



TITLE

An Analysis of Higher Education Funding:
Consideration Towards a Viable Model for South Africa

By

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Submitted in fulfilment of the requirements of the degree: Doctor of Philosophy, School of
Education: Edgewood Campus Durban, South Africa.

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Date: November 2019

SUPERVISOR'S STATEMENT

I hereby acknowledge that this dissertation has been submitted with my approval.



Professor Chatradari Devroop

November 2019

DECLARATION

I, Perumal Arumugam, declare that this research, “An Analysis of Higher Education Funding: Consideration Towards a Viable Model for South Africa”, is my own work and all sources I consulted and quoted have been appropriately acknowledged.

This dissertation has been submitted with the permission of the supervisor.

Signed: _____

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Date: November 2019

ETHICAL CLEARANCE CERTIFICATE



25 January 2017

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Dear Mr Arumugam

Protocol Reference Number: HSS/1854/016D

Project Title: Facts and Norms: A possibility of a comprehensive model of resource allocation in South African Higher Education

Full Approval – Expedited Application

In response to your application received 26 October 2016, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

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I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
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DEDICATION

In my distress, I cried unto the Lord, and he heard me

(Psalm 120:1)

and replied:

Be still, and know that I am God

(Psalm 46:10)

My Late Brother-in-law: Mr Siga Govindsamy:

Thank you for being a shining light in our lives

My late Dad: Mr Arumugam Keeri

I remember the days I held your hand racing for a train; I remember the days we sat and watched Denny-anna play soccer while sharing a packet of nuts; I remember the days I was by your side as you toiled mowing lawns to earn a keep; I remember the days I watched in admiration as you stripped a lawnmower and put it back together; I remember the days I drove you for your monthly medical checks; I remember watching you as you raced down First Crescent to visit us on a Sunday. I remember the days when people looked down on you, ridiculing the type of work you did. I remember your passion for horse-racing, your pure kind heart, your temper, your deep love for mum and all of us, and then I remember your last words to me “*Sunny boy, I’m sick...*”. All you have done, all your suffering, all the toiling...you did all this for us, never wanting anything in return. That fateful day when we laid you to rest, I remember, amidst the dark clouds, a magnificent ray of light shining from the heavens as your soul rose.

Dad, I thank God for blessing me with the honour of being your son. I mirror you.

*You are My ‘Me-time’ companion, My supernatural confidant, and
My guardian angel.*

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ABSTRACT

The funding framework for Higher Education has always been a contentious issue in South Africa, and more so in recent years. For some time now, it has continued to adopt a predominantly performance-based model within a shared costs system, continuously developing and enhancing its funding framework, with individual Higher Education institutions adapting this as needed, depending on their contexts. The #FeesMustFall movement and other challenges in higher education financing have entrenched the view, despite the dismantling of apartheid; South Africa still remains one of the world's most unequal countries from a socio-economic standpoint.

Given the disparities that existed in its apartheid system coupled with challenges in post-apartheid South Africa, this research asks key questions around higher education funding, and specifically: to what extent were resources allocated to universities, promoting the principals of satisficing, justice and fairness, and critical capacity? These notions emanate from the theories of Simon (1959); Rawls (1982) and Boltanski (2011) respectively, which form the theoretical basis of this qualitative study.

All public universities in South Africa are heavily dependent on state resources to meet their mandate of providing post-school education to qualifying students. The purpose of this research was thus to analyse resource allocation models in public universities within the Higher Education sector in South Africa. It also focuses on the variables that are considered by the government in determining the subsidy or block grant allocated to universities. By engaging the literature on resource allocation, taking cognisance of the history of the country, its higher education systems and funding frameworks, and its challenges, the research reflects on the experiences of financing higher education from a global, continental and national perspective. Particular focus is placed on the presentation then analysis of the South African Higher Education funding framework, and considerations that could be offered towards a viable funding model for South Africa.

The methodology employed in this qualitative research surveys global literature on the financing of higher education, South African government policy documents and related reports as well as inputs from a sample of key financial personnel of seven (of ten) nationally sampled universities. The sampled universities whose geographical locations spread across South Africa were selected on the basis of their block grant received from the state. The unstructured face

to face interviews focused on budget frameworks specifically in relation to the main financial operations at sampled institutions. Findings emerging from these interviews related to issues around timelines, top-slicing, cross-subsidisation, wish lists, communication, levels of transparency and treatment of surplus budget funds with a few unique models that centred around benchmarks. A further finding confirmed that budget frameworks remain within the confines of the respective university with each university believing that their framework is the most appropriate for their organisation. From this range of findings, the study synthesises the mechanisms that drive the allocation of resources from governments to universities and the onward dissemination to faculty and support services. A series of recommendations for both State and University consideration is made based on universities radical transformative nature. These are discussed then fused into a 'Roadmap' for consideration in the future funding models devised for Higher Education in South Africa. The research concludes with a challenge to University leaders, particularly it's Chief Finance Officers, to critically engage and refine their leadership stance and communication capabilities in line with the principals of satisficing, justice and fairness.

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ABBREVIATIONS AND ACRONYMS

AFS	Annual Financial Statements
BFM	Business and Financial Managers
BPC	Budget Planning Committee
BRIC	Brazil, Russia, India, China
CEO	Chief Executive Officer
CESM	Classification of Educational Subject Matter
CFO	Chief Finance Officer
CHE	Council for Higher Education
CPI	Consumer Price Index
CTP	Committee of Technikon Principals
DHET	Department of Higher Education and Training
DNA	Deoxyribonucleic Acid
DVC	Deputy Vice-Chancellor
EFA	Education for All
EMC	Executive Management Committee
EU	European Union
FCC	Finance Committee of Council
FEC	Full Economic Costing
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
GIBS	Gordon Institute of Business Science

GOB	General Operating Budget
HAIs	Historically Advantaged Institutions
HDI's	Historically Disadvantaged Institutions
HE	Higher Education
HECS	Higher Education Contribution Scheme
HEFCE	Higher Education Funding Council for England
HEFCW	Higher Education Funding Council of Wales
HEIs	Higher Education Institutions
HEMIS	Higher Education Management Information Systems
HESA	Higher Education South Africa
HoDs	Head of Departments
HR	Human Resources
HSRC	Human Sciences Research Council
HWUs	Historically White Universities
IBSS	International Bibliography of the Social Sciences
ICT	Information and Communication Technology
IIT	Indian University of Technology
ISI	Institute for Scientific Information
IT	Information Technology
LDC	Least Developed Countries
MBA	Master of Business Administration
MBChB	Bachelor of Medicine, Bachelor of Surgery/Chirurgia

MOOCs	Massive Open Online Courses
MTEF	Medium Term Expenditure Framework
NACOBO	National Association of College and University Business Officers
NDP	National Development Plan
NCHE	National Commission on Higher Education
NFF	New Funding Framework
NMU	Nelson Mandela University
NQF	National Qualifications Framework
NRF	National Research Foundation
NSFAS	National Student Financial Aid Scheme
OECD	Organisation for Economic Co-operative Development
PhD	Doctor of Philosophy
PU's	Productivity Units
PURCO	Purchasing Consortium Southern Africa
PWC	Price Waterhouse Coopers
QS	Quacquarelli Symonds
RAC	Registration Appeals Committee
RAG	Resource Advisory Group
RAM	Resource Allocation Model
RMT	Rectors Management Team
SA	South Africa
SADC	Southern African Development Corporation

SAPSE	South African Post-Secondary Education
SAQA	South African Qualifications Authority
SARS	South African Revenue Services
SAUVCA	South African Universities Vice-Chancellors Association
SciELO	Scientific Electronic Library Online
SFC	Student Fees Committee
SLE	Staff Lecture Equivalent
SHEFC	Scottish Higher Education Funding Council
SRC	Student Representative Council
TEC	Tertiary Education Council
TEFSA	Tertiary Education Fund of South Africa
TQA	Teaching Quality Assessments
TVET	Technical and Vocational Training
UCDG	University Capacity Development Grant
UCT	University of Cape Town
UFS	University of Free State
UJ	University of Johannesburg
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNISA	University of South Africa
UoT	University of Technology

UP	University of Pretoria
US	United States
USAf	Universities South Africa
VAT	Value Added Tax
VC	Vice-Chancellor
WITS	University of Witwatersrand

CHAPTER ONE
PERSPECTIVES ON RESOURCE ALLOCATION WITHIN THE SOUTH AFRICAN HIGHER
EDUCATION ENVIRONMENT

1.1 Introduction

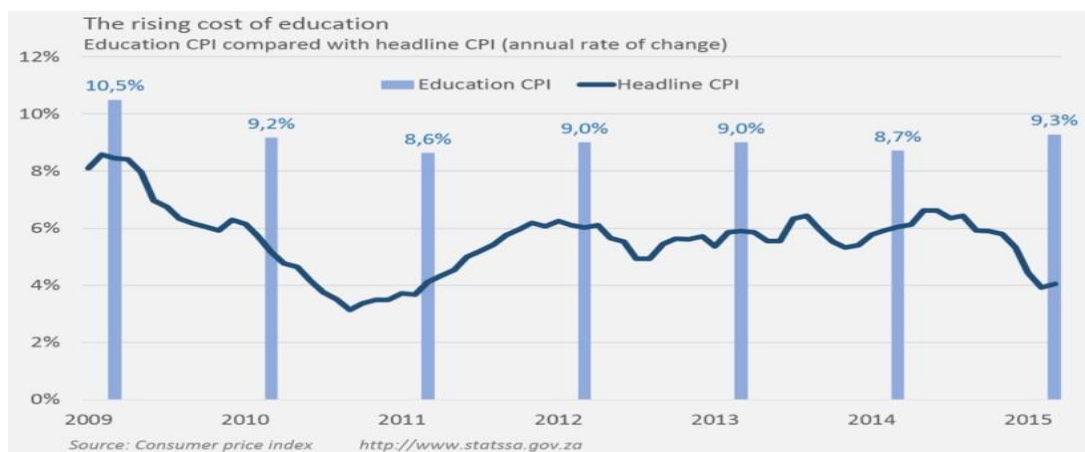
Higher education is a highly challenging environment that requires various components to work in synergy. These components comprise the management of resources entering the organisation as well as its spending streams. Resources include state grants, tuition fees, investment and other income as well as research and private donor funding. Spending streams within the higher education sector refer to staffing, operational and capital expenditures. The challenge for higher education leadership is to ensure financial sustainability by maintaining an appropriate balance between these two components. Johnstone (2001) asserts that the financing of Higher Education (HE) is a complex issue, mainly because it entails multiple sources of revenue and spending streams coupled with disparate challenges in allocations.

Exacerbating the challenge of managing the resources and spending streams relates to the three pillars of HE systems, namely, access, quality and efficiency. SADC (2007a) confirm that matters about these pillars in HE are common to all countries. One of the pressing pillars is the issue of access which is due to the massification of HE (Teferra, 2013). Teferra (2013) goes on to add that the demand for placement at higher education institutions spiralled in the last decade. Pam Fredman, University Rector and Chair of Nordic University Cooperation, points out that: "...access to high-quality education is a decisive factor in the knowledge economy." (Myklebust, 2012, para. 4). The issue of increased access places severe burdens on the financial reserves of the universities, thus "...many higher education institutions have to try to secure quality and effective teaching, at the same time as budgets are decreasing." (Myklebust, 2012, para. 5)

Issues of access, quality and efficiency are all dependent on the adequate distribution of resources. Often resources are never in abundance forcing governments to cut back funding for the HE sector. Such cutbacks cascade downwards to universities who then look to other income sources in order to bridge the funding deficiencies. Myklebust (2012), questions whether Universities can bridge this funding gap.

In attempting to buffer the funding gap, universities tend to push shortfalls from the government into the next income stream often, that being tuition fees. With the burden now landing on tuition fees, parents and students who are responsible for such fees bear the brunt of this resource decline. In South Africa, the cost of education for the past decade has consistently been higher than its headline consumer price index as illustrated in Figure 1.1 below. As a knock-on effect, tuition fees have also increased at a faster rate to the country's inflation rates. This spiralling effect of tuition fees over the years has resulted in rolling student protests, which culminated in calls in 2015 for free higher education in South Africa (#FeesMustFall). Whittles & Nicolaidis (2015) indicate that the campaign gained momentum internationally with support from students in Canada, Australia, Germany, China and Cameroon.

Figure 1.1: Comparison of Education CPI to Headline CPI



(Source: StatsSA.gov.za)

In South Africa, issues around the financing of higher education have led to tensions among the three tiers of the State: The Ministry of HE, the HE Institutions (HEIs) and Civil Society. Apart from the many opinions, which largely emerge from the HE sector, literature dealing with this crisis amidst economic volatility is not easily available. The State and the public HE sector struggle to find solutions to the recent student demands that stem from the #FeesMustFall movement.

While the then State President, Jacob Zuma, ruled a zero percent fee increase for the 2016 financial year and promised HEIs funding to cover certain historical debts, the Treasury reiterated that given the inadequate revenue in the national fiscus, there was no money to bankroll another university bailout (Forde, 2016). Both Habib & Bawa (2016), senior

academics and Vice-Chancellors, raise concerns about the potential collapse of HE, while another former Vice-Chancellor, Professor Jonathan Jansen, lays the blame for this crisis at the doorstep of government and its infringement on the autonomy of HE (Jansen, 2016). PWC (2016) questions whether the year 2015 can be judged as the tipping point in South African HE.

Amidst the challenges facing HE globally, one thing is clear: HE is supported for its impact on sustained economic growth, poverty reduction, and development of advanced skills, life-long health and personal capacity (OECD, 2015; Worldbank, 2009). South Africa, by contrast, given its young democracy remains challenged in terms of its growth and the financial management of its HE sector. Given the years of disproportional development and allocation of resources under the apartheid government, the task at redressing these challenges are enormous.

1.2 Rationale, motivation and objectives of the study

My interest in budgeting and budgeting principles commenced at the start of my career in the Higher Education Sector. With over twenty-five years of experience in the Finance Division at the University of KwaZulu-Natal (previously University of Durban-Westville), my key performance area was budgeting and financial planning. Over the past 15 years of my tenure, I led and managed a team of finance specialists within this section. The role, however, involved providing financial management information that informed the budget framework and subsequent variance analysis. The budget framework and the variables that drove it was generally designed by the executive management of the university. My role was to provide the necessary tools within the framework, ensure reconciliation of the budget and disseminate the information to stakeholders across the university. Given my expertise in finance, I often questioned the decisions taken by executive management, believing that I may have included other mechanisms within the adopted formula. Due to my junior financial status at the time, I felt that my input might not have been taken seriously. Thus, this study encapsulates my thinking on finding a way forward to the resource allocations challenges at universities.

Budget frameworks and models are formulated and approved by the sub-committees of University Councils, such as the Finance Committee. There is an overall perception within the sector that each HEI believes their model to be unique and most suited to their organizational, operational and strategic needs and challenges. Thus, given that these resource allocation models and their variables are unique, they remain within the confines of institutions, and, are generally inaccessible to the public despite universities being public institutions. The denial of

access to information restricts comparison, critique or even the adoption of the components of these models by other HEIs. The opacity of universities funding systems and resource allocation is unacceptable when compared to access in relation to their Annual Financial Statements (AFS), which are incorporated as part of the Annual Reports and found in the public domain on the universities' web pages. Although the AFS is in the public domain, the information presented is scant and shrouded in clarity. Universities are public institutions and their operations and detailed financial reporting ought to be in the public domain. Currently, the latter is not the case calling into question the notion of transparency within the broader transformational agenda of the national government.

It is against the abovementioned backdrop of 'secrecy' on the budget frameworks that this study emerged. Thus, the objectives of this research are to:

- Analyse the resource allocation models at participating SA HEIs;
- Identify key variables that drive the budget process;
- Formulate similarities, differences and highlight areas of uniqueness, and
- Empower decision-makers in the HE sectors by providing innovative principles, guidelines and strategies for consideration.

These are unpacked throughout the thesis as explained in the chapter outlines.

1.3 Location of the Study

This study is located in the public higher education sector and uses a purposive sample of South Africa's top ten HEIs, of the twenty-six public institutions, who are recipients of the funding received from the State in relation to the block grant. These block grants are meant to partially fund public universities main operations, for example, it's academic and support staff, operational and capital expenses. Like with most countries globally, HE in South Africa forms part of a nation's fiscus or budget alongside other social responsibilities.

The period following South Africa's transition to democracy has been met with several challenges, (access, quality, efficiency, equity, transformation and so forth), particularly those in the HE sector. Like the Soweto secondary school uprisings of 1976, the next wave of education protests manifested itself in 2015 in the higher education sector, calling into question the legitimacy of universities and demanded an explication of its allocation of resources. Issues of funding led to tensions between the State and the public HE sector. Despite new structures

and measures to address and promote accountability within the sector, universities felt that their autonomy in managing their finances was being eroded.

1.4 Research Questions

This study is underpinned by the following research question:

- **To what extent are resources allocated to Universities in South Africa and their subsequent distribution promoting the principles of satisficing, fairness and justice?**

This primary research question was answered through the following sub-questions:

- How does resource allocation in the South African HE sector compare to similar sectors abroad?
- What is the role of managerial discretion in balancing the inevitable split between normative and qualitative consideration inherent in allocating resources?
- What principles and variables determine the resource allocation to different units within the university?
- How are resource allocation principles applied in a given administration, and with what degree of consistency and justification for variance and discretion?

1.5 Theoretical Framework

In order to examine matters of higher education funding, key philosophical considerations help us understand the dynamics of financial management and resource allocation. Thus, this study was structured on the theories of ‘satisficing’, ‘social justice and fairness’ and ‘critical capacity’, as espoused by Simon (1959), Rawls (1985) and Boltanski (2011).

Both classic economic and philosophical models of rational choice have unavoidably dealt with parameters that can be satisfied by quantitative data but arranged and plotted in such a way as to indicate and establish emerging norms. Allocation itself is a double-edged concept, definable through the quantitative notion of proportionality but also subject to qualitative and normative notions of fairness from the point of view of the receiver. Hence, it is the nature of this field, and these problems are constantly traded off as fairly and rationally as possible, as well as efficiently, in terms of the scarce resources against legitimate demands aspect.

Recent discussion of normative society, risk and reflexive society, acknowledge the unavoidability of trade-offs between normative justification and the quantitative metrics we apply to scarce resources. In all cases, issues of social justice emerge as the final arbitrator, yet presently these are insufficiently understood and too spontaneously and informally invoked; thus, they need to be better understood and clarified, a critical aim of this study.

A detailed understanding on the innovations of Simon, Rawls and Boltanski is presented in Chapter Five of this study.

1.6 Research Methodology

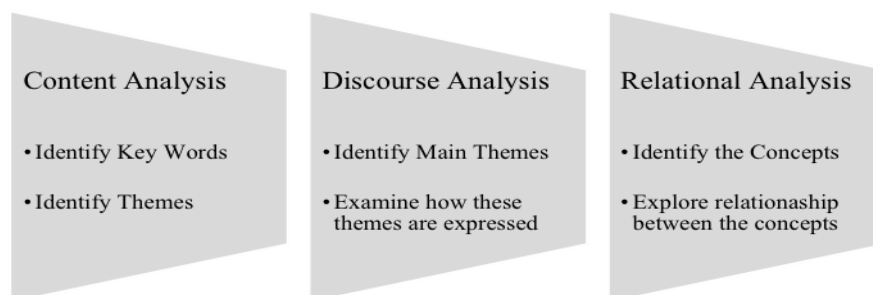
This research was aligned with qualitative deduction as it looked at the experiences and reasonings for choice around the “phenomenon”, namely, resource allocations. Strydom & Bezuidenhout (2015) state that qualitative research explores understands and describes experiences, thereby addressing the why, what and how of the research design, and that its results cannot be represented in numeric form. It differs from quantitative studies which measure, quantify and predict.

Qualitative studies support specific research methods on information gathering which normally require less representation as compared to quantitative studies (Pascoe, 2015); they include data collection tools such as conducting interviews, orally or written, graphically presented, which are analysed and become the interpretation of what something means. This meaning, however, could differ from one reader to the next. Hence the nature of qualitative research is imbued with the aspect of subjectivity. Qualitative inquiries also provide for a thick description which makes it possible to identify the most significant variables and norms within the sample population. Thick description was initially used by Ryle (1949), related it to the thinking of thoughts in finding deep meaning and subsequently developed by Geertz (1973, p. 9) who points out that the data gathered was “really our own constructions of other people’s constructions of what they and their compatriots are up to”. Lincoln & Guba’s (1985) suggestion indicate that the conclusions drawn from detail descriptions of phenomena (resource allocation in this case) can be extended to other settings or situations. This study was conducted using a global survey of the literature and government guidelines in relation to higher education financing. Seven participating South African University’s senior financial personnel (hereafter termed ‘Participants’) were interviewed to ascertain the budget framework processes specifically in relation to their main operations. These participants were recommended by the

respective University Registrars, who have been initially approached as gatekeepers to participate in this study. The study adopts an interpretivist paradigm as it focused on getting answers to questions by exploration. Such answers are of a subjective nature providing multiple viewpoints, gathered via interviews in order to develop ideas and concepts from their analysis. Individual meetings were facilitated at the convenience of participants within their workspace; the interviews allowed participants to explain the phenomenon in their own way. The meetings were recorded, transcribed using a mixture of intelligent verbatim (word for word) and the transcriptions were then edited. The data stemming from the transcripts were synthesised and validated by the respective participants.

The data analysis phase required strategies and various data analysis procedures as espoused by Sekaran and Bougie (2013), Bezuidenhout and Cronje (2015) as well as Samuel (2015). Content analysis of the data as illustrated in Figure 1.2 involves sifting, sorting and identifying the key features, variables, themes and issues under investigation (Bezuidenhout & Cronje, 2015), thus providing rich and detailed descriptions.

Figure 1.2: Overview of data analysis procedures



(Source: Bezuidenhout & Cronje, 2015, p. 243-245)

The analysis adopted in this research draws on a combination of content analysis which is used to analyse recorded interviews and conceptually structure them into themes or codes, and relational analysis which is similar to content analysis and explores the relationship between the concepts identified from the data (Sekaran and Bougie, 2013). Matters relating to the expressions, gestures, nuances, etc., of the interviewee were not considered.

Further, Samuel’s (2015) “The Research Wheel” was extensively adopted as the preferred method of analysis for the study. These involved three layers of analysis referred to as Levels 1-3. I sifted the data in order to identify keywords, making use of coding (literature on research

methodology sometimes refer to coding as thematisation) which assisted the identification of themes and sub-themes. Thus, a two-pronged approach is used in the analysis of data. The first being finances from governments to universities and the literature that surfaced around this, and the second being the mechanisms driving resource allocations within universities. Since the study is located in South Africa, various policy documents both from national governments and its sub department's ministerial statements together with HE bodies are discussed. Further, critical qualitative data surrounding the allocation of resources was sourced from participating universities via the face to face interview process. Throughout the analysis phase, I took cognizance of the theoretical framework underpinning this study as outlined in 1.5 above. The analysis provided sufficient information to draw conclusions and recommendations and to pave the way for a roadmap to a model for South African higher education funding.

While this section provides a snapshot of the research methodology, a detailed account is captured in Chapter Six.

1.7 Validity, Reliability and Rigour

The literature review was used as a basis from which to identify unexplored aspects of resource allocation in HE. Several studies relate to the financing of HE in democratic states around the world. However, few engage with crisis situations such as the current demand for financial reserves relating to the possibility of fees being scrapped entirely. Compounding the issue of HE financing in South Africa is the transformative agenda that was set in motion in 1994, falls short of meeting national expectations, and yet on the other hand, highlights gross irregularities Soudien Report (2008).

The review of literature pertaining to issues of financing higher education also formed the basis of a series of open-ended interview questions designed to understand the mechanism and approaches to downward distributions. The nature of the study lent itself to the interview being largely unstructured. I met with financial officers at selected universities in South Africa in their offices and conducted in-depth one-on-one personal interviews for comparison and discussion around diverse approaches to resource allocation. The interview responses yielded subjective perspectives on how resource allocation occurs at their respective institutions. Data obtained from these selected institutions in South Africa was critiqued.

Finally, a synthesis of the literature review, and analysis of qualitative as well as quantitative data (from the SA funding framework) was used to interrogate these models with a view to evaluating their relevance in meeting the current resource allocation challenges facing the HE sectors. The six strategies as espoused Merriam (1998) that being crystallization, member checks, long term observation, peer examination, collaborative research and clearing researcher bias were used to ensure the validity of the analysis process.

The reliability and rigour of data gathered through these interviews were subject to the good faith, goodwill, honesty, integrity and openness of the interviewee. Interviews were recorded with permission, transcripts of the interviews were produced, and these were forwarded for verification and amendments. Any potential risks were offset by acquiring a significant and varied number of data points through the interview method, to compensate for the lack of transparency and bias.

1.8 Ethical Considerations

Ethical clearance was granted by the University of KwaZulu-Natal's Humanities and Social Sciences Research Ethics Committee on 27 January 2017. Conditional clearance was granted by this Ethics Committee to conduct data collection via face to face interviews. Gatekeeper permission letters addressed to the Registrars of sampled universities were then formulated and delivered by email, their addresses identified from the respective Universities web page. Responses were received from Universities that chose to participate in the study, and the Registrars routed me to their respective finance specialists whom I would interview. Upon receipt of this confirmation, arrangements were made with these finance specialists either directly or via their personal assistants.

The participating institutions were given the assurance via the gatekeeper permission letter that they would be able to withdraw at any time without incurring any penalties. All confidential information received during the interviews did not influence the data and analysis of this study. Participants were assured that recordings and transcripts would be securely stored in at least three separate venues. They were also assured that the transcripts once finalized would be made available to them for checking its validity. These transcripts were mailed to Participants to review, provide input, correct as necessary and verify that what was discussed remained accurate. The feedback that was received from some of the Participants was addressed.

While the name of the Universities was recorded, the identity of the interviewees remained anonymous and is referred to as Participant/s. This study has adhered to all research ethics guidelines as stipulated in the UKZN guideline documents.

1.9 Delimitations of the Study

South Africa has a diverse HE landscape comprising the public (including the University of South Africa [UNISA], a distance education institution) as well as private HE institutions. Given that education (basic and higher) in South Africa is allocated over 20% of the national budget, this study will be restricted only to public HE institutions, namely, universities. The State funds public HE in SA in the form a block grant allocations or subsidy. These block grant allocations are the primary revenue source of all public universities in the country. The block grant is meant to fund all the universities main operational costs, though not wholly. A sample of under 50% of the total number of universities in South Africa participated in the study. While the sample comprised of Universities that attracted the larger share of the block grant, I acknowledge that it excluded institutions that may have a mechanism within their funding framework that is unique and relevant to assist the decision-making process that this study aims to enhance. In addition, various categories of funding are allocated by the State to public HE institutions. While this study makes mention of these categories, in order to refine the scope, its key focus is on the Block Grant and how this grant was distributed to fund the mainstream operations within HEIs.

Universities attract finances from various sources which includes the Government and the private sector. Government or State grants could be restricted (ring-fenced for a specific purpose) and/or unrestricted (discretionary in nature). Private Sector grants given to universities may be restricted or unrestricted dependent on funder stipulations/conditions. Examples of the latter include endowment funding, bequests, research grants, donations and the like. Universities also generate revenue from other avenues such as the hiring of its facilities, investment activities as well as tuition and other levies. This study focused only on the Main Fund operations of the HEI and excluded ALL other specifically funded revenue.

1.10 The Structure of the Thesis

This research report comprises ten chapters.

Chapter One positions my role as a researcher and provides the context of the research by introducing the phenomenon of ‘resource allocation’ or budget frameworks within the higher education sector. It outlines the aims and objectives of the research, indicating its location, South Africa, and provides insight into the critical questions underpinning this analysis. Further, the chapter discusses briefly how the research was conducted, its validation and reliability together with issues of ethical clearance and outlines some of the limitations. Finally, the structure of the thesis provides an overview of each chapter.

Chapter Two draws on prior research and begins by providing a historical overview of higher education with particular emphasis on South Africa where the study is located. I highlight the emergence of tuition fees and provide insight into the South African Higher Education landscape under the apartheid Government. I then move on to the role of higher education in civil society, culminating with financing options and challenges faced by higher education.

Chapter Three is where I delve into the financing of Higher Education by engaging literature from an international perspective outside of the African continent given their history in higher education. Literature on funding mechanisms within the higher education sector that were identified as relevant, was interrogated, thematically distilled and discussed in no particular order by countries.

Chapter Four is a follow on from the review of literature in Chapter Three but focusses on literature on the financing of higher education from a regional perspective within the African continent. Studies conducted on South African Development Community (SADC) regions, complemented by other studies on Sub-Saharan nations, are reviewed and analysed. This review provides insight into the higher education funding of these nations and includes the challenges they face. These are also discussed in no particular order by countries.

Chapter Five provides a theoretical orientation that frames this study, using Simon’s concept of ‘satisficing’ (1959), Rawls’s ‘principals of justice and fairness’ (1985) and Boltanski’s idea of ‘critical capacity’ (2011). Here I make a case for a hybrid approach to resource allocation taking cognizance of each of these innovations.

Chapter Six discusses the research design and methodological approach, and justifies the method in the context of the study's objectives and aims. It starts with synthesising the study by foregrounding my insider-outsider researcher identity. I then move along to the tenets of the qualitative paradigm and justifies the interpretivist method with multiple realities. The elements of the research design are defined, together with the data collection methods and its analysis. I further discuss issues of trustworthiness, ethics and the studies limitations.

Chapter Seven provides details of the South African HE landscape and discussion on its policy framework. This chapter presents information on the fiscal plan of the government and reflects on how and what resources form part of the fiscus. Further, a snapshot of the allocations to the various core areas that form part of the government's responsibility is illustrated. I then hone in on the higher education sector and provide a detailed account of how HE financing is conceptualised in South Africa. This is done by providing a historical overview of funding leading to the current New Funding Framework. I provide insight on both the Block and Earmarked Grants and also highlight some of the challenges posed by the New Funding Framework.

Chapter Eight outlines the research sites of participating universities with a high-level synopsis of their management structure. The chapter formulates the findings that stemmed from the face-to-face interviews conducted with participants at the sampled universities. Prior to this, the audio recordings were transcribed onto a Microsoft Word document. Thereafter, I used a combination of transcription techniques to produce a synthesis of the findings. The findings were synthesised in order to offer an in-depth understanding of the phenomenon of resource allocation that lent itself to meeting the objectives of this study.

Chapter Nine draws on the main findings that emerged from the study. I begin with analysing the literature reviews by considering the history of higher education, its role, challenges and opportunities. Further, the insight gained from the experiences from an international and regional perspective allowed me to extract the arguments surrounding higher education financing. Using the theoretical framework, I provide a brief discussion of the South African model paving the path for the development of a 'roadmap' provided in Chapter Ten. The attention is then focussed on the analysis stemming from the themes that emerged from the interviews with participating universities.

Chapter Ten concludes the study and incorporates two sets of recommendations, one for the State and the other for Universities. Also included is a list of possibilities for future research. Thereafter, I present a Higher Education Roadmap that proposes diagrammatically, those aspects I believe are guidelines to develop a HE funding framework for South Africa. The study draws to a close with a brief reflection on my journey as a researcher, and the recommendations I make from that standpoint.

1.11 Summary

Chapter one provides a contextual framework and overview of the study. Its core focus area is that of higher education financing. The crux of the discussions is the challenges faced by higher education in dealing with the issues of access, quality and efficiency amidst dwindling resources. All of these challenges are measured against costs that have subsequently increased faster than the country's consumer price index. The key aim of the study was to analyse HE funding models both from a government and university perspective in order to identify similarities, differences and uniqueness of approach, with a view to testing my hypothesis of whether a financial model is viable at a university.

This study is located in South Africa at a time when the country reached a 'tipping point', with student calls for free higher education, amid violent protests and drastic policy imperatives both from university leadership and government. The study focused on the block grant allocation made to a sample comprising the top ten recipients of the grant from the population of all public HEIs in the country. Of these ten universities, seven responded. Given that UNISA is a distance learning institution, it was excluded from the study because the nature of its operations and cost structures that differ from other public contact HEIs.

The critical research questions centres on the issue of scarce resources and its alignment to the principals of critical capacity, justice and fairness and satisficing, as espoused by Simon (1959), Rawls (1985) and Boltanski (2011). The motivation for the study is rooted in my position as Financial Manager in the College of Humanities at the University of KwaZulu-Natal in that any changes in the financial systems that occur, impact my portfolio directly. The method adopted in the study is a qualitative one: it uses the literature review and theoretical framework as a lens for face-to-face interviews with Participants from selected universities. All administrative and clearance requirements have met the University's ethics standards and

procedures for undertaking research. This study's delimitating factors were its focus on the block grant only and not all other resources that universities receive.

In Chapter Two which follows, I present a detailed historical account of higher education and highlight issues that are currently influencing the higher education system.

CHAPTER TWO

LITERATURE REVIEW

THE HISTORY OF HIGHER EDUCATION, ITS ROLE, CHALLENGES AND OPPORTUNITIES

2.1 Introduction

This chapter provides a historical overview of higher education, emphasising the emergence around the notion of billing students which emerged as an imperative in the HE sector. This is followed by a review of higher education's role and its impact on civil society coupled with its effect on a country's economy. For the purpose of this research, it is vital first to establish how the notion of fees came about, as well as its impact on the 'fee provider' prior to interrogating any notion or models of financing higher education today.

2.2 A historical overview of Higher Education

Kittler (2004) is of the view that there is no other means other than a historical inquiry to guide us to prepare for the future. The author refers to "diagnostic and even prognostic consequences from the eight hundred years of the university educational system" (Kittler, 2004, p. 244).

Historically, HEIs have their roots in the Middle East and/or Northern Africa with the oldest being the Al-Karaouine University operating from a mosque in Fes, the first degree-granting university, established in 859 AD in Morocco (Lani, 2018). The latter was established in accordance with Islamic tradition by the daughter of a wealthy merchant, Fatima al-Fihri, who dedicated her wealth to this establishment.

Europe's first university, the University of Bologna in Italy was formed by the citizens of the city of Bologna in 1088. These citizens wanted to expand the religious teachings of the Vatican (where all knowledge was housed) to include secular teachings (Unibo, n.d.). Most European universities were formed similarly as extensions of former monasteries and cathedral schools. The religious allegiances in Europe with their institutions had at their core Christianity, whilst those of the Middle East, Islam. The financing of the University of Bologna was such that

[Right] from the outset, the students paid the teachers a "collectio", as a gift rather than a salary, as at that time science, a gift of God, could not be sold. Gradually such donations were transformed into actual salaries...the students did not always give to

*the “collectio”, and the municipality had to intervene to allow the studies to continue.
(Unibo, n.d.)*

The primary disciplines taught at these early universities, which emerged out of monastic and cathedral schools, included: the Arts, Astronomy, Theology, Islamic studies, Legal Sciences and Medicine (Unibo, n.d.).

After the French Revolution in the 1790s, Napoleon recognised the value of engineering and applied sciences for military purposes. He set up the Napoleonic ‘University’ of 1808 which included the *École Polytechnique* (Technical University or College), whose highly skilled academics were used for conducting military research and amongst other things, the designing of weaponry, based on the principles of Mathematics, Engineering and other Applied Sciences (Polytechnique, n.d.). Other institutions followed by introducing universities of technology/polytechnics and/or the integration of technology and applied science disciplines into the mainstream of universities. The responsibility for funding higher education now migrated away from patrons and nobility to become a centralized model and the responsibility of the State (Anderson, 2004).

Hammerstein (1987) states that apart from the German Universities which commenced as ecclesiastical and later around 1378 became traditional universities for general studies (the Universities of Heidelberg, Cologne and Frankfurt), two German institutions shaped the course of higher education in the 20th Century The *Bauhaus* (1919) and the *Institut für Sozialforschung Frankfurt* (Frankfurt Institute for Social Research, 1923), emerged after World War I. The *Bauhaus* focused on innovation, design, skill and production whilst the *Institut für Sozialforschung* engaged with higher-end scholarship in Philosophy and the Social Sciences.

Given that the general consensus amongst Germans is that higher education is a public system and a benefit to civil society (Kehm, 2014), Germany historically altered its funding support from a shared system to being a wholly state-funded system. In 2006, a Constitutional Court ruling introduced tuition fees being billed to support Germany’s commitment to education in general. Following an extensive debate in Germany, Higher Education is now free in all 16 states, with government support of 84%.

The United Kingdom (UK) higher education history began around 1096 in the city of Oxford with the establishment of the University of Oxford. This university was followed by the

formation of the University of Cambridge, where teaching started in 1209. Thereafter in the 15th century came three Scottish universities, namely, St Andrews, Glasgow and Aberdeen. The University of Edinburgh followed and opened its doors in the year 1583. Since then, higher education institutions continued to sprout all over the UK, mostly in the 19th century stemming from the Government's plan to expand the sector given the increased demands for education. In 1998, the UK introduced regulated tuition fees for the first time. These regulations which governed the capping of fees increased considerably.

Even though a range for fees was provided, more than half of the UK universities announced their intention to charge students the full maximum capping. States within the UK contributed 30% of the cost of higher education. Thus it came as no surprise that during the 2015 UK election campaign, the future trajectory of tuition fees became a hotly debated election issue - a tool that became useful for electioneering.

The United States (US) has always placed higher education at the forefront of its economic success. This success began in the sixteenth century when the early settlers believed education was essential. Similar to the formation of the University of Bologna (discussed earlier), the US also promoted religious Christian-based ministries by the Puritans as the foundation for developing educated civil leadership. This saw the establishment of Harvard College in 1636, now renamed Harvard University (Harvard, n.d.).

With nine other colonists-chartered colleges and seminaries formed at the start of the American Revolution (1775), only one was formed in the South. These seminaries started to develop into separate denominations, which resulted in the Colleges aligning themselves with the distinguishing characteristics of their respective denomination. Presbyterians, for example, formed the College of New Jersey which later became Princeton, Anglicans formed the College of William and Mary etc. Funding was and continues to be provided by the State with a shared system between parents (who funded the tertiary education of their children) and those students who funded their own studies.

