors their performance (Stan *et al.*, 2013).

This, coupled with blurred agent-principal relationships has often exposed SOEs to political directives of no business rationale (Cuervo-Cazurra and Dau, 2009), yet at times such directives benefit a constituency of legitimate stakeholders (Shirley, 2008). Just as in any organisation, resources are identified as potential drivers of SOE performance (Bourgeois, 1981; Tan and Peng, 2003), although they are often diverted to pet projects for political expediency (Stan *et al.*, 2013).

The widely publicised success story of the Chinese SOE sector has been attributed to good governance (Aivazian *et al.*, 2005), the implementation of effective performance monitoring devices (Kole and Mulherin, 1997) and also as restrained political influence (Xu *et al.*, 2001).

A number of theories exist to explain all these factors in a coherent manner and these include the following: agency theory (Jensen and Meckling, 1976; Eisenhardt, 1989), stakeholder theory popularised by Freeman (1994), the stewardship theory (Donaldson and Davies, 1991; Donaldson, 1990; Barney, 1990), the public choice theory (Niskanen, 1971; Tullock, 1976; Krueger, 1990) and the resource-based theory (Wernerfelt, 1984).

At the nucleus of the agency theory is a principal-agent problem that arises when managers subordinate the interests of the owners in pursuit of their own. Unlike with privately owned firms, the extent of the agent-principal problem in SOEs is less appreciated (Qian, 1996). This is because private owners often have a single and well-articulated objective of wealth maximization, whilst SOE goals can be diverse, vague and conflicting (Shirley, 2008). A widely held consensus is that fundamental problems in the governance of SOEs explain much of their poor performance (Robinett, 2006), but the extent to which this can be resolved through pro-agency theory models is less clear. Private owners have often resorted to boards of directors in dealing with the agency problem. Managerialism, supported by adequate reward schemes, has also become a popular approach in privately owned enterprises (Raelin and Bondy, 2013). Although SOEs are adopting the same approaches in resolving their counterproductive governance problems, important limitations remain: managerial incentives are often weak (Bolton, 1995), performance objectives and measures are frequently ill defined (Toninelli, 2000), boards are in most cases constituted from politically connected individuals (Toninelli, 2000) and the shareholder is usually represented by politicians.

The agency theory has been criticised for its narrow focus on owners' interests (profit maximisation) to the detriment of those societal benefits which are supposed to accrue from enterprises (Carney *et al.*, 2011). SOEs, by their nature are not profit maximisers, but rather deliver on a wide array of objectives in a self-sustaining manner (Wicaksono, 2009).

Under the stakeholder theory, a firm's value disposition, managerial decisions and its situation are shaped by legitimate stakeholder expectations. Such a view supports a conclusion by Carney *et al.*, (2011) that organisations are a nexus of contracts. Thus, successful performance is dependent upon contracting with the right stakeholders based on their justified expectations. Although supported by research (Coff, 1999; Mitchell *et al.*, 1997), such a view it is based on an oversimplified perception that stakeholder groups are homogenous. In reality, stakeholders belong to groups with contesting interests, particularly in the context of the SOEs, given the broad expectations different groups have of them (Donaldson and Preston, 1995).

From a stewardship theory perspective, performance is driven by the existence of those organisational structures, including executive managerial capacity, that aid the formulation and execution of sound strategic plans (Donaldson, 1985). Such structures must provide clear and consistent role expectations, and must also authorise and empower senior management (Donaldson and Davis, 1991). Thus, in accordance with the stewardship theory, boards, whilst they play an oversight function, may not solely be credited for good enterprise performance. This creates a complementary perspective between the agency and stewardship theories supported by an observed shift in the relationship between the CEOs and boards from being supervisor-supervisee to a collaborative undertaking (Yang *et al.*, 2009).

Whilst the majority of the firm theories deal with the behavioural aspects of firm governance and management, the resource-based theory has taken a much wider view. The theory's proponents see organisations as bundles of resources which, depending on how these are uniquely combined, make one firm perform better than the next (Hamel and Prahalad, 1994). That calls for apt entrepreneurial ability, which Conner (1991) and Raza (2012) argue is essential for enterprise excellence. This view has been popular amongst other researchers (Grant, 1991; Makhija, 2003; Wernerfelt, 1984; Hoskisson *et al.*, 2000). In an enterprise

setting, business rationale dictates the acquisition and allocation of resources, with competition being an important stimulant of innovative thinking (Nahapiet and Ghoshal, 1998). This, however, does not always hold for SOEs, where resource allocation and application are both subjected to socio-political pressures beyond pure enterprise imperatives, (Xia and Chen 2007).

The public choice theory deals with the widely publicised political influence on SOEs. The theory is premised on the *homo-oeconomicus* assumption that politicians generally act collectively to exploit a system in advancing their individual interests (Hill, 1999). SOEs are prone to such exploitation as they are overseen by politicians. Such exploitation often comes in the form of biased legislation (Hill, 1999) and the abuse of resources and budget manipulation (Fudanga and Mwaba, 2006). However, the extent to which politicians can completely suppress a system for personal benefit varies by circumstances. Lack of voters' incentives to hold politicians accountable, and also voter ignorance, contribute immensely to the exploitation of SOEs by politicians (Downs, 1957; Shaw, 2008). The governance systems often expected to guard against political exploitation of are under the custodianship of the very same politicians and politically appointed boards (Mwaura, 2007).

Whilst the agency theory focuses on incentives and the allocation of decision rights among managers and owners (Carney *et al.*, 2011), the stakeholder theory tends to be socio-political centric (Fligstein, 2001). Thus, the agency theory seeks a governance model which leads to wealth maximisation of owners, whereas a stakeholder driven model incorporates the interests of society. This results in a balancing problem: can enterprises maximise wealth whilst at the same time delivering on societal benefits? Unfortunately, due to the dominance of the agency theory in corporate governance research work (Raelin and Bondy, 2013), the quest for good governance has concentrated too heavily on achieving wealth maximisation through managerialism. The defect of such an approach has been that other SOEs' specific counter-productive relationships are overlooked, such as the inverse relationship between political interference and the SOE performance (Xu *et al.*, 2001). Whilst resource-based theorists have argued that resources are a source of good performance (Grant, 1991), SOEs with vast resources tend to attract higher levels of exploitation by politicians for reasons of political expediency (Bozec *et al.*, 2002).

5.3. An overview of the Botswana power sector

The Botswana power industry has historically performed well in the sub-Saharan African context. Access to electricity by the rural population improved significantly from just 22% in 2000 to 55% in 2013 (BPC, 2013). This improvement has contributed to a growth of electricity consumption per capita to 1,406 kWh per annum by 2008, being amongst the top 20 in Africa (Tallapragada *et al.*, 2009). Power connection lead times in Botswana are 20-30 days, comparing favourably with an average of 35 days for the sub-Saharan Africa region (Tallapragada *et al.*, 2009).

However, by 2009 Botswana's power sector was seen as a major bottleneck to sustainable development, failing dismally to meet local power needs (BPC, 2009). Unprecedented power cuts and operational inefficiencies had become a norm (Garmendia and Pushak, 2011).

Prior to 2007, the BPC had remained the exclusive power generator, transmitter and distributor in the country. Supply gaps were met with imports from neighbouring countries. An amendment of the Electricity Supply Act was passed in 2007 to permit the licensing of independent power producers to generate power. However, the BPC retained the exclusive rights to purchase power from producers and distribute it to consumers.

5.4. Methodology

Gaining an in-depth understanding of how several variables combine to influence the performance of State Owned Enterprises needs to be examined within an ontological context. A case analysis approach presents the advantage of cutting through the complexities (Johansson, 2003) whilst maintaining originality and testability (Eisenhardt, 1989).

This essay analyses how a variety of variables have combined to determine patterns of performance at the BPC. This essay is primarily based on secondary data obtained from publicly available audited financial statements, annual reports, relevant statutes and policy documents. However, the study makes limited use of primary data collected through face to face and paper-based interviews with senior managers selected on the basis of their

involvement with core operations of the Corporation. These interviews were mainly for validation and clarification. The study focuses on a 15-year time period spanning from 2000, the year the Corporation's performance (by various measures) started an impressive upward trend which lasted up to 2005/06 when this reversed, reaching an all-time low in 2014. During this 15-year horizon, BPC went through phases which make the period an interesting one for this study.

5.4.1. Performance measurement variables

Firm performance is a widely researched area, but its measurement remains largely left to interpretation under a variety of settings. However, it is widely acknowledged that a more unifying approach to measuring firm performance would be one that consists of both financial and operational variables (Combs *et al.*, 2005; Venkatraman and Ramanujan, 1986). Despite the upsurge in popularity of financial measures of performance over the decades (Carton and Hofer, 2006; Richard., *et al.*, 2009), Cameron (1986b) has put forward a compelling case on the relationship between financial and operational measures, arguing that good financial performance logically precedes good operational performance. This view introduces the importance of focusing on industry-specific operational measures, combined with the generic financial measures in assessing organisational performance.

5.5. Discussion of findings

5.5.1. An overview of the BPC

The BPC was established in 1970 by an Act of Parliament, (BPC Act: CAP 74:01) with the objective of generating, transmitting, supplying and distributing electricity in the country. It is governed by a board of directors appointed by the minister responsible for energy affairs. The board comprises between six and eight members, including the chairperson. In making board appointments, the Act requires the minister to take into account the need to cater for the representation of key stakeholders.

Since 1970, the corporation has been gradually expanding in size (in terms of headcount, assets, areas of operation etc.) to the latest status, as indicated in Table 5.1.

Table 5.1: The BPC Selected Statistics as at March 2013

Statistic	Value
Number of employees	2,047
Asset size in USD'000	189,130
Number of countrywide customer service centers	24
Annual Turnover (USD'000)	227,000
Gross Expenditure (USD'000)	333,800

Source: BPC 2013 Annual Report

The BPC currently operates in all the 11 districts of Botswana in which it has a customer base of 300,000 individuals and institutions. The corporation has decentralised its sales, credit control, distribution and related technical and engineering functions. The rest of the corporate units remain centralised at its Gaborone^[14] based head office, where a team of nine executives leads four business units (Generation, Transmission, Distribution and Corporate Services) and five corporate support units (Human Resources, Finance, Audit, Legal, Strategy).

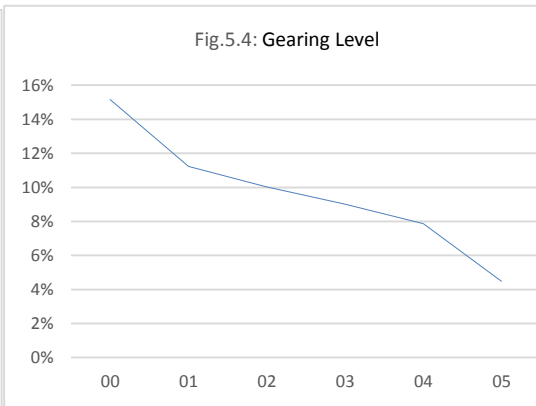
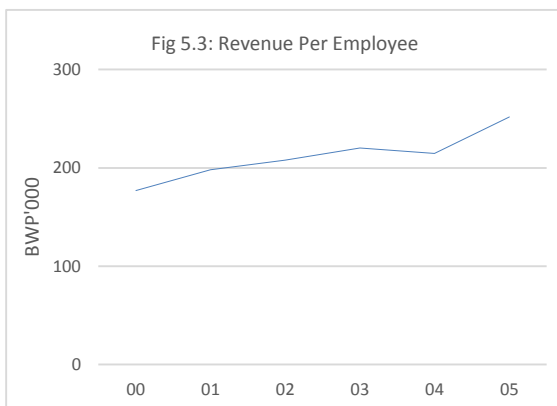
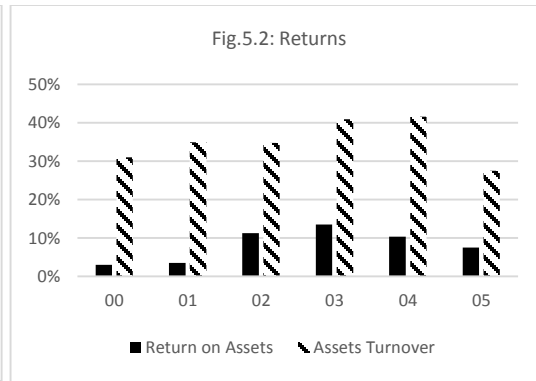
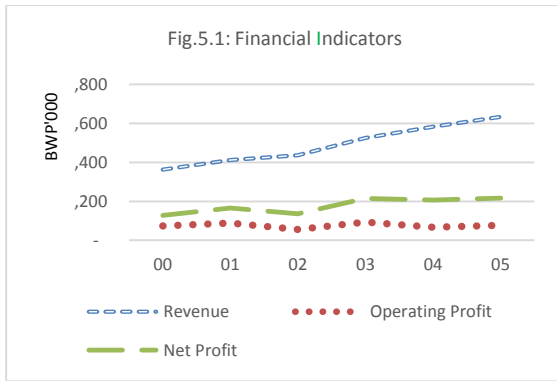
The analysis divides the 15-year-period covered by the study into two distinct but successive phases the BPC went through, i.e. the growth phase (prior to 2005) and the decline phase (post 2005).