A considerable body of literature has been published on the history of South African Higher Education (Cloete & Bunting, 2000; Cloete et al., 2002, Kraak, 2000; Ajayi, 1996; Bunting, 1994; Bunting & Cloete, 2010). De la Rey (2001), synthesises these studies and provides a synopsis of higher education in South Africa both pre- and post-1994. The first College in South Africa was established in 1829 in the city of Cape Town as a so-called superior high

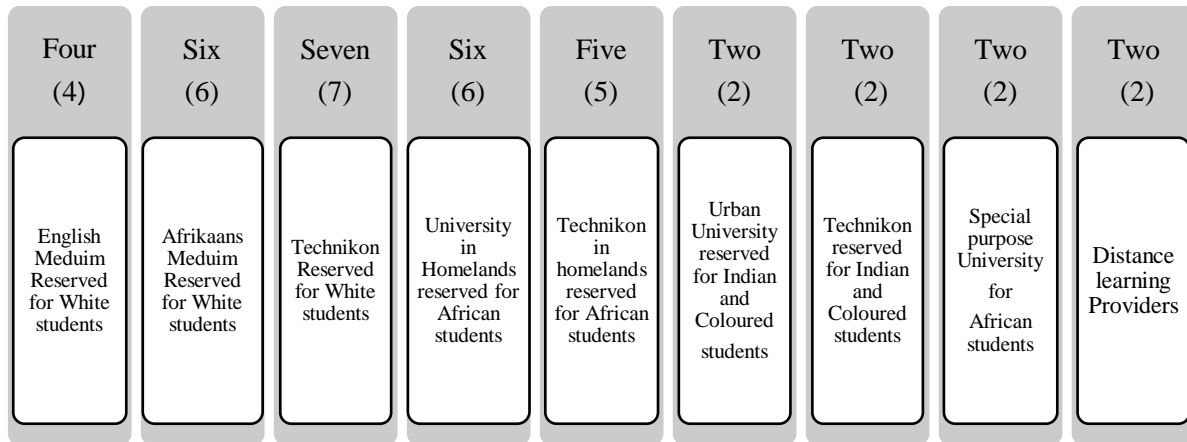
school (Human Sciences Research Council, 1972). A number of Colleges were then formed, many under the auspices of the churches, which later developed into universities. A Board of Public Examiners was formed in 1858 to examine candidates and issue certificates. The University of Cape of Good Hope was established in 1873 stemming from an Act of Parliament which replaced the Board of Public Examiners as the examining body for students of Colleges. This University of Cape of Good Hope also had the power to confer degrees despite no teaching being undertaken at the university.

The University of South Africa (UNISA) was formed in 1918 incorporating the University of Cape of Good Hope (1916 University Act of South Africa). The year 1918 also saw the renaming and incorporation of teaching and research of the South African College to the University of Cape Town (UCT) (for English speakers) and Victoria College became the University of Stellenbosch, for Afrikaans speakers. This was followed by the University of the Witwatersrand (WITS), in 1921 for English speakers, University of Pretoria (UP), in 1930 for Afrikaans speakers), the University of Natal in 1949, University of the Orange Free State in 1950, and the Universities of Potchefstroom and Rhodes in 1951. All of these universities were the property of the State (then Union of South Africa) and as such was publicly funded but remained accessible only to the White population of South Africa. The criteria used in funding these Universities evolved over the years. The University of Fort Hare in 1923 was the first for non-white South Africans. It was formed from Colleges under No. 30 of the *Higher Education Act 1923* (SA). Thus racial segregation became the norm with whites having the greater share of university enrolments.

Some universities did not admit students of colour and the few that did, with the exception of Fort Hare, created segregation of both facilities and teaching times (De la Rey, 2001). By 1957, with a total enrolment in universities of 22 000 contact students, only 1300 were African (400 from University of Fort Hare) and 900 from either Universities of Cape Town, Natal and Witwatersrand. During the D. F. Malan (1948 to 1954) era, racial segregation became further enforced across the educational system, this time even proposing a split in the non-white population into Africans, Indians and Coloureds. Burrows, Kerr, & Matthews (1961) record the dis-satisfaction by university stakeholders including those from UCT and WITS who opposed racial and academic segregation. A synthesis of their key findings suggests that the history of university education in South Africa followed along the lines of a colony (De la Rey, 2001). During the apartheid era, South Africa, following from models from the UK and

Scotland, had 36 HEIs split between racial and ethnic lines as illustrated in Figure 2.1.

Figure 2.1: Higher Education Classification in Apartheid South Africa



(Source: Hall et al., 2002, p.20)

The South African higher education system historically adopted ingredients from predominantly German and other European models. This is evident in the classification of technikons, which offered vocational education, and universities, that offered academically focused disciplines (Harvey, 2004).

The name “technikon” was unique to South Africa, invented by politicians within the National Party Government (Du Pre, 2010). They were not recognized as a university and continued to play second rate to universities. Technikons initially offered three-year post-school National Diplomas and catered for those who did not meet university entrance requirements but possessed a “solid reputation” of career-orientated programmes. The fourth year of study was termed the National Higher Diploma, which later became known as the Bachelor of Technology Degree (BTech). South Africa, historically had fifteen such technikons and through a series of reshuffling and redesign of the HE sector, there are now six renamed Universities of Technology.

The renaming followed a numerous amount of debate by the Committee of Technikon Principals (CTP), a statutory body that advised the Department of Education on matters affecting the technikon sector. The CTP felt that there was a need for a name change as the name technikon did not identify with higher education. A number of names were put through the Department, and in 2001, the Council for Higher Education (CHE) and the CTP made representation to the Minister for a name change to “University of Technology”. Some principals did oppose the name change; however, in October 2003, Minister Kader Asmal ruled

that technikons would now be known as “universities of technology” (UoT). For an elaborate account of technikon, history see Du Pre (2010).

Following the first democratic elections in 1994, the CHE proposed a unified higher education system based on principals of equity, democratisation, quality, academic freedom, institutional autonomy, effectiveness and efficiency (Barac & Marx, 2012). Since 1994, in its quest for the South African Government to meet its obligations to civil society in relation to the Bill of Rights which promulgated that all South Africans have a right to basic education, adult education and further education, there have been numerous reports and legislation regarding HEIs in South Africa. These include Green Papers, Acts of Parliament, National Plans, Regulations and Manuals and various Annual Ministerial Statements. The education system adopted in 1994 was accompanied by a whole new set of challenges and problems (#RhodesMustFall, #FeesMustFall, Africanisation of the curriculum, etc.) and it is in response to some of these issues that the present study is located and gains value.

What emerges from this section is that the first universities emerged of religious institutions and were not about fees but about knowledge dissemination. Students that were recipients of such knowledge felt obliged to reward their teachers. This reward commenced with a gratuitous gesture or donation. Gradually these donations evolved into paying for teaching. As secular content made their way into teaching, religious institutions no longer housed such activities resulting in the creation of universities. In order for universities to sustain themselves, they required fee-paying students. Universities became the responsibility of the cities and later the States. Thus current fee-paying tuition in HE globally is an extension of this development. Whilst most governments continued with student fees billing, some have chosen to provide free higher education. Later, after realising the consequence of this decision especially in light of the massification of HE, attempted to revert to a shared costs approach.

In South Africa, the apartheid system had a disproportionate HE system that benefitted a segment of the population resulting in stunted growth of the higher education sector. The democratic government of 1994, inherited this stunted growth and embarked on levelling of the HE sector. Within the latter process, those institutions that were historically disadvantaged were given preferential treatment. Ten years into the democracy, several radical changes occurred within the HE sector (mergers, reclassification and redefinition of universities). The latter coupled with a volatile economic sector posits challenges for the funding of HE.

2.3 Higher Education and Civil Society

During the 1980 and 1990s, the World Bank favoured development in basic education instead of tertiary or post-secondary education, in that it considered the latter two to be a luxury (World Bank, 2016). This position was in line with the millennium development goals set out by the World Bank (2016). By the turn of the century, the demands for tertiary education globally increased exponentially prompting a shift in the World Bank's position.

Post-secondary education supports the production of higher-order capacity in the form of knowledge production and the development of advanced skills (World Bank (2016). The need for Higher education is critical to any country's economic growth and needs continuous sustenance. It is one of the most powerful instruments for reducing poverty and inequality and lays a foundation for sustained economic growth (Worldbank, 2009). A well-developed education system ensures capacity development and maximizes on rapid technology advancement, thus contributing to an improved standard of living, which in turn results in benefits for civil society.

The Organisation for Economic Co-operation and Development (OECD), state that 80% of tertiary-educated adults are employed and earn more than those who exit secondary education only (OECD, 2015). As more organizations place reliance on higher education qualifications for positions, earnings increases; skills increase. Further, postgraduate studies in the form of Masters and Doctors of Philosophy (PhD) have the potential to dramatically increase the earnings and stature of individuals. Benefits of higher education are not limited to finances alone (OECD, 2015). There are also other critical benefits that include taking responsibility and self-awareness of one's health. Those who are qualified have the need to live longer, engaging in government matters, participation in voluntary activities, supporting state revenue (higher earnings means higher taxes), developing the future of their children by providing additional resources to assist education journey, uplifting and providing for parent's needs, adding value to economy and Gross Domestic Product (GDP) growth.

Society also benefits from the role higher education plays through the advancement of Knowledge, preservation and dissemination of cultural heritage, new knowledge and new literature which has a direct benefit to society based on new technology, advancement of social welfare and avoidance of negative outcomes for society. Higher education, in short, contributes to economic advancement, social justice and civic betterment (Johnstone, 2013). UNESCO

(2009), articulate higher education as having three functions: knowledge production (research); knowledge transfer (education), and knowledge distribution (service). This is further expanded by Nagy and Robb (2008) to also include knowledge application. Nisar's (2015) contribution to the role of universities is that they are key contributors to the government and national economy by progressing job creation, increasing investor confidence and enhancing revenue. He further states that quality education drives competitiveness and enhances democracy.

A college degree is proven to be providing an edge in both financial and societal standing of individuals. The earnings power (up to 84% more in the US) of people with degrees has proven to be much more than those without. Stronger economies are dependent on society's attainment of qualifications, which in turn results in job creation, job satisfaction, prosperity and general quality of life. Teferra (2013), however, argues that attaining a College degree historically assured graduates of finding jobs and this has changed. In current times, "[A] diploma or degree does not guarantee you a job" (MacGregor, 2013, personal communication with Teferra - October 19, 2013). He further asks: why then do we need a degree if employment is not guaranteed, stating that "without that diploma or degree, you are not going to get a job. That dynamic that will continue" (MacGregor, 2013, personal communication with Teferra -October 19, 2013).

Washburn (2005) flags research at Universities as an incentive to attract substantial financial resources from industry who are continuously reliant on faster research and development to enhance their products offerings. One could argue then that the most critical role played by University is societal upliftment in the form of the research that is sanctioned by industry. Industry, however, wants its rights patented and data protected, which creates the pressure of transparency of any breakthrough in knowledge production. In other words, the level of publishing the findings for the public good in scientific journals are somewhat governed by these industry restrictions. Though this may seem a negative connotation to society, the benefits attained are far greater. The flow chart below using the example of a hand sanitizer is a snapshot illustration of the importance of cutting-edge research and its benefits to society.

Figure 2.2: Industry and University Research



(Source: Washburn, 2005)

“The purpose of education is to provide the tools, knowledge, skills and experience that an individual needs to become a productive member of society, and to contribute to the strength of our economy through their work and production” Lucas (2012, para. 5). In addition, Pillay (2013) highlighted the role of Higher Education (HE) and how this role is evolving due to increased globalization. He went on to emphasize that HE is now as important for developing and poor countries as it is for rich countries, by asserting the following:

- a) Social returns to HE are underestimated;
- b) Developing countries have multi-modal patterns of economic development, and
- c) HE is critical for economic growth and technological absorption.

Given the above, it can be established that Higher Education provides the key link to a country’s economic success more so for those developing countries that are wanting to build their skills set and uplift their knowledge economy, thereby increasing wealth for the nation as a whole.

Despite the acknowledgement of the positive impact higher education has in benefiting civil society, decision-makers both from governments, who must also provide resources for various other civil society needs, and those within the higher education sector, are faced with a multitude of challenges. Overcoming these challenges cannot be easy, and it is of importance that higher education systems are protected, preserved and enhanced, taking care off and supported by governments and corporates (Washburn, 2005).

The financial operations of governments are often determined by people’s philosophies and personal traits. Decision-makers who play a key role in government have their own

philosophical differences which at times lead to disagreements and different schools of thought. These differences directly impact policies that come out of government. Rosen (2005) provides a perspective on the role of government in the economy and points out that some people play this role for personal benefit, and others for the well-being of the communities they serve. One may ask - What is the role of government in the economy? Rosen confirms his position by citing Thomas Jefferson:

Sometimes it is said that man cannot be trusted with the government of himself. Can he, then, be trusted with the government of others? Or have we found angels in the form of kings to govern him? Let history answer this question (Thomas Jefferson cited in Rosen 2005, p.6).

This quotation speaks to man's perceived inability to manage and administer his own life, hence the difficulty or challenges he faces managing others. It goes on to highlight then the necessity of a chosen group of people (e.g. Kings) who are selected by, at times, the people themselves, we call the society. Rosen (2005) describes a society in two ways: organic and mechanistic. The organic view is where society is described as an organism with the government being the heart. The mechanistic view, in contrast, is described as society being the trust and the Government being the trustees of this trust (Rosen, 2005).

The Government then are selected individuals or groups whom we term 'leaders' are then tasked to manage and control the economy, schools, hospitals and all public service. The financial behaviour of Governments has been controversial for centuries (Rosen, 2005). Their role is to collect money from personal taxes (one-third of its revenue), corporate taxes, Sales taxes and property taxes and spend this money for the public good. 'Public Finance' or 'public sector economics' are terms used to portray the role of governments in society, which influences the resource allocations and the distribution thereof. This study deals with one such public service namely higher education.

Higher Education, (as is the case globally) was always seen as a public good in the US and funded accordingly. Kallison and Cohen (2010) summed up the concept of public good and conceded that higher education produced the desired literacy in meeting the workforce demands of the American economy. Further, higher education fueled research - both basic and applied - for commercialization. Commercialization would drive the formation of industries which in turn create jobs for its people. Given this stance, after World War II, the US pursued

a policy change on higher education. This policy change was premised around three pillars: access, affordability and participation (Kallison & Cohen, 2010).

In meeting the objectives of the above-mentioned three pillars, the State introduced a range of facilitation mechanisms for students to pursue tertiary studies. Some of these included needs and merit-based grants and loans for both undergraduate and post-graduate students. Interestingly, students who received grants did so on the State's earmarked critical areas of study in term of its national strategy. Winter-Ebmer and Wirz (2002) provide evidence that reflects the impact of state funding on student enrolment within European countries. They commence by questioning the need for state intervention in higher education given that obtaining a degree is linked to a personal choice by the individual, and suggest three possible reasons:

- A population that is educated provides a stable democracy and a richer cultural life;
- The choice of study depends on the accessibility for individuals to enter higher education. The State must be able to support poor students via loans schemes, and
- An educated workforce provides increased productivity by creating smarter people.

Câmpeanu, Dumitrescu, Costică, and Boitan (2017) describe higher education as a pathway to achieving smart growth, creating sustainable solutions and driving economic competitiveness. For the individual, the authors describe higher education as providing a means for self-development, thus ensuring a better life. Their study considers the funding aspect within a sample of European Union (EU) countries, and their aim is to draw a correlation of the impact in relation to the socio-economic environment, particularly due to the economic state and funding constraints. With civil societies needs having to experience constant changes, the higher education landscape, particularly in relation to funding modalities, needs to align itself to cater for these changes. However, the biggest challenge is trying to keep up the quality amidst funding shortfalls.

Given that some countries in the EU have unfavourable economic conditions that affect their ability to adequately fund higher education, Câmpeanu et al. (2017) have subdivided these countries into four groups according to variables, which include:

- The share of GDP funding for higher education;
- Percentage of youth regarding long-term unemployment rate;
- Percentage of youth at risk of exclusion, and
- Annual net earnings.

Recent studies (Câmpeanu et al., 2017) conclude that for ensuring sustainability, the resources ploughed into the higher education system must take cognizance of the different variables that directly impact the socio-economic environment. According to the DHET (2013, p.viii),

“...the education system should not only provide knowledge and skills required by the economy, it should also continue to develop thinking citizens, who can function effectively, creatively and ethically as part of a democratic society, and be able to participate fully in its political, social and cultural life”.

The success and growth of an economy rest in its ability to educate and create critical minds that could be nurtured to assist Government in its venture of providing jobs, proper health care, public safety and security, education and social welfare.

This section focused on the role of higher education in meeting the government’s obligations. Across the globe, government’s education support is of paramount importance and the passivity or power thinking citizens that education in general generates, helps shape its economy and creates a richer cultural life. HE provides the platform to earn higher thus improving the States fiscus. A primary driver for the sector and its control mechanisms are the issues around access, equity, financial sustainability and the link between higher education and potential employers. This imperative is to ensure a narrowing of the gap between the rich and the poor in order to maintain a more equitable society.

2.4 Challenges in Higher Education

The challenges faced by higher education in Africa is common. Some of these challenges include issues around access, equity, quality and efficiency (SADC, 2007a). Pillay (2013) captured these challenges faced by higher education in the continent in the form of common themes that include inadequate, inequitable and inefficient financing system; private HE’s poor or lack of regulatory control or monitoring; efficiency and /or inadequacy of HE expenditure; increasing enrolments; equity and quality.

Lucas (2012) argued that more must be done for disadvantaged students to gain access to higher education given the many barriers they face - one being funding. This is supported by Pillay (2013), who confirms the low commitment to higher education spending. Pillay (2013) also speaks to poor and inadequate schooling both at the primary and secondary level. We must

take cognizance of the fact that one would have never thought that the challenges faced by South Africa and other African countries would be consistent with those of the developed world.

A detailed synopsis of challenges faced by higher education surfaced at a forum focused on opportunities within the higher education sector in South Africa that was hosted by the Regenesys Business School, Sandton, and Johannesburg on 26 June 2013. At this forum, Mr Ahmed Essop, the then CEO of the Council of Higher Education (CHE), asserted that while access and the inability for young South Africans to enter Higher education, of those that do, “only 50% of students leave higher education with a qualification”. Essop speaks of an articulation gap between high school and university that needs to be bridged, as students entering higher education institutions are ill-prepared to deal with and cope with challenges of higher education institutions in that many of them drop out. The concluding remarks at this forum painted a bleak picture of the higher education systems in South Africa.

Such challenges are not unique only to South Africa but are faced by the Higher Education Sector globally. Gates (2014) concurred and made the point that there are more students going into higher education but very few are coming out, and these drop-out challenges were global. Further, challenges emanating from this Regenesys forum and other researchers included:

(i) Inadequate, inequitable and inefficient financing, infrastructural and ICT systems;

- Access to higher education on financial grounds;
- Higher education institutions need expansion in terms of infrastructure;
- Expansion in terms of other facilities that are required by students, including residences;
- Underspending and/or wasteful spending;

(ii) Leadership challenges, some of which are identified in Teferra (2013) study that negatively impacted higher education in Sub-Saharan Africa, which went beyond issues of finances, including:

- Lack of expertise on the part of decision-makers;
- mismanagement;
- lack of generating alternative income;
- poor policy decisions;
- “Silo mentality” within institutions – no joint vision of the country’s needs;

- Soft skills like communication not addressed, and
- Brain drain – senior academics and professionals leaving the country.

(iii) Lack of regulatory control or monitoring

- Autonomy is not checked against public accountability;
- Private Higher Education - Poor or lack of regulatory control or monitoring, whereby institutions are operating illegally;
- Recognition of prior learning and bridging courses should integrate with HEIs, and
- Differentiation in curricula and qualification between HEIs.

(iv) Transformation

- The dominance of white males in senior management;
- Racial and gender imbalances existing amongst lecturers and senior management;
- Difficulties in replacing the academic labour force. The current demographic represents an ageing white professor rate in their late 50s and early 60s, approaching retirement. Further, there appears to be a lack of attractiveness from young incumbents wanting to pursue academic careers;
- Qualifications are theory-based - no work-integrated learning;
- Insufficient staffing with appropriate qualifications, with few having doctorate qualifications; those who have PhDs make up only 40% of the staff in public higher education establishments;
- Expansion in terms of personnel, and
- Employer bias – choosing graduates from so-called affluent HEIs.
- Racial and gender imbalances existing amongst lecturers and senior management;

In short, this section points out the challenges faced by higher education and indicates that many of these challenges are global. Some of them are unique to Africa, with South Africa having to deal with the added issues of equality and transformation.

2.5 Globalization and Entrepreneurship

Ferlie, Musselin, and Andresani (2008), state that the higher education sector is viewed as one that operates in a “stand-alone” fashion, in that it is not comparable with other private or public organisations. However, generic concepts from both public management and political science could be inculcated in the management of the higher education sector, which also places globalization at the heart of current discourse. Wildavsky (2010) cites the Indian University of Technology (IIT) in Madras, as one such example of globalization. The IIT, although placed in a remote area in India, has cooperative agreements with high profile academics from Yale, Brown, and even Harvard Universities.

Some of the IIT students were employed by Infosys or Sun Microsystems, and some even went on to Graduate School at King Abdullah University of Science and Technology in Saudi Arabia. Wildavsky (2010) explained that globalization is where top students from around the globe are attracted to a specific institution by means of either scholarships and bursaries, employment incentives or collaborative agreements. An extension of these globalised collaborative processes is the emergence of satellite campuses within the countries. Universities now no longer faced competition between each other but instead compete with other universities globally.

Wildavsky (2010) records that the effects of globalisation are reshaping higher education in a massive way. It is at this crossroads that the higher education sector joins the commodity sector and is treated as a “form of international trade”. With the advancement of technology, doors are being opened for anyone from any country to attain qualifications of their choice from any visionary university. After World War II, the US had an over-supply of foreign students, a trend that continued with the US being the most popular choice for foreign students, followed by the UK and Australia.

Wildavsky (2010) analysed the changes in higher education in that he recognised that universities now want to recruit top students from other nations. Apart from this recruitment effort, some institutions saw it necessary to extend their reach by opening campuses in lucrative destinations, for example, New York University wished to open a satellite campus in Abu Dhabi - a Liberal Arts College - citing as its reason the need to help transform Abu Dhabi and its students into global citizens. Despite such initiatives which were accompanied by

overwhelming financial support, several critics raised concerns on cultural and societal grounds.

Wildavsky (2010) further spoke of the democratization of access to college and referred to openness, the willingness to accept any student regardless of race, gender or creed. While many Universities created barriers to protect their perceived national interest, Wildavsky (2010) suggested that education should benefit everyone across the globe in order for such barriers to be minimized. Globalization is seen as a key process in transforming higher education.

Marginson's (2006), study focused on the dynamics of globalization in higher education using three parts. The first looked at national competition in higher education and used the Australian system that had a policy change in 2005 augmenting competition. The second part focused on élitist qualifications from prestigious universities in the UK and the US, where the financial bottom line was the key variable. In the final part, he joined the national and global competition and concluded that higher education played a pivotal role in nation-building and re-modelling of national strategies which are vital to enable the "purchase" of "relevance" in a global setting.

With an open market system, many Universities have Massive Open Online Courses (MOOCs) and qualifications for students. With the insurgence of technology and the language barriers being broken, it has become easier to study abroad. The need to establish social congruence in this process creates a challenge for higher education institutions within the country. Between 1999 and 2009, the number of students from economic strong countries such as India, China, and Japan opting to study outside their resident country, grew by 50%. Bonk, Lee, Reeves and Reynolds (2015) state that MOOCs offer students the necessary tools and competencies they require to succeed within an online platform but concede that the system required ongoing development and strategic oversight.

Closely aligned to globalisation is the notion of commercialization. Commercialization here refers "to the efforts within the University to make a profit from teaching, research, and other campus activities" (Bok, 2003, p. 3). The quality and role of education are constantly changing. One of these changes was highlighted by Washburn (2005) and delved into the commercialization of higher education, where institutions are expected to be more business-like. Across America, the focus on fundraising is of paramount importance given the economic downturns and resource scarcity. The curriculum of yesteryear may not be as appropriate as it

is today, in that many countries' higher education systems are falling behind in key areas of science and technology, societal studies, and legal and managerial studies.

Further, such commercialization infiltrated higher learning, and although this came with substantial financial benefits, there were risks that needed to have been mitigated. Washburn (2005) cites two cases, the one being that of the anti-aids drug and the other being Boston University's privately owned Drug Company. Washburn (2005) concluded that there exists a clash of interest when University research findings are contested or when a University enters into new ventures beyond its core teaching and research mandate.

Washburn (2005) further concluded that commercialization, while assisting higher education institutions and government with easing the burden of finances, means that the knowledge aspect is not openly transferred the way it should be. This is as a result of the stringent guidelines and secrecy bills and patents. This shutdown or restriction of knowledge transfer ultimately jeopardises innovation in the subject areas concerned. Washburn (2005) conceded that commercialization shifted academic priorities, with researchers benefiting from both their tenure funded by the respective universities and topped up by their principal investigator component within the research contract covered by industry. In the US, when these phenomena occurred, the issue of patents rights was discussed and deliberated at Congress and Universities had to shift their focus from a non-profit scullery mission to that of a profit-seeking venture. Businesses were protected by these patent rights. These in turn affect society since sanctioning full disclosure and transparency is contrasted with protecting corporate interest. A further challenge that emerged was that the industry could manipulate and distort the findings of such research.

With senior tenured academics focusing on the increased corporate funding which pushes up profits for Universities, the classroom lecture was conducted by adjunct faculty, thereby disadvantaging the student experience. Washburn (2005) recommended that:

- Society must understand that higher education is commercialising;
- Support the third-party patent model that protects both the University and the corporate rather than the institution-specific model;
- Reinstate freedom of inquiry in academia, and
- With too much focus on science and technology, assist in fueling basic and applied research.

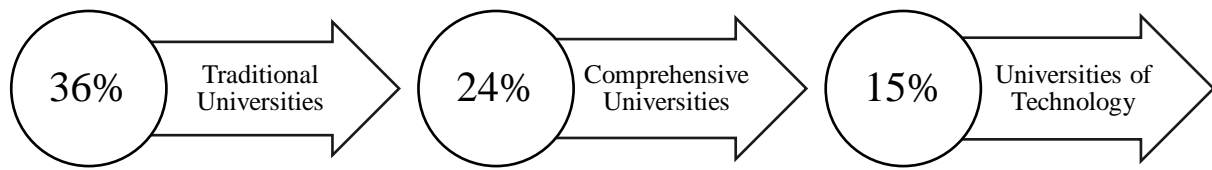
Gates (2014), when quizzed by Cornell University President, David Skorton, about the future of higher education, responded that as state subsidies dwindled, the cost of higher education increased faster than taxes. These increased cost measures and the huge level of drop-outs posed further challenges to Universities. Gates hoped that technology could assist in creating more accessibility and raise quality. He likened higher education to theatre production and states that some productions are good, some are bad – similarly, not every curriculum or delivery is good. Every University carries with it its good and bad programmes; the idea is to reduce costs in these bad programmes and increase quantity in the good ones.

Higher education remains one of the sectors that are open to internationalization due to its core existence in knowledge production and transfer. This cross-border relationship allows for the transferring of skills, products and technologies. Marginson & Wende (2007) emphasized that for the first time in history, knowledge could be accessed via a single network or hub. They further claimed that research is more internationalized, thereby creating mobility and migration of researchers, including post-graduate students. Globalisation and entrepreneurship feature as a key to addressing funding challenges faced by higher education together with alternative income streams.

Barr (1993) investigated the alternative funding sources of higher education in a number of countries, including Australia, the UK, the US and Sweden. The author asserted that the total higher education resources, which fund teaching and research in different subject areas, supports the demands of three constituencies: students, employers and Government. Barr (1993) concluded that higher education funding should be seen as coherent Government strategy and such funding should not overly rely on one source. He suggested two possible solutions: to maintain a hold on expenditure while increasing student intake and to attract additional public sector funds.

The Price Waterhouse Coopers (PWC) review, *Annual reporting by South African public higher education institutions 2010-2012*, illustrates that the average third stream income was approximately 30% of total revenue amongst South African universities. These include donations, hire charges, research grants, consultancy fees and so forth. Only three institutions attracted over 40% of revenue from these alternative streams. Figure 2.3 below reflects the average third stream income of the three categories of Universities in SA for the reporting period (PWC, 2014).

Figure 2.3: Percentage of Third Stream Income



The PWC (2014) report concluded that Universities of Technology that worked closely with industry should be in a position to outshine other non-aligned universities. This, however, was not the case, as they recorded the lowest amount of revenue generated via third stream income.

Christensen and Eyring (2011) suggested that institutions change their ‘DNA’ in order to be competitive. They recommended constant trend-setting and positive innovation in accordance with their mission statement. Institutions should be wary not to disregard or have a ‘blinkered approach’ towards their competitors. Christensen and Eyring (2011) concluded by suggesting that universities ought to revisit and strengthen their niche areas while discarding or reshaping traditionally unproductive areas.

A synopsis of the section reveals that HE simply cannot ignore the effects of globalization and its potential threat if taken lightly. Universities are no longer only competing regionally, they are now faced with threats from across the globe. These threats refer to students that opt to attain qualifications from more recognized institutions either by relocating abroad or whilst in the comfort of their homes with the use of technology. These recognized university’s themselves are starting to open satellite campuses in different regions, some even internationally.

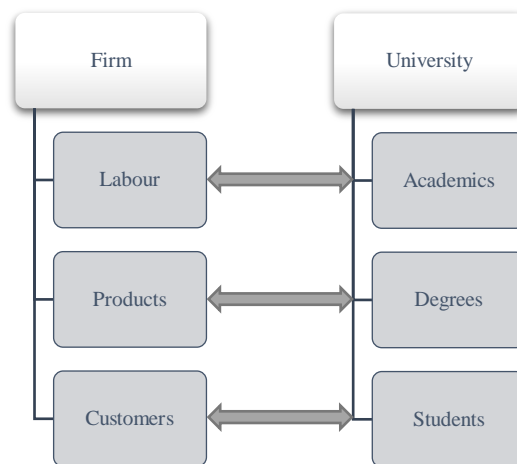
Internationalization is linked to commercialization. With the constant demand for resources and dwindling State support, universities are expected to adopt a business sense and start to take cognizance of the bottom line. Senior academics are compelled to attract more funding from potential donors and the private sector. The challenge though is that most private donors do not permit the release of information and lock universities to patents. This ultimately dampens knowledge transfer. Further, these academics are substituted by adjunct and staff who are expected to teach in their place. All said, both globalization and commercialization are now critical terms for HE management.

2.6 Tuition Fees

Issues around University funding became media headlines following massive student protest which called for 'fee free' in South Africa (#FeesMustFall) in 2015 and thereafter, that soon, spread to countries like Canada, Australia, Germany, China and Cameroon. This call brought into question the funding mechanisms adopted by Universities and Government allocation towards education.

Winston (1999) associated higher education to any business venture, by stating that customers pay a price (tuition fees) for an educational services (degree), and to do this it buys inputs (academics supported by support staff) to make the product. Figure 2.4 below illustrates the relationship between business and universities.

Figure 2.4: Relationship of business (Firm vs University)



Winston (1999) goes on to argue that higher education is not simply a business in that it is seen to be underpinned by moral values. These values refer to the notion of a public good. He stated that the economic features of higher education distinguish themselves from a business by virtue of their uniqueness. He concluded that using the 'for-profit business economic theories' were a poor guide in understanding higher education.

European states have become progressively dependent on higher education in order to drive the economic, cultural, political and social infrastructure of society. Massification of education in Europe over the past 100 years cultivated societies and cultures that benefited greatly from government investment in education (Lynch, 2006). The maintenance of this level of economic and social development that is derived from high-quality education requires adequate state support. That said, there exists an increasing attempt to privatize public services, including

education, for the sake of ensuring its citizens purchase the “service of education” at market value rather than the State being wholly the provider of resources.

In the US, historically, university fees were State-regulated and kept low (Archibald & Feldman, 2006). Funding was provided for meeting operational and capital costs, with deserving students also being funded for residences. The authors state that in order to maintain a highly educated workforce in today’s economy, the higher education sector demands increased funding from Government coupled with increased accountability.

Schwarzenberger (2008), analysed six countries’ higher education financing, namely, the Czech Republic, England, Germany, the Netherlands, Norway and Spain. These six countries show considerable variances with regard to cost-sharing. On the macro-analysis, Schwarzenberger (2008) indicated that the private contribution to higher education was significantly higher in England (64%) and Spain (60%), whereas in the other countries, the private share ranges between 41% and 48%.

Global data has shown exponential growth in higher education, leading towards massification. Massification is unavoidable and involves bigger social mobilization for an expanding segment of the population. In order to combat this subsequent development, new patterns of funding higher education emerged. Mass enrollment has initiated a demand for increased provision and caused a diversification of student needs and expectations; such growth of a system demands more revenue and new ways of obtaining it (Altbach, Reisberg, & Rumbley, 2009).

The demands for free higher education are not something new in Africa: such demands date back to the 1960s. Teferra (2013), stated when interviewed that in some African countries, where free education is practised, up to 90% of students in public universities come from well-off families, thus “there is every reason for the country or the institution to generate money from these individuals, but they do not. Tuition is free.” Langa, Wangenge-Ouma, Jungblut, and Cloete (2016) however, state that free higher education in Africa failed to achieve the desired universal access or social inclusion.

Langa et al. (2016) advised that South Africa should draw lessons from the global North with regard to recent issues relating to the #FeesMustFall movement. The call of the #FeesMustFall movement follows closely on the heels of the global recession and at a time when state funding in South Africa had been declining, between 2000 and 2012 (Langa et al., 2016).

Tuition fees were always used to augment rising costs necessary to maintain higher education demands. However, Langa et al. (2016) pointed out that a policy of free education would be consistent with the country's post-apartheid policy of transformation and social justice. However, Altbach (2013) stated that free tuition and free or subsidised accommodation is unsustainable; thus, alternative funding mechanisms ought to be found. Langa et al. (2016) have asserted that one cannot simply compare the SA landscape to that of Germany or Norway on the free education system, as this could be problematic since these countries' economies are far more advanced than that of SA.

Chapter Two sub-section 29 (1) (b) of the South African Constitution states that, "Everyone has a right to higher education which the state, through reasonable measures, must make progressively available and accessible". However, Nxasana (2016) emphasises with "through reasonable measures" the State "does not create an obligation...to provide free higher education". Badat (2010) argues that "Free higher education is possible in South Africa...It is a question of making reasoned public choices, and of understanding the consequences of public policies of both free and non-free higher education".

Governments, in their attempts to supplement their block grants under conditions of economic volatility, sought mechanisms to address the financial concerns of higher education. Barr (2001) indicates that income-contingent loans repayments provided a pathway for those who could not afford higher education. He, however, claimed that this notion of income contingency is not properly understood, in that it instils unnecessary fear of debt to prospective students. Further, Barr (2001) stated that higher education costs should be shared between the taxpayer and graduates. It should not be free, and students must contribute, whether immediately or at a later stage via loan repayments and so forth.

Barr (2001) is of the view that the State could not afford free education on the basis of the demand for places in higher education. Barr (2001) quoted the UK's example of repayments of the income-contingent loans alongside income tax deductions and concluded that the key to funding problems was charging the correct interest to these loans. He went on to recommend that these rates should be equivalent to the State's costs of borrowing.

Hatfield (2003) states that one of the key challenges in the US that faced students was fees and how they would be settled. Further, the only other mechanism to obtain some form of return

was to provide low-interest loans. These loans were provided on the basis of students selecting specific courses that were required by the US Government. Some fields like teacher education even allowed for debt cancellation upon qualifying. He further indicated that the State also included support for older students and those who wished to study part-time. Further, funding also included students irrespective of their economic status.

Ahmed and Braithwaite (2005) deal with the inter-connectedness of higher education with the tax system. Students are disgruntled with the huge tuition fee debts they carry after graduation. The interconnection between higher education and the tax system required better communication and reliability for effective policy implementation (Ahmed & Braithwaite, 2005). With both Australia and New Zealand recording huge unpaid debts, the authors make reference to the Australian Higher Education Contribution Scheme (HECS), which supports Government in administering the loans and their subsequent repayment upon graduation. Tax authorities in Australia have all the necessary data at their disposal to assist HECS in collecting debt from their graduates.

Bou-Habib (2010) questioned who should fund higher education and stated in his opening argument that this question is raised amidst the growing call in the debate regarding spiralling tuition fees. It is on this basis that in the 1990s, tuition was free and living allowances were also funded by the UK Government. This situation changed in 2004 when the Higher Education Act permitted Universities to bill students for tuition but capped its level. Bou-Habib (2010) classifies three funding sources that help drive the objectives of public universities: the taxpayer, the student and linked to the student, the graduate.

Bou-Habib (2010) offers a systematic approach when dealing with issues within the funding of higher education. He grounds his thinking on Rawls (1973) '*theory of justice*' to individual behaviour, and highlights the kind of rules that would make people freely reason and agree within the application of fairness. Such fairness must consider the lifetime income prospects of the poorest group in society that has managed against all the odds to take up contingent loans in order to pursue higher education.

The concept of income-contingent loans was opposed by student bodies and naturally supported by Vice-Chancellors in the UK. The study had two aims: to offer a survey of the arguments with regard to higher education financing and to draw on the political theories of Rawls (1973). On the first aim, the author claims there is a disjoint and could not find plausible

and principled guidance to funding models. With regard to the Rawls approach, the author seeks to reconcile equality, efficiency and liberty, arguing that while this approach may not answer the question of whether the taxpayer or the student should fund higher education, it does provide guidance that policy decisions which embed the concept of justice and fairness especially for the worst-off group in society, could be more rational and equitable.

Chowdry, Dearden, Goodman and Jin (2012) investigated the financing of higher education and implications for universities in England. Further, they claimed that their study proved that the loan/subsidy scheme reform is progressive, that 29% of the poorest graduates would be better off from this reform, while 15% of the richest may actually pay much more than they borrow.

The study of Chowdry et al. (2012) concluded their analysis by stating that participation rates did not suffer as a result of the prospective loan scheme. However, students were to be well informed, as normally those students who come from the poorest backgrounds are debt-averse, which could discourage participation in higher education. Further, the authors provide empirical evidence that suggests that there is no influence on participation rates due to increases in tuition fees, provided that such increases were supported by the loan scheme (Chowdry et al., 2012).

The Browne Review (2010) on higher education funding in England recommended the removal of the tuition fee capping and proposed dramatic reductions in higher education. Other notable recommendations included increasing the earnings threshold for loan repayments as well as increasing the number of years for these loans to be written off (normally 25 years and now 30 years). The poorest students were provided more subsidies and fee discounts for their studies and also benefitted from the extended loan period of 30 years. Positive spin-offs from the reform included increases in tuition fees, thus making up the shortfall in public funding.