5.5.2. The growth phase

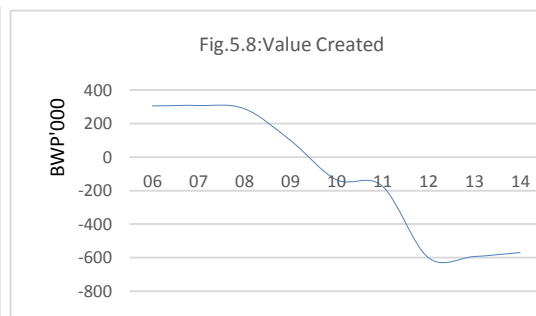
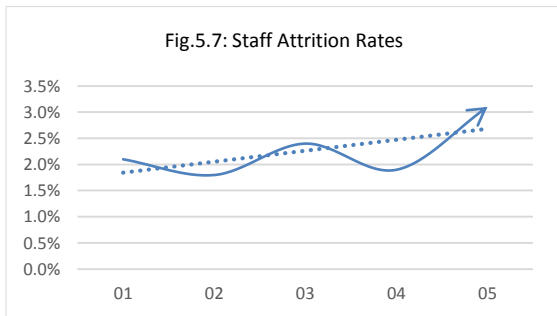
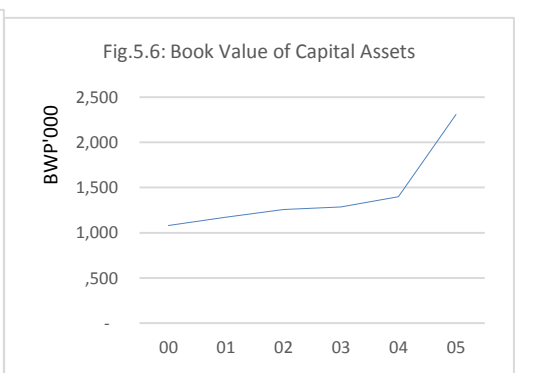
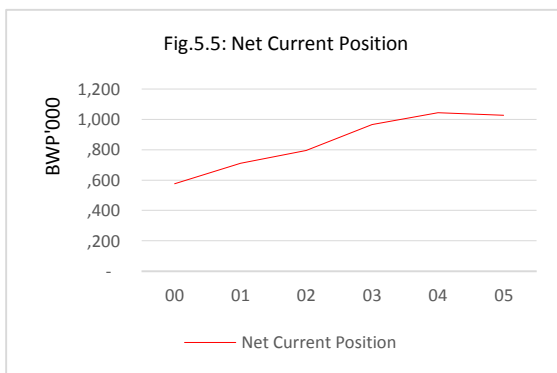
Figures 5.1 to 5.7 below depict the corporation's historical good performance as measured by a variety of indicators. ^[15].

¹⁴ Gaborone is the capital city of Botswana.

¹⁵ Monetary values are in the local currency, Botswana Pula (BWP), whose unit is the Thebe (t).



1617



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¹⁶ Total debt as a proportion of total capital employed

¹⁷ Current assets less current liabilities

¹⁸ Total revenue less primary costs and operational expenditures

The BPC has historically performed well, registering a gradual improvement in profitability which reached an all-time high of BWP216.6 million (USD36 million) by 2005 (see Figure.5.1). Revenue growth rates averaged 12% for the six years to 2005 compared to an average of 7.4% Gross Domestic Product growth rate for the same period [¹⁹]. Asset turnover, value created and return on assets gradually improved during the same period, with productivity as measured by revenue per employee (Figures. 5.1 and 5.3) also improving. The corporation's indebtedness was declining, with the gearing levels falling from 14% to as low as 5% by 2005 (Figure.5.4). The overall current position remained on a net asset (more current assets than liabilities), whose nominal value was on a consistent rise over the six year-period. (Figure 5.5).

The next section of the study interrogates what drove good performance.

Human and capital resources have been identified as a source of good firm performance (Grant, 1991 and Makhija, 2003). However, this should be supported by an enabling corporate environment, an entrepreneurial orientation and innovative thinking (Conner, 1991; Nahapiet and Ghoshal, 1998). The resource-based view emphasises on the importance of control and ownership of performance driving resources (Raza, 2010). The power industry has increasingly become capital intensive and technology based. Therefore, constant investments in intellectual capital are a prerequisite for success.

The BPC progressively invested in capital assets from 2000 to 2005, a period during which the asset book value grew by 113% (see Figure.5.6). Such investments were mainly in transmission and distribution infrastructure which by law [²⁰] are owned and controlled exclusively by the BPC. High quality transmission and distribution assets are associated with improved performance, reduced system losses, low repair and maintenance costs and also low fault levels. Investments in technologies were also made resulting in the book value of IT assets rising by over 70% within the six-year-period to 2005. Technological advancement supports efficiency and productivity. Human capacity development was a priority, with a fully-fledged training institute established in-house, offering a range of industry specific courses to a certification level. This is in addition to other staff development

¹⁹ <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries> (accessed on 23 October 2014)

²⁰ The Electricity Act of Botswana, No.1 of 1970

training initiatives (including executive development and graduate trainee programmes, staff exchange programmes). Such initiatives presumably contributed to staff motivation and satisfaction given the low attrition rate of just 3% on average for the six year-period to 2005 (Figure.5.7).

The BPC maintained healthy liquidity levels [²¹], averaging five times during the six-year-period to 2005²². This was mainly driven by high levels of cash held, thus aiding the corporation to obtain favourable trading terms from suppliers. The ability of liquidity to drive firm performance has been established by a number of studies (Tang and Peng, 2003; Singh, 1997; Bromiley, 1991; Miller and Leiblein, 1996; Hambrick and D'Aveni, 1988; Chudson, 1945). Thus, during the growth phase, the availability of resources (human, financial and capital) drove the successful performance to a large extent.

A wide ranging forum of stakeholders imposes legitimate, but conflicting interests on the operations of the BPC. Two schools of thoughts influence an organisation's disposition to its stakeholders. The first is that stakeholder interests are to be reconciled and satisfied in order to achieve good overall enterprise performance (Freeman, 1994; Brenner and Cochran, 1991; Jones and Wicks; 1999). The second, which is supported by Heath (1994), Donaldson and Preston (1995), Post *et al.*, (2002) and Simmons (2004), argues that stakeholder tensions are inherent in the heterogonous nature of stakeholder groups and so attempts to reconcile them become a fruitless exercise. During the six-year-period to 2005, the BPC seem to have subscribed to the latter school of thought: there was no stakeholder engagement strategy in place, resulting in a very narrow focus targeting only a handful of stakeholder groups. Board composition was biased more towards quality (skills and competence) rather than stakeholder representation. Corporate reporting [²³] focused on core operations (financial outcomes, delivery on core mandate and future expansion plans),

²¹ Measured as current assets/current liabilities. It is an indicator of the extent to which an entity can meet its short-term obligations from its short-term assets.

²² BPC annual reports, 2000- 2005

²³ Reviewed Annual Reports from 1999 to 2004

and key performance indicators were limited to financial and core operational measures, which were more internal in nature.

Whilst such a narrow approach is supported by some of the literature, it potentially collides with the fundamentals of the stakeholder theory itself as projected by policy makers and the political leadership who may favour a broad-based approach. Perhaps the BPC escaped this counterproductive trap due to the willingness of political leaders to limit their interference in the affairs of the corporation during the period of growth (see Xu *et al.*, 2001 and Bortolotti and Pinotti, 2008).

Still, a non-targeted approach to pursuing stakeholder interest is associated with poor performance, and BPC clearly avoided that route. Thus, a significant driver to good performance of BPC during the growth phase was deliberate segregation of stakeholder groups with a view to focus on stakeholder interests commensurate with sustainable performance objectives.

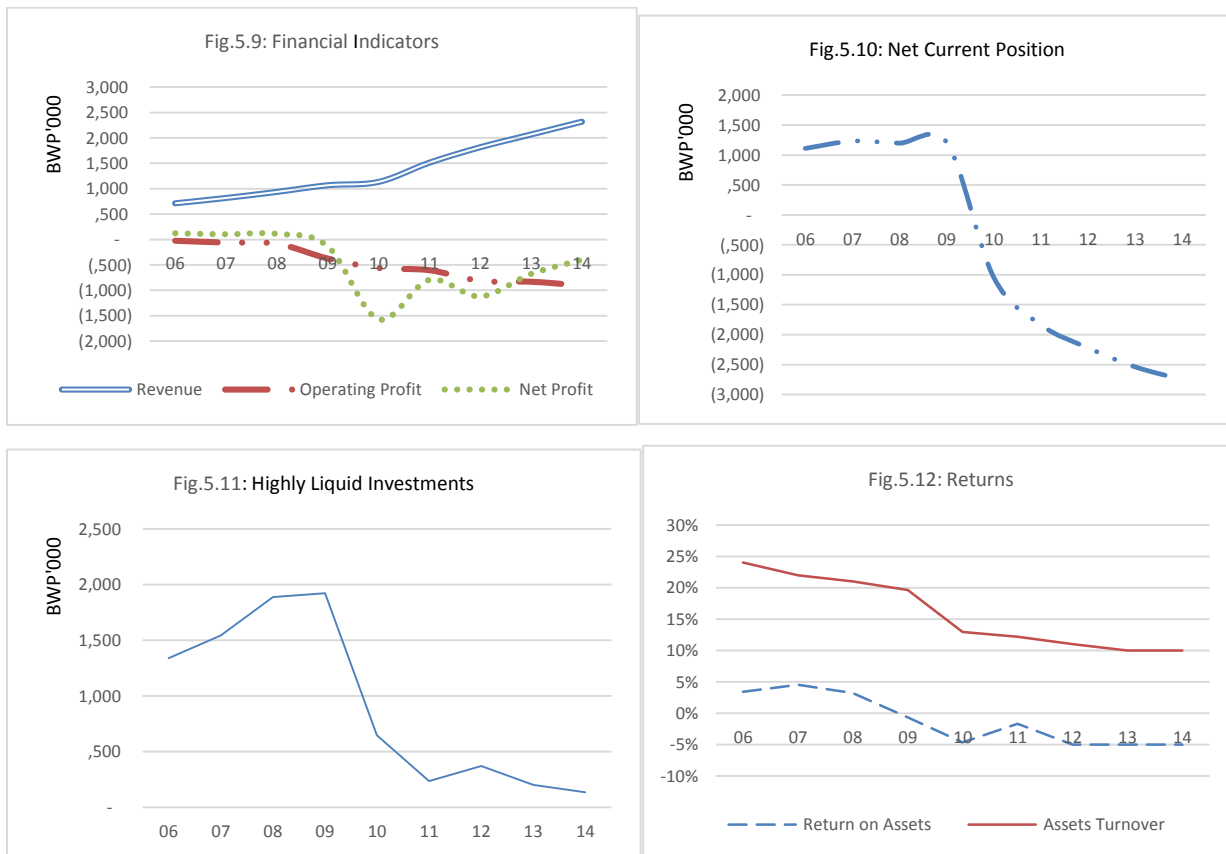
In addition to these factors (good resource base, lack of political interference and the existence of an effective board), the BPC had appropriately qualified and experienced managers across its units. Stewardship theorists have argued that good quality managers are not necessarily as opportunistic as they are taken to be by the proponents of the agency theory, but are instead an important variable in driving organisational performance. However, the existence of an enabling environment, based on established and respected structures and policies, is a prerequisite for good stewardship. For the entire period covered by the study, the BPC had in place minimum work experience and educational requirements for all management positions to ensure that the candidates employed were of the right calibre. A review of the corporation's human resources and operational guidelines reflects management as having adequate authority to plan, organise and execute the organisational mandate in accordance with the BPC Act as there is no provision for consultation with either the state or board on operational matters.