Eckwert and Zilcha (2012) stated that with the increased demand for higher education which impacted fiscal decision-making and pressure on the States resources, there had been an increased dependence on private sector funding for higher education. Many European countries introduced loan schemes in order to relieve State pressure on public financing for the sector. Friedman (1955) was cited by Eckwert and Zilcha (2012), as the first author to raise the issue of private funding and the concept of income-contingent financing. Friedman's (1955) study aligned higher education studies to investment returns for the private sector and also embarked

on the notion of buying shares in the higher education sector. This would allow for income-contingent loan finance to be made available to students from competitive markets to complete their studies. Repayment of these loans would begin once employment was secured. Eckwert and Zilcha (2012) state that such loans could be categorized under financing regimes or systems that ensured government guaranteeing students unrestricted access to the credit market and with subsequent enforcement of debt collection. Further, repayment of loans and the terms set were against future income, thereby spreading risk or what the authors (Eckwert & Zilcha, 2012) term 'risk pooling,' i.e. ensuring that all loans agreements have the same payback obligations.

This section discussed the issue of tuition fees issue and focused on the debate surrounding calls for free higher education. At the beginning of the chapter, spoke provided an indication of the birth of tuition fees and its origination. Whilst some countries provided free higher education, many have a shared costs system. The US stands out the pack in that its fees supersede government support. Every other country that was examined reflected State support to public higher education as being the primary source of revenue for HEI's. It must be noted, however, that due to the increased demands placed on governments and universities, a large number of authors have cautioned that a 'fee free' policy for HE is unsustainable.

2.7 Summary

In the historical overview, it is apparent that the formation of higher education institutions was borne from sanctuaries, and the primary teachings were monastic and followed religious traditions in the case of the medieval universities. With the emergence of the Modern University, soon other disciplines were introduced, and this provided the foundation of higher education today. Students that attended these institutions felt it was incumbent upon them to reward the teachers and provided them with a 'collectio' - a kind of payment for their services and thus emerged the notion of 'fees'.

Higher education provides the desired skills set, and people with qualifications find better jobs and become marketable. Higher education funding soon became a sub-set of public service and the responsibility of the State in that it was seen as a public good. Invariably, the market will positively influence the economy which benefits the State. The State which recognises this economic injection, in turn, builds financial support into its fiscus for higher education.

Governments adopted different approaches for financially supporting institutions, some of which involved ‘piggybacking’ that being a shared cost approach, whilst others felt it would be able to fully fund all costs. With the exponential growth and demand for higher education, the challenge of providing access for the masses forced some Governments to shift their position to implementing shared costs. Resources were simply insufficient to cater for this growth in student population.

Most of higher education’s challenges are consistent globally; however, countries like South Africa which have experienced dramatic changes to its political landscape are unique and must deal with issues of transformation and trying to remedy the woes of the past. Such are the challenges that have compelled authors to conclude that the situation is desolate.

Higher education also has to deal with issues surrounding globalisation and its effects. From around the year 2000, the widespread reach of the internet has resulted in globalisation, raising the stakes for competition. Globalisation is accompanied by many opportunities as well as challenges.

Universities simply cannot ignore the various threats posed by competitors who are now not only within their country but across the globe. Online platforms make it easy for students to attain qualifications from prestigious institutions in the comfort of their home. Contact education is under threat, where more students prefer to avoid contact education. With the pressure mounting amidst dwindling State resources, Universities are forced to find ways to increase their revenue. Commercialisation is now starting to gain momentum and universities find themselves operating like business ventures. The expansion of the entrepreneurial spirit must surface both from Governments and the higher education sector, the idea is to maximise its potential. This requires innovative thinking.

On the issue of tuition fees, the notion of students feeling obligated to reward their teachers has made an about-turn this decade, where student bodies were forcing the hand of governments with their call for free higher education. This call in the case of South Africa almost brought the country to a standstill and Government had to respond by over-ruling University management structures and even its own Ministry. So dire was the movement that it shifted the government’s position: it had to find additional resources to fund the Universities shortfalls. The call gained momentum overseas, and this plight by students continues to date.

Higher education is free in some countries; however, commentators and authors who have examined their funding models note the Government's reluctance to continue on a 'fee free' policy. This is a result of dwindling resources and increased demands for higher education spaces. The reality, though, is that income from tuition fees for those countries that have a shared costs system could comprise around 25% of total resources for a university. One thing is clear: no matter the students, government or the private sector, someone has to cover the shortfall that universities require to address in terms of issues of access, infrastructure and efficiency.

With higher education's entrance requirements being as stringent as they are, one author highlights that it is more likely for those that have more tools at their disposal to meet these requirements. These tools include good facilities, committed teaching staff, good basic education foundation and so forth. The middle and upper class, therefore, are more likely to meet such entrance requirements. It is also more likely that they can afford tuition based on the per capita household income. The author then goes on to question why should they not be billed full tuition rates.

In the next two chapters, I examine the literature that relates to the financing of higher education from an international perspective, followed by a regional perspective. These, I have strategically chosen as stand-alone chapters, for two reasons. The first, to explore higher education and its financing from available literature within developed countries in comparison to developing countries. This distinction was an essential inclusion given the disparity in relation to their respective economies. Secondly, by separating their experiences, I am better able to draw out the similarities, differences and uniqueness.

Chapter Three begins with a review of international experiences on the financing of higher education.

CHAPTER THREE **LITERATURE REVIEW**

THE FINANCING OF HIGHER EDUCATION: AN INTERNATIONAL PERSPECTIVE

3.1 Introduction

This chapter follows on from the previous chapter and takes a closer look at the literature related to higher education financing, from an international perspective outside the African continent, in order to ascertain the similarities, differences and uniqueness amongst countries with a long history in higher education. This is to address the sub-question- *how does resource allocation in the South African Higher Education Sector compare to similar sectors abroad?*

Higher education has been through various transformations since the first university was in place, up until its present, modern-day counterpart. Historically, the earliest universities all emerged out of religious teaching institutions such as mosques or churches (Lani, 2018). It can thus be assumed that these universities depended on these religious institutions for their financial sustainability and operations. As universities adopted greater secularisation, their responsibility became that of the City or State. Traditionally, the responsibility of higher education lay in the hands of the State whereby costs were low, and the quality of education was high (Mary, 2013). Given the increased demand for higher education in the 20th and 21st Centuries, sprouting of privately owned Higher Education Institutions (HEIs) has emerged. The latter, although also making a valid contribution to education globally, falls outside the scope of this study and will therefore not be examined.

Given that the financing of higher education increasingly became a priority, this chapter focusses on the guiding principles underpinning the funding models adopted by selected Western European countries, the United Kingdom, Canada and the US, Sub-Saharan Africa (including the Southern African Development Corporation [SADC]) and selected Asian Countries. The rationale underpinning this sample is rooted in: 1. South Africa's colonial legacy (Dutch [1652] and British [1820]), 2. its modernist Republican project (influenced by the US and Germany post-1961), 3. its rebirth as a legitimate democracy in 1994 (African) and its recent subsequent partnering within the BRIC (Brazil, Russia, India, and China) group of nations.

The key elements, tools and mechanisms found in these reviews will be used to critically analyse and reflect on the current South African framework and provide insights for decision-makers responsible for the budgeting and financial planning of public HEIs.

3.2 Funding Mechanisms in Higher Education

Funding mechanisms in the context of this study refer to the source, methods and key variables that drive the funding frameworks and/or the models adopted by Governments in their allocation of finances to Higher Education. In many cases, the government's financing of their higher education sector is driven by the knowledge of the expenditure that higher education is compelled to fund. Many HE bodies, whether a sub-set of Government or Civil Society, at some stage conducted and reported on Higher education costs, in particular, its spend categories. Although a plethora of studies on funding higher education exists, a study by Kaiser, Koelman, Florax, and van Vught (1992) in *Public Expenditure on higher education* is relevant for this section. They conducted a comparative study sanctioned by the Commission of European Communities in the 1990s, focussing on higher education expenditure within European member states. Despite a shift in the various challenges faced by higher education in recent times, the categories of spend remained largely consistent to that of historical spend trajectories. It is for this reason that the study by Kaiser et al. (1992) is considered relevant and is used as the basis for this section.

3.2.1 International Funding Practices

Given the documented history of higher education with its oldest institutions resident in Europe, the section presents a review of the international contexts. The countries that were examined were merely those that formed part of the phenomena that being resource allocation in HE. As such, in order to avoid any preferential or bias in the placement of the review, the countries that were examined are listed in no particular order. Despite differences in their political systems, economies and culture, the financing of higher education globally reveal great similarities between nations (Johnstone, 2013). One of the similarities (Johnstone, 2013) highlighted is that the costs of higher education exceed the consumer price index rate of nations, thereby suggesting an increased demand for resources in order to meet HE needs. Lederman (2013) however, cautions that literature on the financing of higher education primarily originates from within the higher education sector itself, raising scepticism in civil society and the State with regard to the objectivity of findings and claims.

A large number of existing studies in the broader literature have examined the financing of higher education globally (Johnstone, 2013; World Bank, 2010; UNESCO, 2009; Winston, 1999; Hauptman, 2001; Hearn, 2001; Bray, 2001). These studies examine, amongst other things, the various methods adopted by governments in addressing their civil society obligations on the provision of higher education. Given the increases in population globally, developing countries have witnessed a growth in the demand for higher education and responded accordingly by establishing and generating more public universities. Aligned with the creation of new institutions, are challenges related to financing and infrastructure. Despite the similarities alluded to earlier, responses to such challenges among nations vary. This section which follows address these similarities, differences and uniqueness referred to above.

3.2.1.1 China

Although China adopts communism as its social basis, its challenges align to democracies. However, China is becoming one of the fastest-growing industrialist's nations in the world, and its experiences provide relevance to this study. According to Ma (2010), there have been a number of studies that focused on the financing of higher education in China. Such studies included those of Hu (2004), who indicated that investment in higher education was inadequate given the increased demands; Chang (2004), who spoke of lack of fairness and benefit centeredness, and Wanhua, Weizheng and Yunxi (2000), which conceptualized the major issues of China's allocation model of its higher education sector. This last contribution summed up the following:

- the irrationality of a combination of higher education resources;
- the rigidity of higher education resource management, and
- the extensiveness of operation of higher education resources and lowness of value-added in higher education resources, etc.

Ma (2010) stated that China faced major challenges in its allocation of resources in the three key areas of higher education, namely, human, financial and material. Human resources were "inadequate in quantity and irrational in structure"; financial resources with investment in higher education expenditure were unable to "keep pace with the fast progress of massification of higher education", and material resources where "a large majority of universities are lacking in facilities of teaching, experiments, libraries, instrument, researches and other supporting facilities, were seriously noted (Ma, 2010, p. 59). Ma (2010) concluded by providing a list of imperatives that included:

- reducing regional differences in spatial allocation;
- taking cognizance of diversification of the subjects;
- rational integration;
- considering “fairness and benefit” with the benefit being the focal point;
- improving monitoring and control of allocated resources, and
- Promoting coordinated development and collaboration within the sector.

China also forms part of the BRIC nations which include Brazil, Russia and India. A study conducted by Guimarães (2013) on the future of higher education in BRIC countries from the perspective of the impact of demographics focussed on the age of students and the resultant effects it may have on future enrolments. Guimarães (2013) explored the demographic changes and investigated how this affected the demand for higher education within the BRIC nations. He stated that BRIC countries faced massification in higher education which resulted in new universities being created and existing ones expanded, but argued, however, that due to declining fertility levels, diversification ought to become an imperative.

Guimarães (2013) questioned how Governments planned to respond to these challenges. The increase in private higher education institutions and distance learning possibilities assisted in addressing these challenges that diversification may bring. Further, his study indicated that given the extent of population changes, it was possible that enrolment trends may decline or reflect negative growth in most developed societies. Guimarães (2013) further questioned how the financing systems operated in these countries and provides a synopsis that included the reliance on tuition fees (despite their inequalities) within these BRICs nations.

3.2.1.2 European Member States

The study by Kaiser et al. (1992), based on a request by the Commission of European Community, conducted one of the first comparative studies of public expenditure on higher education amongst member states of the European community. These countries included Belgium, Denmark, Germany, France, Greece, Ireland and Italy. Given that efficiency and effectiveness is driven by the level of resources ploughed into the higher education sector, they confirm that funding systems differ and these differences have a direct impact on levels of efficiency and effectiveness of providing higher education to civil society. Relevant to this research project is the focus and descriptions of the different higher education systems and

financing mechanisms adopted by the member states. Kaiser et al. (1992) provide three drivers for funding systems. These include:

- Input Funding: allocated to cover staffing, operational and investment costs;
- Throughput Funding: awarded when state aims, such as graduate output, are satisfied, and
- Output Funding: allocated based on the achievements of the institution.

Further, the manner in which these values are distributed include:

Variables that determine allocations

- a. Normative Allowances: funding determined by maintaining objective criteria that are applicable to all institutions, and
- b. Proposed Budget Submissions: budget submissions made to Government or are reimbursive in nature.

Conditions imposed against the allocations

- a. Level of Autonomy: determines the institution's control of policy;
- b. Control of Spend: ensure spending is in line with core function;
- c. Financial Control and Reporting Systems: ensure good financial administration, and
- d. Fund Surpluses and Deficits: finances that need to be paid back or recouped from future grants.

Financial allocations are controlled and regulated according to governance and accountability structures. However, issues related to tuition fees are disparately distributed, with some member states absorbing the full costs of tuition fees while others vary in their percentage of student's contribution (Kaiser et al., 1992).

Within the European member states, all public HE funding resides within their respective National Governments. Most Governments absorbed all staffing, operational and capital costs that were determined by variables such as funding formulae, incremental approaches and/or student and staff related data (e.g. enrolments, graduations, and the like). Further, whilst all seven of the member states examined are under State control, a shared costs system exist in Belgium, France, Ireland and Italy whereby students are billed tuition fees. Higher education is free in Denmark, Germany and Greece (Kaiser et al., 1992). Table 3.1 below reflects the allocation methods and provides an indication of financing modalities within these member states.

Table 3.1: Funding allocation methods in Europe

Country	Allocation methods
Belgium	Weighted Enrolled Students based on predetermined costs per student per branch of study. Minimum and maximum subsidy levels exist.
Denmark	Minister determines maximum student intake per course based on a fixed number of students per academic staff. Each University has a maximum salary bill and FTE.
Germany	Based on predetermined line items determined by “production function”.
France	Based on Formula funding driven by space, contact and complementary hours.
Greece	Budget submissions made to Ministry based on an incremental approach.
Ireland	Incremental budgeting based on prior-year spends adjusted for material changes to student numbers, increases, etc.
Italy	Salaries are increased every two years and adjusted for inflation. General expenses are based on weighted student numbers.

(Source: Kaiser et al., 1992, p. 47-77)

Customary funding patterns in European research and higher education underwent a metamorphosis due to economic and societal advancement as a result of intense competition for the acquisition of public resources. The funding modalities in big sectors like public higher education became a matter of critical importance. Government officials consistently demanded a greater return on investment for the resources they ploughed into public institutions. In order to rationalize costs, a number of systems participated to the degree of restricting the higher education network, ensuring financial sustainability and passing the responsibility of the universities to their managers (Kaiser et al., 1992).

In addition, Jongbloed and Vossensteyn (2001) indicate that globally, there is greater emphasis on knowledge generation in the form of research when compared to teaching. Research is thus a yardstick as well as a key criterion for measuring knowledge generation and performance. Funding then subsequently were based on variables driven by performance. In Sweden, Denmark and the Netherlands, institutions of higher learning were output funded, based on awarded degrees or credits that were accumulated over the period. Student enrolments were also utilized as performance indicators informing funding allocations. The public’s increased attention in wanting to know how the public purse was utilised and matters of accountability and value for money, became contentious (Jongbloed & Vossensteyn, 2001).

Jongbloed and Vossensteyn (2001) argued that in order for the enrolment-based funding systems to work, the following conditions had to be adhered:

- there should be no enrolment restrictions;
- transparent and easily assembled programs and course guidelines;
- curriculum alignment ought to be in sync with the needs of the public education sector, and
- the higher education system ought to be supportive of lifelong learning at different locations, irrespective of the study program location.

Dougherty, Natow, Bork, Jones and Vega (2013), in contrast, revealed that performance-based funding was linked to an outcomes approach, such as course completion and graduation. More profoundly, graduate employability formed part of performance funding. The use of performance indicators and performance funding which had to drive the major part of the allocations, however, resulted in minimal incentive funding being set aside to promote specific targets either by the State or the institutions themselves.

3.2.1.3 Australia

With the use of the data sourced from the Australian Bureau of Statistics, Marginson (2001), provided a historical perspective of higher education funding in three sub-structures, with the belief that time-series data reflected consequences of policy decisions that generally shaped the future. Marginson compared these to other OECD countries under three periods:

- 1961-1988: Publicly financed national system;
- 1989-1995: A shared costs system, and
- 1995 onwards: Current framework.

Marginson (2001) alluded to the 1990 policy as being one that redefined national interest in higher education and stated that the objectives of this policy were not to increase funding in higher education but more so, to reduce its costs. However, the funding of higher education lagged behind the US in terms of GDP share, although the State took steps to increase its funding in scientific research and development. Marginson (2001) concluded that the funding if routed to operating grants, would generate increased quality and improve capacity.

The financing of higher education in Australia was affected by politics, with university leaders arguing that the constant reduction in State funding negatively impacted their objectives and shifted the sector to a crisis (King, 2001). These reductions were exacerbated by the

infrastructural demands, below-market salaries, student-staff ratios, library support and rising costs of research. Policy forums that initiated by the state conceded that there was no simple solution to the problems of higher education funding. However, the policy forum presented recommendations such as increased government support, alternative support via student fees and income-contingent loans as security for universities to get their funding to manage their operations as alternative options. King (2001) further added that other areas consider social benefits without focusing too heavily on marketable qualifications that is, government funding and student fees must differ significantly between such areas of study.

3.2.1.4 United Kingdom (UK)

Public Higher Education is generally driven by a set of principles adopted by Governments in order to drive the resource planning and facilitation to meet the needs of civil society and creating a knowledge economy. The United Kingdom (UK) adopted three fundamental principles to provide higher education support, namely, access and transformation; quality and effective teaching, and financial sustainability (Browne, 2010). A study by Greenaway and Haynes' (2003) indicated that the UK had expanded its higher education sector from 20 universities in the 1960s to almost 100 at the time of their study. This increase in the number of universities was accompanied by student numbers for the same period shifting from 400 000 to over 2 000 000. Greenaway and Haynes' (2003) study advocated for fee contributions and the viability of loans from students is paramount to the success of the sector. This was a dramatic shift from the 1960s where the UK universities were almost entirely publicly funded as compared to now showing on average two-thirds of total income (Greenaway & Haynes, 2003). They indicate that there was a change in the dispersion of public funds to universities with a move from block grants funding towards earmarked funding which was part formulae, part performance-based. In order to address the challenges in Higher Education, the UK (like many other countries globally) assembled the National Committee of Inquiry into higher education which was chaired by Lord Dearing. The Dearing report emanating from this National Committee that was published in 1997 provided 93 recommendations to the government, some of which included:

- Graduates in work must contribute to higher education;
- Loan repayments must be regularised by tax agencies;
- There must be an increase in infrastructure funding, and
- Tuition fees must be introduced.

Greenaway and Haynes' (2003) concluded that despite the decrease in the public financing of higher education, there had been an escalation of student-staff ratios, declining remuneration and deteriorating infrastructure. They asserted that additional investment needed to be channelled to the higher education sector. Higher education financing in England, being 'complex and multifaceted', was reformed under its Higher Education Act of 2004. These reforms which took effect in 2008 (Dearden, Fitzsimons, Goodman, & Kaplan, 2008) emerged from debates and formed part of the recommendations. Some of the key elements included graduates who were considered the main beneficiaries were supporting the costs of higher education. In return for this support, graduates were insured against low returns from higher education, that is, graduates who stem from higher education were guaranteed to find employment and be appropriately remunerated by virtue of their qualifications, taking cognizance that some graduates would 'experience better labour market outcomes'. Further, higher education institutions must see increased funding per head.

In the study by Dearden et al. (2008), the extent to which the reforms realized the abovementioned aims was assessed, with the conclusion that the poorest student gained the most from the reforms with increased grants and subsidies which reduced loan amounts. This directly impacted their net contribution to higher education. Students who were well off and who opted for loans ended up paying more for their qualifications, bearing the full costs of their tuition and other fees. Repayments of these loans were linked to earnings. The authors went on to make mention of the level of deciles for men and women (Dearden et al., 2008). These deciles or categorization resulted in the lowest earners being protected by the reforms and having their debt subsequently written off due to the maximum years of repayment, as stipulated by the State. Women were provided further benefits from the reform. Graduate earning differed and increased over time, which ensured that the State received its share of the investment without necessitating the need for a write-off.

However, Dearden et al. (2008) cautioned that the reforms might have some negative consequences and proposed further research on these issues:

- Students may choose not to participate in higher education;
- The supply of graduates may be altered this altering the remuneration benchmarks for future graduates, and
- The reforms may affect the choices of courses and time spent at university.

Johnes (2007) study controlled by the Higher Education Funding Council for England (HEFCE), discussed England's funding framework. The HEFCE is a quasi-non-governmental organization and serves as a conduit between government and higher education institutions (Johnes, 2007). Their main focus is to work with institutions to ensure quality cost-effective teaching and research, and more importantly, to attempt to eradicate politics from the system. While the introduction of tuition fees may bring about changes to the funding mechanism, England's model is premised on a formula-based approach. Income-contingent loans were introduced around 1999 and tuition fees were fixed, but the government allowed institutions in England to bill students tuition fees based on institutional needs, provided there was a maximum threshold that was not to be exceeded (Johnes, 2007). This flexibility in tuition fee-setting created a variation between universities, with Johnes (2007) acknowledging that both fixed and variable costs differ from one institution to the next. The HEFCE funds higher education on performance which covers portions of teaching and research. The latter was funded by taking into account the number of research-active staff coupled with some kind of research assessment.

On the teaching component, the model considered actual student enrolment data that is weighted dependent on subject choices. Further, consideration was given to the projected resources required, known as the 'standard resource' which was then compared to the 'assumed resource'. The assumed resource took into account inflationary adjustments and new programs that were introduced together with increases in student enrolment. Allowances were also made for tuition fee increases. Institutions were provided funding based on the assumed resource on the proviso that there was a 5% leeway or range when compared to the standard resource. When the 5% tolerance was exceeded, the HEFCE adjusted student enrolment data. Johnes (2007), however, argued that while this formula funding was transparent, the model was criticized for its rigidity in that it did not consider variables such as diversity.

The issue of diversity was acknowledged by the HEFCE, who considered it as a key objective in later models. Johnes (2007) spoke of the new model that considered the Full Economic Costing (FEC) approach and highlighted a key concept when dealing with funding modalities, which he claimed were incorrectly used by economists. He went on to make a distinction between 'costs' and 'expenditures' in higher education and explained that expenditures could exceed costs due to efficient production and a funding model that was premised on a cost-based system. The latter would eradicate inefficiencies and force appropriate spending.

Further, the variables of a cost-based model would be consistently applied to all recipients, while the expenditure-based model would create a variation. The system was geared towards ensuring two key drivers within its mandate, namely, sustainability and avoiding driving private activity with public funds. Against these drivers, the Council's role was to create an efficient system that was flexible and responsive.

Johnes (2007) concluded that when designing a funding model, the mechanism required careful thought and knowledge of cost structures. He cited tuition fees as an example and stated that the model should not isolate differential tuition fees. Further, some institutions would have higher cost structures than others due to their location or historical capital stock, and they would justifiably require more financial resources. Where it was seen that institutions remained in financial difficulty as a result of mismanagement, mergers and takeovers would be the desired solutions.

The Government of England faced the challenges of providing for the increased demand for higher education, attaining equity, improving competition and quality research together. Its quest to reduce costs in the sector prompted the evolution of funding methods over a period of time. There was, however, no more a common driver when considering mechanisms for the allocation of teaching grants than student enrolments. Research grants continued to be influenced by research assessment data (Stiles, 2002).

The devolution of higher education in the UK resulted from England's Further and Higher Education Act of 1992 (Stiles, 2002). This Act, which transformed the structure of higher education, provided the Higher Education Funding Council for England (HEFCE), the Scottish Higher Education Funding Council (SHEFC) and the Higher Education Funding Council of Wales (HEFCW), with overseeing powers of the sector within their regions. Each region thus developed their own funding models to suit their needs. However, many Councils inherited the traditional Block Grant System which was in place prior to the Act. Formulae funding was used as the main driver for these Block Grants. Other resources generated by Universities included tuition fees and private research contracts.

Stiles (2002) study investigated the transformation of the higher education system that stemmed from the Act and concluded that the research assessment exercise promoted competition in the race for funding in this area. On the teaching grants, Stiles (2002) found no evidence of a link between Teaching Quality Assessments (TQA) and funding, which implied

that student enrolments remained the predominant criterion for funding. Institutions were encouraged to consider their financial gain before embarking on any initiatives. Funding was only released to institutions that had submitted their staff development strategy which required focusing on the minority group as well as the career progression of women.

3.2.1.5 Canada

In Canada, enrolment guarantees greater funding from the State, which results in “pressure [that] impacts the quality and variety of programs, as well as the academic achievement of the students throughout the system” (Lucas, 2012, para. 2). Lucas (2012, para. 4) proposes a change to the funding model by questioning: “Who are we educating”? In his argument, the middle and upper classes he refers to are those who have more tools at their disposal to be successful at making the required entry requirements and succeed. Based on the per capita household income, such students are also capable of partially funding their studies. “The least-advantaged students will more often fail to go on to post-secondary education because the odds are stacked against them; they cannot afford books, housing, transportation or the lost income from a menial job in order to attend school” (Lucas, 2012, para. 5). Lucas (2012) stated that high achievers are smarter because they have parental support, infrastructure support, schooling support and the like. Lucas’s (2012) enrolment strategy for Canada in order of preference is:

- Students from poorest families with academic merit;
- Middle and high-income earners with academic merit, and
- Out of province and international students.

Lucas (2012) also proposed 80% enrolment to be within the province, with the poorest families receiving priority enrolment. No other criteria except gender and ethnicity were considered. Only 20% of enrolment spaces should be allocated to out of province and international students, who are expected to pay the full costs, this being the equivalent costs of their place of origin. His proposal promoted free education with enrolment capping, and he believed that with no loans, graduated students could build the economy.

3.2.1.6 Germany

The German model in financing its higher education sector, according to Orr, Jaeger and Schwarzenberger (2007), relies heavily on performance indicators as a means of driving competition within institutions. With the State’s contribution forming the major part of

universities resources, the country undertook major reforms in its financing models. Such reforms filtered downwards to institutions as well, with most opting for a performance-based, formula-driven model. However, the authors indicate that while performance-based funding has emerged within the OECD countries, incremental funding continued to dominate. The reasons suggested were for the State to allow for institutions improving their capabilities for open competition. While the State allocated more than 80% of its subsidy based on performance data, this level of reliance on performance funding was substantially lower, with only five universities allocating more than 7% of its subsidy on similar performance indicators. The reason cited by authors was linked to fixed costs, the bulk of which was human resources (Orr et al., 2007).

The design of a performance-driven allocation system needs to consider two eye-catching facts. The first regards the range and definitions of performance indicators. These included, for example, student enrolments, graduations and research outputs. They claimed that at both levels (state and university), teaching indicators are weighted higher than research and conclude that given the standardization of these indicators, the design may not necessarily align itself to the strategic goals at these levels. Secondly, they claimed that diversity at the regional level must effect funding mechanisms and reflect distinguishing and practical comparability with regard to performance (Orr et al., 2007).

Further, from the German example, Orr et al. (2007) suggested that there has to be a separation of the values intended for distribution. This separation ought to consider:

- what extent of the total resources are subjected to a formula for distribution;
- the number of performance indicators that could be used, and
- the segregation of the sectors, i.e. which bands should compete for funding.

In Germany, most university budget allocations are linked to the state model. Though there are a few exceptions, Orr et al. (2007) recommended a level of alignment between state funding mechanisms and that of a university. The authors claim that if a formula funding model was to be used, it must align itself to the strategic goals of the state and the universities (Orr et al., 2007). Germany also had a shared costs system prior to 2000, and following mass protests during the late 2000s abolished tuition fees in 2014.

The reform of German higher education after the collapse of the Berlin Wall (1989) and German Unification prompted debate around tuition fees by the mid-1990s. Kehm (2014) states

that the re-introduction of tuition fees was seen to assist the growing challenges faced by the higher education system. However, the reintroduction of tuition fees was supported for those students who failed to pass in minimum time and who chose to continue their studies.

The funding to higher education institutions in Germany was based on negotiations with the government, in particular, the responsible Ministry. A basic budget is guaranteed, and this budget is supplemented by taking into cognizance changes in student numbers, loss in income from tuition fees, and research funding. However, Kehm (2014), contends that despite the additional allocations and the comparison to other countries in Europe, higher education institutions in Germany continued to feel underfunded. This meant that the academic staff were forced to seek alternative research funding from the private sector.

Higher education in Germany is viewed as a public good and the responsibility of the State. In the 2016-2017 academic year, the State announced major increases of financial assistance to students. Kehm (2014), however, records disparity in the funding of Higher education institutions from poorer states, who receive lower funds. The resultant effect is that their academic staff are paid lower salaries than their counterparts from the more affluent states. Kehm (2014) concludes by questioning how long Germany would be able to sustain a system of free tuition. He argues that the debate on tuition fees could at any given point be resuscitated, and depended on the institutional leadership. Kehm (2014) is convinced that once there is general public support, tuition fees will be re-introduced.

Over and above free tuition, Germany provides additional incentives to universities that rank well in the Times Higher Education World University Rankings. This incentive scheme has already started to reap the rewards for the country with more universities starting to feature in these global rankings.

3.2.1.7 United States

The financing of United States (US) higher education over the past ten years has become a topic for discussion especially in relation to its spiralling costs and the level of tuition fees billed to students. These tuition fees, according to Rabovsky and Ellis (2014), is one of the primary sources of income at universities, the other being government subsidies. Thus, most literature stemming from the US focuses on these two areas of income. Rabovsky and Ellis (2014) study build on political inferences with regard to decision-making and funding of

Colleges in the US. It is the opinion of the authors that additional research funding could help universities improve their brand and standing, while at the same time augment its budgets to meeting operational requirements. Their findings revealed that although grants were awarded based on objective criteria particularly for research funding, politics mattered especially with regard to the margins. They concluded that funding mechanisms consider and integrate the theories derived from political sciences and public administration (Rabovsky & Ellis, 2014).

The Bayh-Dole Act settled a longstanding issue about the patenting of federally-funded projects and allowed universities the ability to earn patents for their inventions. As such, US Universities earned and profited in excess of \$518 billion between 1996 until 2013 in royalties, licence fees and business contracts based on opportunities to patent their discoveries. Companies hired out academics in the field of business, political science, psychology to provide advice and training to their staff (www.upcounsel.com, n.d. para 1, 12).

Layzell's (1999) research links performance to funding outcomes in public higher education. Performance-based funding emerged as a result of budgetary constraints and the demand for increased accountability. He concluded that there was a rapid growth of States that used performance-based funding to allocate resources to institutions of higher learning. He further added that a critical component of any performance-based funding system was aligned to the availability of data, and more importantly, its integrity.

Layzell (1999) proposed a list of suggestions for decision-makers who wished to develop a performance-based funding model within higher education. Firstly, he suggested that decision-makers keep it simple. This advice is channelled towards using a minimum number of performance-based indicators which lead to the development of actual resource classification/allocation mechanisms, thus linking performance to funding outcomes. Secondly, Layzell (1999) advises that communication channels be kept at an optimum and objectives clarified on a continuous basis. This will ensure that parties involved understand the development process and therefore know how to meet the objectives and goals set before them. With each being well-articulated, the implementation of performance-based funding will be activated and well-facilitated. Thirdly, the author advises that room for experimentation and error be provided. This suggestion is fed by the fact that the development process is always met with unforeseeable difficulties which call for the operation of experiments. Lastly, the author stresses the importance of learning from other people's experiences. He, however, points

out that decision-making bodies should make their own programs from observing the experiences of others (Layzell, 1999).

The US higher education continued to face the brunt of the recession and encounter budget cuts of up 20% by the year 2000. US higher education institutions were seen as the balancing wheel of the fiscus (Doyle and Delaney, 2009). Their study revealed that the US government was of the opinion that higher education could be sustained by students/parents and other sources of funding to make up for the budget cuts. They further felt that higher education was not the top priority as compared to the more deserving areas of public spending. The US felt that higher education funding assisted more the middle and upper class, hence the priority shift.

Doyle and Delaney (2009), add that each State has to allocate its resources in terms of their respective priorities. So while the US Congress slashes the higher education budget, each State may differ in their dissemination of the budget. A case in point was that of Florida, Illinois and Massachusetts, whose higher education spending increased despite budget cuts enacted by the central US government. Recently, the trend has been different with all States also slashing higher education finances. This then meant that this shortfall needed to have been covered by one of a combination of other funding sources, and most states then sourced these from students via tuition fees. But these came with the challenge of students being “priced out” of higher education. States no longer could plan year-on-year on a stabilised budget system; rather, University leaders were called to deal with unprecedented volatility in the budget granted. This meant that at the time, hard decisions had to be made. While making the cuts, when positive changes were at hand, leaders could not simply enhance programmes as they had to await the next downturn. This obviously had far-reaching consequences and restricted desired growth or opportune potential.

In short, Doyle and Delaney (2009) recommendations included the following:

- Where carry forwards funding was permitted – “rainy day funds were prudent”;
- New, low-cost, financially viable quality programs should be created, and
- Implement cost savings and re-allocation measures.

Myklebust (2012) states that across the US, universities have been transforming to augment their current financial downturn due to economic factors. This phenomenon is also occurring at HEIs across the globe. Coupled with this downturn was the increase in autonomy granted to Universities by Governments with the transfer of financial dependency and sustainability to

university administrators. Such newfound autonomy forced Universities to find ways of maximising on collections, fundraising and alternative income streams.

Miao's (2012) study examined the best practice of six States across the US and recorded the prudence which, he claimed, correctly existed on state funding for higher education. Student enrolment data was used to fund higher education institutions in the US. Miao (2012) believed that although a high level of dropouts occurred, graduation must be considered in the funding framework, thus aligning his assertion to a performance-based funding system. The promotion of a performance-based funding system, which in effect considers key drivers and variables such as student enrolment, student graduations; research output and the like, is quite popular globally.

Dougherty et al. (2013) looked at the differences in performance funding of six States in the US and concluded that their performance-based funding differed considerably. This comes as no surprise given that performance funding has been around for more than 30 years. They claim that only half of all States have made use of it. The example that surfaces from the US performance model are that it distances itself from the standard enrolment variable and focuses rather on outputs in the form of course and degree completion. Further, a more significant factor is the issue of job placement as a variable.

Some states have shown that they do not rely on performance funding but rather focus on enrollments. As part of the qualitative study of Dougherty et al. (2013), many stakeholders have been interviewed, including government, business leaders and higher education officials, who have acknowledged that pursuing a performance-based funding mechanism ensure increased effectiveness and efficiency in higher education.

Moreover, Dougherty et al. (2013) conclude that political structures, values and ideologies tend to frustrate the success of performance-based funding. Although structures for the implementation of funding decisions exist, political dynamics stifle its progressive and sustainable effectiveness (Dougherty et al., 2013).

Tandberg and Hillman (2013) state that typically, governments fund universities and public colleges based on the number of students who are enrolled. It also factors in faculty staff and other resources required for delivering education. Nevertheless, this "input-orientated" sponsorship model has come under increased scrutiny in recent years by government officials.

Officials argue that colleges must be funded in accordance with their performance based on outputs. Key performance indicators include job placements and graduations rates. The performance was measured in a number of ways by the various States. Such performance measures were meant to encourage a change in behaviour to perform better. However, Tandberg and Hillman (2013), found no empirical evidence that supported this claim as a driver for change.

Results reveal that policy has proven ill effective in expanding associate or baccalaureate degree completions in states who use performance funding (Tandberg & Hillman, 2013).

Performance funding has birthed considerable oversight and accountability. However, even though this is the case, it has not achieved the most basic objective, that all states view as critical to their performance efforts, which is upgrading degree productivity (Tandberg & Hillman, 2013). Thus Tandberg and Hillman (2013) disclosed that performance funding is not the silver bullet; some people think it is. Rather it may be a red herring. The reasons for the authors drawing this conclusion is that most performance-based systems are unsuccessful because they either conceptualise incorrectly or are not implemented as intended.

The US has always reflected success in its higher education sector by reporting that many US universities are highly ranked by rating agencies worldwide (Nisar, 2015). However, he cautions that while these institutions continue to be highly ranked, there is evidence that performance is lagging in comparison to other developed nations. Nisar's (2015) study indicates that many states in the US have built performance mechanisms into their funding modalities, which were meant to result in positive behavioural influences within universities, but there has been limited impact or effect on the actual performance of these institutions. From the viewpoint of 'ecology of games', Nisar (2015) explains the failure of performance-based funding in relation to the complex nature of the higher education sector.

Nisar (2015) emphasized that government, being the key role player in the ecology of games, must intervene in ensuring universities are performing and driving positive results in meeting the State's objectives. State funding for higher education must be distributed by some means, and he claims that there are some meaningful lessons that could be derived from a performance-based model. Some of these lessons are:

- It influences behaviour;
- It needs many policy designs built-in;

- It should be flexible, and
- It should be known that the State is a key player in the ecology of games.

Nisar (2015) concludes by stating that policy designs and mechanisms will only be advanced when decision-makers, both State and within Universities, understand and acknowledge the complexities of the higher education sector.

3.2.1.8 Czech Republic

Colleges were under intense political control in the Czech Republic. During the late 1990s, funding in academies of higher learning adopted a kind of ‘incremental budgeting’ approach, where tertiary institutions obtained the same funding as in the past year, with a compensatory inflationary adjustment (Čermáková, Holda, & Urbánek, 1994). In addition to that, they received a bonus contingent on their requests or wish lists but based on the state’s available means. Moreover, other subjective factors apart from rational and professional reasons linked to personal and political contacts were noted to influence linkages with the economic sphere. This helps justify the confusion of funding higher education which in many cases reflects unfairness, where connections and network come into play, where there is a muddle of relations: thus, political influences cause the dysfunctional implementation of funding in higher education (Čermáková et al., 1994).