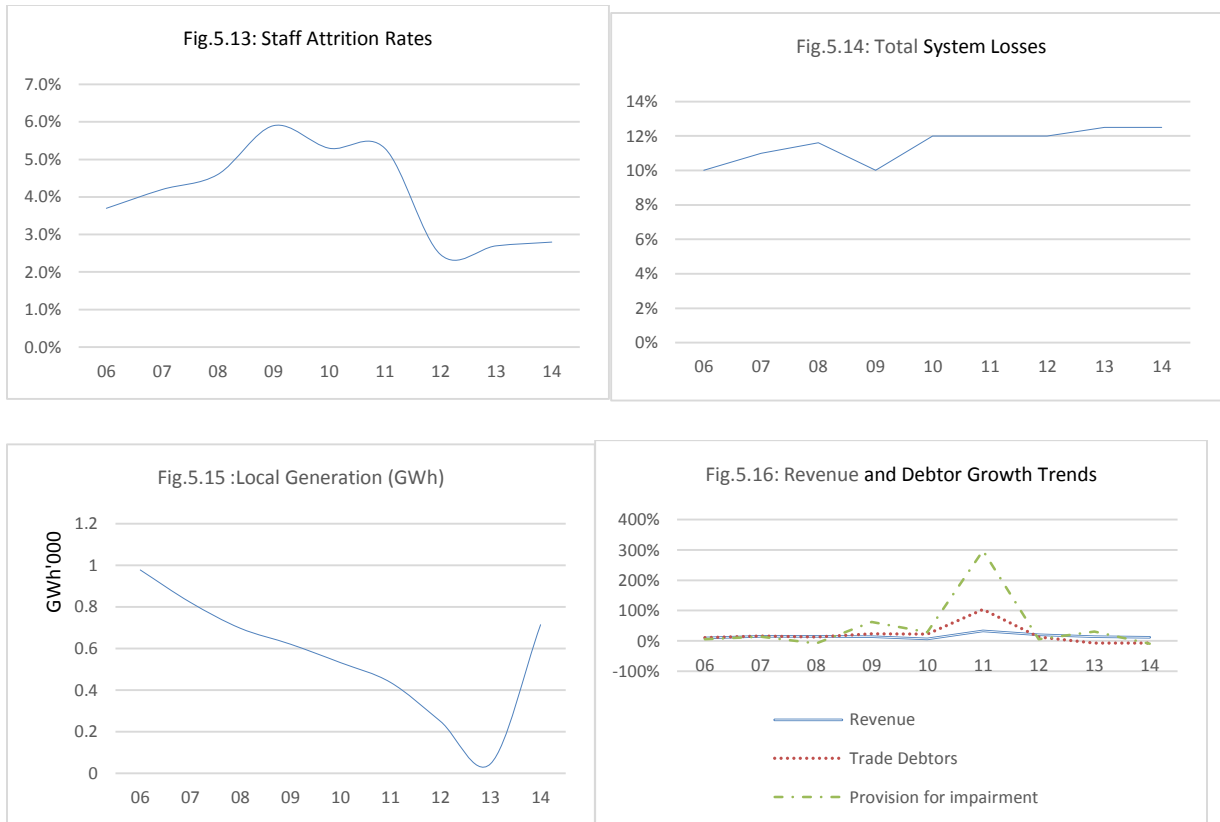
Quite clearly, BPC's growth phase was also driven by an experienced and appropriately skilled leadership, working in a conducive environment characterised by fair a performance management and reward system.

Ultimately, the agency and stewardship theories operated well with the resource-based theory to drive the positive growth, whilst the public choice theory was underplayed mainly due to a non-interfering political leadership. On the surface, it would appear that a narrow focus on stakeholders assisted in driving good performance, but a later chapter exposes the limitations of this.

5.5.3. The decline phase

The corporation's performance entered a phase of accelerating decline as from the 2005/06 financial year. Below are Figures 5.8- 5.16 depicting the BPC's performance trends during this phase.





Despite rising revenues, the BPC’s profitability started declining from 2006 when the first operating loss was recorded (Figure 5.9). However, for the three years to 2008 these operational losses were fully offset by high finance income which accrued from invested cash reserves. Unfortunately, a sharp decline in these reserves set in from 2009 (Figure. 5.13). Thus, the first net loss was recorded in 2009 and rose exponentially over the years to reach a historically high of BWP1.5 billion (USD201 million), with negative value creation figures being reported as from 2011 (Figure.5.8). The BPC’s main output (power generation) declined to its historical lows of 250 GWh (just 7% of the total power sold for the year, with the 93% covered by imports). Return on assets and assets turnover rapidly declined from 3% and 24% respectively in 2006 to -5% and 10% by 2012 along with a worsening net current liability of BWP 6.9 billion (over USD800 million) by the 2013/14 financial year (Figures 5.10 and 5.12). Staff attrition rates were on the rise as from 2006 reaching 6% in 2009 before declining to lower levels in subsequent years (Figure.5.13). However, this decline has been associated with a depressed global labour market arising from the 2008 financial crisis rather than from any circumstances specific to the BPC at that time.

Although very little to no political interference was established during the years prior to the period of declining performance, the effects of political directives were later more discernable and dominating throughout the period of declining performance.

At the crux of the BPC's declining performance were the non-cost reflective tariffs, which for some time had remained among the lowest in the southern African region (Tallapragada *et al.*, 2009). Meanwhile, the BPC Act [24] requires that the tariffs charged by the corporation must enable it to cover all costs. However, the government regulates tariffs, with final approval given by the minister responsible for energy, after consultation with the cabinet. The approval is given or declined on the basis of the submission from the BPC management, who compute the tariffs required for the corporation to operate in a self-sustaining manner. Table 5.2 reflects historical submissions along with outcomes.

Table 5.2: Historical outcomes on tariffs adjustment requests

Year	2002	2003	2004	2005	2006	2008	2009	2010	2011	2012	2013
Tariff awarded as submitted/ (Yes/No)	Yes	*	No	Yes	No	No	*	No	Yes	Yes	No

*Represents no evidence for requests

During the 11-year period to 2013, the BPC made requests for full cost recovery tariffs 10 times, but only four requests were approved. The rest were either partially approved or entirely rejected. In making decisions, the political leadership considers a wide range of dimensions beyond just commercial imperatives, including those of a socio-economic nature. For instance, whilst the BPC management may focus on ensuring the sustainability of operations through economic tariffs, such tariffs may be unaffordable to businesses and households, thus negating government's wider efforts to fight other social ills like poverty and unemployment.

Another school of thought stems from the public choice theory view that politicians are self-serving and the decisions they collectively make are for political expediency (Hill, 1999; Bozec *et al.*, 2002). Buchanan (2003) extended this theory to managers and government

²⁴ Section 17 of the BPC Act No. 1 of 1970

officials who, like voters, take decisions according to electoral cycles. A probable conformity to this line of thought is displayed through the decisions taken by both management and politicians possibly to comply with wider voter expectations. No evidence on tariff request by the BPC management exists for the year 2003, ahead of the 2004 general elections. A similar pattern is observed for the year 2009, where no adjustments were approved ahead of the general elections in October of the same year. Whilst partial adjustments were awarded in 2011 and 2012, following a consultant's recommendation for a multi-year tariff adjustment plan, the trend was broken in 2013 ahead of the 2014 general elections.

Ultimately, decisions made on the basis of socio-political considerations became a significant driver of declining performance, given the extent of ripple effects the decisions, particularly those to do with tariff adjustments.

The sub-economic tariffs had a noticeable ripple-effect on wide ranging areas, notably on resources on which the corporation had relied in the years prior to 2006. For instance, faced with costs escalating at a rate higher than revenues, reliance was placed on cash reserves to fund operational losses. This resulted in severe capital expenditure budget cuts, reduced maintenance expenditures, and a staff recruitment and salary increase moratorium as well as lower interest earnings. The effect of restrained capital expenditures was reflected on increased customer complaints and increasing system losses (Figure.5.14). Transmission system faults reached a peak of 311 by 2011 and this translates to loss of revenue (BPC Annual Report, 2011). The high failure rate at the generation plant further diminished the locally generated power (see Figure.5.15). The supply gap widened forcing the corporation to resort to highly expensive emergency power sources (diesel generated power, imported emergency supplies etc). The increase in staff attrition rates between 2006 and 2010 (see Figure.5.13) was possibly symbolic of a declining staff satisfaction. This would have been worsened by reduced training and development opportunities as reflected by trimmed staff development costs, which were a paltry BWP0.76 million (USD0.09 million) by 2014 compared to an average of BWP4.1 million (USD0.66 million) registered in the years prior to 2008^[25].

²⁵ BPC audited annual financial statements for year 2000 – 2013

Earlier on, this essay acknowledged and demonstrated the central role the resources owned and controlled by the BPC had played in driving its performance during the years prior to 2006. However, resources are a performance driver only to the extent to which they are sustained (Raza, 2010; Majumdar, 1996). Sub-economic tariffs, which were linked to political administrative process meant that the rate at which resources were being accumulated was diminishing, eventually leading to a depletion and deterioration of such resources.

The result was multi-faced; the corporation could not fund the much needed capital investments from internally generated resources, since these were being diverted to fund operational losses. Moreover, the ability to attract and retain talent was also impaired.

Much as a good base of BPC owned and controlled resources drove organisational performance on an impressive growth trend, the severe curtailment of such resources (aging equipment, lost talent, depleted cash, etc) became a significant driver of the decline in performance.

Despite the existence of a strong board and competent stewards, the corporation could not sustain its performance due to either depleted or significantly impaired resources. Since the deterioration of the resource base resulted from an event directly linked to a political process, an important question arises regarding the ability of both the management and the board to influence such a process effectively for the benefit of the enterprise. It would seem that they were either unable or simply unwilling to do so for several reasons. Most importantly, BPCs stakeholder engagement was unclear and, if anything, too narrowly focused, hence there was not a formal mechanism of reacting to stakeholder interest induced pressures in a manner that would not compromise enterprise performance. The narrow stakeholder focus itself has the potential to attract political interference.

Ultimately, the agency and the stewardship theories cannot explain good enterprise performance in isolation from the resource-based theory. Above all, the public choice theory superseded over other theories. A further crucial consideration is that an undue focus on a very narrow stakeholder base can be viewed as myopic and against the broader SOE corporate objectives, but an indiscriminate attempt to satisfy all interests could be detrimental to long-term sustainability. Therefore, a framework based balance is necessary.

5.5.4. Key responses to the deepening crisis

As a means of turning around the corporation, various aspects were overhauled and radical changes introduced through a new business model which came into effect in 2007. Central to the changes was a redefinition of the corporation's mission, vision and values which were made more responsive to the needs of a broadened stakeholder base.

A 'corporate turnaround strategy' was formulated to serve as the cornerstone of crisis response. Its key aspects are outlined in Table 5.3.

Table 5.3: An outline of the BPC Corporate Turnaround Strategy

Broad theme	Typical choices and actions	Theory alignment
Cash generation and preservation	<ul style="list-style-type: none"> • Ramping up tariffs • Obtaining revenue grants from government (through subsidising tariffs) • Selling off non-core assets • Cost cutting across budget lines, including no adjustment to salaries 	Resource-based
New business generation	<ul style="list-style-type: none"> • Selling excess fibre optic capacity to third party telecommunications operators 	
Business process re-engineering	<ul style="list-style-type: none"> • System integration and interface • Increased debt collection 	
Business process re-engineering	<ul style="list-style-type: none"> • A re-organisation of the value chain • Staff rationalisation • Reformulation of the organisational structure 	Stewardship/Agency
Enhanced human resource performance	<ul style="list-style-type: none"> • Job profiling and redesigning 	Agency/Resource-based

	<ul style="list-style-type: none"> • A new staff performance management and monitoring system • Contracts for senior management 	
Improving stakeholder relations	<ul style="list-style-type: none"> • Debtors and creditors • Government (shareholder) • Communities • Restatement of Mission and Values 	Stakeholder

The broad themes of the Turnaround Strategy were influenced by four theories: the resource-based, stewardship, agency and stakeholder theories. From a resource-based view, additional cash, being a primary source of liquidity (Hoskisson *et al.*, 2000), was to be raised through the disposal of non-value adding assets and savings accruing from re-engineered business processes. New business lines were to bring in additional revenue.

The work of the stewards was enhanced by means of a re-organised value chain with more authority being delegated to business line executives and senior managers. Influenced by an agency theory perspective, the board introduced management contracting alongside a revamped performance management system.

To support the visibly widened stakeholder focus, a theme specifically dealing with improving stakeholder relations was incorporated into the Turnaround Strategy, aiming to depart from the narrow focus disposition noted in the earlier years.

Table 5.3 depicts a leadership which saw the importance of, and the need to prioritise resources (mainly human and financial) in an effort to turnaround the declining performance. This signifies the importance management placed on skills, revenues, cash and related resources in driving performance. Governance also received attention, wherein executive performance contracts were introduced.

Although a slowdown in the deterioration of certain performance measures (profitability, value creation and return) is observable as from 2012 (see Figures 5.8 to 5.12), a widely held sentiment was that the results of the turnaround strategy were not as intended. The possible reasons are analysed from different theoretical perspectives.

Earlier on it was argued that a careful balance is required in managing stakeholder interests, failing which performance is compromised (see Heath, 2004). The stakeholder aspects of the strategy contained some fundamental flaws which impacted on performance. Improving stakeholder relations introduced lenience towards debtors through a more relaxed credit control policy. Customers with overdue accounts were given an option to negotiate extended settlement periods beyond the established 15-day period free of penalties. This compounded into a growing debtor book characterised by increasing impairment provisions (Figure 5.16). Meanwhile, improving relations with creditors entailed enforcing shorter creditor days. Extended debtor days combined with shorter creditor days imposed an obvious strain on the corporation's working capital.

The stakeholder centric strategy also saw the BPC buying into a multi-year tariff adjustments (as opposed to steep and decisive adjustments). However, due to the affordability consideration, the adjustments consistently fell below the requisite levels, with a compounding effect on the cost-tariff gap.

Unfortunately, a defined stakeholder strategy only confirmed the downside of the stakeholder theory, that is, a pursuit of divergent stakeholder interests has a negative impact on firm performance (Shirley 2008). A weak credit control framework, increased scope for political interference and socio-political orientated financial planning practices among others are key components of the BPC defined stakeholder strategy, and these prove to be significant drivers of performance deterioration.

Whilst from a stakeholder perspective the BPC identified the government as a key stakeholder with whom relations had to be improved, the public choice connotations attached to government ownership were not sufficiently addressed. The fundamental issue of the separation of ownership rights from matters of regulation (for example: setting of tariffs and decisions on investments) were not explicitly built into the Turnaround Strategy. Thus, the political leadership continued to exercise ownership powers to cater for broader societal interests, but with unintended consequences on the corporation's performance patterns.

Whilst the stewards and the board of the BPC had identified a telecommunications business as a potential revenue generator, given the excess optic fibre capacity the corporation owned, the political leadership, acting in the interest of the rural area based stakeholders,

directed that the corporation venture into an unprofitable, but worthy business of providing solar-based heating and lighting solutions. The viability of this entity was in doubt right from inception, with a 100% impairment provision against its value on the BPC books on its first year of operation (BPC Annual Report, 2011).

Ultimately, management intentions were not fully realised mainly as a result of pronounced political interference and the related insistence on socio-economic aspirations at the expense of sustainability. Once again, more resources were lost (including key skills), and too few could be attracted and created. Thus, the implementation of the turnaround strategy was in itself flawed as key drivers of success were lacking, these being adequate resources owned and controlled, skilled workforce, minimised political interference as well as a targeted approach to pursuing stakeholder interests.

Fundamental issues arise from the post-turnaround era of the BPC, being the lack of clarity of the SOE objectives, relationships between the SOE and the government, the balancing of stakeholder interests and the regulation of political interference and influence. It is a fair assumption that these are the critical issues upon which the success of this strategy relied.

From an agency theory perspective, agents and the board would have delivered well on their objectives, provided corporate goals were clear. A balanced and well thought-out approach to stakeholder interests would have provided better guidance on how to service the different societal segments. From a public choice perspective, the discord between political directives and corporate performance would have been avoided by a combination of two factors: 1) clear SOE objectives; and 2) a regulated framework of relations between the government and the SOE.

5.6. Conclusions and policy implications

This essay presents a new perspective on how various organisational theories combine and compete to influence the performance of an SOE. The perspective is drawn from analysing qualitative and quantitative data from the BPC over a 15-year-period. The analysis discerns and explains fundamental performance drivers in the context of some popular organisational theories.

It reveals that the resource-based, agency and stewardship theories combine well to explain the positive performance of the BPC. An uncoordinated focus on the stakeholder theory connotations contributed to poor enterprise performance. On the other hand, an excessively narrow focus potentially clashes with the public choice theory. This calls for a careful choice of stakeholder interests to cater for in the normal course of business. Nonetheless, the public choice theory predominates others, with a potential for undermining the performance if the SOE-government relations are not governed in a well-articulated framework that regulates political interference and influence.

This case reveals that an SOE's opportunity for enhanced performance is realised when its relations with the government are clearly defined, with regulatory matters separated from ownership rights. Different stakeholders' rights need to be approached with different models, for example, through service contracts between the state and the SOE.

Given the expansive nature of the objectives of SOEs, the analysis supports a case for a broadened view of the agency theory to reconcile traditional shareholder-centric interests with those of the wider society. Such a societal-shareholder approach to the governance and administration of SOEs would further contribute to the crafting of a balanced approach to the stakeholder engagement. Similarly, the narrow self-interest view of the public choice theory is challenged as the case demonstrates a residual societal benefit arising from political intervention, beyond the much publicised self-serving nature of politicians.

Formal remuneration perks of SOE managers are often linked to public sector salaries. There exist various ranges of other fringe benefits such managers enjoy, and these are often industry-specific and in most cases informal. Given the proven ability of strong reward systems in resolving the agency problem, a unique opportunity exists to formalise the otherwise informal perks and make up for the depressed managerial reward schemes in SOEs. Such a practice would enhance the position of SOEs in attracting high quality human resources from the labour markets to run successful SOEs in an environment of performance contracts and suitable reward schemes.

The non-economic objectives of SOEs are often too important to be overlooked, but they are in most cases responsible for the collapse of SOEs. A solution lies in subjecting SOE investments and operational initiatives to a sustainability hurdle, below which the state has

to contract and bear the costs of sub-economic but crucial investments on an arm's length basis.

Similarly, separating state politics from SOEs has proven to be almost exclusively a theoretical undertaking with no practical reality. Political influence on SOEs, typically through the government is not necessarily undesirable, but is a phenomenon that needs to be regularised through an appropriate regulatory framework monitored through supervisory boards. The state influence has to be limited to matters of policy, whilst independent boards hire competent senior managers to drive the operational strategies of SOEs in a sustainable manner. SOE objectives, once clearly defined and contracted to by the state and boards, through appropriate performance contracts should guide effective resource allocation in relation to an order or priority.

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CHAPTER SIX: PERFORMANCE OF SOEs: EVIDENCE ON THE BOTSWANA TELECOMMUNICATIONS CORPORATION²⁶

6.1. Introduction

This essay uses an African case study to examine drivers of State Owned Enterprises performance. SOEs continue to maintain a strong presence in Africa, particularly in the sub-Saharan Africa where they operate virtually in all sectors (Kikeri and Kolo, 2006). SOEs dominate infrastructural sectors in which heavy capital requirements serve as a disincentive

²⁶ Accepted for publication and forthcoming in the International Journal of Social Economics

for private investors in the less developed world (Bozec *et al.*, 2002), it is therefore not surprising that their relevance and importance remain largely uncontested (Boko and Yuanjan, 2011).

Despite this, the poor performance of SOEs is a widely publicised subject (Villalonga, 2000; Fudanga and Mwaba, 2006; Mwaura, 2007). Such a chequered history of performance has sparked wide-ranging debates which in turn have informed variations to the SOE business model that governments continue to explore and implement, notably privatisation which has become the most popular alternative over the past decades (Bozec *et al.*, 2002). Unfortunately, a number of studies have not been conclusive on the effectiveness of such alternatives as a solution to poor SOE performance (Villalonga, 2000). On the contrary, more conclusive studies have shown that SOEs can improve performance without necessarily changing ownership structures (Aivazian *et al.*, 2005; Etukudo, 1997; Bozec *et al.*, 2002; Moushibahou, 2010). This then questions the validity of the generalised view that there is something inherently wrong with the SOE business model. Rather, an emerging view could be that SOEs do perform well if adequate attention is given to the right variables of good performance. However, there is insufficient understanding of what combination of variables could positively influence the performance of SOEs and this essay seeks to contribute to an enhanced understanding in this respect. This work takes an SOE specific focus in identifying a combination of factors (amongst these are the governance related, political involvement, resource availability and stakeholder disposition), each considered in the context of organisational theories that need to be an area of focus if SOE performance is to be improved without an element of privatisation.

Organisational performance is often analysed and predicted in the context of certain popular organisational theories. Still, a direct application of such theories to the unique case of SOEs in a quest to explain their often meagre performance has not yielded much consensus. The unique case of SOEs calls for special attention to be given to how these theories combine with each other to ultimately determine a performance trend.

Various organisational factors have been relied on in explaining and predicting organisational performance including: the agency theory (Jensen and Meckling, 1976; Eisenhardt, 1989) through effective boards, the resource-based theory (Wernerfelt, 1984)

wherein organisations own and control strategic resources, the stakeholder theory (Freeman, 1994) through stakeholder-centric board appointments and also the public choice theory (Niskanen, 1971; Tullock, 1976; Krueger 1990) through undue political interference.

However, the extent to which such theoretical underpinnings can aid the understanding of firm performance in the context of SOEs remains an unexplored area (Bozec *et al.*, 2002). In addition, the interplay of the various theories in explaining the performance of SOEs is a unique phenomenon often overlooked in research, and consequently, most studies have relied on single theories in interrogating organisational performance. However, the complexity of SOEs demands a broader based approach; by their nature they are often uniquely modelled around political cycles. Restrained political involvement and a good aptitude of the boards have been identified as key enablers for enhanced performance amongst hundreds of Chinese SOEs (Xu *et al.*, 2001), while more recent studies have identified slack as a critical success factor for SOEs (Stan, 2013; Liu *et al.*, 2013; Li, Peng and Macaulay, 2013).

SOEs by their nature operate in a distinctive setting often characterised by political influence, competing but legitimate stakeholder interests and flawed governance structures. This setting tends to imply a tension between some popular organisational theories such as the public choice, stakeholder and the agency theories. Although performance contracts are widely recognised for their positive influence on organisational performance, the empirical evidence on their effectiveness in SOEs is inconclusive. A study analysing the effects of performance contracts on productivity and financial performance of monopolistic SOEs in Ghana, Senegal, India, Mexico, South Korea and the Philippines found no positive correlation (Shirley, 2008). Perhaps this is not surprising: the success of performance contracts invariably hinges on a supportive governance framework, typical of the pro-agency theory where effectiveness is diluted with heightened political interference and the pressure to maximise these social benefits often associated with SOEs (Mwaura, 2007).