By way of illustration, higher education institutions in 1991 attained financial allocations from the government, just like in past years (Čermáková et al., 1994). They obtained this through a system of ‘basis and increment’; the disparity was that the money given was not earmarked and the only set limits involved total amounts of wages and other operating funds. Čermáková et al. (1994) record later that a great social change took place in the Czech Republic significantly affecting their higher education system. This shift gives testament to previous claims that the higher education sector is now moving to favour formulae-based funding.

The Czech government went as far as to allocate funds to institutions without pointing out the number of students they should educate. Due to this new circumstance, higher education not only received independence concerning its own management but also obtained independence as far as their financial management was concerned. For example, in 1990, institutions obtained separate funding for research and teaching. Contrarily, in 1991 they received joint funds and separated them in accordance with their needs. This characteristic form has grown and is exemplified by substantial diversification of mechanisms through which the money reaches the

students, showing little or no concern for specific social objectives. Thus far (with a few exceptions), students have made no contribution to their higher education instruction, even though they do contribute minor amounts to textbooks and other study materials which are subsidized by the government. The cost of education should be judged from a personal investment viewpoint. In other words, higher income levels in a graduate's life can be a measure of this. Students' contributions to the direct costs of their studies will make sense if their level of income reflects their level of education.

Čermáková et al. (1994) stated that the matter of fees had become a bone of contention concerning how higher education will grow when state funding is limited. Intense pressure has mounted to introduce fees to studies, despite refusal from students. Illustratively, in a poll of a small sample of 1100, it was displayed that 39% were *for* fees while 61% were not for it. The intention behind this move was to make students feel they were “a customer” of higher education, thus demanding a higher investment in quality education through taking ownership of their own education, through which the students also take a greater form of responsibility towards their studies (Čermáková et al., 1994).

3.2.1.9 Other studies

Kaiser, Vossensteyn, and Koelman, (2002) listed ten countries (Australia, Denmark, Belgium, France, Germany, New Zealand, Sweden, Netherlands, US, United Kingdom), with a special focus on the Dutch higher education policy debates. Their study focused on how public resources were distributed to higher education institutions. Amongst these ten countries' states, the Dutch Ministry of Education, Culture and Science commissioned a comparative study of their funding mechanisms and concluded:

- That changes to funding mechanisms are often resisted;
- If changes do occur, they are not substantive: in other words, minimal change materializes;
- Despite strong, relevant growth income sources, the support for publicly funded education has diminished, and
- The funding mechanisms alluded to market orientation “demand-side funding” as well as to “performance-based funding”.

Kaiser et al. (2002) reported that higher education spending in these states forms a big part of their respective fiscal plan. Given the significant role of higher education in developing

societies, a large number of the government's budget goes to higher education spending, thus governments need to invest in teaching and learning to maintain competition within a rapidly changing global economy.

3.3 Summary

The financing of higher education as evidenced in this chapter is complex and involves multidimensional variables. However, most literature on HE primarily originates from authors within the sector. Given that issues pertaining to financing higher education are current, the literature is in a state of flux. Hence this chapter has attempted to map the key aspects (decline in resources, challenges such as access, quality and efficiency faced by higher education, increasing HE costs) that are pivotal when investigating the financing of higher education.

Generally, governments decide on the nature of funding allocated to higher education, and their funding modalities are seldom commended; they are in fact constantly criticised for unfairness or shortcomings, despite HE expenditures globally portraying considerable similarities and spend trajectories. In some cases (e.g. certain states in the USA, provinces in the UK and Länder in Germany), the federal government does not fund the operating expenses of HEI's directly, but instead provides resources for other activities such as research. The literature suggests that across the globe, a country's HE index exceeds the consumer price index (CPI), thereby indicating that HE costs grow at a faster pace in comparison to other costs. The debate around the acceptable percentage award to higher education is determined by the Government in relation to the country's gross domestic product (GDP). A number of authors have recognised the inadequate funding towards HE amidst growing demand. While most challenges within the sector reflect vast commonality, responses to these challenges substantially differ. One such response to the challenge of access forced governments to expand the sector by forming new universities; however, another author indicated that it might be possible that enrolment trends may decline, especially when costs become so exorbitant that students/parents would opt out of public HE. There is also the threat of online platforms negatively impacting contact education. The issue surrounding tuition fees and shared costs surfaced from most countries. While some provided free education, there were attempts to revert to a shared costs system. The literature suggests that most countries are not able to cope with fully funding HE, especially when the demands for spaces have dramatically increased. This meant in most cases that either quality dropped, infrastructure could not be maintained at an acceptable level or the state-imposed set enrolment numbers. Countries started to look at other means including

scholarships and loans to support the system. All of these have their pros and cons, and there is no clear, workable system, thus concretising the notion that higher education financing is complex. What has emerged from an international perspective on the financing of higher education is the reliance on performance-based or formulae-based funding systems. These funding systems consider key parameters and variables extracted from the student's database and include inputs and outputs with regard to student enrolment and throughput data. Throughput funding, as some authors recommend, is when the state aims in relation to graduates are met. In addition, objectivity must be maintained in any model, and subsequent monitoring and control imposed to ensure good financial administration. However, as a researcher, I also contend that data integrity and accuracy impact the allocations and a strong and reliable IT infrastructure is paramount for these funding systems to operate efficiently. This type of funding system also promotes the levels of autonomy granted to institutions and its decision-making bodies. Again, pros and cons exist with a performance-based system. Most states in the US chose not to use it despite it being in existence for many years.

Higher education institutions are granted different levels of autonomy which allow them discretion in the manner in which they disburse the funding. Most have chosen to not use a performance-based methodology and selected a wish-based system or an incremental based system. Although universities enjoy the benefits of autonomy more so with their finances, many authors continue to call on the State to impose regulatory controls and monitoring. In addition, government officials are starting to demand a greater return on investment for funds ploughed into HE. This, coupled with the public's increased attention and scrutiny of the public purse, highlights the importance of the issue. In short, the literature on the financing of higher education and the mechanisms adopted reflects a level of consistency across nations. Such consistencies include a shared costs approach, ensuring increased access, transformation, infrastructural up-keep, seeking financial sustainability, scholarships, bursaries and loans, managing volatility in the sector, alternative revenue sources and government political interventions. The common challenges faced by many governments are mainly driven by economic downturns. These require innovative management in combination with decisive leadership. The latter have compelled the sector to rethink not only its legitimacy but to revolutionise its approach and response to meaningfully increase its resource base. Hard decisions need to be made. The chapter that follows examines the experiences from an African perspective and looks at available literature on HE financing systems.

CHAPTER FOUR
LITERATURE REVIEW
THE FINANCING OF HIGHER EDUCATION: A REGIONAL PERSPECTIVE

4.1 Introduction

What unfolds in this chapter are the contextual funding realities adopted by Governments regionally with reference to those nations forming part of Sub-Saharan Africa. This includes the Southern African Development Corporation (SADC) countries, of which South Africa is a member state. As mentioned in the previous chapter, the key elements, tools and mechanisms found in these reviews will be used to critically analyse and reflect on the current South African framework and provide insights for decision-makers responsible for the budgeting and financial planning of public HEIs. Once again, information gleaned from a regional perspective informs the sub-question- *how does resource allocation in the South African Higher Education Sector compare to similar sectors abroad?*, with perhaps more direct beaming on the South African experience.

From an African context, studies by Teferra (2013) focus their attention on the HE sector on the Sub-Saharan nations which are relevant, given the location of this research project. Mirroring the comparative study of Kaiser et al. in 1992, (discussed in Chapter 3) were other related studies that proved relevant here. These include a book by Pillay (2010) entitled *Higher Education Financing in East and Southern Africa*, which presents the trends in financing policies in nine countries which included Botswana, Kenya, Tanzania and Uganda, Lesotho, Mauritius, Mozambique, Namibia and South Africa, all with varying population sizes and development classifications. In Teferra's (2013) book entitled *Funding Higher Education in Sub-Saharan Africa*, research-based analysis of alternative financing patterns was conducted in selected African states within the Southern African Development Corporation (SADC) region.

While I provide a snapshot of the literature mentioned above, towards the end of the chapter (see section 4.3, p83) I go on to highlight and present the comments by editor's Pillay (2010) and Teferra (2013).

4.2 Higher Education Funding- Experiences from Africa

In exposing a gap with regard to the academic literature on the financing of higher education in Sub-Saharan Africa, Teferra (2013) argue that African Higher Education has recorded unparalleled expansion, which poses enormous implications for the economic development of the region. They explored nine countries, namely, Botswana, Ethiopia, Kenya, Madagascar, Malawi, Tanzania, Uganda, Zambia and Zimbabwe, and focussed their attention on the different methods of funding of higher education within these nations. Teferra (2013) further contends that such expansion was not supported by the appropriate levels of financial resources.

In the rest of Africa, governments as part of their democratic principles as well as political campaigning made promises to universities towards meeting their growth and resource needs. Governments wanted world-class universities but were reducing funding (exacerbated by high inflation rates), thereby making it impossible to compete globally.

4.2.1 Botswana

Within the Southern African Development Corporation, Botswana had shown economic as well as political stability in the region. Having shifted its focus from basic to tertiary education (in line with the World Bank move in the 1990s), Botswana established a Tertiary Education Council (TEC) to assist with the drafting of its tertiary education policies. The financing of higher education was a focus of the TEC. Unlike other countries, which have a dedicated Ministry for Education, and some for Higher Education as in South Africa, Botswana, according to Damane and Molutsi (2013), has a fragmented tertiary education system. Here public universities reported to various Ministries within government, depending on diverse areas of specialisation. For example, the College of Agriculture reported to the Ministry of Agriculture and the College of Accounting to the Ministry of Finance and Development Planning and so forth. Challenges posed to the Botswana educational system result from the disjointed interaction with regard to financing decisions and subsequent allocations. These were due to the lack of coordination between the various Ministries.

Botswana, as articulated by Damane and Molutsi (2013), lacked a systematic way of allocating budgets to its higher education sector, which resulted in a simplistic incremental budget approach. This approach entailed increasing the budget allocation according to a market related, or government determined percentage each year. Given the fragmentation discussed

above and the absence of key variables that were normally considered in a budget framework, Damane and Molutsi (2013, p. 14) assert “that this system is generally inefficient as there are too many overlaps in program offerings and institutions’ accountability to various government bodies.”

Prior to the 1970s when government revenue increased in Botswana, higher education was totally state-funded. However, as higher education costs started to escalate, it became increasingly unsustainable for the government to sponsor both tuition fees and maintenance expenses in their twenty-four public institutions.

This problem was exacerbated by:

- the sponsoring of private higher education students since 2007, and
- Support for students with exceptional secondary results to study at higher education institutions of their choice globally.

The resultant effects of those financial decisions did not yield the return on investment with regard to the national labour market demands. The government thus reduced its support to private higher education funding, thereby suggesting that it was seeking new ways to fund the system as a corrective measure. The latter measures of starting to shrink higher education funding were aligned to UNESCO’s (2009) World Conference on Education, which concluded that private financing of higher education should always be encouraged given that public funds are always limited and will never be sufficient in meeting the growing demands.

The projected exhaustion of resources in Botswana’s diamond mining sector by 2026, is leading the government to explore other avenues of financing its economy. This re-examination calls for alternative models for higher education funding, which Damane and Molutsi (2013, p. 28) identify.

Siphambe (2010), in his earlier study on the financing of higher education in Botswana, also provided a series of initiatives for consideration by the Botswana Government, recommending the following:

- An increase in access to HE and balancing State versus the creation of more private Universities; this called for cost efficiency within the HE structures;
- An efficient way of dealing with the low loan recovery rate;

- Substituting grants with more loans supported by vigilance against equity considerations from poor students;
- Increased private funding for HE with tax-deductible benefits, and
- Quality standards to be maintained, with the creation of an environment of fair pricing and live competition.

Damane and Molutsi (2013) provide recommendations which include a shared cost approach based on a per capita system; increased revenue generation through joint research, which is more cost-effective; increased private sector contributions and a levy or graduate tax system. Further recommendations included the introduction of a student loan scheme with low interest rates payable upon graduation using revenue services; a fixed percentage of all levies to be channelled to the higher education sector; a fixed GDP rate for higher education funding; selected funds be pooled and disbursed via an approved funding mechanism, and industry to collaborate with the higher education sector, ensuring a balanced supply of graduates.

4.2.2 Ethiopia

The Ethiopian Government, in its quest to reduce poverty, embarked on a developmental economic path towards attaining middle-income status by 2025. Higher education was identified as a key driver towards achieving this goal. Incremental increases in relation to its GDP recorded since 1995, indicating a demand for higher education. The latter resulted in an increase in higher education institutions from 2 to 31 within an 11-year span.

Government's policy for the sector required undergraduate enrolment to reflect a demographic of 70% of students in science and technology, and 30% in human sciences fields respectively. Initially, Government policy fully funded students pursuing higher education since higher education was seen to have contributed towards poverty eradication. However, the funding focus on pure and applied (70%) versus human sciences (30%) required revisiting, given that science and technology demanded a larger allocation of financial resources, namely, science laboratories, scientific machinery and equipment, and other science-orientated resources.

All funding was allocated to meet the needs of both operational and capital expenses by line items (earmarked), based on a historical trajectory. A policy of "use it or lose it" applied to the HE sector. The policy of "return unused funds" signifies the woes faced by higher education institutions to drive sustainable medium- to long-term planning. Teferra (2013) suggested,

however, that such funds may have arisen due to multiple factors which included mismanagement, poor planning, weak autonomy and the like.

Financial demands exceeded the Government's planned resources, hence an alternative program base that encompassed increasing the national budget to the higher education sector; allocating budget with the use of a funding formula; income generation; outsourcing non-core business; increasing university-industry partnership; increasing efficiency and productivity through sustainable education finance; granting university autonomy through decentralisation; introduction of cost-sharing and benchmarking, and reducing salary costs.

Yigezu (2013) criticised Government for its lack of coordination and understanding of the resource implications aligned to the implementation of the funding formula. His recommendations proposed the outsourcing of non-academic services, e.g. residences and catering to the private sector; introducing virtual and distance learning in all public HE institutions; increasing private HE sector, cost-sharing to all students; introducing institutional entrepreneurship; encouraging University-business partnerships and increasing philanthropic funding and endowments.

4.2.3 Kenya

Several studies in Kenya (Oanda, 2013; Otieno, 2010; Weidman, 2001; Wandiga, 1997) examined the key aspects of the financing of higher education, a country which underwent various policy shifts (similar to the other African States) in different time periods since its attainment of independence in 1963. From the cited authors, I have selected two studies, namely Otieno (2010) and Oanda (2013), which provided pertinent information for this review. Otieno (2010) claims that Kenya progressed remarkably with regard to transforming its financing of higher education. In particular, he stated that higher education in Kenya "exhibits an interesting mix of public-private financing" (Otieno, 2010, p. 55). However, he further stated that private contributions had not been fully exploited. Given that economists and other commentators agreed that higher education was neither an exclusively private or public good, and clarified that when beginning any financing model design in HE, consideration must be given to the "extent to which higher education is a public or a private good" Otieno (2010, p. 56).

The Kenyan government faced other challenges amidst the scarcity of resources in relation to its distribution of basic education against higher education, where basic education is seen as

study) and considered University submissions in relation to its needs. Universities in Kenya experienced a drop in funding from Government's erratic allocations, which made medium- to long-term planning difficult. This forced universities to find other sources of income to supplement their block grants in order to meet growing expenses. Universities thus began increasing their enrolments on fee-paying students, as the Government generally covered tuition for 30% of qualifying students at a level lower than the market. The Government also provided loan finance for qualifying students; however, these fees were below the market when compared to the actual costs of programs, thus producing a shortfall with increased pressure on the universities.

The Kenyan Government, acknowledging the complexities and challenges around the financing of its higher education sector, responded with various policy proclamations since its independence. This coupled with its drive to create a highly skilled workforce, resulted in the government sponsoring tuition and living allowances while imposing a three-year public service employment strategy. The system worked well with a striving economy that was able to fully fund university expenses at appropriate levels. With an increased demand for higher education and a declining government resource base, the debate of cost-sharing surfaced and became a reality in 1974. The government rolled out loan schemes (previously only afforded to studies abroad) via the Ministry of Education, but with little success of recovery once students attained the qualifications and entered the workforce.

Despite a declining resource base, the Government continued to increase its allocation to higher education; however, the costs of higher education increased at a faster pace, putting added pressure on universities. This negatively impacted universities' academic quality and infrastructure. Initiatives to increase resources were placed on institutions and the University of Nairobi, as an example, created its own private listed company that drove entrepreneurship to assist its main operations.

4.2.4 Lesotho

Pillay (2010) argued that the State was required to fund at least two-thirds of the higher education budget. His study considered the areas of the structure, strategic plan, access, State spending and challenges of higher education in Lesotho. He provided a series of recommendations as his study unfolded with a particular focus on the country's loan system. Pillay (2010) noted that Lesotho's spending on higher education ranks as one of the highest

within Sub-Saharan nations. His study summarised the key features for Lesotho’s higher education system, which identified that:

- The Education budget was around 40% of the fiscus.
- The State-funded institutions via loans/bursaries;
- Loan recovery rates were low;
- There was a Lack of Control on the total loan base because over-expenditure was prominent, and
- There was a high level of bursaries for students who studied outside of the country.

Lesotho’s Council for Higher Education (CHE) is responsible for the higher education policy design, quality control, monitoring of higher education sector and reporting on higher education within the country. Like with most Government’s challenges, the issue of demand for higher education was no stranger to Lesotho and as part of the education sector’s strategic plan, there ought to be equitable increases in access for students, improving the relevance of higher education and increasing efficiencies. Their loan grant bursary system was separated into payable and non-payable loans. Further, these loans were categorized per student, and the percentage exemption which provided an incentive to students to serve Government after graduating. For example, a student offered a loan from Government to study, will only be liable for 50% of that loan amount if employed by the Government after qualifying. Students who do not serve Government after qualifying, will be liable for the full 100% loan amount; however, those who work for the private sector in Lesotho will be liable for 65% of the loan amount.

The Government was at the time of their study, considering other loan options related to, for example, the fields of study. Table 4.2 below was extracted from Pillay (2010), since it has a direct impact on discussions later in this study.

Table 4.2: Criteria for Loan -Grant Bursaries

Category of Student	Payable Loans: (%)	Non-Payable Loans: (%)
Serving Government after graduating for a five-year period	50%	50%
Working for the private sector after graduating	65%	35%
Obtaining outstanding performance and serving the government for five years after graduating.	40%	60%
Do not serve the Government after graduating	100%	0%
Fail to return to Lesotho after graduating	100%	0%

(Source: Pillay 2010, p. 70)

Pillay (2010) concluded that the higher education budget ought to have been reduced in favour of primary education. Further, the Government should broaden access to higher education, create a more equitable and efficient loan bursary scheme and introduce cost-sharing for those students studying outside of Lesotho.

4.2.5 Madagascar

Given the limited research that originated from Madagascar, Randriamahenintsoa (2013) examined their public higher education financing policy and focused on the opportunities and challenges facing their education sector. Prior to 2000, the low priority given to the higher education sector as a result of dwindling state resources led to protest action and low academic productivity. These culminated in the near-collapse of the system, forcing the Government to implement new strategies to address this crisis. The subsequent period, 2000-2010, showed significant growth in student numbers. The government responded to this challenge by providing additional financial aid in the form of bursaries. Regrettably, time delays with regard to the financial aid reaching its target population resulted in added pressure on institutions.

The regular funding system required universities to submit estimates to the Ministry of Education based on their projected needs. Randriamahenintsoa (2013) highlighted the inconsistencies where the budget allocations were primarily based on available resources which may not have met University needs. Cost-sharing, in the form of fixed tuition fees, (regulated by the State and incremented by a fixed rate of 5%), provided the additional enabling resources and contributed towards an increase in productivity within these institutions.

The centralised nature of higher education in Madagascar allowed the State to implement policies as deemed necessary. One such intervention was the freezing of academic positions for over 20 years and escalating the retirement age to 70 years, thus retaining expertise. Another intervention saw the implementation of recommendations made by international organisations including the World Bank (2008), which highlighted and questioned the competency of Madagascan policy-makers, who were often selected based on political affiliation rather than sector expertise, as well as universities' administrators, for poor decision-making.

Randrianmahenintsoa (2013) concluded his review by recommending several measures to the sector that include reform of HE policies; increased sector-based financial support; greater autonomy and improved efficiency and human capacity in both Government and HE sectors.

4.2.6 Mauritius

Mauritius transformed its economy from high levels of unemployment to zero percent, which shifted the country from low to middle income per capita status (Mohadeb, 2010). Higher education could be accessed from either the schooling (primary to secondary) or from primary to vocational training and was seen as a critical role co-player in meeting the Government's objectives for the country. Further, Mohadeb (2010, p.100) argued that higher education "undoubtedly would improve the country's competitive edge, economic growth, employment opportunities, productivity and social cohesion".

Mauritius had a shared costs system within its higher education sector, with the State providing the biggest share. Mohadeb (2010, p.95) stated that while Government-funded most of the costs of higher education, there was "no free higher education". Mohadeb (2010) concluded that there was a growing demand for higher education in the country, and this demand stemmed from an increased exit of secondary school leavers and those working-class who opted to embark on postgraduate studies. Mauritian institutions experienced a decrease in its funding levels with the Government reducing its support to the sector in relation to its GDP rate. Mohadeb (2010, p. 100) added that given the pressure placed on Government to increase funding in the sector amidst declining revenue, "cost-sharing in the higher education sector is [was] the only solution". Any decision, however, that impacted civil society negatively from a financial perspective, was seen as being highly political (Mohadeb, 2010).

4.2.7 Malawi

Least Developed Countries (LDC) such as Malawi, require education in order to shift society and its economy by providing entrepreneurial and commercialised skills sets to maximise their growth potential. Dunga's (2013) study focused on policy effectiveness, strengths, weaknesses, challenges and opportunities in financing Malawi's higher education sector. Given the costs associated with providing and maintaining a satisfactory higher education sector, LDCs rely heavily on foreign support in the form of donor funding and energised collaboration. Donor concerns around the management and control of foreign aid resulted in either restriction or

reductions in support, such as the case of the UK. Malawi funded its basic and higher education sectors by meeting all costs, including scholarships.

The introduction of new universities necessitated a cost-sharing approach in the form of tuition fee billing. However, the resistance to the latter billing restricted the State from optimizing on student fee income. Government policy adopted a shared costs approach, which implied students and Government proportionally sharing the costs of higher education. This agreement of shared costs resulted in an increase in 2001 from US dollar equivalent \$20 to \$326, which signalled a mal-alignment to higher education cost structures. According to the World Bank (see Dunga, 2013, p. 186), Malawi by 2010 had one of the most expensive higher education systems in the world in terms of GDP per capita, in contrast to the lowest student per lecturer ratio.

Despite the government's injection of funds, the HE sector did not necessarily align itself to quality education, in that the funds covered emoluments rather than core teaching and learning activities. Dunga (2013) suggested the following recommendations for the higher education sector in Malawi:

- Adjust unit cost by maintaining academic staff while increasing student numbers and classroom space;
- Increase resources with the introduction of fee billing with loan schemes to offset the needs of those who cannot afford fees;
- Given that two universities have a spread across different locations posing major challenges, a change to the higher education landscape by reshaping these colleges to form five institutions would assist.

4.2.8 Mozambique

Mozambique's first higher education institution was created as a branch of the Portuguese universities in 1962, offering a range of programs, including Engineering, Medicine and Surgery, Veterinary Sciences, and Agronomy. The country also witnessed a massive demand for higher education, with the sector increasing "from about 3750 students in 1989 to 40 000 in 2006" (Chilundo, 2010, p. 104).

The Mozambican Government financed most of the costs of higher education and catered for infrastructure, human capital, infrastructure and communication technology (ICT) required,

with students paying minimal tuition fees. The funding entities included the State, private donors and students. Chilundo (2010) proposed a base funding system exclusive to public higher education - a system that accommodated funding, one in which private institutions could access. Students could access the funds on a competitive basis.

4.2.9 Namibia

Given that knowledge is the key engine to economic growth, Adongo (2010) stated that Namibia, as part of its National development framework, set out to transform the country into a knowledge economy. The scarcity of resources is common in both developed and developing countries. Adongo (2010) cited three reasons for this:

- Competition from other public needs;
- The inability of the country to raise public revenue, and
- Rapidly changing curricula and fields of study which resulted in increased funding requirements.

Adongo (2010) affirms that Namibia is ranked second within Africa, as the biggest spender in education in relation to its GDP. Tuition fees supplemented Government support to the higher education sector; so too did donor funding. Adongo (2010) recommended various reforms within the higher education sector for Namibia. Some of these included an output-based approach to funding; setting expenditure thresholds; creating performance indicators with formula-based funding and improved monitoring; synergizing Government's financial year to that of universities, improving donor funding; devolved authority; readjusted spending on each category of education from pre-primary to tertiary, and creating efficiencies within the sector.

4.2.10 South Africa

In most modern democratic countries, Governments, based on their needs and prioritization, make provision within the fiscus for allocation of resources to various Ministries. These Ministries are tasked with the distribution of budgets to the various constituencies under its area of accountability. The focus is on one such Ministry, formerly Ministry of Education which incorporated both basic and higher education and subsequently spilt as standalone departments. I provide a brief conceptual outline of SA higher education financing and show its transformation with regard to funding modalities that were adopted over a period of time.

Steyn and De Villiers (2007) conducted an extensive analysis of the South African funding framework since its inception in 1953. They cited Jongbloed's (2004) grid as a lens to map the South African higher education funding into four quadrants. In Quadrants 1 and 2 the funding mechanism considers performance or educational inputs based on a centralized (State-controlled) approach in which the allocations are tied to educational inputs or outputs of performance. Quadrants 3 and 4 conform to the market approach (decentralized or based on market forces), where the funding base is determined by the degree to which publicly funded students or funded programmes are regulated by central authorities or by the decisions of the clients themselves (students, private firms, research councils).

Steyn and De Villiers (2007) claimed that the funding used in SA followed various formulae: 1953 Holloway formula which considered remuneration of academic and library staff and student enrolment with a cost of living allowance for staff; the 1977 van Wyk formula further included labs, research, and maintenance of buildings. The 1984 first SAPSE Formula for public Universities, and the 1985 SAPSE formula for Technikons. Both the Technikon and University SAPSE formula was revised in 1993. A formula that incorporated Earmarked funding with its emphasis on encouraging particular streams of the study was introduced in 1984. This formula continues as part of the New Funding Framework (NFF). A summary of the different SAPSE funding formulae yields the following (see Steyn & De Villiers, 2007).

SAPSE (1984): This formula was introduced to consider the needs of the sector in line with the aspirations of the State and was subsequently completely market-oriented, with almost fifty per cent of the criteria based on output measures. Further, the formula considered Staffing Costs, Supplies and Services, Building and Land Improvements, Equipment, Books, Journals, Residences, FTE students and staff.

SAPSE (1993): In 1991, a review and revision were conducted by the Advisory Council for Universities and Technikons Board. This resulted in the introduction of the 1993 SAPSE formula, which emphasized growth restrictions in accordance with the student population. This revised formula came into effect in 1993/1994.

New Funding Framework: The NFF, which was introduced for the first time in the 2004/5 (primarily based on performance), was approved in terms of the Higher Education Act No 101 of 1997 in the Government Gazette (Vol 462, number 25824) of 9 December 2003. The NFF was made up of two funding components: Block Grants and Earmarked Grants. The ratio of

these allocations is determined by the Ministry of Higher Education. Given that this funding formula is currently in use and that this study is located within the South African context, a separate section (see Chapter Seven) takes an in-depth look and evaluates the mechanisms of the new funding framework. Steyn and De Villiers (2007) conclude that funding mechanisms needed to be reviewed every five years in order to avoid HEIs identifying loopholes and exploiting the framework for their advantage.

The 1997 White Paper on higher education discusses the four key elements in the South African policy. These elements are in line with the previous policy, in terms of:

- *Sharing of costs.* Since higher education generates both public and private benefits, costs must be shared by both governments and by students.
- *Autonomy in determining student fees.* Public higher education institutions are able to set their own student fee levels and manage their financial and other operations with limited State intervention.
- *Funding for service delivery.* Government funding of higher education was not designed to meet ALL institutional costs. Funding is linked to academic productivity and access.
- *Funding as a steering mechanism.* The government funding framework was a goal-oriented one, built around incentives designed to steer the higher education system in accordance with national social and economic development goals.

Prior to 1994, a total of 36 public HEIs were registered in South Africa. Mergers were considered and implemented in 2004, resulting in a total of 23 higher education institutions categorised as research Universities (11), Comprehensive Universities (6) and Universities of Technology (6). Pillay (2010) claims that with the advent of the new democracy, South African Higher Education underwent major reform in both structure and framework. A further three newly-opened Universities, one in Northern Cape and one in Mpumalanga (Sol Plaatjie University and University of Mpumalanga respectively, both of which are comprehensive universities), and a Medical University- Sefako Makgato Health Sciences University opened their doors in 2014.

Given that higher education is seen as a responsibility of the State, it is imperative that education funding from the government is satisfactorily catered for in the fiscus. South Africa's fiscus continued to provide the largest share (approximately 20.3%) to the Education sector. This includes both basic and higher education.

In other studies, Pillay (2010) indicates that South Africa had several features in its financing of higher education that were unique, such as:

- Increased higher education budgets (Government's attempt to address the massification and access challenges);
- The shared costs approach;
- Institutions were given autonomy to generate their own third-stream income;
- The development of a student loan scheme called the National Student Financial Aid Scheme (NSFAS);
- Closer links between Universities and Government's plans, whereby three-year rolling plans were expected to be submitted to Government, and
- The financing framework is underpinned by a funding formula.

Pillay (2010, p. 72) concluded that SA has reached "a relatively high level of sophistication in the development of its higher education funding mechanisms, particularly with close links between its planning and budgeting processes, and its implementation of a relatively simple funding formula". Tuition Fees, according to a PWC (2014), remained a key source of revenue, in most cases second to State grants. Tuition fees were around 31% of the combined revenue of all universities. Individually, tuition fees hover between 25% -44% of total revenue for most HEIs in South Africa. An eye-catching observation was that between 2010 and 2012, tuition fees increased to R15, 5 billion (2010 = R12, 2 billion), representing a shift of almost 27% over the three-year period. This was largely attributed to the increase in student enrolment.

Of the HEIs, traditional universities tuition fee income was around 27%, comprehensive Universities around 39% and Universities of Technology around 32%. This meant that for HEIs, almost one-third of revenue was from tuition fees alone - a substantial contribution to the resource base of HEIs.

Tuition has remained one of the primary income streams for HEIs, and Teferra (2013) adds that during his student years, an increase in fees was coupled with student protests in the streets and that "this did not happen so much anymore". His statement proved to be short-lived, given the national 2015 #FeesMustFall campaign, which not only rejected an increase in fees but called for its abolishment in South Africa.

4.2.11 Tanzania

Ishengoma (2013) study confirms that Tanzania was another SADC state grappling with financial challenges in meeting the demand for higher education against other public sector needs. He asserted that the model adopted by the government remained largely historical. The limited so-called “innovative” approaches to the model were both “*unsustainable and unrealistic*”. Since 1961, the shared costs approach (like Malawi) was the norm in Tanzania. Students had a choice to pay tuition fees with no restrictions on them after graduation or could choose fully-funded loans with restrictions. Tanzania, in its quest to develop its much-needed human capacity, adopted a “*tied bursary*” system that had a dual purpose. Such “*tied*” bursaries, which covered all costs, had two-fold implications. Firstly, students were channelled to selected qualifications in keeping with the government’s goals and strategies. Secondly, it guaranteed and locked these students to government employment for a minimum period of five years. The latter provision allowed the government to recoup its loans via monthly salary deductions. Students with great financial need opted for these bursaries.

The government abolished this “*tied bursary*” system by 1974 and took full responsibility for financing the sector. It did so by imposing a three-year obligation to society: the first year involved mandatory national service followed by two years of civil service. By 1980, this model became unsustainable, forcing the government to revert to a cost-sharing system which is currently in use.

In 2008, Tanzania shifted its higher education sector from the Ministry of Science Technology and Higher Education and created a stand-alone Ministry of Higher Education and Vocational Training. This strategic reshape supported its 2025 development vision in ensuring improved human capital growth. One of the critical areas focuses on shifting the country from least to middle-income development. Ishengoma (2013) states that the declining higher education sector did not lend itself to the realisation of the 2025 vision. The model adopted in Tanzania allowed universities to submit budgetary requests to the State.

Since 2008, the State allocation consistently increased by approximately 10% per annum. However, when budgetary requests were pitted against the State allocation, a funding deficiency for universities emerged. This systematic ‘real’ underfunding forced universities to seek alternative funding streams. The positive spin-off from the latter saw universities

attracting foreign donors, and collaborating and forming partnerships with other universities worldwide to ensure and maintain their financial sustainability.

4.2.12 Uganda

Musise and Mayega (2010) validate that Uganda has seen a great demand for higher education with successive enrolment increases (30 000 in 1995 to 109 208 by 2005), coupled with increased government support to the sector by almost 3,4 times in relation to its GDP between 1991-2004. Higher education was funded from three sources: Government, Students/Parents and Donors.

Post-1996, the Ugandan government underwent reforms based on UNESCO's Education For All (EFA) campaign and created new modalities aligned to this campaign. This campaign prioritized primary education and promoted private resource support for higher education. The Ugandan Government initiated the Education Sector Investment Programme in 1998, with one of its key outcomes to reduce public expenditure for the higher education sector "and a deliberate move by the Government to encourage public universities to generate resources from private sources, as well as encouraging the private sector to play an increasingly significant role in the provision for higher education" (Musise & Mayega, 2010, p. 203).

Musise and Mayega (2010) recommended a range of initiatives, including mobilizing greater private support for student fees; equitable subsidies taking cognizance of the institutional cost structures; promoting universities to set their own fee structures, and forcing institutions to provide the true cost of education. Oboko (2013) emphasised a direct relationship between the levels of funding in higher education, from whichever source, and its delivery in relation to the quality of programs, staff, infrastructure, libraries and student facilities amongst others. Unfortunately, during the 1970s, Uganda provided inadequate funding to its HE sector, which negatively impacted the areas listed above. Further, a greater consequence saw Ugandans almost excluded from HE during this period. While stability ensued thereafter with the injection of resources to the sector, another challenge surfaced – that of rapid demand and increased enrolment, negating any increase in funding provided by the state.

Due to political influences and its resultant mismanagement of funds, donors earmarked funds and imposed stringent conditions did not align with institutions' strategy, or support substantively the main operations of universities. The funding shortfall provided universities

with the opportunity to maximise on its autonomy, and they were given freedom to enhance their resource base. As such, the concept of commercialisation and entrepreneurship within universities started to emerge. Some of these initiatives included areas of cost-cutting, the introduction of evening classes, innovative budgeting frameworks and the like. Soon, the international community, having seen these efficiencies emerging, increased collaboration and support to the Ugandan government and its HEIs.

The government, based on its 1995 Constitution, phased in its policy of wholly providing for student welfare and implemented the shared costs approach via a dual-track policy, where some students fund their own studies, as a result of the considerable demand for HE against the limited and reducing state resources. At one point, Makerere University, Uganda's oldest, which was fully government-supported, relied heavily on tuition fees as a major contributor to meeting its expenses. Staff and student increments must be approved by Government, signalling a centralisation of the HE sector and impacting institution autonomy. Oboko (2013) recommended that Universities have full autonomy to plan strategically. He further suggested the introduction of a formula-based funding model to steer institutions in line with government goals for the sector and the country.

4.2.13 Zambia

The literature on the financing of higher education in Zambia was scarce and almost non-existent (Masaiti, 2013). Post-independence, Zambia (1964) depended on its copper mining resources and recognised education as a key driver to bring about socio-economic change. In developing these human resources needs, Government made substantial investments initially towards the formation of the University of Zambia and later, other public universities. These institutions were supported with their running costs, financing tuition, accommodation and meals. The growing population exerted a demand for higher education, which resulted in increased costs of providing HE services. The initial financial model thus became untenable. This situation led to policy changes that encompassed cost-sharing, loans and other revenue sources.

Despite the positive impact on the financial sustainability of the sector, these policy revisions especially cost-sharing and loans, were not welcomed by civil society. The timeline for policy implementation from the initial proposal stage took several years. Thus Zambia, like most African countries, found it difficult to respond immediately to the challenges faced by its HE

sector, thereby prolonging decisive interventions. Zambia's biggest challenge remained to balance the support to University salaries against the retention of its academic staff. The tension resulting from unattractive salaries resulted in a brain drain of its highly qualified staff, who chose lucrative incentives abroad.

Further data on cost-sharing which used a sample of over 378 students, revealed that students began to appreciate the benefits of ensuring a fully-funded university system against depleting government support in line with the World Bank's (2010) resolution. Masaiti (2013) concluded his study by calling for a change to the funding model, highlighting that the cost-sharing approach remained insufficient.

4.2.14 Zimbabwe

In the examination by Mpofu, Chimhenga, and Mafa (2013) of the financing of higher education in Zimbabwe, resource scarcity was identified as a prevalent issue given the increase in the number of public universities.

Despite the Zimbabwean Government's obligation to HE, the total collapse of the country's economy reduced the education budget to low priority status. While awaiting the government's funding rescue efforts, Universities were forced to seek alternative funding sources in order to ensure continuity in their operations. The country's economic downturn, which resulted in the government's withdrawal of loan and other financing mechanisms, forced students to foot the total bill for tuition. This pressure for students to self-fund their studies resulted in a major drop in student enrolment. The government responded by introducing a 'Cadetship Scheme' to counter this dropout, which in effect provided tuition fees for undergraduate study on prescribed conditions relating to in-service within the country for an equitable duration. However, some students opted to relocate and study elsewhere since they did not want to be bonded to the scheme. Those students wanting to pursue post-graduate studies were hampered, in that the scheme was limited to undergraduate studies. The 'Cadetship Scheme' further proved challenging: the Government often delayed on their promise of payment. The latter forced Universities to curtail spending which impacted academic quality. Mpofu et al. (2013) proposed a greater industry-university collaboration. Further, they favoured and recommended a system similar to that of the South African National Student Financial Aid Scheme (NSFAS), which provided scholarship, bursaries and loans to qualifying students.

4.3 Editors' Views

The above sections provided a synopsis of academic literature on various African nations that featured in books edited by Pillay (2010), entitled *Higher Education Financing in East and Southern Africa*, and Teferra (2013), entitled *Funding Higher Education in Sub-Saharan Africa*. Here, I present the views and opinions extracted from these books by the two editors.