Most of the studies (Nayyar, 1990; Putterman, 1993; Xu *et al.*, 2001; Stan *et al.*, 2013; Mwaura, 2007; Shirley, 2013) and many others have analysed SOE performance factors in isolation. None of these studies adequately addresses the issue of SOE performance from a perspective of combined several factors. A similar deficiency is observed in studies that

review the performance of African SOEs, with quite a number focusing on the effects of privatisation pressures and commercialisation (Godana and Hlatshwayo, 1998; Nellis, 2005; Nellis, 2005b; Adeyemo and Salami, 2008). Similarly, poor governance in African SOEs is a widely researched area, for which many studies blame this for poor performance (Mwaura, 2007; Edoun, 2015; Balbuena, 2014).

While all these studies contribute immensely to the debate on SOE reforms, they do not offer much in terms of improving SOE performance without necessarily altering ownership structures of SOEs, yet this remains an important dimension, given that the positive effects of privatisation itself are yet to be proven by empirical evidence (Shirley, 2008).

This essay takes a holistic approach in analysing SOE performance. The approach involves identifying a combination of the notable organisational factors which are public choice, stakeholder, resource-based and the agency theories which together assist in the explanation of SOE performance.

The sub-Saharan Africa telecommunications sector presents an interesting picture to study. The sector has experienced an unprecedented growth over the last decade, mainly fuelled by rapidly changing technology, deregulation and convergence. Annual telecommunications infrastructure investments have surged from USD 2.7 billion in 2000 to USD 12 billion a decade later (Moshi *et al.*, 2013). Despite the promising picture, investment outcomes into the sector in Africa have been sub-optimal (Esselaar *et al.*, 2007) particularly those managed by SOEs (Moshi *et al.*, 2013). Nonetheless, two classes of SOEs emerge from this picture: SOEs that have performed very well and those that have not performed so well. This essay chooses a case of good performance to investigate the factors underlying such a result.

This study selects a country of relative political and economic stability for its case. Botswana has gradually effected progressive and exemplary telecommunications policy reforms during the last two decades (Esselaar *et al.*, 2007; Monnane, 2003; ITU, 2014). The country's largest telecommunications operator, the Botswana Telecommunications Corporation (BTC) remains an SOE. Partly reacting to industrial reforms, the corporation has over the past two decades gone through different dimensions in terms of strategy, structures, and business focus, thus making it a good case for this study.

The rest of this essay is organised as follows: Section two presents a literature review followed by an overview of the Botswana telecommunications sector in section three. Section four covers methodology followed by the analysis and conclusion in sections five and six respectively. References are listed in section seven.

6.2. Literature review

Nayyar (1990) and Putterman (1993) suggest three aspects that influence SOE performance. These are corporate incentives, efficiency in monitoring mechanisms and the economy-wide free rider problem. Faced with two distinctive dimensions of performance, i.e. financial and social (Aharoni, 1981), SOEs in theory are owned by, and report to a wide spectrum of stakeholders without a unifying corporate governance mechanism which monitors their performance (Stan *et al.*, 2013). This does not only create a gap in their performance drivers, but also results in undue political exposure (Cuervo-Cazurra and Dau, 2009). Resources are also identified as potential drivers of firm performance if these are applied to adapt to business imperatives (Bourgeois, 1981; Tan and Peng, 2003), although this proposition is challenged in the SOE sector, as critical resources are often diverted to pet projects (Stan *et al.*, 2013).

Although the majority of the existing literature has outlined the inefficiencies prevalent in SOEs, the empirical evidence from the success story of Chinese SOEs has suggested the following factors as contributing to their successful turnaround: good internal governance structures (Aivazian *et al.*, 2005), availability and implementation of effective performance monitoring devices (Kole and Mulherin, 1997); and minimised political intervention (Xu *et al.*, 2001).

Broader policy issues have also been frequently referred to in explaining good SOE performance, typically privatisation and commercialisation (Bozec *et al.*, 2002 and Villalonga, 2000). Quite interestingly though, there is still no empirical evidence to support conclusively the much publicised positive effects of privatisation (Shirley, 2008), but rather SOEs have shown noticeable improvements in performance in periods leading to privatisation and not necessarily thereafter (Aivazian *et al.*, 2005; Etukudo, 1997; Bozec *et al.*, 2002; Moushibahou, 2010). Such an ability of the privatisation pressure to influence

good performance in turn supports the views of Villalonga, (2000) that good SOE performance can be achieved, given a focus on the right factors.

The preceding discussion reveals the relevance of the following organisational theories to the debates on SOE performance; the agency theory (Jensen and Meckling, 1976; Eisenhardt, 1989), the stakeholder theory popularised by (Freeman, 1994), the public choice theory (Niskanen, 1971; Tullock, 1976 and Krueger 1990) and the resource-based theory (Wernerfelt, 1984).

The existence of the agency problem is widely acknowledged (Jensen and Meckling, 1976; Haugen and Senbet, 1981; Etukudo, 1997; Toninelli and Levy, 2001). The problem emanates from an agent-principal based context, where principals engage agents to run enterprises, only for the latter to pursue self-interests which often conflict with the performance goals of the principals (Ross, 1973). Consequently, entities that effectively deal with this problem stand to perform better than those which do not. The literature has suggested a number of mechanisms to achieve this, including: the appointment of effective independent boards, managerial performance incentives and awarding ownership stakes to management (Rosenstein and Wayatt, 1990; Agrawal and Knoeber, 1996; Shirley, 1998; Heath, 2009; Raelin and Bondy, 2013). Still, corporate governance literature does not adequately address the uniqueness of SOEs from the perspective of resolving the agency problem (Toninelli, 2000); which involves problems with identification of the principal (Li and Xia, 2007), inadequacy of managerial incentives (Bolton, 1995), vague performance goals (Toninelli, 2000), and governance structures which are tied to political cycles (Toninelli, 2000).

Perhaps a deficient aspect in the agency theory is that it over-emphasises internal behavioural aspects of the firm, and ignores pertinent issues in the outside environment. As a result, the external influences exerted by various interest groups are passed over whereas in reality, the management and administration of SOEs is largely exposed to a myriad of stakeholder demands (Agguilera and Jackson, 2003).

The issue of stakeholders and their interests in enterprises is addressed under the stakeholder theory (Freeman, 1994). According to this theory, better organisational outcomes are achieved if the legitimate interests of all stakeholder groups are considered when crafting business and operational strategies (Freeman, 1984; Wood and Jones, 1995; Armah *et al.*, 2009). However, SOEs often have to deal with a wide range of stakeholder groups with conflicting interests almost impossible to reconcile (Heath, 2004). Seemingly homogenous stakeholder groups are often made up of heterogeneous subjects (Carney *et al.*, 2011) with divergent but legitimate interests. Several authors such as Donaldson and Preston, (1995) and Wicaksono, (2009) have accepted that, contrary to the generic fundamentals of the stakeholder theory, good performance of SOEs is eroded in chasing too many conflicting stakeholder interests.

The public choice theory on the other hand projects politicians as self-serving individuals who thrive on the weaknesses of mechanisms meant to monitor their performance (Shaw, 2008). The theory is premised on the homo-oeconomicus assumption that politicians are social rent seekers acting collectively to exploit a system (Hill, 1999). In an enterprise context, the dominance of the public choice theory connotations has been found to be dependent on how well organisational systems and structures permit or prevent the realisation of individual preferences at the expense of corporate performance (Hill, 1999).

SOE governance and management structures are often exposed to political processes, typically boards and CEOs who are appointed through political offices. This then creates doubt as to their ability to deal effectively with political manipulation, and reflects the importance of political will in minimising interference (Xu *et al.*, 2001; Bortolotti and Pinotti, 2008). Market liberation and independent industry regulation are often important steps in demonstrating such a will (Bortolotti; Pinotti, 2008). However, politicians have been blamed for a catallactic approach to industry regulation (Hill, 1999) under which the motive is to craft legislation that favours and further political interests, although doubt has been expressed as to the extent to which such an approach is achievable (Hertog, 2010).

From a resource-based view, good organisational performance results from a good combination of high quality resources and internal innovative capacities (Wernerfelt, 1984). Thus, resources include tangible capital assets as well as those skills and managerial

competencies that a firm acquires over time (Hoskisson *et al.*, 2000). Two key pre-conditions are necessary for leveraging on resources for better performance and these are sustainability of, and control over those resources (Nahapiet and Ghoshal, 1998; Raza, 2012). An SOE's ability to control resources and apply them in a sustainable manner is a matter often exposed to political determination (Bortolotti and Pinotti, 2008), as the very same resources are often abused for political expediency (Mwaura, 2007).

In the ultimate analysis, the agency theory provides a cornerstone conceptual framework on which firm governance is based. Thus, the quest for effective boards and willingness of principals to incur monitoring costs has been perceived to ensure agents pursue the owner's interest. Such interests in SOE context remain less clear due to the wide ranging and often ambiguous corporate goals and this often impacts negatively on available resources. Most importantly, SOEs operate in a politically exposed environment, and as such, their governance models and their resources are often at the mercy of politicians, who at least from a public choice theoretical view point, may push for seemingly counterproductive agendas.

6.2.1. An overview of the Botswana telecommunications sector and BTC

6.2.1.1. The Botswana Telecommunications Sector in brief

Historically the telecommunications industry was operated and regulated through the public sector until the formation of a specialised SOE (BTC) in 1980, which took over all the aspects of operations. BTC operated as a monopoly offering mainly fixed line telephony, but with a limited range of other services which included switchboard technologies and fax-based services.

A telecommunications policy was introduced in 1995 to address 'a growing unsatisfied demand for telecommunications services in both urban and rural areas and among businesses as well as households'²⁷. Three national goals influenced the architecture of the telecommunications policy, namely: universal service, efficient services and regional

²⁷ The Telecommunications Policy for Botswana, December 1995. Ministry of Work, Transport and Communications

balance. At the nucleus of the policy were the modalities of liberalising the telecommunications industry on the basis of efficiency induced competition, transparency, fair regulation and separated powers for industry operation and policy formulation. Following the adoption of the telecommunications policy, parliament²⁸ passed a Telecommunications Act in 1996²⁹ establishing a telecommunications regulatory authority, the Botswana Telecommunications Authority (BTA)³⁰. Its functions included³¹ overseeing market competition, tariff setting, the safeguarding of customer interests and sector supervision. BTA was to be led by a board of five members appointed by, or with the consent of, the government through the ministers responsible for telecommunications, finance and trade³². The initial capital for the authority was provided by the government, whilst subsequent operational costs were funded through licence fees payable by telecommunications operators.

Due to a need to broaden the scope of telecommunications regulation in the country, the 1996 Telecommunications Act was replaced with a Communications Regulatory Act³³ in 2012. Under the new Act³⁴, the BTA changed its name to the Botswana Communications Regulatory Authority (BOCRA) with an expanded mandate over the regulation of telecommunications. The size of the board of the new regulatory body was expanded from five to seven and powers to appoint members were restricted to the minister responsible for communications³⁵.

6.2.2.1. An overview of BTC

BTC was established as a monopoly in 1980 through an act of parliament³⁶ to 'provide, develop, operate and manage Botswana's national and international telecommunications

²⁸ Under Botswana laws, the Parliament, which is made up of elected members of the National Assembly (each representing a constituency) is the law-making body

²⁹ Telecommunications Act, No. 15 of 1996

³⁰ Section 3, Telecommunications Act, No. 15 of 1996

³¹ Section 17, Telecommunications Act, No. 15 of 1996

³² Section 4, Telecommunications Act, No. 15 of 1996

³³ Communications Regulatory Act No.19 of 2012

³⁴ Section 95, Communications Regulatory Act No.19 of 2012

³⁵ The new act omits the definition of the minister; it is not clear if this is by error.

³⁶ Botswana Telecommunications Act No.3 of 1980

services'. As a result of the 1996 market liberalization, BTC faced indirect competition as from 1998 when two mobile operators were issued licences to operate. These were Mascom Wireless (Pty) Ltd and Vista Cellular (now Orange Botswana (Pty) Ltd). The two operators however relied on transmission links provided exclusively by BTC which still remained in the fixed line telephony as the sole provider.

In 2004 a further market liberalisation lifted the restriction on the provision of Voice Over Internet Protocol (VoIP) and permitted mobile operators to self-provide transmission links. This led to a marginal loss of revenue to BTC. In 2007 BTC was issued a Public Telecommunications Operator (PTO) license thus permitting it to enter into the mobile telephone market, which it successfully completed in 2008, with the launch of a 100% owned mobile network operator, Be mobile (Pty) Ltd.