4.3.1 Higher Education Financing in East and Southern Africa

Pillay (2010) summarises his edited book by providing a detailed analysis (see Pillay, Chapter 11, p. 223-232) of good practices, possible lessons and remaining challenges. He asserts that “funding mechanisms are especially important in shaping higher education outcomes in areas such as quality, efficiency, and equity and system responsiveness” (2010, p. 223).

He further argues that there is evidence which suggests that “higher education financing in the countries considered in this study is often inadequate, and almost everywhere inequitable and inefficient” (Pillay, 2010, p. 224). In response to the resource challenges facing higher education, most countries examined have opted for shifting towards a cost-sharing model in the form of tuition fees and all countries expanded their private higher education sector (Pillay, 2010). The private higher education sector operated on a for-profit system. However, Pillay (2010) indicates that the quality of private education was questioned from countries like Mozambique and Tanzania. Further, he asserts that throughout east and southern Africa, there is an overall lack of regulatory framework with regard to private higher education. Other dimensions recorded by Pillay (2010) include the entrance of international service providers in several African states.

On the other hand, with the public higher system, Pillay (2010) states that financing in most African states is simply inadequate. Coupled with this funding shortfalls, they experience gross inefficiencies with no link to sector planning and budgeting. Pillay (2010) places the blame solely in the hands of weak education departments under the Ministries of Education which simply choose to adopt an incremental-based approach linked to the countries' inflation rates, or assign budgets based on input factors such as student enrolments. There is no “systematic funding mechanism such as a funding formula” (Pillay, 2010, p. 225). South Africa, however, admits Pillay (2010), is an exception of its higher education systems “have established the necessary planning capacity for higher education in the Ministry of Education, and/or appropriate budgetary frameworks for the country as a whole” (Pillay, 2010, p. 226).

Although some African States provided loan schemes for local and international studies, recovery of these loans was a challenge. The fact that no serious efforts were made to recoup these loans led to write-offs, which ultimately made higher education free. Pillay (2010) also asserts that these loans were inequitable and favoured the more affluent students. While it is evident that higher education financing “is characterised by inadequacy, inefficiency and inequity. Nevertheless, there are several examples of ‘good practice’ that other African countries may want to study and possibly emulate.” (Pillay, 2010, p. 226). Some of these good practices include:

- Some States fund more capital expenditure and expects private households to fund operational costs;
- Not all public institutions are funded the same - priority given to institutions that provide greater social returns like teacher education;
- Costs sharing is introduced in most countries to bolster institutional revenue;
- South Africa as a case in point uses a means test to provide loans to historically disadvantaged students. Kenya is another example of driving an effective loan scheme; and
- In South Africa, there is a close link between planning and funding both from a government and institutional perspective.

Possible lessons that Pillay (2010) highlights include:

- The higher education sector must improve the ability to increase its revenue;
- There has to be some level of cost-sharing built into the system;
- The development of a funding formula that is responsive to the funding constraints is necessary, and
- The SA system drives equity and efficiency and promotes institutional autonomy.

Against the above practices and lessons, Pillay (2010) provides key actions that need consideration when developing a funding model. These are:

- Keeping the model design and its formulae simple;
- Consulting widely and providing substantial training;
- Developing effective data management systems, and
- Monitoring and evaluating outcomes.

Pillay (2010) concludes by providing a key challenge faced by African policy-makers, to ensure the most efficient use of limited resources while driving social development.

4.3.2 Funding Higher Education in Sub-Saharan Africa

Teferra (2013) concludes that the massification of higher education in SADC regions showed a trend of people wanting to create a better life for themselves, their families, and their economy. He further stated, however, that knowledge (creation, dissemination and innovation) required high calibre human capital, conducive infrastructure and its maintenance, as well as recurring operational expenditure, which required extensive financial resources. Given that financial resources could never be in abundance, this had a direct negative impact on the development of the region. Teferra (2013), claimed that the financing of higher education in Sub-Saharan Africa is particularly challenging when compared to the rest of the world.

The challenge in African countries with regard to the financing of higher education was dependent on its obligations to civil society ranked by State priorities. Thus, the higher education sector relied heavily on shared costs and/or philanthropy in order to maintain financial sustainability. In some cases within the African continent, the State was the primary resource provider that bore all costs, while most countries followed the shared costs approach, with their resources is complemented by a secondary source, tuition fees. Teferra, when interviewed by McGregor on his book, argues that in some countries, the majority of students in public universities are able to afford tuition fees as they come from well-off families: “So there is every reason for the country or the institution to generate money from these individuals, but they do not. Tuition is free” (Teferra, 2013).

Teferra (2013) goes on to highlight the following:

- The financial strain within the HE sector was faced by every country in Sub-Saharan Africa;
- Free higher education is untenable;
- Higher education is of critical importance to long-term development;
- Higher Education is the key to generating knowledge;
- Investment in higher education especially for developing nations is of paramount importance to the eradication of poverty;
- Infrastructural facilities in most HEIs in Sub-Saharan Africa are in a poor state, and additional resources are required;
- Africa faces a dual challenge in that it needs to balance access while maintaining quality, and

- There is a need to diversify the resource base of HE through cost-sharing and develop innovative ways of responding to the demand, with the introduction of sustainable funding and loan schemes.

4.4 Summary

What emerged from the literature is that most of the Governments in Africa adopt a five- year or greater turnaround time between actual policy discussion and implementation thereof. This long-drawn-out process may have serious negative consequences, given that the higher education landscape is consistently subjected to changes and new challenges. Further, there was much reliance on an incremental budgeting system that was simplistic. Governments in Africa started to question the return on their investment and policy changes with regard to funding students continued to evolve, suggesting two things. Firstly, the resources were not able to sustain the costs associated with supporting students and secondly, government officials were monitoring their return on investment. Higher education, as indicated in the literature, is neither an exclusive private nor public good, suggesting therefore that it is a shared responsibility. Some of the recommendations made from these studies need to be given serious thought and even implemented across Africa. Later in this study, I will reiterate the ones I found most interesting and add on others that I believe need implementation.

Economic growth seemed to be the driving force behind policy decisions with regard to financing higher education. Historically, most economies were able to fully fund higher education since they recorded low demand and low cost. However, given the surge in demand and cost, it soon became unaffordable. Over the years as the demand grew, Governments started to see a decline in economic growth, and a massive increase in demand for higher education; the costs of delivering higher education started to increase at a faster pace in relation to the country's consumer price index. These, among other political factors, dictated shifts in policy decisions with regard to Financing Higher Education.

In addition, the World Bank (2013) suggests that Governments must increase higher education capacity to cater for the access demands. Teferra (2013), however, argues that very few countries, especially in Africa, are in a position to increase their allocation to higher education given the desperate state of both primary and secondary education, in addition to other societal challenges that these governments face. He thus concludes that foreign and local donor support is the only other avenue that can assist higher education to come anywhere close to meeting

the higher education challenges in Africa. Donor funding, however, comes with restrictions, and gifts are commonly earmarked for specific purposes, which does not provide University officials with the flexibility they require to assist with main operations. Some even insist on a nil administration and overhead charge. These donor funds are also not recurrent, resulting in further uncertainty for University planning and sustainability.

The main claim emerging from the African studies is that financing higher education is an expensive business against a shrinking resource base that goes way beyond money and includes several other aspects. Some of these aspects are the infrastructure, equipping laboratories, security, cleaning and maintaining a payroll of academia and support staff. Teferra (2013) affirms that in most countries in Africa, finance allocated to HEIs has been consistently decreasing. He (2013) maintains that contrary to the trend in Africa, South Africa is increasing its share to the budget in favour of HE. Further issues that impact HE in Africa include lack of capacity to use resources; red tape; a huge expansion that sees more funding spread more thinly across universities, and the generation of alternative income. Teferra (2013) qualifies his statement on ‘mismanagement’ by pointing out that this is not deliberate, but indicates a lack of capacity to effectively manage institutions.

Altbach’s foreword, (see Teferra (2013, p.xv) contends that while the rest of the world adopts an “iron law” approach to *massification* in higher education, Africa lags behind at the developmental stages of this process. He further asserts that Africa faces challenges with regard to the growing access demand and the rapidly changing higher education environment, with particular emphasis on the critical role of research within Universities as a core driver to achieving excellence, while moving towards a knowledge-based economy. In order to attain the latter status, the uniqueness of Africa’s experiences, realities and possibilities ought to drive the continent’s funding mechanisms.

As a central argument in Altbach’s foreword (see Teferra (2013, p.xv), theorisation revolves around the question of free higher education, which he concludes is “simply unsustainable”. This would (if it already did not) lead to those who can afford these fees (though exorbitant), choosing to rather attend the growing and popular private higher education institutions rather than attend public institutions that are not able to maintain their infrastructure, information technology, academic and support staffing depth to acceptable levels.

Although universities in South Africa share in their commonality of student uprisings, historical legacies and imbalances continue manifesting itself within the funding frameworks. However, South Africa has continuously transformed its funding modalities by keeping the good policies and replacing the ones that did not suit current challenges with new concepts. South Africa's higher education system is often commended from many authors for its uniqueness. The funding formula here has changed almost every five to ten years. Other than the funding model, the HE landscape has also experienced major changes with mergers, creating Universities of Technology from standard Technikons, building new universities. Of late, the current new funding framework, as it was labelled, is under review and consultative processes have already begun. The ministerial task team is also considering the debate around free education.

The next chapter discusses the theoretical framework that underpinned this study.

CHAPTER FIVE

THEORETICAL BACKGROUND

5.1. Introduction

The allocation of resources would not be a problem if resources in HE were not scarce, that is if abundant resources allowed every request for resources to be satisfied in full. This chapter presents the theoretical background that underpinned this study which was guided by the purpose and objectives set out in Chapter One. The innovations associated with the work of Herbert Simon (1959), Luc Boltanski (2011) and John Rawls (1985) are described in this chapter. Each innovation addresses different important aspects of allocating scarce resources in such a way as to maintain and uphold a positive institutional effect.

5.2 Complexities of Resource Allocation

Given that resources are never in abundance, a major challenge for resource allocators is the avoidance of conflict. This arises when those petitioning and bidding for scarce resources begin to seek an advantage by disadvantaging their competitors. For instance, a total university budget cannot satisfy all of the demands of its different faculties and support units. In a typical ‘wish list’ system, this results in such distortions as exaggerations of departmental budgets, in the hope that the amount actually required will be gained despite cut-backs by the resource allocators.

A further distortion occurs when disciplines actively question the right of other disciplines to their budget demands. These strategies distort communication in the university and result in a compromised judgement by the resource allocation body or committee. The overall result is a deliberate move within the university in which resource allocators change their procedures after knowing that their resource requesters are not transparent. This, in turn, incentivizes the requesters to refine their exaggeration. What this does is that it creates a situation where both sides seek to act upon the action of the other side in order to maximize their desired outcome. In the course of this process, the actual data and the principles of rational judgement underlying resources allocation under conditions of scarcity, are compromised or abandoned in favour of power struggles. The resultant effect of which produces a kind of legitimacy attached to the victor rather than to the efficient, rational, objective process surrounding resource allocation.

During the 20th Century, governments were increasingly pressed to recognize social demands. Since governments are constrained in their spending by their only source of income, which is the revenue base, they had to seek and embrace several innovations that could legitimize their resource allocation processes. This, in the face of often militant social demands while at the same time maximizing social justice in their outcome. Thus, striking a balance in such a way that those whose demands were not fully satisfied would not feel aggrieved or discriminated against, but recognize that budget rationalisation by the government is done in the interest of a higher good.

5.3 Innovation over the Centuries

5.3.1 Herbert Simon (1959)

Simon (1959), the literature reveals, combined expertise in engineering and management, which resulted in an innovative model of institutional design. Amongst Simon's many conceptual revisions to organization theory, the notion of 'satisficing' is one of the best known. Satisficing is described as an alternative to maximizing demands and satisfaction. Maximising behaviour seeks to increase the current advantages and opportunities to their fullest extent. Simon's satisficing argues the opposite by showing that maximising is locked into a horizon of short-term gains and goals which, if achieved, would have an overall diminishing effect on the number of opportunities available in the medium term.

While many elaborations of Simon's maximising informed decision-makers within organisations towards rational behaviour and choice as a strategy in the process of achieving goals, other resource allocators detracted from Simon's original reasons. This challenge is familiar from the destructive and negative competition that often deadlocks institutions when recipients of resources act as maximizers for their own interest or the interest of their division's. As noted, satisficing combines the terms 'satisfying' and 'optimising' in order to replace the usual default principle in the condition of a scarce resource which is, of course, short-term maximising or seizing opportunities before others do and monopolising them once they are attained.

The emphasis Simon meant to capture by the idea of satisficing is on innovation including the innovation required by 'making do'. The standard classroom explanation of satisficing can be illustrated by the man whose belt breaks and who removes his tie to keep his pants up, thus attaining a solution to the original problem. Simon contrasts this with the maximisers who will

wait with his trousers around his ankles, for however long it takes, for a suitable replacement belt to be found. Maximisation has the unintended consequences of locking the maximiser into stereotypic or ideal solutions, whereas satisficing invites creativity. Satisficing then is in the interest of a broader value of keeping an overall process moving in the direction that its most comprehensive norms dictate.

The lesson for scarce resource allocators within higher education is that flaws or friction are seldom the results of design failures of the rules or constitution of the system. The ideal ground rules and policies always encounter varying degrees of friction simply because they demand to be implemented. Such implementation requires concerted action and alignment between diverse components. These components will not become better aligned by revisiting the constitution, the principles or the vision of an organization since modifications at this level present their own unique challenges once they reach the stage of implementation. Satisficing is aimed at innovation and improvisation on the level of implementation such that actual problems are solved in line with the principles and spirit of the organization without having to revisit and seek to revise this constitution constantly (J.P de la Porte, personal communication, July 7-9, 2018).

5.3.2 Luc Boltanski (2011)

Luc Boltanski is a disciple of Pierre Bourdieu, one of the recognised sociologists of the latter half of the 20th Century. Bourdieu studied the overall processes and practices by which social goods become concentrated, capitalized and hence scarce and relatively inaccessible (Bourdieu, 1988; Bourdieu & Wacquant, 2013).

The impact of Bourdieu on thoughts about social justice, access to opportunity and the distribution of powers came from his critical perspective upon unmasking the mechanisms and secret processes that organize and concentrate social goods in the hands of minorities and élites, leading to the diminishing of opportunities, social justice and the legitimacy of institutions. Boltanski (2011), however, criticizes the unmasking Bourdieu performs from the detached perspective of the social sciences and model builder. Boltanski wishes to replace critiques of society and the *status quo* with insights that will allow for a greater activation and an expanded role of what he calls ‘critical capacity’ (Boltanski & Thévenot, 1999). For Boltanski, all social institutions and practices are equipped to change and re-evaluate themselves but these abilities

require circumstance and not simply the decision of a critical sociologist (or executive manager), to activate.

Boltanski's (2011) starting point is the recognition of human equality. By this he does not mean the result of some process of recognizing 'natural rights' but rather the undeniable fact that all humans arrive in society at birth with more or less comparable assets and liabilities. This forms the basis of human demands upon institutions, rules and practices when these seem to favour certain persons. The usual justification for this favouring is that certain persons have been prepared to sacrifice in abiding by the rules and demands of particular practices in order to become acknowledged and accredited as members. This membership provides access to rare opportunities capitalized and maintained by the institution in which they appear somewhere along a scale of membership that Boltanski calls the "order of worth" (Boltanski & Thévenot, 1999, p. 364-369).

Hence a waiter does not feel an aggrieved sense of social justice at the professor of Theoretical Physics dining at his table because it is clear that the steps taken to arrive at the condition of professor along the order of worth within the scientific establishment are difficult, extracting genuine sacrifice of effort and time. In addition to this, the ungrudging legitimacy granted by the waiter to the professor must turn upon the fact that the opportunity to become a professor of Theoretical Physics is kept widely available to anyone in that society willing to undertake the necessary steps. This accommodates the initial postulate of human equality and allows the institutionalised order of worth to answer the question *why am I not you?* With the answer that *you can be me if you are prepared to do as I have done.*

The above scenario is Boltanski's way of highlighting the many background conditions that consign individuals to different roles even though their institutions are designed to give everyone an equal starting point. It is a fact that inequality prevails over equality in every society; therefore the role of open institutions or accessible orders of worth comes under suspicion because such institutions naturally generate inequality. This, on the premise that the privileged statuses within them are not élites but are in principle accessible to all. It is the extent of this access that interests Boltanski, just as the extent of exclusion that was created by the capitalization of social goods by élites had interested Bourdieu. The critical capacity or the ability for institutions to revise themselves while remaining themselves is Boltanski's focus. He identifies six orders of worth in his French society and makes explicit the demands they

make upon those wishing to enter them and maintain themselves within their legitimacy. These six orders of worth are summarised in Table 5.1.

Table 5.1: Six Orders of Worth

	<i>Inspired</i>	<i>Domestic</i>	<i>Civic</i>	<i>Opinion</i>	<i>Market</i>	<i>Industrial</i>
Mode of evaluation (worth)	Grace, nonconformity, creativeness	Esteem, reputation	Collective interest	Renown	Price	Productivity, efficiency
Format of relevant information	Emotional	Oral, exemplary, anecdotal	Formal, official	Semiotic	Monetary	Measurable: criteria, statistics
Elementary relation	Passion	Trust	Solidarity	Recognition	Exchange	Functional link
Human qualification	Creativity, ingenuity	Authority	Equality	Celebrity	Desire, purchasing power	Professional competency, expertise

(Source: Boltanski and Thévenot, 1999, p.368)

Boltanski and Thévenot (1999) postulate a situation where individuals who have formerly cooperated in pursuit of a common goal now find it difficult to carry on together. This can be the result of accumulated grievances based on unfairness or inequality between the partners. Division quickly occurs in which each party brings together the various elements from the past or present experience to form a perspective of what has gone wrong. In articulating these perspectives and voicing their grievances, the parties become involved in a dispute between incompatible portrayals of the same reality. It is the ability to manage this process of voicing alternative diagnoses of why the organisation has broken down, that distinguishes the order of worth.

An example illustrating the above would be a collision in traffic whereby each driver would have their own set of reasons for being dismayed and annoyed. Hence, they formulate these reasons to accuse one another of being at fault. It is the ability to sift these reasons into relevant and irrelevant beyond the perspective of the contending individuals that characterizes a durable order. Hence a driver's sense of a run of bad luck or the gravity of his personal experiences and state of mind plays a part in giving the event of the traffic collision. However, the other driver cannot be made accountable for the sum of these aggravating misfortunes but only for disobeying traffic signals or being negligent in driving an unroadworthy vehicle. It is a question of what is 'admissible' to arguments in court that decide fault and innocence, penalties and liabilities.

It is this admissibility that characterizes each order of worth in Boltanski and Thévenot's (1999) conceptualisation in Table 5.1. This can be simply summed up as legitimate grievance or criticism arising between the institutions and its surrounding society. By refining disputes, the orders of worth entertain dissenting points of view within themselves and develop techniques for re-establishing co-operation on the resolved side of the dispute (J.P de la Porte, personal communication, July 7-9, 2018).

Critical capacity arises when an issue is brought into focus by contending parties which cannot be satisfactorily resolved inside any of the orders of worth. If this issue is sufficiently grave encompassing and urgent to demand a solution or penalty from its society, then orders of worth will begin operating beyond their customary boundary and collaborate in order to resolve the issue. This collaboration brings the unfortunate consequence of duplicating and hybridizing the internal mechanisms that each order of worth has for resolving the disputes.

While collaboration may effectively address the broader threatening issue, it will also have the effect of undercutting the uniqueness and internal legitimacy of the component order of worth. If, in this state of where no boundary is found and the orders of worth begin to function more effectively than previously, then they face the challenge of incorporating these gains into themselves while retaining their identity and stability.

Boltanski's project extends beyond his work with collaborators to form a general inquiry into the conditions under which challenges become repackaged. The university as an allocator of scarce resources to its constituencies can learn to recognize the ways in which its internal conflict may be managed into processes that allow it to make adaptive and acceptable changes that underpin its established goals. Hence, not force it to re-establish itself from scratch as a social order of worth. Boltanski provides the university management with insight into the origins of criticism both inside and outside its potential risks. (J.P de la Porte, personal communication, July 7-9, 2018).

5.3.3 John Rawls (1985, 2009)

John Rawls' text *Theory of Justice* (2009), is a recipe for institutional design. In addition, it discusses from the outset, criteria for an institutional redesign with the assurance that such criteria take social justice into account to the maximum extent. His central device is the "veil of ignorance" (Rawls, 1985, p. 235) which features in all popular summaries of his ideas but is nevertheless fundamental to his approach. The veil of ignorance is a philosophical tale similar

to Plato's allegory of *The Cave* (Wright, 1906) in the way it lays out the problem. It also contains accessible principles for the design of fair. Like Plato, Rawls invites the reader to adopt the point of view of a soul about to be reincarnated into a given society. Unlike Plato's souls who are subject to chance alone in where they circulate on the wheel's birth, Rawls souls are called to a colloquium where they are invited to design the society in which they are about to be re-embodied as members. Because they have no control over where in that society they are going to reappear, as their upcoming roles are allocated to them by chance, it is in their direct interest to design each role within their social division of task or the differentiation of privileges.

From the above point of departure, Rawls develops an understanding of justice as fairness. Hence the scarce resources which oblige every society to entertain compromises must be fairly distributed so to equally share in the sum of disadvantages. Only principles of social design which legitimize the institutions of society in a way that maximizes a fair distribution of burdens can be considered just. Any other dispensation that favours some by exempting them from the burdens of communal life must be considered unjust and therefore modified for that reason.

Hence, many have seen Rawls' work as a recipe for just social reform based upon liberal individualist principles encouraging the frank expression of self-interest in designing inevitable social compromises. It is this aspect of Rawls' work that allows him to bypass the characteristics and legitimacy of existing institutions in favour of going directly to remedial action for redesign at the level of individual roles. Rawls ingenuity is in addressing the fair redesign of the downside of communal existence (J.P de la Porte, personal communication, July 7-9, 2018).

5.4 Review of Innovators' Perspectives: Implications for funding

From the perspective of a university fund allocator, that is, one who decides upon the principles in the name of which compromises will be made and hence design directly or indirectly the fair or unfair allocation of burden across the institution, Rawls is extremely useful. Simon's focus on the one hand is on process and stability through creatively swapping components of the means to achieve these ends. Boltanski, on the other hand, whose derivation of institutional critical capacity is from conflicts which could normally be sources of friction and dysfunction within institutions. Rawls' perspective does not require the consideration of fairness or social

justice to be added to the process but derives the process and its potential conflicts and breakdowns from an underlying principle of social justice at the outset.

Each author has unique strengths recommending considerations on how a resource manager, in the course of practical decision-making, may function. They also provide models and principles that can be interrogated in order to deepen insight into the causes and sources of problems and challenges that have to be resolved whether, fully or in part. It is useful, if premature and futuristic, to imagine through artificial intelligence simulation programmes that can be used to lead the discussion and sharpen intervention based on the insights of Simon, Boltanski and Rawls. These would provide different overall conceptions of the university.

The Simon (1959) model would show the university composed of embedded layers with a community bound together by solidarity and reciprocal assistance. This would emphasize the continuity between the university and civil society of which it forms a part. An emergent layer above this would consist of structures that bare within themselves different types of authority, that being, to admit, to revise curriculum, to examine, accredit and to vet and direct avenues of research. These authorities are not enforced by coercion or violence but must achieve the compliance of members of the community through their consent. This requires proposing a legitimacy of the authority and having this accepted.

At this second level of the university as an authority, legitimacy must be maintained by strict adherence to the principles used to design a legitimacy claim. In the case of admission for example, the relevant departments must be aware of many global benchmarks, of mitigating and distorting social conditions, of local history as well as of the internal requirements for predicting successful performance within courses. Similarly, in the case of research, the appropriate authority must be aware of the many dimensions by which relevance is assessed of the different norms and criteria that make up successful research in the sciences, humanities and the arts. At each turn, the university brings about the emergence of a decision-making authority which alters the distribution of opportunity within the university at all levels and which must be kept congruent with one another (J.P de la Porte, personal communication, July 7-9, 2018).

This task is made more difficult by the shifting content of the university curricula according to current practice as well as the moving demographics of the university population. Hence the elementary task of legitimating the authority of the university decision-making exceeds the

scope of a single model. Hence the need for three models to underpin the various facets of legitimate authority.

The failure to adhere to this task is the cause of a legitimation crisis within the university. Critics imbue it with a single cause of arbitrariness and inherent bias in its decision-making. The characterisation of the university as colonial is no different from its previous characterization of authoritarian and discriminatory by ideological interests. All of these deadlocking challenges provoke a strategy against the underlying community base on violence, threat or coercion in order to achieve compliance with rules. From this deadlock, universities have to rebuild from zero the case for their legitimate authority in the field of knowledge and expertise linked to careers and opportunities for progressive livelihoods.

A full legitimation crisis may ensue in the event that the university management fails to maintain the current-ness of their legitimacy. It is an intervention in this crisis that makes a scenario built from Simon, Boltanski and Rawls model testable. These models are not only a pre-set of a better management process but are the basis for maintaining and re-establishing manageability. Each model contains not only remedial strategies but the transparent justification of the ingredients of these strategies such that they become legitimate in open debate facing challenges from a variety of quarters.

The failure to perform under conditions of public scrutiny accrues to the university a suspicion of non-transparency, a quality tolerated in modern society only in the strictly necessary elements or the deep state (military, intelligence services, national security, etc.) or in some quarters of the private sector. The university has neither justification and therefore must earn its place within broad societal recognition. This on the basis of its ability to analyse and make explicit the principles underlying its procedures when called upon to do so. This is complicated by the fact that the university has three separate constituencies that it must answer to, the community of students, the community of scholars and the sectors served by its expertise before it faces the tribunal of general public opinion.

An analysis based on Simon's works provides a manager with a way of separating emerged layers that make up the different functions within the university. If this analysis is conscientiously done, it permits management changes to be focused in such a way that they do not disrupt or destroy the continuity. This, as Simon points out, whether partly or wholly is not a complex relation.

The principles of a satisficing point to the benefits of redesigning the component elements and function by processes of experimental substitution which do not impact the integrity of the organisation. In other words, they are changes in innovation demanded by the drive for efficiency within the workings of the organization.

Boltanski (2011) provides an account of how irreducible criticism and conflict which spares no institution, can be converted and strategically managed. Boltanski (2011) provides one of the best recipes for a recovery strategy after conflict and criticism has erupted and thus gives insight into the robustness and the fragility of the legitimacy underlying the decision making within the university.

Rawls (1985) has an analysis and design principle for stating and understanding the underlying community that forms the university. This is a way of viewing the university in terms of individual opportunities that it offers to its participants irrespective of any bias. The university may, therefore, design itself as a model with community-based principles of fairness and engage with Boltanski's background assumption of human equality in the face of social opportunity. At this level, the university functions as an equalizing community resource. This Rawlsian community level is fundamental to the reputation management of the university as an entity judged by its institutional good.

Decision-making rationality for a university cannot be based on a single model no matter how much it is modified and refined since the university consists of an assemblage of stakeholders. These groups are not only inside the university observing and criticizing its performance. The university is also aligned to the so-called broader society, and are bound therefore to inherit their defining antagonism.

In order to achieve any robustness whatsoever, the university has to manage these layers and demonstrate a clear benefit from their being together. It is at the interface and overlap of the Simon, Boltanski and Rawls model which are focused on the managerial, scholarly and the student level respectively that a robust set of management principles might emerge in the South African university and pass the test of social justice. (J.P de la Porte, personal communication, July 7-9, 2018).

5.5 Summary

The chapter outlined the theoretical background that underpinned this study. Here, it demarcated the research context, describing the works of Simon (1959), Rawls (1985) and Boltanski (2011) who address innovations on satisficing, justice and fairness and critical thought respectively. These innovations provide relevance to resource allocators who on the one hand are tasked to distribute limited resources in a manner that ensures the organizations sustainability while on the other hand balancing the needs of its constituencies. The chapter was concluded with a reflection on how the three models could overlap to provide higher education key sets of principles for adoption.

In the chapter that follows, I discuss the research methodology which provides the master plan on how the study was conducted from its inception to its conclusion.

CHAPTER SIX

RESEARCH METHODOLOGY

6.1 Introduction

This qualitative study analyses the higher education funding framework adopted by the South African government and resource allocation models at participating South African higher education institutions, to identify variables that drive their budget allocation processes. It further identifies similarities and differences and highlights areas of uniqueness which culminate in providing a road map for resourcing higher education within the public higher education sector.

Informed by Vithal and Jansen (2004) about the politics of knowledge production and the knower, I begin the chapter by foregrounding my researcher identity and highlight some insider-outsider dynamics that have inflected my decisions, interpretations and claims.

Thereafter, I was guided by Mouton and Muller (1998, p.2), who posit that methodology is “a systematic approach to research which involves a clear preference for certain methods and techniques within the framework of specific epistemological and ontological assumptions”. The chapter then moves to engaging debates in qualitative research and highlights the journey where I demonstrate the rationale and justification for the methodology and design towards knowledge production as they are applicable in the context of this study. I then present the population, sample and sampling techniques and provided a context for the study setting. Moving on to generating data, I describe its method, instruments, the process of analysis, the trustworthiness of the findings, and ethical considerations and conclude the chapter by highlighting certain limitations.

6.2 Insider-Outsider Dynamics: Foregrounding the Researcher in Knowledge Production

In this research study, my position was both that of an insider and outsider. I was an insider in that I gained a wealth of experience during my twenty-year tenure in a centralized finance division of the former University of Durban-Westville (now the University of KwaZulu-Natal). My professional roles were management reporting, financial planning and budgeting. These roles exposed me to various financial complexities within the higher education system as much of it focused on conducting viability studies of units and departments, budgeting principles, variance analysis and the like. Being appointed as Finance Manager of the College of Humanities for the past five years, I found myself on the receiving end of a decentralised space, managing and controlling a formulated budget distributed by Central Finance.

I am also an outsider in that I bring a wealth of theoretical knowledge gained from my post-graduate qualifications attained in business management and accounting. This career pathing has positioned me to become an analytical thinker and higher education strategist. During my tenure at the university that was considered historically disadvantaged, I have been exposed to the principles of good corporate governance, financial sustainability and transparency, and social justice and fairness in adopting budgeting frameworks against scarce public resources while balancing stakeholder demands.

Therefore, my insider and outsider identities surpass polarities that are often associated with researcher positionality in the processes of knowledge production (Motsa, 2017). This two-fold epistemological stance resonated with the complexities of distributing scarce resources, taking cognizance of the notions of satisficing and social justice within financial resource allocation models, as highlighted in Chapter Five.

The qualitative research methodologies employed in this study, as explained below, and their interpretation and use, are informed and inflected by this epistemological stance.

6.3 Knowledge Production in Qualitative Research

According to Carter and Little, “methodology shapes and is shaped by research objectives, questions, and study design” (2007, p.1316). In shaping the methodology, I took cognizance of the study’s research objectives to analyse and identify the variables within the financial resource allocation models of universities. I also considered the research question, to what extent are resources allocated to Universities in South Africa and their subsequent distribution promoting the principles of satisficing, fairness and justice?. I further ensured that the study design justifies the selection of participants, the data gathering tools that were used and the data analysis methods that were adopted (Nieuwenhuis, 2016).

Lincoln and Guba (1985) refer to rich description as a way of achieving external validity, while Ulin, Robinson and Tolley (2005) assert that depth takes precedence over breadth in qualitative research. Thus, through rich description and depth over breadth, I firstly focused on developing an understanding of resource allocation mechanisms and secondly sifted through the common variables and identified uniqueness in these mechanisms that drive budget processes in the higher education sector. In doing so, I describe and interpret these mechanisms in sufficient detail to accurately convey the experiences of funding frameworks from the perspectives of governments and selected universities. This resonates with Easterby-Smith et al. (2002), who

provide the characteristics of an interpretivist paradigm that is adopted here, by highlighting that the research should try to understand what is happening through investigation by collecting data from interviews, documents and observations. Nieuwenhuis (2016), on the other hand, adds that an interpretivist paradigm highlights the individual's ability to construct meaning, is subjective, focuses on multiple realities and acknowledges that many truths exist. I made use of the interpretivist paradigm and conducted face-to-face interviews with participants to gain insight into the budget frameworks adopted by their universities - each with their own version of 'truth'. Through participation in an open-ended, qualitative interview, these participants were given freedom to express in their own way, their budget processes, thus allowing me, the research insight into their 'financial' world.

By using these methodological processes, I developed a philosophical understanding of the phenomena and was in a position to achieve my ultimate goal that is to provide a roadmap that would empower decision-makers within the higher education sector. This roadmap would be packed with applied research strategies that would assist them when confronted with the task of allocating resources while upholding the principles of fairness and justice through satisficing.

6.4 Population, Sample and Sampling Techniques

6.4.1 Population

The South African Higher Education landscape is multifaceted and has undergone reform that started in the early 1990s to such an extent that the number of higher education institutions was reduced from the initial thirty-six (DHET, 1997) through a series of mergers. This study focuses on the restructured twenty-six public universities including those that were newly formed (DHET, 2017).

6.4.2 Sample

Creswell (1998) suggests that qualitative analyses typically require a smaller sample size provided that it is large enough to adequately describe the phenomenon and is able to address the research questions. In a later study (Creswell, 2013), he describes a sample as a collective group of participants from whom data is generated. A sample then is a selection of participants from a larger group (population). Arising from the above, the population in this study was all public higher education institutions in South Africa, and the sample selected was ten universities.

6.4.3 Sampling Techniques

Purposive sampling in qualitative research refers to the strategic criteria used to select participants that are relevant to addressing the research questions (Nieuwenhuis, 2016). Further, purposive sampling is used to select participants whom the researcher believes will generate rich information on the type of phenomena that is being studied (Cohen, Manion & Morrison, 2011). Pascoe (2015) states that there are so many people, organisations or groups that can provide the desired information in a study, and it would be impossible to include all in a single study. Using these sampling approaches I purposively selected the top ten universities based on the value of the block grant they generated in year 2016/17 as it was in the midst of the #FeesMustFall movement when higher education was in the public spotlight and solutions to the many challenges were being sought.

Although the University of South Africa (UNISA) was listed in the top ten, I chose to exclude this university due to its uniqueness as a sole distance learning institution. UNISA's cost structures would significantly differ from that of institutions that provide contact education. Seven of the ten universities approached accepted to participate in the study. The three universities that did not respond (despite repeated engagement) within the specified timeframes were excluded. I saw no point in increasing my sample size by approaching other institutions to substitute for the three that did not respond because I believed saturation was attained with an appropriate sample size. It is here that I concur with Glaser and Strauss (1967), who claim that more universities may not have sufficiently provided additional perspectives. Since this research study focused on budgeting frameworks at universities, the gatekeeper letter that was addressed to the respective Registrars from the sampled universities alluded to the ideal participants, that being senior finance and budgeting specialists from the university's administrative wing. Given my expertise in the area of university budgeting, I believed that these individuals would be in the best position and are seen as information-rich individuals, most likely to be knowledgeable and informative to speak on the issue of budgeting and resource allocation at their institution.

What follows below is a synopsis (in no particular order) of each of the seven universities that participated in this study. The information presented was sourced from the respective university's official website, with student numbers being sourced from a DHET (2017) report.

University of KwaZulu-Natal - Situated in the Province of KwaZulu-Natal, the University of KwaZulu-Natal (UKZN) was founded on 1 January 2004 resulting from the merger between

the Universities of Natal (both Durban and Pietermaritzburg) and Durban-Westville. The University of Natal was granted independent university status in 1949 after being Natal University College since 1910. The University of Durban-Westville, on the other hand, was granted University status in 1971 from a University College for Indians on Salisbury Island. With its vision ‘to be the premier university of African scholarship’, UKZN operates a college model and has a student population of 45 506 spread across its four colleges: Agriculture, Engineering and Science; Health Sciences; Humanities, and Law and Management Studies.

University of Johannesburg - The University of Johannesburg was established in 2006 as a result of the merger between Rand Afrikaans University, Technikon Witwatersrand, and Vista University. With its vision of being ‘an international University of choice, anchored in Africa, dynamically shaping the future’, the University is situated in Johannesburg, operates under a faculty model and has a student population of 49 452 students across its nine faculties. These are the Faculties of Art, Design and Architecture; Economic and Financial Sciences; Education; Engineering and the Built Environment; Health Sciences; Humanities; Law, and Management and Science.

University of The Free State – This university was founded as Grey College in 1904 and renamed Grey University College in 1906. In 1950, it became the University of Orange Free State, and by 2001, the university was again renamed, University of Free State. The University’s main campus is in Bloemfontein, and its vision is to be ‘a research-led, student-centred and regionally-engaged university that contributes to the development and social justice through the production of globally competitive graduates and knowledge’. The University functions under a faculty model with 30 418 students, programmes are offered in the Faculties of Education; Health Sciences; Humanities; Law; Natural and Agricultural Sciences; Theology and Religion, and Economic and Management Sciences.

University of Cape Town – This is South Africa’s oldest university, founded in 1829 as the South African College for high school boys. The University of Cape Town (UCT) became a fully-fledged university between 1880 and 1900 due to substantial funding from private sources and government. UCT is situated on the slopes of Table Mountain’s Devil’s Peak in Cape Town. With its vision, being ‘an inclusive and engaged research-intensive African university that inspires creativity through outstanding achievements in learning, discovery and citizenship; enhancing the lives of its students and staff; advancing a more equitable and sustainable social order and influencing the global higher education landscape’, UCT driven

by a faculty model and has a student population of 27 809 spread across its seven faculties. These faculties include The Centre for Higher Education Development; Commerce; Engineering and Built Environment; Health Sciences; Humanities; Law, and Science.

University of Pretoria - Established in 1908 in a little house in Kya Rosa, the University of Pretoria is one of South Africa's largest research universities based on their student population. It is situated in Hatfield, Pretoria and with its vision 'to be a leading research-intensive university in Africa, recognised internationally for its quality, relevance and impact, as also for developing people, creating knowledge and making a difference locally and globally'. UP operates under a faculty model and has a student population of 55 984 spread across its nine faculties and its seven campuses. These are the Faculties of Economic and Business Sciences; Education; Engineering; Built Environment and Information Technology; Health Sciences; Humanities; Law; Natural and Agricultural Sciences; Theology, and Veterinary Science, which is the only one of its kind in South Africa.

University of Witwatersrand - Based in Johannesburg, Wits University's origin stems from the South African School of Mines, which was established in Kimberley in 1896. In 1904, the School was transferred to Johannesburg as the Transvaal Technical Institute and in 1906 became the Transvaal University College. It was renamed in 1910 as the South African School of Mines and Technology. Due to growth, the name was changed in 1920 to University College, Johannesburg. The institution attained full university status in 1922 and was named University of Witwatersrand. Its vision positions Wits as an internationally leading research-intensive university located in Africa. The university uses a faculty model and enrolls about 33 777 students, offers degrees in the Faculties of Engineering and the Built Environment; Science; Humanities; Health Sciences, and Commerce, Law and Management.

University of Stellenbosch – The University of Stellenbosch emerged from the Theological Seminary in 1859, and it was conferred university status in 1916, commencing operations with four faculties in 1918. The University is situated in the wine-growing region of Stellenbosch in Cape Town. With its vision being 'Africa's leading research-intensive university, globally recognised as excellent, inclusive and innovative, where we advance knowledge in service of society', the university operates under a faculty model and has a student population of 29 613 across the Faculties of Arts and Social Sciences; Medicine and Health Sciences; Military Sciences; Science; Education; Agricultural Sciences; Law; Theology; Economic and Management Sciences, and Engineering.

6.5 Methods of Data Generation

With the researcher being the prime instrument in data generation, the qualitative data sources were interviews as the primary method of data acquisition. In addition, I extracted public documents released by the Department of Higher Education and Training (DHET). The interviews required collecting data from participating universities. All participants were interviewed in a quiet room during working hours and in the comfort of their workspace. On average, interviews took approximately one hour. I had to make sure that I obtained the proper permissions to collect and use the data that formed part of this study. The University of KwaZulu-Natal's Research and Ethics Committee governs the process of collecting and using data. As such, the policy requires gatekeeper permission from the study sites as formal evidence that the researcher can access participants. Stemming from these applications, gatekeeper permission together with full ethical clearance (Reference number: HSS/1854/016D) was granted to conduct the study by the Humanities and Social Sciences Research Ethics Committee (see page iv).

6.5.1 Justification of Interviews

In qualitative research, one of the more prevalent forms of generating data is key informant interviews (Harding, 2011). Rubin and Rubin's (1995) model emphasises active participation of the interviewer and the importance of ensuring that the interviewee has sufficient voice. Thus, for this research I chose as primary data generation method face-to-face interviews with semi-structured questions that gave the participant/s a voice. Through individual interviews, I gained in-depth information given that the participants being interviewed possessed a wealth of knowledge in the financial management of their institution and as such were best placed to meeting the aims of the study. The interviews I conducted were unstructured and allowed the discussions to "flow in a natural conversational manner" (Strydom & Bezuidenhout, 2015, p.189). I was also provided with the opportunity to probe as deeply as possible gaining clarity or by asking follow-up questions. The research questions that this study sought to answer informed the decision to use interviews as the primary source of information.

6.5.2 The Selection of Participants

The production of knowledge and its quality is dependent on the research process, and the validity of such knowledge lies in the choices made by the researcher in their quest to obtain worthwhile data, described by Patton's (1990) as information-rich cases. The inclusion criteria used in identifying and selecting the ideal participants that could provide the data required in

meeting the objectives of this study were purposively selected. These selected participants would be in a position to provide answers to the study's key research questions. Having considered the nature of the information that was required, budget frameworks, concepts and variables, I decided that the ideal participant/s from whom I could obtain such 'information-rich' data were senior budgeting and planning specialists within these universities. As such, the gatekeeper permission letter (see Appendix 4) addressed to the Registrar's of the ten universities outlining the study's aims made reference to the preferred participant.

The Registrar's that responded via email directed me to respective participants and provided the contact details of their offices. This process started with the researcher establishing and developing rapport via their personal assistants through email and telephonic correspondence to finalise an appropriate date and time to conduct the interview.

6.5.3 Data Generation Instruments

Fusch and Ness (2015) refer to two instruments in qualitative research that was considered for this study. These are: a) Researcher as a key instrument, and b) The interview schedule.

a) Researcher as a key instrument

In qualitative research, the researcher spearheads data generation, thus becoming a key instrument (Fusch & Ness, 2015). With more than twenty-five years of experience in the higher education sector, particularly in budgeting and financial planning, coupled with critical engagements with senior finance colleagues, academics and friends, who assisted the conceptualising of the information required, I felt competent to conduct these interviews. I purposefully selected UKZN, my current employer and its participant, a senior colleague, as the first interview, which assisted me in preparation for the field.

b) The Interview Schedule

An interview schedule (see Appendix 1) with predetermined questions (see Appendix 2) was generated based on my expertise in the area of higher education institutional budgeting frameworks. I believed the questions were relevant to addressing the objectives of the study and a good starting point to engage the respondent. This set of questions served as a memory aid taking cognisance the research problem, the research questions and the objectives of the study. All participants were presented with the same set of interview questions.

6.5.4 Data Generation Process

Upon written acceptance by the respective Universities, I was directed to their senior finance personnel responsible for budgeting. I contacted their personal assistants and in doing so, synchronised their diaries with my travel plans.

During each interview, I presented myself and provided a brief synopsis of my background and current position at UKZN. I introduced the study, obtained informed consent to conduct the study and made participants aware that participation was voluntary. I further sought permission from individual participants to audio record the interviews to enable play-back for transcription and analysis at a relevant write-up stage. In this regard, a digital audio recorder was used. The medium of communication from the inception of the study was English, and this language continued throughout the research process. Guided by the data generation instrument described above (see 6.5.3), I presented the interview schedule that served as a guide and informed the participants of the unstructured nature of the discussions. By their smiles, body language and collegiality, I felt participants were at ease and comfortable discussing their budget frameworks.

On completion of the interviews, I downloaded the audio interview files as backup on my personal computer and thereafter saved other copies using an encrypted password, which is part of the research requirements on data storage as mandated by UKZN Research Ethics Policy.

6.6 Transcription

The interviews, which were recorded, were then transcribed. I appointed a specialist transcriber and provided her with a duplicate copy of the audio recordings. She was tasked with converting the audio recordings into data transcripts. Her brief was to capture verbatim from the recording. I had her acknowledge and sign an agreement which included a confidentiality clause, timeframes and the agreed rate of pay.

Given that transcription is a change of medium where the data is converted from verbal to written form, I then listened to the recordings and vetted the word for word capture. I was now in a position to edit the word file and guarded against decontextualization, so as not to miss any part of the larger conversation. Since the research objectives of this study had to do with resource allocations, I chose to focus on the pure text and did not record personal mannerisms, pauses and stutters. I then streamlined and edited the data for grammar. The interview

transcripts were emailed to participants to validate the interpretation of their captured statements, which afforded them the opportunity to make amendments. Suggested changes that were received via email were accordingly updated. In addition, I sought permission to proceed with publishing thematically relevant aspects of these interviews as part of the study. In order to maintain anonymity, the interviewees were recorded as 'Participants'. Where two or more participants were present, I referred to them with the use of a letter of the alphabet e.g. Participant A or Participant B.

6.7 Data Analysis

The data analysis method outlined by Samuel's "The Research Wheel" (2015) led to the presentation of findings which, provides a pathway to the conclusions and recommendations made in this study. Other analysis procedures were used to complement the Wheel. I took cognisance of each stage of the Wheel and made use of: [1] Descriptive - Level 1, [2] Evaluative - Level 2, and [3] Theoretical Analysis - Level 3.

Samuel (2015) asserts that in Level 1 analysis, a description of the data and the findings must be provided. These provide answers to the question on what data was sourced, how it was sourced, when was it sourced and where was it sourced from. There is a varying degree of interrogation of the data set, where some data may be more relevant. Once the data is categorised between "thin" and "rich", the pertinent points are analysed to provide a thick description.

In the Level 2 analysis, the data is evaluated in conjunction with the literature review (see Chapters Two, Three and Four) and the theoretical framework (Chapter Five). The aim is to identify the trends, recurring concepts and patterns, themes and the different perspectives that emerge from the data.

Level 3 analysis extends existing theories and Samuel (2015) suggests that the intention of the final level of analysis is to associate the findings with the literature review and the theoretical framework.

Being guided by the Research Wheel and complementary readings on the process of analysis, I interrogated and sifted the data for relevant findings and categorised them for importance. I was now at a stage where I could align the data to the information gathered from the literature

review and the theoretical framework and was able to identify contradictions, differences and surprising elements and record them accordingly. This process embedded the foundation for the roadmap that is presented towards the conclusion of this study.

6.8 Trustworthiness of the Findings

Lincoln and Guba (1985) are emphatic about trustworthiness in qualitative research as a meaningful reflection of the findings. They (1985) conceptualise trustworthiness with credibility.

To ensure the credibility of findings, I did not rush the interviews and ensured follow up through probing questions that provided clarity and more in-depth insight. Member checking ensured that once the data was transcribed, participants were given the latitude to edit, thereby ensuring the authenticity of the information. Such edits were duly actioned.

6.9 Ethical considerations

Louw (2015) points out that ethics is a matter of integrity. Apart from the ethical requirements discussed earlier concerning University ethics clearance certificates issued for this study, other issues of ethics, for example providing inaccurate information, are critical in any research process.

I guarded against providing false information throughout the study. Further, data was not manipulated in any way, and I was cautious about not allowing my own bias to creep into the study. I presented the findings as received and, in some cases, ensured that direct quotations were appropriately recorded. All information that was presented for discussion by any party underwent a verbal confidentiality agreement. The data will be securely stored for a period of five years after the study is concluded. This is in keeping with the ethical clearance certificate.

6.10 Limitations of the Study

This study draws on data from seven HEIs in South Africa and these institutions were selected from statistical data based on their block grant allocations. Most institutions restrict access to the quantitative data with regard to their budget frameworks and while these could have provided more detailed insight for comparative purposes, this study was not reliant on such data since it aimed to identify the theories and concepts of the chosen budget approach rather than monetary values.

There was a possibility that those institutions that were omitted from participating could have shown uniqueness in their budgetary frameworks, despite my earlier comments on saturation. Further, there were many ways to have selected the sample, for example, I could have chosen 3 to 5 universities from each of the three categories of Comprehensive Universities (that offer vocational diplomas and degrees), Traditional or Research Universities and Universities of Technology (former Technikons and largely sector employment-focused). Other examples for sample selection could be the student numbers or staff complement or even by way of random sampling.

6.11 Summary

The chapter outlined the research method adopted for this study and provided both validation and justification of choice in each stage of the research process. I began the chapter by portraying my researcher identity, which provided my ontological positioning of the study.

I provided the epistemological setting for the study and its distinguishing characteristics that defined the research problem that underpinned the study as a qualitative one. Thereafter, I proceeded to address the choice of population and the method for the selection of the sample, and discussed the sampling techniques. I then moved on to the process adopted in generating the desired information. Issues of transcription of the data and the analysis procedures were discussed. Finally, the chapter ended with a focus on trustworthiness, ethical dilemmas, and the limitations of the study.

The chapter that follows provides a comprehensive review of the funding framework adopted by the South African government through its Ministry of Higher Education.

CHAPTER SEVEN

HIGHER EDUCATION FUNDING: A CASE OF SOUTH AFRICA

7.1 Introduction

This chapter focuses on South Africa's higher education governance structures and their link to the funding framework in order to set the scene for the current research. Hence an outline of the present system of government steering of the public HE funding framework in South Africa follows. Without duplicating what was already mentioned in earlier chapters, I provide a brief overview of the funding frameworks from 1950 onwards. The rationale underpinning this chapter is rooted in: 1). South Africa's colonial legacy (Dutch [1652] and British [1820]; 2). its modernist Republican project (influenced by the US and Germany post-1961), and 3). its rebirth as a legitimate democracy in 1994 (African) and its recent subsequent partnering within the BRIC (Brazil, Russia, India, China) group of nations. By providing the governance structures, the changes in the higher education landscape in South Africa can easily be determined. Apparent in the transition in this HE landscape is a progression in which the funding modalities are enhanced.

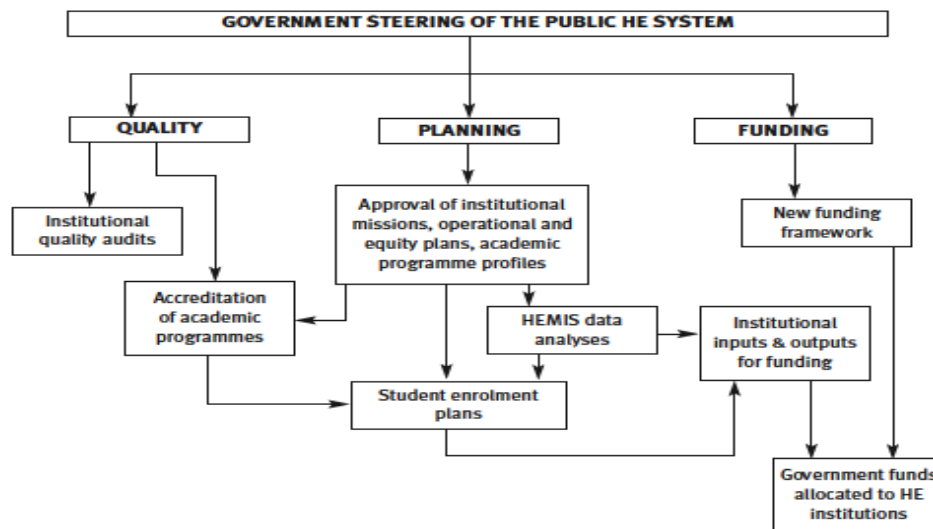
I begin by briefly unpacking terminologies as well as offering a discussion on the Higher Education Management Information Systems (HEMIS), Classification of Educational Subject Matter (CESM) and Full-Time Equivalents (FTE). These concepts are examined, and for clarity, examples are provided to illuminate the reasoning behind them. Thereafter, I present the public higher education sector's current macro-financial environment followed by the funding modalities, with particular emphasis on the New Funding Framework (NFF). The NFF is dissected into its multiple complexities, and a snapshot of its methodology is illustrated with the use of tables and graphs where necessary.

The information presented here, showing SA's unique HE funding framework will enable a full grasp of the data analysis which follows, as per the methodology described in the previous chapter.

7.2 Governance Structures within the Public Higher Education Sector

The South African government has a dedicated Ministry for Higher Education (DHET), whose mandate it is to steer the higher education sector to meet the goals and objectives set out in the country's national plans. This Ministry, is governed by the Higher Education Act of 1997, and the funding frameworks for universities is in line with the Government Gazette (No. 25824 of 9 December 2003). The higher education sector guiding policy documents, such as The Education White Paper 3 – A programme for the Transformation of Higher Education (1997); The National Plan for Higher Education (2001); The National Development Plan (2013), and The White Paper for Post-School Education and Training (2013). The Government's national planning priorities for the higher education sector are the key drivers behind the principals adopted in the New Funding Framework (NFF). This framework is a goal-orientated one that is premised on the performance of HEIs and not designed to consider institutional costs. Further, the transformation of the higher education system includes “more equitable student access; improved quality of teaching and research; increased student progression and graduation rates, and greater responsiveness to social and economic needs” (White Paper 3, 1997, p. 4). The key principals and drivers of the NFF are highlighted in Figure 7.1 below.

Figure 7.1: The system of government steering of the public HE system



(Source: DHET, 2010)

Figure 7.1 represents the domains (quality assurance, planning and funding) of accountability that lie within the higher education sector in South Africa, the aim of which is to ensure a coordinated singular system. Each of these domains is the responsibility for different sectors

within the higher education framework. It is through the collective effort of these three domains (quality assurance, planning and funding) that higher education is directed and monitored towards meeting national goals. Quality assurance is undertaken by specific divisions assigned by the government (such as Council for Higher Education or CHE, and South African Qualifications Authority or SAQA), whose are responsible for institutional audits and accreditation of qualifications.

Both planning and funding work in tandem, in that (i) the ministry determines national policy goals and objectives; (ii) institutions are required to submit three-year rolling plans and (iii) these plans, once approved by the Ministry, determine funding allocations. Such plans comprise the visions of the institutions as well as data that quantify the needs aligned with these visions. The source of this data resides in a data management system monitored by governmental structures of the Department of Higher Education and Training (DHET) and the Council for Higher Education (CHE). This database is termed the Higher Education Management Information System (HEMIS).

Below is a brief account of [1] HEMIS data which is directly linked to the [2] Classification of Educational subject matter (CESM). The CESM categories provide a grouping of fraternities or areas of study. One other important concept that ensures integrity and fairness with the alignment of study is the [3] Full-Time Equivalent (FTE).

7.2.1 The Higher Education Management Information System (HEMIS)

The HEMIS represents audited data submitted annually by universities to the DHET. HEMIS was introduced in 2000 replacing the detailed South African Post-Secondary Education System (SAPSE) data management tool that was in operation. The type of data that is required for HEMIS includes:

- approved qualifications and fields of study;
- courses offered within their academic programmes;
- courses for which each student is registered, and
- fields in which each academic/research staff member is active.

The DHET monitors the reliability of these data. Universities may be penalised for erroneous submissions (irrespective of proof of audit), and a recalculation going back three years may occur. Such adjustments could be enforced “in accordance with Section 11 (d) of the

Prescription Act, No. 68 of 1969, and any over-payments for these 3 years will be deducted before new funds are paid to the university” (DHET, 2016, p. 6).

7.2.2 The Classification of Educational Subject Matter (CESM)

Within the HE sector, various fields of study are offered at HEIs. These fields are classified according to their subject matter, and reporting by universities needs to conform to the requirements of this system. It should be mentioned that not all fields are offered at all universities (e.g. Medicine, Performing Arts, etc.); most HEIs offer generic fields. The DHET requires HEIs to classify the subject matter embedded in their fields of study in a single coherent standardised format referred to as the Classification of Educational Subject Matter.

The broad fields outlined in the CESM categories was a concept adopted from the SAPSE formula which has been realigned and revised in the NFF. CESM categories are based on the latest available publication of the National Centre for Education Statistics, the *Classification of Instructional Programs: 2000 Edition in the United States*. The South African DHET has been granted permission to use this CESM material. The 1982 CESM which was used in the old SAPSE system had 22 broad categories (see Table 7.1).

These categories were general and did not consider the level of study (e.g. year one, year two, year three) or type of University (traditional, comprehensive or UoT). Table 7.1 indicates the CESM categories in the SAPSE framework as well as the New and Revised CESM categories prevalent in the New Funding Framework.

Table 7.1: Classification of Educational Subject Matter (CESM)

SAPSE FRAMEWORK	NO.	NEW FUNDING FRAMEWORK
Agriculture and Renewable Natural Resources	1	Agriculture, Agricultural Operations and Related Sciences
Architecture and Environmental Design	2	Architecture and the Built Environment
Arts, Visual and Performing	3	Visual and Performing Arts
Business, Commerce and Management Sciences	4	Business, Economics and Management Studies
Communication	5	Communication, Journalism and Related Studies
Computer Science and Data Processing	6	Computer and Information Sciences
Education	7	Education
Engineering and Engineering Technology	8	Engineering
Health Care and Health Sciences	9	Health Professions and Related Clinical Sciences
Home Economics	10	Family Ecology and Consumer Sciences
Industrial Arts, Trades and Technology	11	Languages, Linguistics and Literature
Languages, Linguistics and Literature	12	Law
Law	13	Life Sciences
Libraries and Museums	14	Physical Sciences
Life Sciences and Physical Sciences	15	Mathematics and Statistics
Mathematical Sciences	16	Military Sciences
Military Sciences	17	Philosophy, Religion and Theology
Philosophy, Religion and Theology	18	Psychology
Physical Education, Health Education and Leisure	19	Public Management and Services
Psychology	20	Social Sciences
Public Administration and Social Services	21	
Social Sciences and Social Studies	22	

7.2.3 The Full-Time Equivalent (FTE)

The Full-Time Equivalent (FTE) principal is a system that attempts to level the playing fields for DHET. FTE is commonly used mainly for student and staff data within the higher education sector. The main reason for the use of the FTE values is that it distinguishes itself from headcounts. A typical means of providing an explanation for its use is to analyse headcount enrolment, where, for example, two students registering for a degree may not both register for all modules within that degree. One may register for all five courses for the year, while the other may register for two or three. If data is being used as a means to allocate funding, it would be unfair to make use of headcount enrolment, hence the emergence of the FTE rule. In essence, each course is assigned a fraction representing the academic weighting of the qualification. The reasoning behind the use of an FTE system is to ensure equitable data management. The FTE student calculations are the primary input parameter within the funding framework. An example of the FTE fraction is reflected below.

In a standard curriculum, each year will equate to one (1) FTE. A standard three-year qualification, therefore, will generate three (3) FTE's. Say a student does five (5) modules in a year. Using year one as a guide each of the five (5) modules will score 0,20 FTE, that is, 1 divided the 5 modules.

Further, the FTE system also provides weighting to each course along the grid that is determined by DHET. Weighting basically is a system of strengthening or incrementing the FTE score in relation to specific structures. Weightings take effect when dealing with different levels or areas of study (e.g. undergraduate courses versus post-graduate courses, or natural sciences versus human sciences courses that are linked to the CESM categories).

In order to obtain a weighted FTE, the fraction of the course is multiplied by a rate as dependent on the level of the course, therefore bringing all three concepts, HEMIS, CESM and FTE together, as illustrated by the following example of a weighting table (See Table 7.2).

Table 7.2: Weighting factors for teaching inputs

Funding group	Course level							
	Undergraduate & equivalent		Honours & equivalent		Master's & equivalent		Doctoral & equivalent	
	Contact	Distance	Contact	Distance	Contact	Distance	Contact	Distance
1	1.0	0.5	2.0	1.0	3.0	3.0	4.0	4.0
2	1.5	0.75	3.0	1.5	4.5	4.5	6.0	6.0
3	2.5	1.25	5.0	2.5	7.5	7.5	10.0	10.0
4	3.5	1.75	7.0	3.5	10.5	10.5	14.0	14.0

The DHET will take each module content and align it to a certain category on the CESM table. For example, a Law module will be classified under number 13 (Law) and an Engineering module under (08). With DHET's grouping of these various CESM, Law (13) falls under fund group 1 and Engineering under fund group 3 (see Table 7.3 below).

Table 7.3: Funding Groups

Funding group	CESM categories included in funding group
1	07 education, 13 law, 14 librarianship, 20 psychology, 21 social services/public administration
2	04 business/commerce, 05 communication, 06 computer science, 12 languages, 18 philosophy/religion, 22 social sciences
3	02 architecture/planning, 08 engineering, 10 home economics, 11 industrial arts, 16 mathematical sciences, 19 physical education
4	01 agriculture, 03 fine and performing arts, 09 health sciences, 15 life and physical sciences

Stemming from the discussions earlier, say suppose two student registers for undergraduate qualifications both year one of study. One does Law the other Engineering. Using Table 7.2 (above) and Table 7.3, the FTE score for each of them will be as follows:

Law student: $1 \text{ FTE for year one} \times 1 \text{ (weighted)} = 1 \text{ FTE}$

Engineering student: $1 \text{ FTE for year one} \times 2,5 \text{ (weighted)} = 2,5 \text{ FTE}$

Simply put an engineering student will generate more funds to a university than a Law student would. The reasons are based on the detailed analysis of the cost structures between the two fraternities. Engineering will naturally cost more to teach than Law. These weightings in Table 7.2 above were determined by the SAUVCA/CTP task team, which considered costs and expenditures of HEIs in 1997 (CHE, 2007). In the November 2003 Government Notice, issued

by the then Minister of Higher Education and Training, a commitment was made that government would revisit the grid and make an adjustment if:

- “New national academic policies are introduced;
- Course classifications and levels are changed, and
- Future cost analysis, which would be undertaken at regular intervals, indicate[d] that the location of fields of study within the grid should change” (DHET, Government Notice, 2003, p. 8).

Given the above explanations, suppose a Finance budget specialists at a university wishes to calculate based on the available HEMIS database a grant for a university. A simplified method of calculating say the teaching input grant for a University can be derived by using the following formula (the symbols in the following equations “/” and “x” denotes a division and multiplication respectively) : Teaching Input grant for that university = $a/b \times c$ where;

a = Weighted FTEs for the university (24 000) achieved in year n-2 (n=current year)

b = Total approved FTE’s (e.g. 800 000) for HE sector for year n (State’s Financial year)

c = Total Rand Value (R2,150 billion) allocated to Teaching Input Grants by DHET

Therefore, the teaching input component of the block grant to the university would be:

$$\begin{aligned}
 &= a/b \times c \\
 &= 24000/800\ 000 \times R\ 2,150\ billion \\
 &= R64\ 500\ 000
 \end{aligned}$$

Thus the university will receive R64.5 million as a grant for teaching input. Any other grant that makes use of FTE calculations will be applied the same way.

7.3 A historical overview of the funding framework (1951 -2004)

This section provides a historical snapshot of the four funding formulae since 1951. Most of the changes emanated from commissions of enquiry that were sanctioned by the State. The said formula was on two occasions named after the respective chairs of these commissions. In 1951, the Holloway commission was appointed by the government and introduced the Holloway formula in 1953. This formula continued from 1953 up until 1977, when it was replaced by the Van Wyk de Vries formula. The latter formula stemmed from a commission that was sanctioned in 1968, with the report being finalised only in 1974 for implementation in 1977. In 1984, some seven years later, came the implementation of the South African Postsecondary

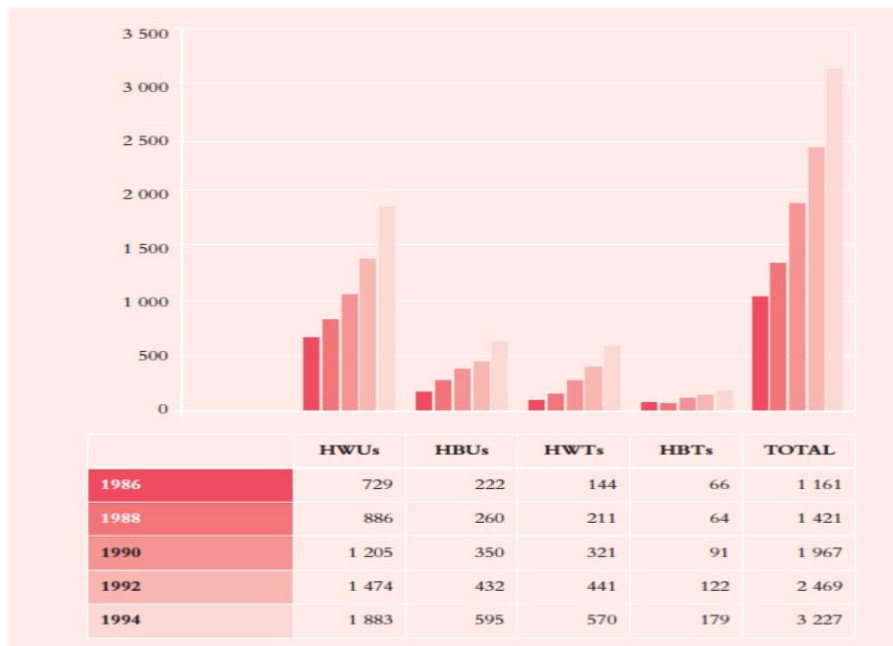
Education (SAPSE) formula. A revision of the SAPSE formula took place in 1987 which focused on Technikons (now Universities of Technology). Revisions were prompted as a result of various criticism from stakeholders within HE regarding the formula, and a complete revision came into effect in 1993, specifically affecting technikons. This SAPSE formula also experienced revisions for universities.

The SAPSE funding framework was dubbed by Pillay (2003, p. 22), as the “The Apartheid Era Framework” in that it was rooted in the ideals of apartheid philosophy, and biased towards the Natural Sciences in that it favoured the potential employment prospects of Whites (a privileged class under apartheid) in the scientific fields. One of the resultant effects was that a Natural Science qualification received up to four times greater subsidy than that of a Human Science one. The resultant effects of the formula rewarded these historically advantaged institutions (HAIs) at a higher level than that of historically disadvantaged institutions (HDIs) through its formula. The government acknowledged that the SAPSE framework was unsuitable and could not be used as a steering mechanism to achieve state goals and objectives and transform the higher education system. This formula was underpinned by the shared costs system, as higher education was seen to have both public and private benefits. Some of the SAPSE formula fundamentals used to allocate resources to universities include:

- A 50% split each way between enrolment and graduation data;
- Subject grouping between Natural and Human Sciences;
- Weightings are done by course levels, e.g. undergraduate (x1), Honours (x2), Masters (x3) and PhD (x4);
- The use of cost units referred to as ‘c values’, and
- Adjustment factors referred to as ‘a factor’ reductions. The data revealed that the factor adjustment was lower for HWUs up until 1995 (CHE, 2004, p. 189).

Figure 7.2 illustrates the level of funding allocated to universities and technikons up to 1994. While there had been a significant increase in funding to universities coupled with a 73% increase in enrolments, these were eradicated by the high inflation rates the country experienced during those years.

Figure 7.2: Government Appropriations for Universities and Technikons (Rand millions), 1986-1994



(Source: Cloete, Fehnel et al., 2002: Chapter 2, CHE Report, 2004, p. 191)

According to the CHE report, *South African Higher Education in the First Decade of Democracy* (2004), “Funding models and mechanisms for South African public higher education, as originally put in place by the apartheid state prior to 1994, were fragmented in accordance with the system’s fragmented institutional landscape...and disparate governance arrangements...” (CHE, 2004, p. 188).

The SAPSE formula inherited from apartheid South Africa continued up till 2003 when the New Funding Framework (NFF) came into being. For a detailed account of the history of the funding formula in South Africa, see the CHE Report, *Review of Higher Education in South Africa: Selected Themes* (2007). Although the NFF retained the two major areas - block grant and earmarked funding - the report indicated that National Commission for Higher Education (NCHE) highlighted the disparities associated with the SAPSE formula and recommended that a new funding framework ought to be developed taking cognizance of “principles of equity (including redress), development, democratization, efficiency, effectiveness, financial sustainability and shared costs” (CHE, 2004, p. 192).

An extensive account of the financing of higher education in South Africa, particularly the new funding framework, is provided in the annual Ministerial Statements on University Funding

issued by DHET (see www.dhet.gov.za). Prior to elaborating on the mechanism of the NFF, I provide a synopsis of the government's macro-financial environment and its distribution of resources to HE in order to examine the country's resource base as well as spending categories in relation to its Gross Domestic Product (GDP).

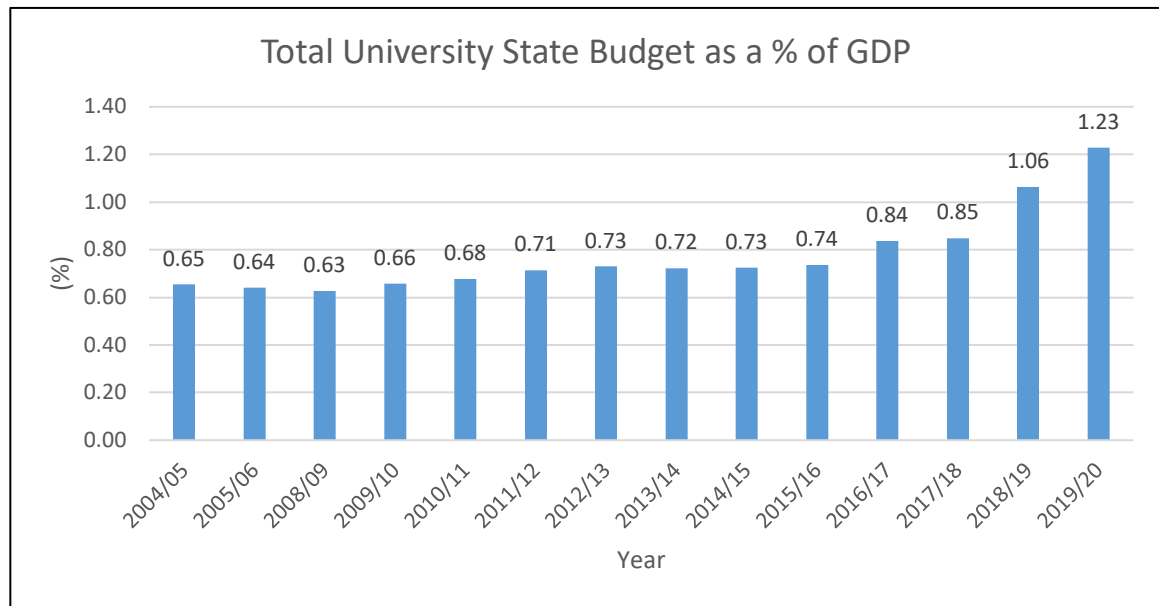
7.4 The Current Macro-Financial Environment

The decisions taken by governments in their macro-financial environment are critical to the success of the higher education system. The South African government has urged all its Ministries, given economic forecasts, to find efficient ways to reduce costs, increase collaborations with other universities, and increase their resource base through improved debt collections and other donor income (DHET, 2016).

As part of the medium-term expenditure framework (MTEF), the DHET is required to present to the National Treasury its funding requirements for the triennium. National Treasury in line with its fiscal plans determines and allocates a budget to the DHET. A summary of the data acquired from the DHET report indicates that the total universities budget as a percentage of total state finances has grown from 2.68% in 2004/5 to 3.68% in 2019/20 (DHET, 2018). Furthermore, South Africa has recorded a significant increase in its total state finances, with growth from R368 459 million (2004/05) to R1 802 955 million (2019/20). As with many other countries, the higher education budget allocated by governments is, in most cases, analysed by comparing its relativity to the gross domestic product (GDP) of the country.

South Africa's total state budget allocated to higher education as a percentage of GDP has seen significant growth from 0.65% in years 2004/5 to 1.23% by 2019/20, as reflected in Figure 7.3 (DHET, 2018, p. 1-3). However, up until 2015/2016, the ratio to GDP remained relatively stable.

Figure 7.3: Total University State Budget as a % of GDP



(Source: DHET, University State Budget)

The Ministry, in turn, distributes these funds according to its set of criteria as outlined within its funding framework.

7.5 The New Funding Framework (NFF, current)

The NFF was implemented (2004) to redress the imbalances that were prevalent and inherited from the old apartheid funding system and aimed to facilitate the transformation of the higher education system. The NFF for HEIs was published in terms of the Higher Education Act, No. 101 of 1997, on 9 December 2003 for the first implementation in 2004/2005. The process was in itself time-consuming and involved widespread consultation and debate with various university stakeholders and organisations. The NFF had accommodated a window period of three years, which the department termed ‘migration’ years in order to stabilise the grants to normal SAPSE allocations. Once the three years had passed, the NFF became fully operational.

The Minister determines yearly the levels of funding under two broad categories, namely, Block Grant and Earmarked Grant and their respective subcategories. Within the block grant are four subcategories: Teaching Inputs; Teaching Outputs; Research Outputs and Institutional Factor Grants (Ministerial Statements, 2016, p. 7). While the block grant is released to cater to HEIs’ operational expenses, it could be used at the discretion of the Councils and university management. This level of discretion is as a result of the autonomy granted to HEIs in South Africa. The block grant is meant to cater to ALL main operational costs, thus signifying a

‘cross-subsidisation model’. The release of block grants from the State is done in tranches: a three-month allocation in April and May followed by monthly allocations between June to October, with the balance in November. The Ministry emphasises public accountability for the efficient use of these funds in line with national goals and is governed by “the Regulations for Reporting by the Public Higher Education Institutions” (Government Gazette No. 37726, Notice 9 June 2014; DHET, 2016, p. 4).

Earmarked grants, which were first introduced in 1984, are allocated to institutions for the specific purpose of meeting Government’s National Plans and objectives for the sector. Earmarked Grants are specified to be used for their intended purpose and are subjected to much stricter reporting requirements, for example, detailed audited progress reports. Further, Earmarked Grants are released in tranches dependent on DHET’s approval of progress reports.

The information presented in Table 7.4 provides a comparison of the total allocations made to DHET from South African Treasury for the period 2015/16 through to 2018/19. For example, in 2018/19, this total amounted to R46.5 billion as compared to 2017/18 total of R43.9 billion. Off note is the cash injection from 2015/16 year of 8.1% to 21,5% in 2016/17 with a further 19.3% in 2017/18. The 5.8% growth reflected in 2018/19 is accumulated by these cash injections for the prior two periods. These cash injections were a direct result of the #FeesMustFall campaign and addressed increments as well as the missing middle students who had not qualified for NSFAS.

Further, Table 7.4 also provides a snapshot of the totals allocated to each of the broad categories within the New Funding Framework. The values for each of the primary categories (i.e. block grant, earmarked grant, grants to institutions and sector oversight) are based on the Minister’s discretion on advisement of DHET officials. Within each of the four primary grants mentioned above, secondary allocations are made via sub-categories. Here again, the totals allocated to each sub-category are based on the Minister’s discretion. The block grant, which is the focus of this study, attracts close on 59% of the total allocated to the DHET.

7.5.1 Block Grant

The block grant comprises four subcategories namely: (a) teaching input grant, (b) teaching output grant, (c) research output grant and (d) institutional factor grant. Universities may be able to calculate their own share of their block grant within the four subcategories for planning

purposes. These calculations are done by most finance officer's universities, and further details may be made available upon request from DHET.