BTC is governed by a board of directors appointed on a merit basis by the minister responsible for communications. The five to seven member board is led by a chairperson appointed by the minister, who also appoints a Chief Executive Officer. There is a provision for three sub-committees of the board, namely Finance and Audit, Human Resources and Tender committees, made up of members of the main board, but with an option to co-opt independent members. Under the current management structures, the corporation has five executives.

The corporation has over the years operated under dynamic structures and strategies which have evolved with time in response to the dynamics of the industry itself. To date BTC remains one of the few SOEs in Botswana that have sustained long periods of good performance (Botswana Budget Speeches, 2005, 2007, 2010, 2014, 2015), and has achieved significant growth over time. Below is a summary of selected statistics of the corporation as at the end of its 2012 financial year (31st March 2012):

Table 6.1: BTC Selected Statistics as at 31st March 2012

Statistic	Value
Number of employees	1,246
Total Access lines	142,000
Asset size in USD'000	0.27 billion
Annual Turnover (USD'000)	0.13 billion

Source: BTC 2012 Annual Report

BTC fares comparatively well against its privately owned competitors in terms of a number of indicators including billing errors, network reliability, superior financial performance and competitive pricing and product packaging. However, BTC marginally lags behind in fault response times and slow bandwidth connectivity, while it remains at par with competition on call set-up success and network availability rates, averaging 95% and 99% respectively³⁷.

6.3. Methodology

Gaining an in-depth understanding of how several variables combine to influence an SOE's performance needs to be examined within an ontological context. A case study approach presents an advantage of cutting through the complexities of each case (Johansson, 2003) whilst maintaining originality and testability (Eisenhardt, 1989).

This essay adopts a descriptive approach in analysing a variety of factors that have combined to determine fundamental patterns of performance at the BTC. The analysis is primarily based on the data obtained from publicly available audited financial statements, annual reports, relevant statutes and policy documents. However, this was supplemented by questionnaire based interviews with senior officials in the finance and strategy divisions, mainly to validate the views formulated from secondary sources of data. The interviews were conducted during a time of collating and conducting an initial analysis on data collected from secondary sources.

³⁷ Source: Botswana Telecommunications Authority (BTA) Annual Reports. BTA is the telecommunications industry regulator formed in 1996. In 2013 it changed its name to the Botswana Communications Regulatory Authority (BOCRA) following an enactment of a 2012 act of parliament which broadened its scope.

The study considers an 18-year period spanning from 1995 to 2012. The year 1995 marked the beginning of extensive changes in the telecommunications industry, prompting gradual but comprehensive organisational transformation within the BTC, lasting until 2012 when the corporation was ushered in for a privatisation initially scheduled for 2013. This makes the period 1995 to 2012 an interesting one for the study.

6.3.1. Performance measurement variables

The concept of firm performance has attracted a variety of views in the field of organisational science. A broad consensus, though, has been that a more reflective approach is one which incorporates both financial and operational measures (Ketchen and Bergh, 2005; Venkatraman and Ramanujan, 1986). As a result of universality and precision revenues, profitability and a range of business ratios (including the return based) have emerged as very popular financial measures across various studies (Carton and Hofer, 2006; Richard *et al.*, 2009). On the other hand, there is a potentially valid argument that operational performance is an antecedent of financial performance (Cameron, 1986b). For this reason, operational performance measurers need to be specific to the industry and firm.

Given the broad nature of factors outlined as influencing SOE performance, studies in this subject have adopted a wider spectrum of performance measurers, and in line with the literature, these often incorporate both financial and non-financial aspects (e.g. Aivazian, *et al.*, 2005; Bozec, *et al.*, 2002; Li and Xia, 2007). This essay adopts broad performance measurers covering financial (revenue and profitability) and non-financial outcomes (access lines per employee and staff development). The selection of non-financial measures in particular is influenced by the non-financial performance goals of SOEs.

Specifically, the study selects the following measures:

Table 6.2: Performance Measurers

Performance Measure	Description
Revenue	Total income from core operations
Profitability	Net income before Interest ³⁸
Revenue per employee	Total income from core operations/average number of employees
Assess lines	Average number of customer lines
Access lines per employee	Average number of access lines/ average number of employees
Revenue per asset	Total income from core operations/average assets (in Pula amounts)
Key business ratios	Earnings per share, Return on Equity,

Since the study considers a continuous 18-year period, the analysis is based on year on year trends. The qualitative data collected is used to explain theoretical underpinnings as follows:

Table 6.3: Variables and underpinning theory

Theory	Factors considered
Agency	<ul style="list-style-type: none"> • Board effectiveness, relationship between board and management, Experience, qualifications and attendance record of board members • Performance management and measurement mechanisms in place (including management contracts) • Reward schemes in place
Resource-based	<ul style="list-style-type: none"> • Liquidity, asset base, strategic licenses (and other intangible resources)
Stakeholder	<ul style="list-style-type: none"> • Extent of stakeholder diversity in boards • Stakeholder focus in crafting business and operational strategies • Nature of non-economic transactions
Public choice	<ul style="list-style-type: none"> • The link between political choices and corporate goals • The legal and regulatory environment • Extent of political directives in company operations • Level and nature of consultation with Ministry authorities in resource allocation and price setting • Nature of non-economic transactions

³⁸ BTC is a tax exempt enterprise.

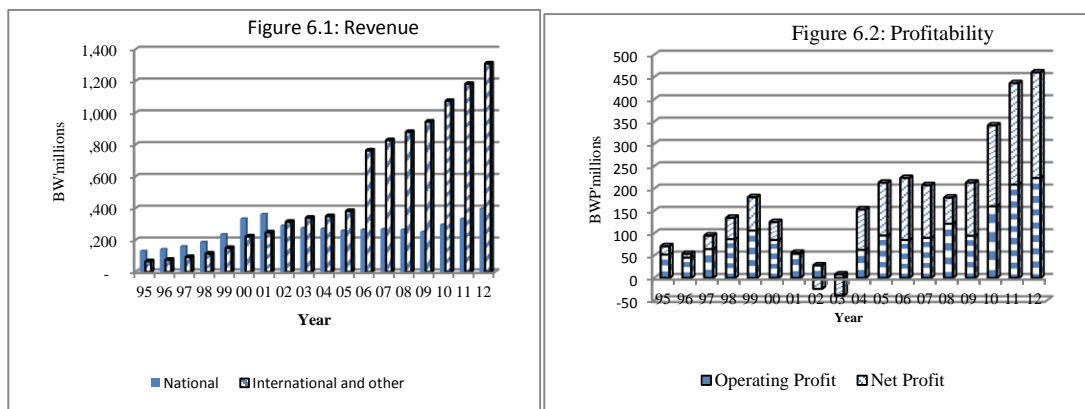
6.4. Analysis

6.4.1. Enterprise performance

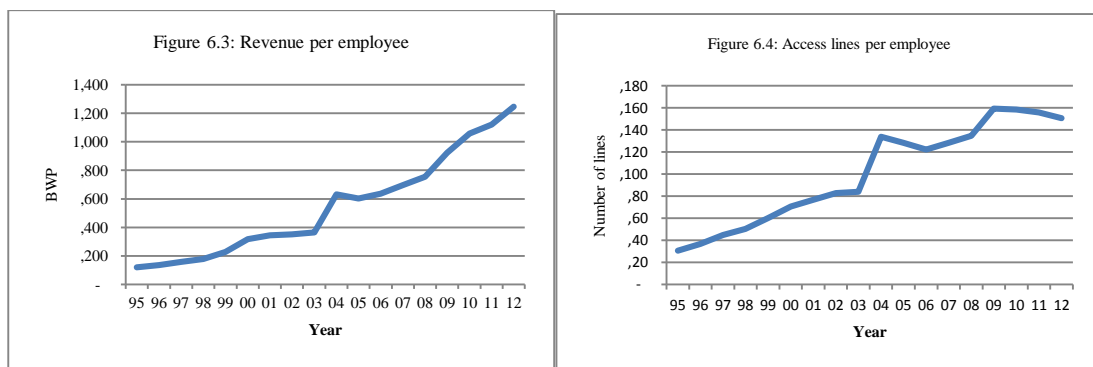
Examination of the BTC case, is aimed at determining which theoretical postulations best explain the good performance that the corporation has been able to sustain over time. In doing so, the study extends the analysis beyond BTC operations to consider salient issues which came with the 1995 telecommunications policy and its resultant industrial regulations which started in 1996.

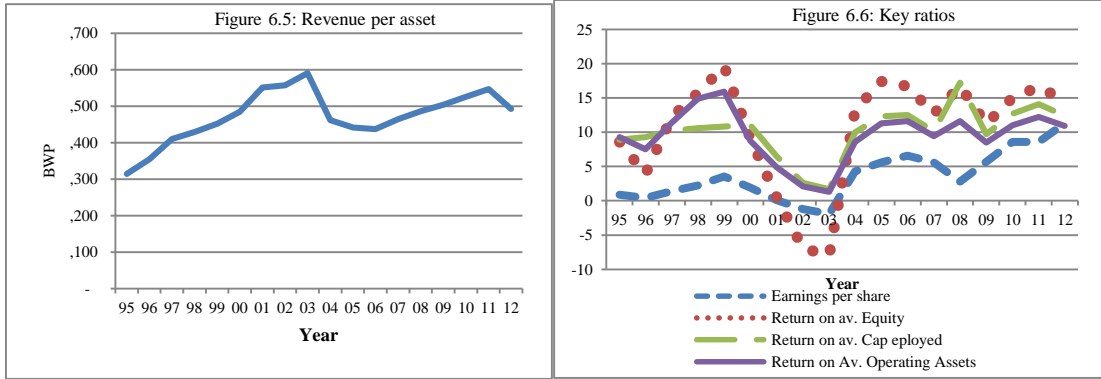
Figures 6.1 to 6.9 are presented below, depicting broad based performance trends of BTC over the period on 1995–2012.

Financial indicators



Productivity indicators and key ratios





Investment in resources

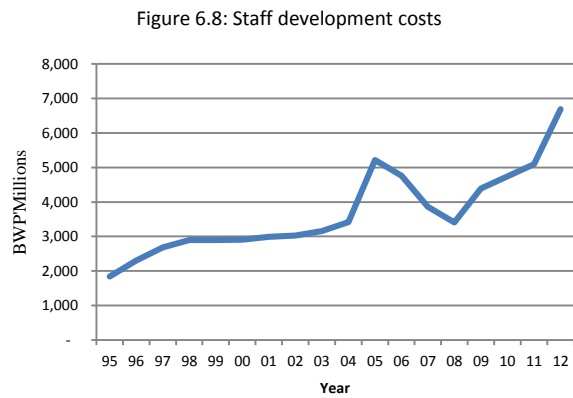
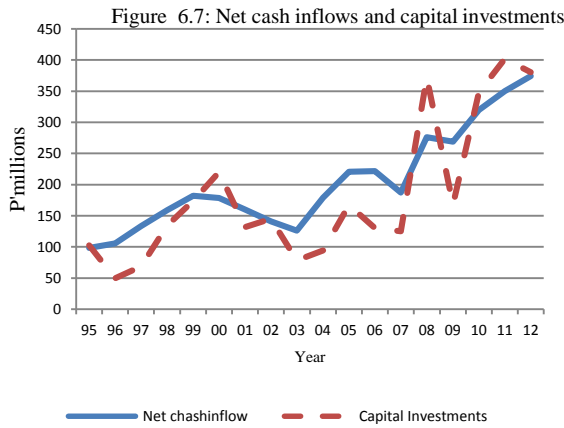
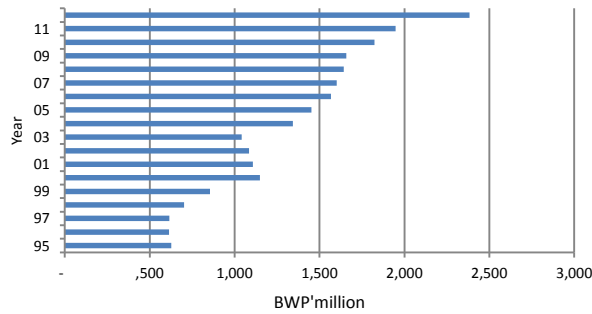


Figure 6.9: Total Assets



For the 18-year period covered by the study, BTC registered overall impressive results measured in terms of revenues and profitability (see Figures 6.1 and 6.2), whilst employee and asset productivity have been consistently maintained at rising levels (see Figures 6.3 to 6.5). The corporation was also doing well in a number of business indicators (see Figure

6.6). This relatively good performance of BTC was realised at a time when other key SOEs within Botswana were not consistent in their performance³⁹.

However, a temporary decline was experienced between 2000 and 2003 (see Figures 6.1, 6.2 and 6.6). Among others, sentiments expressed by interviewees over the declining performance were that the enterprise was not timely in responding to new market dynamics. This is also evident in a 2007 Botswana Telecommunications sector review which cites isolated cases of inefficiencies as a contributory factor in the periods prior to 2004⁴⁰. A poorly implemented billing system in 2000 resulted in high scale errors which in turn led to a rift between BTC and a large number of its customers. This occurred at a time when two new market entrants⁴¹ (mobile phone operators) were stabilising their operations and competing for the same customer base as BTC, with a corresponding effect on the corporation's revenues (see Figure 6.1).

However, the corporation was able to return to good performance, and below there is an analysis of key performance drivers.

A good resource base was a major contributing factor in driving the good performance at the BTC, and there is an observed resource-based theory influence on management's approach to crafting and rolling out business strategies and responding to the temporary decline (see Peteraf, 1993; Majumdar, 1996; Raza, 2010; Hoskisson *et al.*, 2000). This is discernable from the incremental investments the corporation made in various aspects of its resource base, including human capabilities, monetary and capital. This is depicted in Figures 6.7 to 6.9.

First, the regulatory changes that came into effect in 1996 invariably influenced the way BTC operated, notably through the introduction of competition. Part of the BTC's response was demonstrated through a marked growth in the total asset base between 1996 and 2002 averaging at 63% (see Figures 6.7 and 6.9). This was accompanied by a growth in staff

³⁹ Annual Reports of Botswana Power Corporation, Air Botswana, Botswana Post, Botswana Meat Commission, Botswana Railways and later the Water Utilities Corporation.

⁴⁰ Botswana Telecommunications Sector Performance Review: a supply side analysis of policy outcomes (2007).

⁴¹ Mobile operators Vista Cellular (now Orange Botswana) and Mascom Wireless were licensed to operate to enter the telecommunications industry in Botswana in 1998

development (see Figure 6.8). Resource acquisition entailed new technologies and the development of human capabilities in order to cope with a new operational and business environment, all which were necessary to face competition.

By 2004 the BTC had emerged from the temporary decline after a range of initiatives (some of these are discussed in detail from an agency theory perspective below). By that time, a growing demand for its services presented scope for additional revenues. However, some of the demand came from geographically dispersed areas for which costs of service were prohibitive. The corporation selectively chose areas and market segments which it could service profitably (this is reviewed from a stakeholder perspective below), whilst investing in low cost-high coverage satellite technologies that ensured the achievement of internal efficiencies. These investments were funded and supported from internal resources. Resulting in part from these investments, a corresponding increase in productivity as measured by revenue and access lines per employee was realised, improving by up to 73% and 59% respectively (see Figures 6.3 and 6.4), again, a case of resources driving good business performance.

Beyond those tangible resources that the corporation was able to sustain, a unique asset was awarded to the BTC in 2007, that being a Public Telecommunications Operator (PTO) license. This license gave the BTC access to the lucrative mobile market. A successful exploitation of the PTO license required resources, and the corporation's commitment to strengthen its resource base is discernable from among other things a spike in staff development and capital investments observed as from the 2006 financial year (see Figures 6.6 and 6.7). Capital investments were in optic fibre capacity, advanced billing systems, integrated customer solution platforms and cellular technologies, among others. The key outcome of these investments was a mobile telephone operator subsidiary, be Mobile (Pty) Ltd which was registered as a private company and launched in 2008. The mobile operator was established entirely from internal resources (capital and human), successfully within time and budget. To date, mobile telephone revenue contribution to the BTC group has continued to grow significantly.

The BTC's good performance can, however, not be adequately explained in terms of the resource-based theory alone. There are elements of well-rooted agency theory issues which can be discerned as well. For instance, the founding legislation prescribes the existence of an independent board of directors. The legislation also prescribes the manner in which such boards are to be constituted, giving priority to merit and skill diversity. This limits the scope for appointing individuals to the board purely on the basis of political connections, a prevalent scenario within other African SOEs, which has been linked to the poor performance of SOEs (Mwaura, 2007).

BTC has traditionally been governed by boards constituted from independent persons with diverse experience. At any given point in time, various skills have been observed within the board, typically finance, legal, information technology and business management and, at least up to the early 2000s, the successive boards have proven effective and capable of coping with the prevailing business environment.

In rolling out a turnaround strategy to deal with the declining performance, the board of directors that had existed as at the beginning of the period of declining performance was entirely replaced. The CEO was replaced initially through an interim appointment of an external consultant (with a substantial appointment being made after 3 years). A broad staff rationalisation programme was embarked upon, with up to 600 jobs (35% of the workforce) being shed during 2003. A cross-cutting job re-grading exercise resulted in new job profiles and requirements for all positions. All middle to executive management positions were converted from 'permanent and pensionable' basis to three-year fixed term contracts with renewal possibilities linked to the achievement of set objectives. A 'more efficient' performance management system was introduced, characterised by among other things mid-year and end of year score-based staff performance appraisals. A new performance incentive scheme was introduced under which performance linked bonuses were paid out to management and staff.

These changes, which were supported by government are symbolic of a focus on the agency problem as a means of dealing with a declining enterprise performance. The replacement of the board could imply different things to different people, in the view of this

researcher, based on the case, the old board and the structures they installed were no longer sufficiently coping with a changing business landscape. The removal of the board and the CEO as a mechanism to deal with declining performance is supported by earlier research work by Weisbach (1988) and Daily and Dalton (1995) which established improved performance as a consequence. A historically effective board may eventually fail in their governance role due to a number of factors including complacency, a lack of appreciation of new business dynamics and excessive tenures (Hwang and Kim, 2009; Fracassi and Tate, 2012). Beyond simply guarding against the agency problem, effective boards are known to bring to an enterprise strategic direction which in turn enhances the scope for better performance (John and Senbet, 1998).

In addition to boards, the literature is rich with a variety of mechanisms to deal with the agency problem, focusing on the agents themselves. Such initiatives include those adopted by BPC: the introduction of management contracting, managerial incentives, performance management and measurement and also job enrichment (Agrawal and Knoeber, 1996; Bonazzi and Islam, 2006; Letting *et al.*, 2012)

The political willingness to allow BTC to be governed through efficient structures overseen by competent boards deserves special mention. Studies have credited such political willingness for successful turnaround programmes in SOEs, for example in China where Xu *et al.*, (2001) credited the success of the SOE corporatisation programme to have depended on the political commitment. Although the fundamentals of the public choice theory taints it with 'bad' political interference, analysis of the BTC case reflects a departure from such a norm. The political interference aimed at saving the BTC from the 2002 decline in performance cannot be seen as having been motivated by selfish interests, but rather informed by the ideals of the agency theory, of course, with a supportive regulatory and policy framework.

By 2004 enterprise performance was beginning to turn around; employee and asset productivity began to improve (Figures 6.3, 6.4 and 6.5), with an enhanced efficiency (Figures 5) thus improving financial and business performance (see Figure 6.1, 6.2 and 6.6). Beyond 2004 further efforts can be observed to keep the board effective and relevant at a time when the BTC was preparing for competition in the mobile telephone market, which

was seen by many as the future of the corporation. Five of the nine board members were replaced during 2006 and 2007 with a new chairman being appointed ahead of BTC's entry into the mobile market in 2008. Additional appointments included individuals with a wealth of experience from the private sector coming with legal, telecommunications and information technology skills. The need to strengthen SOE boards with independent individuals from the private sector has been advocated by earlier writers on the subject of the agency theory (Rosenstein and Wayatt, 1990 and John and Senbet, 1998).

So far the essay has established the power of resources to drive performance, supported by adequate governance structures modelled around the agency theory. It has further revealed a very positive political interference seemingly departing from the basic fundamentals of the public choice theory. An important dimension still remains, and that is the one of stakeholders.

The BTC has traditionally faced a plethora of heterogeneous stakeholder groups with varied interests, and there is always a danger in trying to satisfy all such interests indiscriminately as good performance is compromised (Donaldson and Preston, 1995). However, SOEs are public corporations and as such divergent interests are expected and legitimate. This scenario has been blamed for stretching enterprise resources, clouding priority objectives and ultimately undermining good SOE performance (Worch *et al.*, 2013; Spiller, 2010 and Lavie, 2006). Three main inter-related factors are identified as having aided BTC to escape this problem, and these were: 1) the legal framework which permitted BTC to selectively pursue shareholder interests whilst striking a balance with corporate sustainability; 2) an enabling regulatory framework; and finally 3) political support. The political willingness was clearly demonstrated when government ceded its regulatory functions to an independent regulatory body. This regulatory organ was entrusted with the responsibility of overseeing all industry decision processes concerning the supply and pricing of services, which were made transparent. An interesting aspect is that the board of the industry regulator itself was stakeholder diverse, with the founding legislation dictating representation from the business community, domestic users (rural and urban) and the public sector.

However, the non-commercially viable stakeholder interests were not completely ignored, but the policy specifically directed how these were to be served without placing the burden on the BTC. Government still retained the overall policy function and associated legal frameworks as well as the power to intervene in market forces where they were lacking. Such a policy stance, which was informed by research and stakeholder analysis, has been popularly prescribed due to its ability to take into consideration the full impact of a changing regulatory landscape (Murdock, 2004). The wider and often conflicting stakeholder interests were captured through market regulation, notably through government's ability to manipulate industry conditions to supplement market forces (Hertog, 1999). Industry regulation itself, both structural and conduct is not completely devolved from the political legislative process, and hence a significant overlap between the public choice theory and the economic theory of regulation (Levine and Forrence, 1990; Mueller, 1989). Such an overlap becomes a leverage factor when the political will is decisively demonstrated through positive interference, as has been the case with the BTC.

The analysis of this case reveals interesting public choice and stakeholder dimensions. Departing from the widely held public choice theoretical implications that political interference undermines governance and performance (Hill, 1999; Mwaura, 2007; Shaw, 2008, Hertog, 2010), the political leadership benefited from the ideals of the agency and resource-based theories in constructing appropriate governance structures.

The public choice in its own right is a widely researched subject and the outcomes have almost always implied that political interference stems from selfish interests which often impair performance (Hill, 1999). However, from a property rights perspective, such political interference in SOEs is justified, and with this case, there emerges a complementarity between the public choice, the agency theory and the stakeholder theories. A legal and regulatory framework supporting a selective approach to stakeholder needs is in line with postulations by some critics of the stakeholder theory (Donaldson and Preston, 1995; Aguilera and Jackson, 2003; Heath, 2004; Wicaksono, 2009; Carney *et al.*, 2011), hence not surprising. Thus, a positive public choice perspective can rely on the agency and resource-based theories to drive good performance, provided a nuanced approach is taken with respect to the stakeholder theory.

6.5. Conclusions

This essay pursued an inquiry into how various and seemingly competing organisational theories combine to explain organisational performance in the context of SOEs. The essay interrogated a number of factors that have fundamentally aided BTC to sustain long periods of good performance, including driving the SOE back to profitability after a temporary decline.

A good resource base, accompanied by a dynamic culture of good governance drove the success story of the BTC. There was a punctual and positive political interference on the basis of established political willingness to see the BTC become a successful enterprise. Such a political will greatly influenced the outcome of an enterprising environment in which the method of catering for varying stakeholder interests was dependent upon the sustainability of such interests.

The dominance of the public choice theory over others is evident, however the popular view that political influence and interference are premised on selfish interests cannot remain unchallenged. A concept of positive public choice, under which such interference and influence is driven by stakeholder interests and sustainability emerges from the case of BTC. This presents scope for finding congruence between the seemingly contending theories, given the pace at which democracies have been emerging, with an ever increasing demand for good governance in State Owned Enterprises.