Table 7.4: State Budgets for the university

Budget category	Budget totals for the university sector				Increase in budget from previous financial year			
	2015/16 (R'000)	2016/17 (R'000)	2017/18 (R'000)	2018/19 (R'000)	2015/16	2016/17	2017/18	2018/19
1 Block grants for universities	20 538 361	21 678 098	25 322 874	26 915 052	5.0%	5.5%	16.8%	6.3%
1.1 Teaching inputs	13 141 519	13 753 540	16 220 201	17 252 089	3.4%	4.7%	17.9%	6.4%
1.2 Institutional factors	1 170 372	1 225 710	1 445 538	1 537 499	6.1%	4.7%	17.9%	6.4%
1.3 Actual teaching outputs	3 213 301	3 512 017	4 310 654	4 584 887	8.0%	9.3%	22.7%	6.4%
1.4 Actual research outputs	3 013 169	3 186 831	3 346 481	3 540 577	8.8%	5.8%	5.0%	5.8%
2 Earmarked grants for universities	5 666 037	6 246 374	8 701 418	9 193 017	21.0%	10.2%	39.3%	5.6%
2.1 Infrastructure & output efficiencies	2 301 200	2 422 013	2 541 903	2 688 063	4.6%	5.3%	5.0%	5.8%
2.2 Two new universities								
Capital funds	1 000 000	974 736	978 482	1 000 542	100.0%	-2.5%	0.4%	2.3%
Operational funds	201 014	290 429	360 736	416 489	26.4%	44.5%	24.2%	15.5%
NIHE Northern Cape Pipeline Students	12 000	10 000	6 500	0		-16.7%	-35.0%	-100.0%
2.3 Foundation provision	304 470	319 956	335 794	355 270	28.7%	5.1%	5.0%	5.8%
2.4 Teaching Development	616 900	649 596	510 000	0	1.2%	5.3%	-21.5%	-100.0%
2.5 Research Development	199 000	209 547	165 000	0	6.2%	5.3%	-21.3%	-100.0%
2.6 University Capacity Development			225 000	945 000				320.0%
2.7 Clinical Training of Health Professionals	429 635	452 406	475 026	502 578	4.6%	5.3%	5.0%	5.8%
2.8 HDI Development Grant (8 universities)	410 743	433 532	454 992	481 382	5.5%	5.5%	5.0%	5.8%
2.9 Veterinary Sciences	141 764	149 250	156 638	165 723	4.1%	5.3%	5.0%	5.8%
2.10 MBChB students		30 700	27 900	16 700			-9.1%	-40.1%
2.11 Interest & redemption on historic loans	4 447	4 209	3 647	3 282	-34.2%	-5.4%	-13.4%	-10.0%
2.12 Zero percent student fee increase		300 000	0	0				
2.13 Merger multi-campus	44 864	0	0	0	-52.6%	-100.0%		
2.14 Gap funding grant for poor & missing middle student fees ¹		0	2 459 800	2 617 988				6.4%
3 Grants to Institutions	4 123 807	8 924 157	9 921 058	10 395 762	5.2%	116.4%	11.2%	4.8%
3.1 NSFAS - Cape Town ²	4 094 978	6 350 811	9 889 209	10 362 081	4.6%	55.1%	55.7%	4.8%
NSFAS - Cape Town Historic Debt Relief		2 543 000						
3.2 Institute for Human and Social Sciences	23 829	25 081	26 323	27 837		5.3%	5.0%	5.8%
3.3 African Institute for Mathematical Studies	5 000	5 265	5 526	5 844	4.2%	5.3%	5.0%	5.8%
4 Sector oversight	10 000	10 000	10 500	11 109		0.0%	5.0%	5.8%
4.1 Sector Planning, Monitoring, Evaluation & Support	10 000	10 000	10 500	11 109		0.0%	5.0%	5.8%
TOTAL	30 338 205	36 858 629	43 955 850	46 514 940	8.1%	21.5%	19.3%	5.8%

Note 1: The amount of R2 459,800 million in 2017/18 for the gap funding grant for poor and missing middle student fees will be funded through reprioritisation with the PSET system

Note 2: The amount of R2 369,924 million in 2017/18 for unfunded university students from 2016 academic year will be funded through reprioritisation with the PSET system

(Source:www.dhet.gov.za)

Table 7.5 below sets out the actual and estimated funded units based on the approved enrolment plans 2014/15 to 2019/20 for universities (DHET, 2016). Of note is the reduction and realignment of the funded teaching inputs (see column entitled Increase in units from the previous year in Table 7.4), in favour of the other categories within the Block Grant. Table 7.5 indicates the total funded units for the HE sector. Information of a further breakdown per university is available on the DHET web page.

Moderate growth is reflected year-on-year. An example of a calculation of funded teaching input can be summarised as follows: if we wish to calculate what a single funded unit is for 2018/2019, the values reflected in Table 7.4, row 1.1 entitled *Teaching inputs* going across to column 2018/2019, is R 17 252 089 000; this amount is divided by the 1 362 140 (funded teaching inputs as listed in Table 7.5 below) for the year 2018/2019. This calculates to

R17 252 089 000/1 362 140 = R 12 665 per funded unit. So, if a university HEMIS data calculation reflects 10300 funded units, its share would equate to 10300 multiplied by R12 665 = R 130 449 500.

Table 7.5: Actual and estimated funded units for universities within Block Grant

Block grant categories	Unit totals for the university sector				Increase in units from previous financial year			
	2015/16	2016/17	2017/18	2018/19	2015/16	2016/17	2017/18	2018/19
Funded teaching inputs	1 222 348	1 277 641	1 323 719	1 362 140	4.6%	4.5%	3.6%	2.9%
Institutional factors	108 950	111 958	117 135	122 992 ¹⁾	9.5%	2.8%	4.6%	5.0%
Actual teaching outputs	163 569	168 818	176 164	184 972 ¹⁾	9.7%	3.2%	4.4%	5.0%
Actual research outputs	26 622	29 320	31 211	34 051 ¹⁾	10.6%	10.1%	6.4%	9.1%

(Source:www.dhet.gov.za)

(a) Teaching Input Grant

The calculations of the teaching inputs grant are one of the more complex of the four categories in terms of its application, as it considered a combination of the institution's actual enrolment and planned enrolment data based on FTE students. All institutions are treated equally in this calculation. The DHET has of late cautioned universities on over/under enrolment and will not permit over/under-enrolled teaching input units in the sector. The DHET permits deviations between the planned and actual teaching inputs. However, this flexibility has reduced over the years. For under-enrollment, universities were allowed to deviate by 5% in 2013, 4% in 2014, 3% in 2015 and 2% in 2016 and 2017. On the basis of the audited data, these deviations would affect the Block Grants for years 2015, 2016, 2017, 2018 and 2019 respectively as years *n*. The DHET cautioned Universities against over/under enrolment and indicated they would re-route the funds derived from the penalties (which are likely to be more severe), to those universities that perform within the planned enrolments.

(b) Teaching Output Grants

This grant is calculated by using the graduation rates (headcounts) that are seen as the final product of HEIs. However, the teaching output grant is calculated on undergraduate, Honours and research Masters by coursework programmes. Full research Masters and Doctoral graduates are considered elsewhere in the research output grant (discussed in (c) below). All HEIs are treated equally in this calculation. Headcounts consider full-time and part-time

students as units irrespective of course loads. As part of the National Plan for Higher Education, the emphasis was placed on student graduation rates, especially in relation to historically disadvantaged students (Pillay, 2013). The NFF, therefore, encouraged increased levels of graduation by providing HEIs with an incentive under the banner of the teaching output grant. The DHET acknowledges the disadvantage of a graduate being funded for a three-year qualification as compared to a seven-year qualification.

This grant is determined by the number of graduates of an institution for year $n-2$, i.e. 2015 data = 2017 grant. It therefore considers:

- Actual headcount up to non-research graduates for year $n-2$
- Adjusted for weightings in terms of Table 7.6 (below)
- Total Rand Value allocated to Teaching Output Grants by DHET

Table 7.6: Weighting factors for teaching outputs 2016

Type of qualification	Weight
1st certificates and diplomas of 2 years or less	0.5
1st diplomas and Bachelor's degrees: 3 years	1.0
Professional 1st Bachelor's degree: 4 years and more	1.5
Postgraduate and post diploma diplomas	0.5
Postgraduate Bachelor's degrees	1.0
Honours degrees/higher diplomas	0.5
Non-research Master's degrees and diplomas	0.5

(Source: www.dhet.gov.za)

In the calculation of teaching output grants, distance and contact are treated alike - different from that of the teaching input calculation. Further, the DHET expanded the weighting categories to provide more clarity as set out in Table 7.7.

Table 7.7: Weighting factors for teaching outputs 2017

Teaching output programmes	Weightings
UG certificates and diplomas (1 year)	0.5
UG certificates and diplomas (2 years)	0.5
UG certificates and diplomas (3 years)	1.0
UG 1st bachelors degrees (3 years)	1.0
UG 1st bachelors degrees (4 years or more) NQF7	1.5
UG 1st bachelor's degrees (4 years or more) NQF8	1.5
UG B Tech (1 year)	1.5
UG Advanced diplomas (1 year) NQF7	0.5
PG certificate in education (1 year) NQF7	0.5
PG diplomas and post-diploma dipl/cert (1 year)	0.5
PG bachelors degrees and advanced bachelors degrees	1.0
Honours degrees/higher diplomas/post-grad dipl (1 year)	0.5
Non-research masters degrees and diplomas	0.5

(Source:www.dhet.gov.za)

As an example, teaching output FTE for 100 students who graduated with a three-year Bachelors degree would equate to 100 multiplied by 1,0 (row 4 Table 7.7 above) = 100 FTEs. 100 students who studied a four-year degree will equate to 100 multiplied by 1,5 (row 5 Table 7.7 above) = 150 FTEs.

(c) Research Output Grant

This grant considers audited actual research outputs via DHET approved Publications Units (which includes books, chapters in books, conference proceedings and articles in accredited journals), full Research Masters Graduates and Doctoral Graduates for year $n - 2$. These are weighted (a) as per Table 7.8 below. As an example, in comparison to the previous calculation, a doctoral graduate headcount will be 3 times an FTE for every PhD student.

Table 7.8: Weighting factors for research outputs

Categories of research output	Weightings
Publication units	1
Research masters graduate headcount	1
Doctoral graduate headcount	3

(Source:www.dhet.gov.za)

Translated by the formula, the research output grant for an HEI = The Total weighted research outputs/Normative Research Total of all universities multiplied by the Total Value allocated to Research Output Grant.

The DHET authorises what they term 'journal lists' which comprise approved journals, which are publicised on the department's web page in January of each year. There are six such lists of journals:

- Institute of Scientific Information (ISI) - 13086 Journals
- International Bibliography of the Social Sciences (IBSS) - 2626 Journals
- DHET SA list - 277 Journals
- Scopus - 23507 Journals
- Scientific Electronic Library Online (SciELO) - 67 Journals
- Norwegian List (Level 2) - 2049 Journals

The DHET monitors the level of impact of these journals and often revises the lists. The subsidy awarded for publishing in these journals is adjusted for articles that are published in journals that have been removed by the department (www.dhet.gov.za).

(d) Institutional Factor Grants

Institutional Factor grants were introduced to consider universities for (i) enrolling students from previously disadvantaged groups, in this case, Africans and Coloureds; (ii) taking cognizance of universities' size and shape. Institutional Restructuring grants are undesignated grants that were introduced to assist that Universities and Technikons that have merged or have multi-campus sites.

Disadvantaged Student Enrolments: Universities would be credited for enrolling students from these designated groups. However, these are guided by a weighting factor; for example, if the total enrolled number of students from these groups is less than 40% of total enrolment, the factor is 0, and no change will be made to the FTE enrolled students.

There is a linear adjustment for these designated groups where enrolments exceed 40% up to 100%, as reflected in Table 7.9. Though the table is dated, DHET has not made any change to the factors, and it continues to be applied to date.

Table 7.9: Institutional Factor Grants for Disadvantaged Students

Institutional factor grants for disadvantaged students: 2004/05 to 2006/07	
Proportion of African + coloured students in relevant FTE student enrolment (SA citizens only)	Additional amount added to relevant teaching input grant
80% and above	10%
75%	8.75%
70%	7.5%
65%	6.25%
60%	5%
55%	3.75%
50%	2.5%
45%	1.25%
40% and below	0

(Source:www.dhet.gov.za)

Table 7.10 below provides an example of the monetary impact for institutions that address equity by enrolling African and Coloured students above the 40% threshold.

Table 7.10: Additional Grant allocations for enrolling Disadvantaged Students

Examples of application of institutional factor for disadvantage in contact education institutions			
Institution	Proportion of African + coloured students in contact FTE student enrolment	Contact teaching input grant (Rand millions)	Additional grant for disadvantage (Rand millions)
A	90%	200	20
B	70%	200	15
C	60%	200	10
D	25%	200	0

(Source:www.dhet.gov.za)

Universities' size and shape: The size of universities are taken into account by considering the total FTE enrolment. This grant is meant to consider smaller universities by increasing their FTE student enrolment by factors as set out in Table 7.11. Universities that have FTE enrolment of more than 25 000 are not considered for this grant, and a linear adjustment below 25 000 FTE enrolment is reflected. The maximum adjustment is 15% for 4000 and fewer students.

Table 7.11: Size and Shape

Institutional factor grants for institutional size	
Total FTE student enrolment: contact plus distance	Additional amount added to teaching input grant
4 000 and less	15%
6 000	13.6%
8 000	12.1%
10 000	10.7%
12 000	9.3%
14 000	7.9%
16 000	6.4%
18 000	5.0%
20 000	3.6%
22 000	2.1%
25 000 and more	0

(Source:www.dhet.gov.za)

All the discussions within this section (7.5.1) focussed on the block grants allocations to universities and reflected the mechanisms for this calculation with examples. The second arm of funding that the DHET provides to universities is the Earmarked Grant. By its description, these grants are meant to address specific areas that DHET finds as aligning universities to the National Plan. The Minister's discretion is used here to allocate funding to universities, and this funding must be used for its intended purposes. DHET has strict guidelines and requires detailed progress and audit reports to be submitted.

This category of the resource (i.e. Earmarked Grants) is discussed briefly as it was not the focal point of the study, the block grant was. Its relevance however related to its impact on two fronts, the one being its influence on the allocation of resources to faculty and support services and secondly its impact on the university on future costs once the goals as set out initially have been met.

7.5.2 Earmarked Grants

Earmarked Grants were introduced to assist the DHET to address national imperatives in the higher education sector in line with the National Developmental Plan (2013). These grants are allocated to institutions for a designated purpose and cannot, without express permission from the Ministry, be used to supplement other operations. Some of the areas that are included in the Earmarked Grants category, are infrastructure and efficiency funds; development grants for teaching and research; foundation provision grant, and clinical training grants, with the National Student Financial Aid Scheme (NSFAS) being one of the more prominent in terms of funding (a comprehensive list is provided in Table 7.4).

Earmarked Grants are subjected to audited statements and progress reports and funding is released in tranches only when these reports are approved by DHET. The DHET does, however, release an initial allocation between 20% - 40% in order for universities to start actioning the purpose of the grant. The department has in recent years become stricter with universities in relation to underspending. DHET has cautioned universities that funds will be withdrawn and reallocated should there be any underspending of this grant. Further, the Minister may disallow certain expenditure that proves not to align itself to the initial plans. For the purposes of this discussion, the focus will be on the key elements that have an impact on the analysis in the chapters that follow. These include (a) Teaching and Research Development Grant which has now been combined to University Capacity Development Grant (UCDG); (b) Foundation Provision Grant; (c) National Student Financial Aid Scheme; (d) Infrastructure and Efficiency grants; (e) historically disadvantaged Grant, and (f) other earmarked grants.

a) Teaching and Research Development Grant

Prior to 2018, universities were allocated a teaching development grant and research development grant. The Teaching development grant is an earmarked grant provided to institutions in order to improve student success rates at the undergraduate level.

Table 7.12: Teaching development grant for 2017 April-December

UNIVERSITY	Funding shares for 2017 (%)	Teaching Development State budgets for 2017 (R'000)
CAPE PENINSULA UT	3.033	15 468
CAPE TOWN	1.771	9 032
CENTRAL UT	2.228	11 363
DURBAN UT	3.113	15 876
FORT HARE	1.158	5 906
FREE STATE	4.473	22 812
JOHANNESBURG	7.233	36 888
KWAZULU-NATAL	3.990	20 349
LIMPOPO	1.276	6 508
MANGOSUTHU UT	1.125	5 738
NELSON MANDELA	3.377	17 223
NORTH WEST	2.571	13 112
PRETORIA	4.078	20 798
RHODES	0.578	2 948
SEFAKO MAKGATHO	0.379	1 933
SOUTH AFRICA	20.550	104 805
STELLENBOSCH	2.165	11 042
TSHWANE UT	10.219	52 117
VAAL UT	3.129	15 978
VENDA	1.384	7 058
WALTER SISULU	5.183	26 433
WESTERN CAPE	1.692	8 629
WITWATERSRAND	3.124	15 932
ZULULAND	2.167	11 052
National Collaborative Programme	10.000	51 000
TOTAL	100.000	510 000

(Source: www.dhet.gov.za)

Table 7.12 above sets out the allocations of the teaching development grant for the closeout period ending 31 December 2017 for universities in South Africa. Of particular interest herein is that the UNISA a wholly distant education university attracts the ‘lion's share’ of the grant equating to almost 20%. The teaching development grant uses HEMIS data as its basis for the allocation of funding. Table 7.12 indicates that DHET has allocated a total sum of R510 million to this grant. This sum is distributed to universities based on their funding shares (for example 1% = R5,1 million). Based on this equation, the University of Witwatersrand for example whose funding share is 3,124% will translate into an allocation of R15 932 million that being $R510\,000\,000 \times 3,124\% = R\,15\,932\,400$.

The Research Development Grant was provided to incentivise research productivity, and more so for DHET to bridge to the gap between high impact research universities and those that were performing below normed output per academic staff.

Table 7.13: Research development grant for 2017 April-December

UNIVERSITY	Research Development State budgets for 2017	
	Funding Shares (%)	Budgets (R'000)
CAPE PENINSULA UT	4.39	7 244
CAPE TOWN	1.92	3 168
CENTRAL UT	3.19	5 264
DURBAN UT	3.74	6 171
FORT HARE	4.34	7 161
FREE STATE	4.75	7 838
JOHANNESBURG	3.64	6 006
KWAZULU-NATAL	2.62	4 323
LIMPOPO	4.80	7 920
MANGOSUTHU UT	3.76	6 204
NELSON MANDELA	4.04	6 666
NORTH WEST	5.67	9 356
PRETORIA	2.78	4 587
RHODES	1.71	2 822
SEFAKO MAKGATHO	6.63	10 940
SOUTH AFRICA	5.43	8 960
STELLENBOSCH	1.84	3 036
TSHWANE UT	4.40	7 260
VAAL UT	4.98	8 217
VENDA	4.13	6 815
WALTER SISULU	7.10	11 715
WESTERN CAPE	4.23	6 980
WITWATERSRAND	1.93	3 185
ZULULAND	2.98	4 917
National Collaborative Programme	5.00	8 245
TOTAL	100.00	165 000

(Source:www.dhet.gov.za)

The Research Development Grant uses HEMIS data as its basis for the allocation of funding. Table 7.13 indicates that DHET has allocated a total sum of R165 million to this grant. This sum is distributed to universities based on their funding shares (for example 1% = R1.65 million). Thus it is clear that the state budget for 2017 for a university such as Tshwane University of Technology whose funding share is 4.4% will translate into an allocation of R7.260 million that being $R165\,000\,000 \times 4.4\% = R\,7\,260\,000$. However, the abovementioned two grants have now been combined, and in 2018 the University Capacity Development Grant (UCDG) was introduced after a series of discussions and meetings with university stakeholders.

b) Foundation Provision Grant

The Foundation Provision Grant was formed to improve the academic performance of first-time entry students who would normally meet all other academic enrolment criteria but who find themselves at risk of failing and/or dropping out. These students are placed in extended curriculum programmes which generally is an additional year pre-approved by the Minister and audited as part of the HEMIS data. The students FTEs are also recorded in the teaching inputs and outputs calculation.

Table 7.14: Foundation Provision Grant 2016/17 and 2017/18

UNIVERSITY	2016/17 (R'000)	2017/18 (R'000)
CAPE PENINSULA UT	37 813	41 599
CAPE TOWN	12 997	14 633
CENTRAL UT	3 526	3 084
DURBAN UT	9 289	13 210
FORT HARE	9 961	10 346
FREE STATE	22 121	29 222
JOHANNESBURG	36 828	38 117
KWAZULU-NATAL	15 311	13 455
LIMPOPO	10 268	18 801
MANGOSUTHU UT	6 144	5 779
NELSON MANDELA	8 722	9 830
NORTH WEST	16 973	19 703
PRETORIA	17 928	20 673
RHODES	1 512	1 666
SEFAKO MAKGATHO	2 579	6 327
SOUTH AFRICA	6 397	0
STELLENBOSCH	9 506	10 115
TSHWANE UT	53 877	51 403
VAAL UT	1 334	518
VENDA	7 532	6 695
WALTER SISULU 2)	9 293	0
WESTERN CAPE	17 444	17 845
WITWATERSRAND	321	304
ZULULAND	2 280	2 469
TOTAL	319 956	335 794

1) Contact tuition (face-to-face) instruction only.

2) Spending of accumulated reserves to be prioritized first.

(Source:www.dhet.gov.za)

Table 7.14 provides a snapshot of the allocations made by DHET to South African universities that have augmented programmes for foundation provision grants. The available amount for this grant has increased by approximately 5% for the 2017/2018 period. The Tshwane University Technology attracts the largest share of this grant, with the lowest being the University of Witwatersrand.

c) National Student Financial Aid Scheme (NSFAS)

NSFAS emerged as a subset of the Tertiary Education Fund for South Africa (TEFSA), which was in operation since 1991. It started purely as a loan scheme and gradually shifted to a bursaries and loans fund. Around 1999, NSFAS replaced TEFSA as an independent organisation formed by the government, advocated by the NCHE to manage financial aid to deserving students, and is regulated by the NSFAS Act (Act No. 56 of 1999). Funds that are issued by NSFAS include bursaries as well as loans to all universities and Technical and Vocational Training (TVET) Colleges. Full bursaries are given to students with disabilities and to those studying towards qualifications in scarce skills. Students who obtained 100% loans and who successfully pass their courses, benefit from the loan being converted to 40% bursary and 60% loan. The scheme assists students of all races, with preference given to disadvantaged students who cannot afford higher education studies but are academically successful. Values of up to R70 000 per student may be allocated to cover tuition fees, residence fees, books, meals, etc.

NSFAS is managed by an independent Board that is located in Cape Town, mandated to support all universities in South Africa. Given the increased demand for student funding in the country, more often than not NSFAS is under the spotlight. In 2010, following a report from the Ministerial Review Committee, the Minister approved a series of recommendations to improve the efficiency and effectiveness of the NSFAS. These included the amendment of the NSFAS Act (Act 56 of 1999 as amended) to align itself to the National Credit Act (Act 34 of 2005).

Some of the other recommendations which were implemented included increasing the pool of funds; the introduction (2012) of a final year programme fund with 100% rebate to incentivise students to graduate; enhancing the outdated loan management system; allocations for teacher education, and the creation of the Fundza Lushaka scheme for teacher training in specific

subjects. Table 7.15 provides an illustration of NSFAS (universities contribution) awards, reflecting the number of awards granted for the periods 2009-2012.

Table 7.15: NSFAS: Universities, 2009-2012 (Aggregate values in R,000)

Set A	New grants to NSFAS ³¹	Awards	Number of awards	Growth in number of awards	Average award in Rand	Nominal growth in the average award
2009	2 205 953	2 818 220	135 862		20 743	
2010	2 516 221	3 343 531	148 873	9.60%	22 459	8.30%
2011	3 875 159	4 833 866	221 653	48.90%	21 808	-2.90%
2012	5 579 188	5 871 490	216 028	-2.50%	27 179	24.60%
Average				16.70%		9.40%

(Source: NSFAS Annual Report 2011, 2012, 2013)

Table 7.15, though dated indicates the extent of the growth which increased by up to 60% from the year 2009 to 2012. This trend should be consistent with future periods leading to the current year. The growth in the average award (24.6%) indicates that the funding levels have been increased per student signifying one of two things. Either tuition and/or residences fees have grown at a faster pace, OR more students were funded based on the increase in the pool of funds. Further to the above, Table 7.16 sets out the various categories that NSFAS funding supports.

Table 7.16: Number of awards per category 2009-2012

	2009	2010	2011	2012	Average size of grant in 2012
DHET					
General	106 682	109 798	126 557	99 938	R25 359
Final year programme			24 684	29 203	R37 140
Teacher allocation	3 898	4 672	5 099	4 198	R27 149
Disabled students	762	1 040	1 104	1 176	R37 867
Historical debt relief			3 521		
National Skills Fund	1 890	3 885	24 491	38 987	R22 019
SA Institute of Chartered Accountants	782	774	837	807	R40 121
SETAs				3 071	R18 404
DBE					
Funza Lushaka	9 190	10 074	8 893	11 702	R56 980
Other	12 658	18 630	26 467	26 946	R19 035
Total	135 862	148 873	221 653	216 028	

(Source: NSFAS Annual Report 2011, 2012, 2013)

Of particular interest are the numbers that are reflected under the National Skills fund with the awards catapulting from 1890 in the year 2009 to 24 491 and year 2011, then again increasing to 38 987 in the year 2012.

d) Infrastructure and Efficiency Grants

The key objectives of the Infrastructure and Efficiency Grant is to ensure that universities across the country maintained, and in some cases, developed their infrastructure for meeting national goals and catering for the expansion of the higher education system. As such, this grant is for enrolment planning. Further, given the disparity of the old funding frameworks in relation to HAIs versus HDIs, this grant serves the purpose of creating equilibrium in the quality of infrastructure at HEIs.

The DHET requested universities to provide campus master plans, maintenance plans, and disability plans in July 2014. Through the formation of a working group consisting of specialists in the field, allocations were made to universities. While the initial funding was provided by the state, for example, to erect new buildings, the operational costs associated with these expansions must be borne by the university going forward. From 2017 onwards, the department would allocate funds for this category based on a balance between national goals and university strategies which will link to the HE macro infrastructure plan.

e) Historically Disadvantaged Institutions Development Grant (HDI-DG)

The Historically Disadvantaged Institutions grants are allocated to the eight contact universities that were classified by the DHET as HDIs and are based on approved business plans which are assessed by a team of specialists. These universities are listed as:

- The University of Fort Hare;
- University of Limpopo;
- University of Venda;
- Walter Sisulu University;
- University of Western Cape;
- The University of Zululand;
- The Mangosuthu University of Technology, and
- Sefako Makgatho Health Sciences University.

The government's initial five-year allocation period for the HDI-DG was meant to be 2015/2016 to 2019/2020. However, given the decision of a 0% fee increase by the government which was the result of the #FeesMustFall campaign, the grant period was moved a year, from 2016/2017 to 2020/2021.

f) New Universities

Funding for the two new universities, Sol Plaatje University (SPU) with an expected student base of 7500, and the University of Mpumalanga (UMP) with an expected student base of 18000 forms part of the earmarked grants until such time that they are able to align themselves with other universities.

g) Clinical Training Grant

The Clinical Training Grant is allocated to universities that qualify based on submissions made once every two years for health professionals. These are based on student enrolment data.

h) Veterinary Sciences Grant

This allocation is mainly specified for the University of Pretoria (UP), given its responsibility for their animal hospital. Of the total of R165m, UP is granted R152m representing 92% of the available fund. The balance (8%) is shared between three other universities that offer veterinary sciences.

i) MBChB Students

The DHET provides additional funding to selected universities for a stipulated period in order to address the increase in students who have registered for studies towards medicine (MBChB). Funding for this category of earmarked funds was realigned by National Treasurer based on a three-year agreement ending in 2017/2018, between the Department of Health and DHET.

j) Gap funding for missing middle students

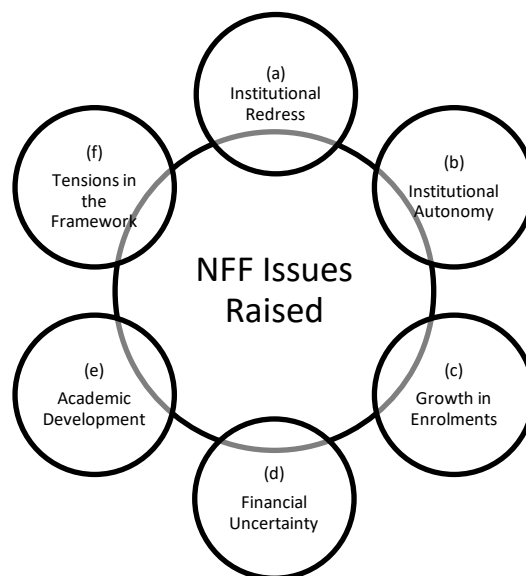
The NSFAS only funded students whose per capita household income fell within a certain threshold. This threshold excluded many students and formed part of the #FeesMustFall campaign. These students were termed the 'missing middle', and the South African government set a new threshold of per capita household income of R600 000. These funds were administered by the DHET and as such were not transferred to NSFAS.

7.6 Key Challenges on the NFF (Block Grant and Earmarked Grant)

Given that the financing of higher education is complex, as long as the search is continuing for that perfect model that could exist amongst dwindling resources and increased demand, budget frameworks will continue to be criticised for their shortcomings. This NFF is not immune to such scrutiny by stakeholders, and the assessment of these areas from criticism often results in revisions being implemented. Below are some of the challenges experienced by universities with regard to the NFF (CHE, 2016).

The intended purpose of the NFF was twofold, one being to achieve governments national policy goals and the other to suit and address the needs of all stakeholders. Constructive criticisms of the funding framework from stakeholders within the higher education sector become inevitable. The CHE report conceptualises these comments and criticism, as illustrated in Figure 7.4. The key issues raised include areas of redress; improved autonomy; creating growth in enrolments; financial uncertainty; academic development and tensions in the framework.

Figure 7.4: Issues raised by the New Funding Framework



- a) *Institutional Redress*: The merger process that was undertaken within the South African HE landscape was meant to have dealt with this issue. Hence it is seen as duplication when institutions are rewarded by institutional factor grants. (see Chapter 7.5.1 d)
- b) *Institutional Autonomy*: The Minister has the flexibility to change MTEF values.

- c) *Growth in Enrolments*: Increased enrolment due to the weighting of teaching input grants will negatively affect the institution's costs.
- d) *Financial Uncertainty*: Institutions may find it difficult to conduct medium-term plans given the level of discretion held by the Minister in determining funding values.
- e) *Academic Development*: Aside from foundation funding, no other mechanisms exist for this area.
- f) *Tensions in the Framework*: There are contradictions in the system especially since the mergers create bigger institutions, while the framework rewards smaller ones.

The Higher Education South Africa (HESA) report to the Ministerial Committee on the funding of universities dated October 2011, was submitted to universities for comment on the new funding framework (HESA,2011). Unfortunately, only nine of the twenty-three universities responded. The feedback that was received is summarised below:

- There must be transparency and consistency in the calculations;
- Universities should continue to rely on state subsidy and tuition fees;
- Provision must be made for financially needy students;
- There must be a limit on ring-fenced funds;
- Care must be taken to ensure no contradictions occur in relation to block grants and earmarked grants;
- Redress funds should be allocated only for a specified period;
- Empirical cost studies should be conducted prior to the implementation of certain grants;
- Block grant share should be increased;
- Weightings within funding grids must be revisited to allow for changes to relative costs;
- New funds should be allocated to new ventures, and
- The communication of funding must be timeous.

The review report also provided comments on the earmarked funds, which include:

- Consideration for student housing;
- Consideration for the maintenance of infrastructure;
- Provision for additional funding for capital infrastructure in cases of student growth;
- Separate funding for new staff and creation of a retention fund;

- Increasing research and development fund;
- Staff capacity development;
- Technology funding, and
- Using formulae to allocate infrastructure funds.

Pillay (2010) further argues that the financial year-ends complicate the system, since the Governments financial year is April to March, while that of the HEIs is January to December. Cash Flow planning is thus imperative in dealing with the timing gaps. An OECD (2008) review of education in South Africa praised the country for its ‘progressive forward-thinking’ stance. The OECD (2008) review also went on to suggest several recommendations which include:

- Planning, budgeting and monitoring of changes like the mergers;
- Universities to become specialised by focusing on their niche areas;
- High-quality human capital required;
- Drive a sustained social integration system for new students, and
- Mentor and train new academics.

Following this extensive discussion around the financing of Higher Education in South Africa, it is equally vital to ascertain how the different institutions manage the State’s financial allocations. Thus, the chapter that follows relates to the data gathered from the seven participating universities and their implementation of the NFF at their respective institutions.

7.7 Summary

This chapter focused on South Africa (given the location of this study), its funding modalities and how these have transformed since the first framework in 1953. Prior to delving into the framework itself, I provided insight into the various terminologies and concepts adopted by DHET. These include HEMIS, CESM and FTEs. Thereafter, an illustration was presented which reflected the three spheres of steering the public higher education sector, quality, planning and funding.

I thought it essential to briefly engage the macro-financial environment of South Africa, in particular, the allocations to higher education in relation to the country’s GDP. South Africa has shown increased commitment with a 0.65% of GDP in 2004 to what it is currently sitting at, around 1.23% of GDP.

Further, I discussed the variables and mechanisms of the New Funding Framework (NFF) that were adopted in 2004 and which are currently in operation. Here, the breakdown of the various components was discussed between the Block and Earmarked grants. The chapter ends with a snapshot of critical assessment by various stakeholders that engaged the NFF. Despite criticism, South Africa was praised for its forward-thinking in the way the funding framework is conceptualised.

Using the backdrop of the State's mechanisms, Chapter Eight presents the data that was obtained from participating universities in this research, in order to obtain an understanding of how these universities allocate the Block grant.

CHAPTER EIGHT

REVELATIONS FROM THE FIELD

8.1 Introduction

This chapter presents the data gathered directly from the face-to-face interviews with finance specialists within participating universities. The information addresses the following primary research question: *To what extent are resources allocated to Universities in South Africa and their subsequent distribution promoting the principles of satisficing, fairness and justice?*, as well as the following sub-questions:

- *How does resource allocation in the South African HE sector compare to similar sectors abroad?*
- *What is the role of managerial discretion in balancing the inevitable split between normative and qualitative consideration inherent in allocating resources?*
- *What principles and variables determine the resource allocation to different units within the university?*
- *How are resource allocation principles applied in a given administration, and with what degree of consistency and justification for variance and discretion?*

Of the top ten block grant recipients that were invited to participate in this study, seven universities responded positively. These seven interviews were analysed to establish trends, themes, and variances adopted by the respective institutions. Particular focus and attention on aspects of innovation and uniqueness were noted and underpin the analysis.

In ensuring the anonymity of financial officers, they were referred to as Participant A, B, and C, etc. Where multiple Participants from the same institution were interviewed, they were classified as A1, A2 etc., where A1 was the more senior of the pair. Although Universities are uniform in their hierarchical structure, differences occur in the terminology used to describe similar portfolios between institutions. These differences did not pose a major problem and could be easily aligned given the vast exposure and experience gained within the HE sector. Thus, a short overview of the sample institutions' management structure is presented at the onset of each discussion for the sake of clarification of the institution's accountability mechanisms.

All public institutions of higher learning in South Africa are governed by the Higher Education Act, 1997 (Act No. 101 of 1997 as amended).

8.2 Interview Data gathered from participating universities

In Chapter 6.5, I indicated that part of the data collection method in this study was face-to-face interviews based on open-ended questions. These interviews were conducted after obtaining gatekeeper permission from Registrars of participating universities. Given that the focus area of the study related to budgets and financial planning, these Registrars identified senior finance officers as the ideal consultative persons who dealt with financial planning and budgeting within their institution. Interviews were conducted face-to-face at the comfort of the finance officer's workspace. With the use of the term 'Participant', the anonymity of the participants was maintained throughout this thesis. Permission was sought from each of the Participants to record the interviews. The information per participating institution is extracted below with the key areas from the transcribed documents, highlighting their relevance to this study.

8.2.1 University of Pretoria (UP)

Unfortunately, the University of Pretoria's Finance Director was unavailable to meet me due to an unforeseen circumstance. He did, however, arrange for suitable replacements that reported to him who dealt directly with budgets.

The UP **management structure** has at the helm, the Principal (known as Vice-Chancellor at some institutions), supported by Vice-Principals and Executive Directors. Deans (Academic Sector), and Directors (Support Sector) report to respective Vice-Principals or Executive Directors. The two appointed Participants (hereafter referred to as Participant A1 and A2 respectively), who serve as deputies to the Finance Director, were proxies.

The **block grant** received from National Government combined with tuition fees forms part of what UP refers to as FUND E. The budget cycle begins in May when the university makes high-level calculations for an expected subsidy, tuition fees, other income and investment income leading to a framework budget. By August, the Deans are expected to present their three-year faculty plans, and the Directors will present their support service plans to the Budget Planning Committee (BPC) for evaluation and review, to test their alignment to the strategic plan of the university. By this time, it was expected that a series of meetings and consultations would have taken place at the respective units to ensure inclusiveness in the budget process.

Central Finance ensures that funds are earmarked to support the Capital Provision Fund. This fund, which is formula-based, supports buildings, information technology, and minor capital

requirements. The final budget is then presented to the Executive by September for review and is subsequently submitted to the standing committee of Council and finally Council, for approval.

According to Participant A1, the first draft submission relies on the current budgetary requirements that take into account the history of the unit's business needs. Also, any planned strategic interventions require motivations by the Deans and Directors and need to be adjudicated by the BPC.

Staffing or the cost incurred for human capital remains the most significant expenditure for the University and constitutes approximately 80% - 82% of the university's FUND E budget.

In the case of posts that were approved by the BPC but remain vacant, such positions are fully funded and allocated. In the event of these vacant posts being substantively occupied by mid-year, the savings remain as a favourable variance. The University drives to reduce staff costs, especially in the support sector, to avoid any radical downsizing process. As such Participant A1 added that there had been a moratorium on support staff positions as a result of the university-wide decision to in-source cleaning and security staff as a result of the 0% student fee increase mandate.

The moratorium is the only way to contribute to the bottom line and reduce staff costs. However, in exceptional circumstances, the BPC informed by individual motivations may consider replacement of support staff by its alignment with the strategic plan. The BPC may choose to either reduce the level of the posts according to the budget constraint or to recommend realigning workloads of existing staff. Due to the strategy to increase research capacity, the university adopted no moratorium for academic posts.

Other new posts that are not part of the current establishment will require motivation via the Human Resources Sub-Committee (members include Executive Directors for both Human Resources and Finance) and need representation to the Executive. The university makes provision for incremental increases in staffing costs during the initial framework document. In the context of the staffing costs, Participant A1 indicated that the university conducted a study that drew on comparative data between UP and other universities. With regard to UP's staffing complement, the results indicated in the study suggest that UP in comparison to other participating universities in this study was over-subscribed.

Given the limited resources and the move towards prudent financial management, matters relating to staff and their performance contract are brought into question. Participant A2 indicated that there is pressure to maintain high-performance levels and that “those who do not perform are worked out of the system.” There is an obligatory requirement for UP for all academic staff to obtain a doctoral qualification. Academic staff is also required to bring in additional income while improving national research ratings. The administration and overhead levy billed to research funds are 20% at UP. Exceptions do exist where some funders stipulate a maximum administration and overhead levy charge. Other funders do not permit any such levy; NRF is a case in point.