Based on the research findings, a framework unifying political intervention with stakeholder interests needs to be developed and formalised with a link to SOE objectives. The framework would have clear performance measures linked to it, adequately monitored under a governance structure constituted from well incentivised boards and managers with appropriate strategic corporate resources under their control.

This study has revealed real possibilities of improving SOE performance through a policy alternative to privatisation. At the center of such an alternative, the state's rights as a shareholder must be well defined and governed by signed-off shareholder agreements. Beyond shareholder rights, the state involvement in SOE affairs should be limited to matters of policy. The shareholder rights, on the other hand, must be safeguarded through a model

governance structure which recognises merit (skill and relevant expertise) as being the primary consideration when constituting SOE boards, and this should still guide the criteria of selecting representatives from various stakeholder subsets.

Whilst SOEs are known to fail in attracting and retaining high quality managers due to less competitive managerial remuneration, it is important to formalise and factor in non-monetary incentives to managers, which in most cases informally exist as 'self-awarded', thus often causing tensions between agents and principals. Managers should be given the autonomy to allocate resources in line with priority objectives which are set as the basis for monitoring performance.

Although stakeholder interests are diverse and conflicting, they remain legitimate, but SOE sustainability is at stake. In serving all stakeholder interests, each SOE must have a sustainability hurdle, below which any initiative pursued for the benefit of a stakeholder group would be funded through the national budget, with the state contracting the SOE on an arm's length basis.

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CHAPTER SEVEN: CONCLUSIONS

7.1. Summary of findings

SOEs operate in unique environments often characterised by vague objectives, political interference, resource constraints and a wide array of conflicting yet legitimate stakeholder interests. Consequently, their organisational performance outcomes are a product of an interaction between numbers of variables. SOEs with higher levels of owned and controlled resources (tangible and intangible), in addition to strong boards of directors, display better performance results, but only to the extent that performance objectives are clear in terms of what stakeholder interests are being pursued. On the other hand, SOEs heavily disposed towards favouring divergent stakeholder interests and higher levels of political influence reveal depressed performance outcomes.

The study examined SOE performance in selected Sub-Saharan African countries. In doing so it had the following objectives and their respective research questions:

- a. to analyse the performance of SOEs in sub-Saharan Africa;
- b. to examine factors driving SOE performance
- c. to test what combination of variables, taken in the context of organisational theories, combine to influence SOE performance; and
- d. to propose a governance framework specific to SOEs.

The specific research questions were:

- a. What are performance trends of SOEs in sub-Saharan Africa?
- b. What are the significant performance drivers of SOE performance?
- c. Which combination of competing theories of organisational performance best explains SOE performance?

The study results show the following outcomes: In pursuing the first objective of the study, which was to analyse the performance of SOEs in sub-Saharan Africa, Chapter Three outlines historical performance of representative enterprises. The outcome showed that SOEs in sub-Saharan Africa generally depicts a depressed performance profile. SOEs in the telecommunications sector emerge as above average performers compared to those in other industries in the sample. This is consistently so across both models of performance adopted in the study. Conversely, SOEs in the power sector come out as below average performers under both performance models.

The second objective of the study (To examine factors driving SOE performance) was addressed in Chapters four, five and six. Chapter four analysis such factors through econometric modelling, and results show that SOE performance is driven by: board strength, resource availability, less political influence as well as a well-balanced stakeholder disposition. Chapters Five and Six present a detailed qualitative perspective of these factors, and validate each of them based on in-depth case analysis of two varying SOEs.

Chapters Five and Six also address the third objective, being: 'to determine what combination of variables, taken in the context of organisational theories, combine to influence SOE performance'. In both these chapters, factors determined to be drivers of SOE performance are examined in the context of organisational theories through the application of proxy variables in detailed qualitative analysis. It is concluded that the agency, stewardship and resource based theories combine to explain good SOE performance, whilst the public choice theory explains much of the sub-optimal performance in SOEs. An interesting outcome from the chapters is that the stakeholder theory is one not to be taken at face value, but rather with careful consideration in order to attain a good balance in managing the interest of heterogeneous groups.

Variables such as firm age, firm size and market competition tend to influence performance differently, depending on the performance measure being used. Typically, size is negatively correlated with enterprise productivity and profitability, whilst being positively correlated with efficiency. In terms of age, older firms display better performance from a productivity perspective, but depressed performance in terms of efficiency and financial performance. SOEs exposed to market competition display better productivity and financial performance.

The fourth and last objective of the study was to propose an SOE specific governance framework, and this is outlined in Section 7.3 below.

7.2. Summary conclusion

This thesis has sought to analyse historical SOE performance in sub-Saharan Africa, and to investigate and explain factors that combine to influence SOE performance with the aim of proposing an SOE specific administrative framework. The study adopted a broad and phased approach, first analysing SOE performance and explaining patterns from the perspective of organisational theories. This was followed by an empirical enquiry into what variables combine to influence SOE performance in a certain direction. These variables were set as proxies of organisational theories so as to explain their interaction from an organisational theory perspective. The empirical enquiry was conducted at two levels, the first concentrating on a range of SOEs operating in different industries and countries, followed by a narrowed enquiry which focused on a single industry, but still with different SOEs from different countries. The study then conducted two separate in-depth analyses based on two different SOEs operating in the same country, but dealing with different industries, and the case analyses phase was to provide an opportunity of validating empirical findings.

Across all phases of the study, it is apparent that good SOE performance could be explained by the agency and resource-based theories whilst, unlike the case of a private sector situation, a nuanced approach to the stakeholder theory is required for an SOE context in order to balance the desire to satisfy diversified stakeholder interests, whilst maintaining enterprise sustainability. Irrespective of strong boards and the availability of high value resources, the public choice theory has a predominant effect over others, with political control having the ability to dilute board effectiveness, divert resources and direct the pursuit of unsustainable stakeholder interests.

Given the two-pronged nature of the SOE objectives, i.e. economic and social perspectives, the study supports a case for a broadened view of the agency theory to reconcile traditional shareholder-centric interests with those of the wider society. Such a societal-shareholder

approach to the governance and administration of SOEs would further contribute to the crafting of a balanced approach to the stakeholder engagement. Interestingly, the study challenges the narrow 'self-interest view' attached to the public choice theory, as it reveals the residual societal benefit accruing from direct political actions. However, such societal benefits are mostly aligned to a non-discriminative adoption of the stakeholder view which the study demonstrates to be detrimental to good firm performance. Thus, the study concludes that performance improvement in SOEs is realised when relations with the government, as a shareholder, are clearly defined and regulated. Different stakeholders' rights need to be approached with different models, for example, through service contracts between the state and the SOE.

7.3. Summary of contributions

The present study does not challenge the importance of SOEs, particularly in the case of sub-Saharan Africa. However, it emphasises the need to pay increased attention to the operational motives and the governance framework of SOEs.

SOEs should continue to exist, but profit maximization cannot be the primary motive given the peculiar mandate they have to deliver on, in fulfilling socio-economic aspirations of nations. Profit maximisation is in itself a market driven undertaking often with little focus on operations that bring minimal to no profits. This is detrimental in the case of SOEs, which face objectives aimed at satisfying interests of a wide spectrum of stakeholders, some with limited potential to contribute meaningfully to profitability. Ultimately, a significantly profitable SOE may still be regarded a poor performer if it dismally fails to satisfy other non-commercial objectives.

On the other hand, however, SOEs cannot exist purely to satisfy social objectives with no economic and commercial aspirations as this is not sustainable. The focus therefore, should be on ensuring that costs associated with operations of SOEs are recovered principally from such operations, with a scope for a return to ensure self-sustenance.

In the balance, therefore, SOEs should continue to pursue their mandate through commercial operations. Such operations should not be driven by a desire to make profits, but rather an intention to realise returns that are adequate to sustain the current and future

operations and obligations. By their nature, not all stakeholder aspirations will bring profits to SOE's operations, even those that does so, the level of profits archived will vary but a good operation will be the one that achieves a legitimate cross-subsidisation to ensure that aggregated results make a commercial sense.

The study proposes a new framework aimed at unifying political intervention with stakeholder interests and needs. The framework directly supports and unifies clear SOE objectives with sustainability through the sound governance and administration of state enterprises. Clear performance measures are also introduced into the proposed framework. This in itself requires a supportive environment comprising, among other factors, an effective performance measurement and monitoring mechanism, effective boards, competent management, and a total reward-based approach to manager remuneration. The proposed framework is summarised below.

Table 7.1: The proposed SOE governance framework

Perspective	Attributes
Agency	<ul style="list-style-type: none"> • Clear objectives signed off. • Merit (relevant skill and expertise) to be a primary consideration when constituting boards, and this should guide the selection from various stakeholder subsets. • Formalise non-monetary perks into managerial rewards to augment lower salaries.
Relations with the shareholder (Political leadership)	<ul style="list-style-type: none"> • The state's property rights as a shareholder should be governed by signed-off shareholder agreements. • State interventions should be limited to policy matters and should also be formally regulated.

Relations with the stakeholders (multiple)	<ul style="list-style-type: none"> • Stakeholder interests should be subjected to a sustainability hurdle. • The state should contract SOEs, through the national budget, to implement desirable but commercially non-feasible development projects on an arm's length basis.
Resource-based view	<ul style="list-style-type: none"> • SOEs should own and control the resources they need for business operations. • SOE operations should generate and acquire sustainable resources over time. • Resource application should be linked to strategic objectives and subjected to governance scrutiny by competitive and balanced boards.

At the center of what is being proposed in Table 7.1 is the need for the shareholder, (represented by a clearly identified ministry/department within government) to set clear and measurable set of objectives. When outlining the noncommercial objectives, the shareholder needs to state two aspects clearly; 1) how will these be funded? and 2) Which stakeholders are being targeted? Naturally these have to be contained in an enforceable legislative instrument, which also needs to clearly outline the process and criteria to be adopted in appointing and removing individuals from the board. These criteria should be centered around merit and skill, but have the scope to achieve stakeholder representation, but still based on merit.

The head of the ministry/department representing the shareholder should be a public servant holding the office, as opposed to a politician and the relationship between this office and the SOEs board, represented by the chairperson, should be governed by a clear and concise shareholder compact. This compact should outline measurable targets (derived from the legislated objectives) for each period, and should also outline responsibilities and

reporting lines, at the very minimum. The compact also needs to set a flexible enough framework for board remuneration, reward and retention. This arrangement should then be cascaded down from the board to senior management, represented by the SOE head (e.g. CEO or MD) through performance contracts containing measurable performance objectives, provided there is a distinction between commercial and noncommercial objectives, with a clear indication of how the noncommercial objectives are to be achieved, and a clear criterion on how to prioritise when the two sets compete. The annual performance objectives set for SOEs, and later repeated in senior management performance contracts, should be the basis for budget allocations.

The study findings also provide some key insights into the management and administration of SOEs. The issue of political interference emerges as one which SOE managers need to balance with, and perhaps distinguish from due political influence through government policy-orientated actions. Government actions impose an obligation on SOE managers to get the stakeholder mapping right, with a clear understanding of what the social (and other non-commercial) objectives of SOEs are, otherwise a seemingly profitable SOE might as well be the poorest performer in the broader context of the two-pronged SOE objectives, that is, the commercial and non-commercial mandates of SOEs. Such a complexity in the management of SOEs calls for an adjusted view to the traditional agency theoretical implications, as the SOE owners are far from wealth maximisers, but rather, are prepared to attain lower returns for the purposes of achieving a wider set of objectives. Ultimately, the performance management framework for SOEs should be set to capture financial and non-financial objectives, and SOE strategies should have some linkages to national priorities.

7.4. Study limitations

This study was not without limitations. The major limitation was the availability of complete data for a number of SOEs in other African countries. The inclusion of SOEs from other non-English speaking countries would have possibly added great insights into the study, particularly with respect to political and stakeholder dimensions, given their distinct historical differences from the Anglophone countries. On the basis of such a limitation, the extent to which the findings can be generalised to other territories becomes somewhat restricted. This limitation, however, has not materially compromised the novelty and rigour of the current study, although a future research could clearly benefit from capturing a wider span of the continent.

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