The budget process framework document, which also forms part of UP’s submission to DHET, is continuously revised. Participant A1 states that there is always “a better or more innovative way of thinking about the budget.” The FUND E budget stipulates the thresholds related to staffing, operational and capital expenditures. Once this budget is released to the various faculties, the Deans together with their financial officers allocate the budget to the respective departments at their discretion. The budgets are populated onto the electronic management system, and this system performs a funds availability check per expenditure category (i.e., staffing, operational or capital expenditure) before authorizing expenses. Adjusting entries via journals also follow stringent budget checks before authorizations are granted. Only a limited number of senior staff within central finance are authorized to effect budget over-rides on the system.

The university conducts a budget variance analysis on a monthly basis. The finance officer informs the Dean of any material over/under-expenditure resulting from the analysis. Part of the Dean’s responsibility is to ensure that the budget is appropriately managed. Year-end savings from operational and capital budgets transfer to the Deans “A” Fund as a discretionary reserve. The latter fund, accumulated over a 30 year period, could support over-expenditure that may arise. Participant A2 added that in recent times, “these reserve funds have been depleted quite substantially.” Further, budget surpluses are now rare.

Mid-year and year-end reports for all funds are required to be submitted to DHET as gazetted in December 2014 for implementation in 2015. Participant A1 added that in recent times DHET is becoming “stricter” with earmarked grants. Participant A2 concurred that although the DHET “gives us a hard time, it forces us as a university to apply the funds for their designated

purposes”. However, Participant A1, while agreeing with DHET’s strict management controls, points out that the audit costs (a DHET requirement) are becoming excessive.

Participant A2 indicated that they (UP) have embarked on a trip to visit a university in Canada specifically to broaden their knowledge of the budgeting process. Participant A2 went on to add that their budget allocations to faculties were calculated based on the income that the student brings in both from state subsidy and tuition fees. The university apportions a levy to cater for other university-wide support sector costs.

At the aforementioned Canadian university, Faculties and Support Service units are considered responsibility management centres which take control of their respective budgets. Participant A2, articulates that the model used is based on decentralisation and business orientation, which despite being relatively new, was well researched. Such is the level of decentralisation that the faculties can determine their tuition fees. The Deans are supported by their respective Faculty Accountants, who are located within the academic area but report to central Finance. Participant A2 was of the opinion and cautioned the use of such a model in the current challenging higher education environment in South Africa.

8.2.2 The University of KwaZulu-Natal (UKZN)

The Management hierarchy at the University of KwaZulu-Natal adopts a college-based model. The Vice-Chancellor is the executive head supported by six Deputy Vice-Chancellors, four Executive Directors, Chief Financial officer and the Registrar.

This College model adopted by UKZN is decentralised according to its core functions: Finance, HR, Corporate Relations, Student Academic Services and Student Support Services. All of these functions reside in the four colleges, namely: College of Agriculture, Engineering and Sciences; College of Law and Management Studies; College of Health Sciences, and College of Humanities.

With the 2015 appointment of the Vice-Chancellor, Dr Albert van Jaarsveld, a new vision for the university called for the revision of the University’s existing strategic plan. Participant B affirmed that in meeting the new vision, the university required to reassess the model used for monitoring college performance. This intervention required realigning “the budget to the strategic model.”

The existing budget framework is configured to reward performance which is rooted in research outputs within the academic sector. The model introduced in 2010 that was adopted by the university, is called the Resource Allocation Model (RAM).

The current DHET funding framework considers data drawn from academic activities comprising teaching inputs, teaching outputs, and research outputs. Participant B flagged that professional services play a vital role in the higher education system. Such professional services are currently absent from this framework and need to be considered.

Participant B indicated that the budget principle adopted at UKZN is one of a “top-slicing” approach that is a system of ring-fencing funds for a dedicated purpose before any appropriations. UKZN’s resources in respect of its principal operations are State subsidy, tuition fees, investment income and other income. The latter includes items such as administration fees billed to researchers, rental of commercial spaces and the like. Once the resource base is computed, the strategic and certain contractual obligations are top-sliced leaving the balance of allocable resources available for distribution. This allocable resource is split 70%:28%:2% in favour of academic services, support services and other costs respectively. Participant B highlights that UKZN continually monitors its staffing costs to total expenses. The latter is in line with DHET guidelines which govern staffing costs to no more than 65% of total recurrent expenditure. The recent protest action by students calling for out-sourced (cleaning and security, transport and catering) staff to be made permanent and Council’s subsequent decision to take them on board pushed UKZN closer to this benchmark. Given the above, Participant B recommends DHET revise its numbers as the protest action by students was not unique to UKZN: it erupted as a countrywide call.

In the past, the Financial Officer issued award letters to each budget holder. These award letters provided a guideline for total spending related to staffing and running costs. However, Participant B states that these guidelines have been abolished and substituted with a total lump sum amount. The Finance Managers within each College as well as support services are required to manage and control this budget. Colleges are permitted to fund minor capital expenses from this total award. Information, Communication and Technology (ICT) equipment, together with vehicles, are renewed in line with the University’s Replacement Policy Plan. However, these replacement plans are lagging behind.

When questioned about the impact of earmarked grants on the decision-making process, Participant B indicated that such grants allocated to the university do not influence the allocations of the Main Fund budget.

Participant B articulates that there will always be complaints about the budget. With the #FeesMustFall movement, universities were advised not to increase fees while expenditures reflected a disproportionate hike. As a result, two Colleges, based on its RAM outputs, was allocated a budget that could not sustain their yearly spend. While the university condoned these Colleges in that year for producing a deficit, they were advised by the Council and the Executive that they would need to embark on turn-around strategies. Participant B highlights that such is the nature of the system, where colleges take responsibility for their budgets and are held to account for its results.

Under a performance-based model, colleges are well aware of the variables that drive the budget allocation process. Participant B indicates that colleges concerning the current university funding framework “could actually get more by increasing their research outputs.” Due to the limited financial resources available, critical areas such as infrastructure, maintenance, and security lagged behind. The Participant adds that UKZN in this regard has “held back on adequately funding these areas.”

University residences, which are not part of the main fund operations, are funded independently from residence fees. Another significant challenge for the University is enrolling students who are self-funded (i.e., with no scholarships or financial aid), who accumulate huge debts during the duration of their study. Provision for doubtful debts is a sizable amount (accumulated over the years to over R1 billion) that could otherwise be available to sustain the University’s expenses. As such, the Participant indicates that with the massification of higher education, “we are finding ourselves in a position where more and more funds are going to be allocated towards funding students than to actually funding operations.”

Participant B states that “we cannot continue to rely on State grants and tuition fees alone” and indicates that for a top-class university to operate efficiently, adequate funding must become available. A possible solution would be for the University to up its third stream income.

Participant B advised that UKZN must start to look at some austerity measures - it is about “how we spend our monies.” As such, new monitoring systems will be in place, and Central Finance will ensure curtailment of costs and efficient use of resources. The Finance Department

is on a drive to promote the concept of zero-based budgeting. Overspending is equally as bad as underspending, in that sound financial governance requires a balance.

One of the challenges that UKZN is facing revolves around the issue of post-medical retirement funds. Actuarial evaluations indicate a more substantial sum should be set aside as a provision to meet this contractual obligation. The council-controlled funds reflect a significant deficit in UKZN's balance sheet. Participant B did, however, emphasise that a concerted effort is being made to find a solution for this matter.

At year-end, all remaining funds from the college and support sectors' principal operations are redirected to cater for any individual projects or particular expenditure, for example, the Registration Appeals Committee (RAC) process. Colleges that are short of funds do at times receive top-ups funds to meet their obligations. The system does not permit automatic rollover of funds. All sectors within the University are expected to break even, and Participant B added that "we assist those that can't, as the need arise." Often, however, these shortfall amounts are insignificant and seldom run into millions.

Colleges are required to provide quarterly reports to Central Finance; such reports are used to monitor their spending patterns. The Finance Officer is then required to present the consolidated results from all sectors to the Finance Committee of the university. While the submission to Central Finance is quarterly, each college Finance Manager is expected to present the financial status on a monthly basis to its respective College Management Committee.

Given that the finance portfolio operates against tight deadlines, systems play a significant role in assisting the finance team in meeting such deadlines. Participant B asserts that her private sector exposure has assisted to fast-track system dynamics. There are too many manual processes, and the system is not being efficiently explored. An example cited by Participant B related to the Value Added Tax (VAT) reconciliation.

At UKZN, the finance department has two functional areas, Financial Accounting and Management Accounting. At the time of taking office, Participant B managed both portfolios. In so doing, Participant B indicated that "it was easy to identify duplication of effort" between these two portfolios.

Having joined the university from the private sector, Participant B indicated that the higher education sector is "fascinating and totally different from the private sector." The private sector

focuses on how to improve sales and profitability whereas the university’s primary efforts are to deal with student-related issues and “to keep students happy”, as well as outstanding debt issues and how one manages this debt.

Participant B asserts that the most significant challenge is working within parameters that are dictated to by the limited funding it receives from the State. The Participant recommends several measures which could be put in place to ensure efficient service, some of which include:

- Incentivise staff and colleges who successfully manage their limited budgets;
- Introduce notions of “going green” for future sustainability, such as the efficient use of electricity and water with better monitoring and control mechanisms;
- Recycle and recoup money from what is considered “waste” at the university, and
- Find different sources for third-stream income.

Participant B indicated that the model adopted is being refined by the CFO and minor changes were imminent.

8.2.3 University of Johannesburg (UJ)

The University of Johannesburg (UJ) has at the helm the Vice-Chancellor, who is supported by five Deputy Vice-Chancellors (DVC) and the Registrar. The Deputy Vice-Chancellors portfolios are as follows:

- DVC Academic
- DVC Finance
- DVC Employees and Student Affairs
- DVC Research and Internationalisation
- DVC Operations and ICS

Executive Deans, who are the tier below the DVCs, report to the DVC Academic. The university operates a fully decentralized system, in which the responsibility for financial management rests with cost centre owners supported by finance business partners.

The illustration below maps the bottom-up (left to right) reporting structure:



According to Participant C, the university's financial budgeting system is computerised. Thus, the budget request for the ensuing year is activated in March/April of the current year with its accompanying guideline document. This accompanying document, which is based on the expected outcomes stemming from UJ's five-year financial sustainability plan and sets out the principals on which individual units ought to operate, is reviewed annually. For example, a guideline may dictate the parameter for employee costs, i.e., a decrease in temporary staff is a requirement. Participant C added that "while we promote zero-based budgeting, we always reflect on past spending plans and use that as a guide." Capital expenditure requests may also form part of these budget submissions.

The Finance Business Partners analyse their environment with their respective Executive Managers to prepare their budgetary submissions. The Executive Managers then present their budget requests for interventions and reviews to the Director of Budget and Project Management and the Executive Director of Financial Governance. As part of the budget review, issues would arise which indicate, for example, "you have not complied with the guidelines - please correct this." Such reviews ensure compliance with guidelines. The Participant indicated that there ought to be flexibility based on the diversity of environments that are present at the university: a "one size fits all guideline is not possible." Should a need for deviation from the budget guidelines arise, for example, if there is a new strategic initiative that a Unit wants to embark upon, such deviation will then require motivations and subsequent deliberations prior to approval being granted.

The Executive Director of Financial Governance submits the budget to the Deputy Vice-Chancellor of Finance and after review forwards the budget to the Executive Management Committee (EMC). The EMC decision is finalised around September and forwarded for consideration and review to the Financial Sustainability Committee for onward recommendation to Council around November.

Earmarked funding that is provided by the State has no bearing or influence on UJ's Main Fund plan. Participant C affirmed that "it will defeat the whole purpose; we always try to keep a clean slate between earmarked funding and block grant."

Regarding variation to the budget process, any newly planned initiative would need submission to the EMC for consideration. Variance reporting is conducted monthly by Finance Business Partners within their units. Surplus budgets are routed back to Central Finance under the

principle of “if you have not spent your money, you did not need it.” However, at times there are exceptional cases that would make it necessary to approve a carry-over of the budget.

Given that expenditure is a driver for the allocation of resources, Participant C believes that “what’s missing in this whole process is the alignment between spending and the income.” However, detailed costs structures for offerings in each faculty are not required at this stage, as most offerings are generating enough revenue to break even in line with the thinking that “universities are not in the business of generating revenue.” Participant C finally adds that there has to be a link of offerings, whether profitable or not, as the university must serve the needs of the community.

Participant C also indicated that the university is searching for reasons in the underspending related to their permanent staff salary expense being “consistently been under budget over the years”.

8.2.4 University of Stellenbosch

The University of Stellenbosch is a multi-campus university that operates across three sites. At the helm of leadership at the university is the Management Team led by the Rector who is supported by four Vice-Rectors. The Rectors Management Team (RMT) is a forum consisting of the Rector, Executive Directors, and the Finance Committee (an operational committee made up of internal financial specialists). There are ten Faculties, each headed by a Dean. The Deans in turn report directly to the Rector. On the support services wing are the heads of Divisions, which locates amongst others, the Head of Finance.

The budget cycle commences in July/August of the current year. However, as a result of the uncertainties in the HE sector, the budgeting processes have shifted earlier to May/ June. The Budget Team located at Central Finance performs the number-crunching within a specified timeline. This team gathers relevant data and engages with various committees which include the Student Fee Committee, Bursaries, and Loans Committee, Housing Committee, and the like. A range of assumptions and parameters are used to establish the resources and expenses when determining the first draft budget.

The University’s resource base consists of four income streams within the Main Budget. Subsidy (block grant) and tuition fees make up the primary streams. The two secondary income streams include interest from investments and indirect cost recovery. The interest is usually

credited to cost centres with credit balances, and a portion reverts to the Main Budget. The indirect cost recovery policy stipulates administrative charges of between 17% and 25%, of which 12.2% reverts to Main Budget. Participant D1 further adds that the Faculties assist Central Finance in calculating their projected third stream incomes. These third stream income funds are ring-fenced for specified projects within the respective faculties.

In the case of the subsidy, the university's allocation is dependent on the Medium Term Expenditure Framework letter (MTEF) received from DHET. Participant D1 indicates that the data on input and output units for the projected subsidy is calculated centrally by the Finance Department. The actual subsidy received from DHET differs marginally from the university's projected calculations.

The second stream of income calculated by Central Finance is the Tuition fees. Built into the criteria used in these calculations are assumptions on activity costs that take into account the university-wide costs and HE inflation rates. The Planning Division in consultation with and Student Fees Committee (SFC) which includes student representatives, provides student growth factors and enrolment plans. Representatives from the SFC also sit on the Executive Committee and Council.

Institutional costs, strategic and contingency reserves together with faculty costs, constitute total expenses. The salary expense, based on pre-approved assumptions by the Council, takes into account the consumer price index (CPI). Staff costs are managed and controlled by the Human Resources Committee, a sub-committee of the Council. Detailed submissions on all staffing-related projections are motivated for and tabled at the Human Resources Committee. The projected operational costs in respect of essential services would be dependent on the prescribed increases determined by Municipalities.

Should the budget reflect a deficit, adjustment and a reshuffle of costs will need action. Recently, the situation arose when DHET mandated a 0% fee hike. Given this mandate, the university had to "investigate every line item and challenge where we can cut." However, Participant D2 affirms that the budget will not be approved if it is not breaking even (i.e. where income equals expense). According to Participant D1, no university is permitted to submit a shortfall budget to DHET.

The university adopts a decentralised approach with regard to its distribution of funds to the various faculties. Since 2014, faculties have participated in the draft budget process from the

outset. This participation surfaced after Deans raised concerns that the budgeting process was not inclusive. All faculties and support sectors have an opportunity to submit a budget wish list for their operations and any new strategic initiatives they wish to embark upon for the following year. Dependent on the availability of funds, some of these strategies would be included in the current year's plan. Furthermore, the strategic reserve could fund other approved strategic initiatives. Bi-annual meetings are held to determine the allocation of funds for such strategic initiatives.

The Finance team hosts various budget meetings with each Dean and reviews their plans by taking cognisance of their previous year's results. The budget to the faculties assumes a CPI increment on the previous year's allocation. An analysis is conducted to ascertain any operational changes that had taken place which could impact the faculty's expenses. The finance team also considers the income with regard to staff performance and their teaching and research productivity as well as their student fees data.

The university adopts a complex approach to allocating resources to faculties. Within this latter model, every institutional expense has a cost driver allocated to it. This model will allocate resources based on students, staff, and space and considers historical and actual performances. With the use of these cost drivers and the operational targets, the system will produce a result. There is a parallel model that is used more especially for the faculties which consider total income and expenses in the faculties. The university adopts a 10% benchmark parameter as leverage. Research-intensive faculties will naturally produce surpluses, so the model is designed to zero out all faculties. The 10% leverage is applied as a ceiling, that is, "if they are over than the 10%, we will limit them to 110%, and if they are lower below 90%, we lift them up to 90%". Should faculties be in-between these parameters, they will remain unchanged.

At this point, the university is well aware of how income was calculated and what value is required to support its operations. The last three years' average is used to calculate the research cost driver. Every expense line is considered separately on the budget together with its cost driver to allocate to faculty. Further, Participant D1 points out that the size and shape of faculties are variables in the cost drivers. Examples of cost drivers include square metres, staff costs, academic personnel, average spend over two years, and so forth. Participant D1 adds that each line item would form their portion of the allocation to support institutional costs (e.g. water, electricity, bursaries, HR, Finance and IT).

Participant D2 reports that income is only derived from the academic component within faculties and not support services. However, support services must be accounted for and have their cost drivers. Facilities Management who have the personnel, maintenance and capital budget, also have their cost drivers.

By 2014, the council approved this new hybrid model which was refined and took into account the changing HE environment. Participant D2 states that if there are any changes from a central perspective, approval is required; such changes affect the allocations and these cascade to the faculties.

The Deans are financially literate and have a “good grip” on the budget allocation process. They track their income especially with regard to the subsidy and fees. The Deans are supported by Faculty Managers who also have some level of financial acumen to assist them. Participant D1 states that it would be “very difficult for Central Finance to guide and govern the faculties because they are so very different in shape and size”.

The main budget cost centres are kept “lean and mean”. The system performs budget control, and central finance monitors the spend patterns especially for salaries. The system is dated, and the university is embarking on the new Quali system (American-based, in operation at the University of Maryland), that has been adopted by the University of Potchefstroom.

The Faculty managers and the Deans may opt to design their system to disseminate the budget to their departments under their control. Participant D1 asserts that the issue of cross-subsidisation is “inherent in every university model.” Cross-subsidisation at universities requires proper management. The first level of cross-subsidisation relates to faculties that are expensive to sustain, e.g. engineering, compared to those that are cheaper to sustain like Economics. The second level of cross-subsidisation is at the department level whereby units within the department may be required to fulfil a university need but do not necessarily generate equitable income.

Faculties and support services are not permitted to transfer budgets between a salary line item and operational expense. For the latter to occur, one would need approval from the Executive Committee. A guideline process document serves as a management tool, somewhat like fiscal policy, and both Participants D1 and D2 confirm that this document is for internal use exclusively.

Surpluses that have resulted in academic activities are routed to reserve cost centres for future use by the faculty. However, the university has a rule on the level of surplus funds transferred to these reserve account. In contrast, an equal distribution of surpluses that arises within the support services is transferred to the strategic reserve and contingency reserve.

The budget process is open to new suggestions for improvement. These suggestions are piloted through a number-crunching process to ascertain effectiveness. Only when all relevant personnel are satisfied with the results, are these suggestions recommended to the Finance Committee, RMT, and Council for approval.

The main budget includes maintenance funds for the upkeep of infrastructure. An allocation is set aside as a provision for the Campus Renewal Plan, which is a 7-year project plan. This provision is a cost driver, sustained financially from the faculties' contributions. Faculties may source other minor capital items from their respective operating budget. Research funding assists the faculties in this regard thus, individual academic staff members may use their allocated funds to purchase, for example, computing equipment.

DHET has now earmarked infrastructure and efficiency funds. These funds are awarded to universities based on individual proposals and are ring-fenced at the respective department that received the funding. Participant D1 indicates that the risk of earmarked funding is when appointments need to continue at the expense of the university as the funding granted, for example for salaries, is for a specified period.

In closing, Participant D1 reports that the main budget is feeling the effect of the changing environment, in that there has been a reduction in recent years. Thus, the university prioritises spending in line with its set goals and plans. Faculties are encouraged, therefore, to generate third-stream income to support their operations. Participant D1 affirmed that given the current environment in which universities operate, it is essential to understand the models that are used by other universities, especially those aspects that are centralised and decentralised. Participant D1 went on to add that there is a difference between the modalities on indirect costing at the more prominent institutions.

8.2.5 University of Witwatersrand (Wits)

At the University of Witwatersrand (Wits), the Vice-Chancellor and Principal is the executive head to whom four DVCs (of which two are the DVC Academic and DVC Research and Post-

graduate Affairs), report. Included in the Executive team are also the Chief Operating Officer, Chief Finance Officer, Registrar and Dean of Students. The Deans of the five Faculties report to the DVC Academic. There are Business and Financial Managers for each of these faculties. These Business Finance Managers report to the Deans and not directly to Central Finance. Despite this reporting structure, Participant E emphasised that there is “very close engagement from our side”.

Wits promote an autonomous academic and support sector structure, mainly forcing the Deans and Executive Directors to account and be responsible for their respective areas of control. Budget preparations remain decentralized to the Faculties and the Business and Financial Managers (BFM). The decentralisation of the budget is cascaded to the Schools. In all cases, budgets are submitted to the DVC or Executive Directors where they will need to be presented and defended.

The budget process begins in March specifically for fee negotiations. Other processes follow in May/June when “high-level basics to the projections” are done and presented at an indaba that is chaired by the Vice-Chancellor and Principal. This indaba is attended by representatives from the academic and support sectors, including the Senior Executive team. The Indaba aims to provide the framework and deliberations in order “to find common ground regarding the parameters”.

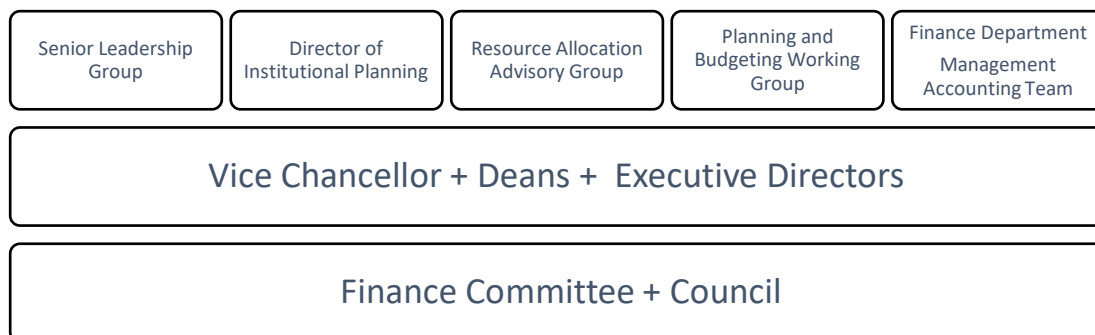
By the end of June, the CFO forwards a set of guidelines for the units to kick-start their budget planning process for the forthcoming year. After many interactions and “probably the most painful process,” the first consolidated submissions are finalized and computed by September. These submissions will include subsidy and fee assumptions as well as any unrestricted funds such as investment income. Also, cost recovery income previously pegged at 30% is now charged at 25% on private grants and is included in the main operations. By November, the Financial Committee of Council (FCC) approves and recommends to Council and the final budget is approved in December.

When questioned about the salary budget and the possibilities for reduction, the Participant indicated that “it is something that is not normally considered”. The recent insourcing of cleaning and security staff forms part of a typical review which now requires the University to top-up their allowances. The salary budget is calculated in detail and considers headcount as the primary variable, with projected CPI or assumptions on outcomes of wage agreements. General operating costs also form part of the main operations of the university.

Capital budget forms an integral part of the budgeting process and follows the same approval structures. Budget revisions may occur at any given period during the year as required. However, all revisions must be approved by the Executive. Surpluses arising from the main operations are closed off to a general reserve. Earmarked grants received from DHET for designated purposes are classified as restricted funds and have no impact or bearing on the decision within the main operations budget. The budgeting process at the university is a “bottom-up” approach at the faculty level. The budget for each respective unit within the Faculty follows various engagements and is under the control of the Dean.

8.2.6 University of Cape Town (UCT)

The management structure at the University of Cape Town is made up of the Vice-Chancellor, two Pro Vice-Chancellors, four Deputy Vice-Chancellors, and the Registrar, eight Deans responsible for the academic sector and nine Executive Directors for the Professional Admin Support Service (PASS) areas. The Heads of Department (HODs) in the various units report to Deans within each faculty. The illustration below depicts the key role players at the university’s governance level in the planning and budgeting process to its management levels and ultimately, its Finance Committee and Council.



Decisions relating to matters of finance and the broad university budget are dealt with by the Finance Department which inadvertently reports to the Executive Director of Finance. In terms of the budget, the process first filters to the Resource Advisory Group (RAG) headed by the Vice-Chancellor and supported by the four DVCs and Director of Finance. The budget process at UCT is intensive, in that it would have gone through approximately thirty versions before reaching finality and adoption.

UCT adopts a consultative approach in their General Operating Budget (GOB) process. The latter process takes some six months to fruition, commencing in August and culminating with council’s approval in December of the same year. Deliberations around the budget during these

six months occur around assumptions with regard to the state subsidy, tuition fees and expenditures related to salaries and operational spend.

The University is reliant on maintaining a balance between state subsidy, tuition fees and its expenditures. Thus, it places a high priority on its subsidy because it is in competition with other public higher education institutions in the country for the State's allocation of this resource. Tuition fees need to remain affordable to ensure accessibility for its students. Institutional operating costs must be contained in ensuring such a balance. It is against this backdrop that UCT promotes the responsible financial management, and calls for improved income generation and optimisation of its resources.

Participant F states that the subsidy estimate performed by Central Finance is often in line with the DHET final submission. Unknown factors at times may attribute to variances between the estimates and the DHET actual allocation. The research output initially projected to increase by 11% was only increased by 6.5%, thus having a negative impact on the DHET income. The DHET funding framework is based on the university's teaching inputs and outputs and research productivity. Participant F further adds that UCT is "pretty good at doing subsidy estimates" since the data is available. Most universities do not calculate the subsidy due to its perceived complications or will not finalise their budgets until January or February, waiting for their subsidy allocation letter from the Minister of Higher Education and Training. Should, on the one hand the actual subsidy increase by R10 million from the initial projections, "we do not change the budget, we underwrite it and deal with the difference in free cash." On the other hand, in the unfortunate event of a reduction in subsidy, "we do not pass it onto units, so their bottom line or reserve is not affected."

Tuition fees are analysed and amended by the Finance Manager in conjunction with the respective HOD while taking cognisance of the student enrolment plan. Given that the Student Representative Council (SRC) are voting members in every decision-making committee within UCT's organisational structure, they form an integral part of the University. Participant F affirms that they "understand what Finance is and what drives decisions and what is sustainable"; thus the budget timeline has been adjusted backwards to September in order to accommodate their input.

Participant F adds that the Finance Directorate has a transparent practice in terms of its budget processes as well as an open-door policy for members of the SRC. The SRC is aware of the concept of trade-off, and the benefits derived from possible increases. Should they opt for a

reduced fee increment, “there are consequences”, and something has to be removed to ensure a balanced budget. In some years, the fee increases totalled 13% - 14%, and the SRC approved these hikes as they saw the benefits that would accrue to students, including those in residences.

The Commerce Faculty attracts a large number of students making it a ‘cash cow’ for UCT. By balancing supply and demand, this faculty’s fees are not far behind that of the programme within their Medical School. UCT adopts a unitary tuition fee structure which incorporates all incidental costs such as levies, notes and the like. According to Participant F, this structure is simple and allows for easy comparison to other institutions that may adopt a separate fee structure model. Administration fees as well as supplementary examination charges constitute non-recurrent income and are listed as investment revenue that is used to sustain various portfolios within the University’s Treasury Department.

The expenditure budget comprises salaries (calculated on the basis of individuals who occupy a position as at the June pay run) and the operational expenses which includes, amongst others, institutional costs such as audit fee, insurances and bad debt. Strategic and Discretionary funds, which are classified as recurrent expenditure within the GOB, are included in this budget. The budgetary processes within the various units commence as early as May, where departments prepare their budgets based on a set of guidelines. These university-wide guidelines are consistently updated and have been in operation for over a decade.

For the department to prepare their budgets, Central Finance first discusses its year-to-date results and compares how their numbers support the University’s overall strategy. Underpinning these discussions is the financial sustainability of the institution, which is of paramount importance to the Finance Directorate. Over and above the financial sustainability ethos, there is a strong sense of transparency and collegiality. At UCT there is a common understanding, that “we get a pretty realistic budget, so we do not get a wish list anymore.”

The low turnaround of staff who occupy key positions within the finance portfolio strengthens this budgetary process. Finance Staff at UCT have held their positions on average for up to 17 years. Once the budget has been crafted, it is signed off by the Deans or Executive Directors. Finance Managers are thereafter expected to load these budgets onto the ICT system. Following the loading of budgets, consolidated reports are derived from the system, which provides members with a management pack that includes a summary and a detailed ‘per unit’ status. Depending on the projected surplus/deficit, the Resource Advisory Group may decide that the specific requests tabled by Deans may approve or reject. Thereafter, a budget consultative

meeting attended by all budget holders or their representative is held. At this session, the Finance Directorate presents the broad budget framework and the results reflecting the financial state of the university for the forthcoming year. Although changes stemming from the decision taken at this meeting may occur, the bottom line is non-negotiable. Thus, if a budget line item increases in any area, it comes at a sacrifice with no effect on the bottom line.

Once the agreement is reached at the abovementioned meeting, it is presented to the University's strategy group. Finance Committee members who are not formally part of this meeting can attend when the budget is presented. Once the Finance Committee approves the budget, it is taken to Council for finalisation. After the council approves the budget, Faculties Deans and Executive Directors are duly informed.

Participant F is of the view that the university is "probably overly devolved, and in some sense does not have Central Control," in that it shifts the responsibility and accountability to the respective units to manage their bottom line. Both academic and professional services sectors are seen as business units. These business units all have Finance staff up to the level of Finance Manager, apart from those who are "too small to warrant their own [Finance Manager]". These Finance Managers focus on the general operating budget. The finance staff that is located within the Faculties are paid for by the units and report to the Central Finance Directorate.

Finance Managers are regarded as senior members of the Faculty and form part of the Dean's advisory committee. Further, given that the Deans and Executive Directors conduct their performance assessments, these Finance staffs are valued and highly rated. In the past, all finance staff that worked in the faculties reported to the Deans. Due to the nature of their work, most Deans, including the new Finance Directorate, felt that it would be feasible to have them report to Central Finance. Some Deans, however, continued to have their Finance staff report to the Faculty up until a change in leadership occurred, in which case they reported back to Central Finance. Over and above these Finance Managers, UCT also has Research Finance Managers who manage and control the research portfolio.

UCT has a complex five-year cash flow projection model (designed and built in-house), which is based on assumptions that predict the level of free cash available in the system. The focus on free cash flow is on the general operating budget. The impact on the free cash changes at the touch of a button by any new assumption, for example, additional contract staff. UCT policy is to maintain a free cash threshold of between 20% - 30% of recurrent operating expenditure.

The provision for the capital expenditure budget, approved at the same time as the general operating budget, is directly associated with the university's strategic priorities. Previously, the university included proceeds from the sale of assets as part of the general operating budget. However, this modality changed to include only recurrent income and expenses under the question "is it going to carry on next year?" As a result, Participant F indicates that a more detailed exercise was conducted to exclude all non-recurrent income from the GOB. Non-recurrent income in this instance refers to income received in relation to interest, VAT refund and sale of property funds, capital projects and expenditures.

A surplus fund from the GOB is transferred to this pool of non-recurrent income. UCT locked spending in this area until such time it had sufficient cash flow to drive related initiatives. However, Participant F acknowledges that a university cannot lock spending on capital expenses indefinitely, and released budgets for capital spending after three years.

The university moved from a fund-based system to a business based system. The Deans are provided with the allocated revenue (subsidy and fees) and costs (salaries and operational spend), as incurred for each unit within their control. The overhead provision which caters for other university-wide costs is charged at 20% of subsidy and 30% of fees per unit. These calculations provide statistics regarding the viability of the units and are not the determinants of the budget release. Thus, there is no entitlement with regard to the subsidy and fees income generated by the units. Once budgets are allocated to the Faculty or the Support unit, the financial responsibility shifts to the respective Deans or Executive Directors.

Hereafter, all surplus and deficits at year-end are transferred to reserve account within the respective Faculties. This means that when Central allocated the budget, it was taken to be wholly committed. Participant F adds that surpluses arising from salary savings also transfer to the reserve accounts. However, as already mentioned, changes to the system based on innovative ideas are considered and approved by Deans and Executive Directors. Such changes bring about the adoption of a sliding scale surplus fund transfer to reserves accounts. In essence, what this means is that should help the university results reflect a surplus, all faculties and support units will keep their full 100% share of the savings. On the other hand, if the university operated at a deficit, such surpluses will be scaled downwards. However, for those faculties that have reserve accounts in deficit, which is a permissible situation, they could keep 100% of their surpluses to help them clear their negative reserve.

Faculties and Executive Directors are encouraged to retain at least 5% of their expenditure budget to help boost their reserve account for any future initiative, provided the expense is non-recurrent. These reserve accounts could help fund refurbishment of laboratories, purchase furniture for staff or any other expenses as deemed necessary by the Deans of Executive Directors.

Faculty Deans are allocated a special research fund by the research committee to assist with research-related initiatives. The research fund generates its resources from UCT's benchmark, which dictates that should an academic double his/her normed output over a two-year period, a percentage of their salary transfers to the research fund. However, this is on a sliding scale, with, for example, 50% of salary costs for junior Lecturers and 10% of salary costs for Professors. Participant F indicates that preference is given to up and coming academics to help build their research profile since the acclaimed and rated academics have other avenues to generate funding.

Participant F states that earmarked grants at UCT have no impact on the decision regarding the GOB. However, the Participant believes that it should have an impact especially in cases where the earmarked grant would encumber the University's future recurrent costs. Monthly Reports on operating variances are provided to Central Finance. At the end of each quarter, each unit submits a high-level review (including projections to year-end), which gets consolidated and presented to the Finance Committee.

Participant F reports that his predecessor was of the view that when universities receive their budget, and this budget is in excess of what they require, "then people will stop thinking, and ... a university should never run out of ideas." Participant F asserts that the downside to the current DHET model is its focus on research productivity as a performance tool while placing lesser emphasis on teaching. The Participant is of the opinion that universities must find ways to measure and recognise good teaching as well.

One of the positive success factors for UCT's financial sustainability path is the 'trust' factor. This refers to trust from the community, built over many years as a result of the democratic and collegial processes aligned to the budget framework. The financial modelling with regards to the insourcing of cleaning, security and catering staff was an exercise that did not take UCT too long to implement, as their council was already contemplating this decision three years prior. Participant F mentioned that, "the Facilities Manager went to bed with 100 staff and got

up the next morning with 1000 staff!” He cautions, however, that each institution has its culture fit, and as such, while the UCT model may work for UCT, it might not work elsewhere.

Participant F concluded by adding that UCT is happy to share its experiences with anyone in the sector and encouraged the interviewer to access their web page which provides the Financial Policy in respect of Council Controlled Funds, which is freely available for perusal.

8.2.7 University of the Free State (UFS)

The University of the Free State (UFS), a multi-campus university, is controlled by the Management Committee which comprises of the Rector and Vice-Chancellor with four Vice-Rectors, two Registrars, eight Deans, two Campus Principals and sixteen Heads of Department. The two Presidents of the Student Representative Council (SRC) also form part of the Management Committee. Within the Management Committee, the finance protocol resides within the DVC operations.

The university’s budget process for the ensuing year begins in March/April of the current year. The directorate presents the budget plans to the Executive forum using a range of assumptions which take into account inflation rates, growth and benchmarks, for example, a “2% - 4% drop” in operational costs, and the like. State subsidy (block grant) and tuition fees are the primary revenue sources that are used to support the primary operations of the university. Subsidiary income derived from alternative sources such as administration charges which constitute approximately 2% of the total resource base. Income derived from investment portfolios remains as a Central Fund within the Finance Division.

Towards the end of April of the current year, the operational budget for the new year is forwarded for review to all Deans and Head of Departments. The review imposes on the latter to analyse their needs and provide motivations for additional funding that may be required. The ICT system which provides information related to the budget is available to assist the Deans and HODs with their financial analysis and projections. Departments are required to submit their recommendations to their respective line managers, who may choose to accept or reject their submission.

By August of the current year, a Budget Summit is held by the university in order to bring the various stakeholders to make their respective presentations to the Executive Management Committee. At this summit, information that includes projected student numbers and subsidy

is reviewed. This is followed by an onward submission to the Finance Committee and culminates with the council's ratification/approval. During this process, Deans are able to access the ICT system and monitor the decisions of the committee. The system also provides a three-year comparison of requests versus approval status which guides those involved in the budgeting process.

The University adopts its decade-old unique model for financial management known as the "53 Model". This model is premised on the staff salaries expense threshold is 53% of the total income of the main operations which is distributed among faculties, academic and support staff. The decision to benchmark the salary budget to 53% is significant in assisting the salary negotiation process, in that the unions are aware of the model. Thus, salary-related strikes at the university are rare. Although 2016 was a tough year in terms of a reduced fee income due to declining student numbers, the annual staff increase was in line with the "53 Model" agreement. The 53%, however, excludes the School of Health Sciences which is self-funded with a salary spend benchmarked at 62%.

The university's salary budget system is based on the principals of Staff-Lecture Equivalent (SLE). The University generally splits its staffing costs by 2/3 academic staff and 1/3 support staff. Thus, if the university requires 1300 SLEs and each SLE equals R600 000, then the cost equates to approximately R780 million. The academic staff component would then total R487 million (R730 million x 2/3), while the support staff would total R243 million.

When distributing SLEs to faculty, consideration is given to the 3-year average subsidy FTEs and research publications generated by the faculties. Research publications which are calculated on a three-year average are benchmarked at 85%. The SLEs with corresponding Rand values are released to the Deans and Heads of Departments in November of the current year. The ICT system assists the faculties and supports units with the management and control of the salary budget. The year-to-date results are readily available and can be extracted from the ICT system. Central Finance conducts quarterly monitoring with regard to the spending patterns. Additional funding can be requested and may be approved provided they demonstrate alignment to the university's strategy.

General operational expenses take cognizance of expected growth in the main income streams. The essential services costs, i.e. electricity, water, rates and taxes, as well as legal fees, are centrally controlled. Such costs are top-sliced before any distributions to faculties occur. Also under consideration are the strategic pillars, some of which include infrastructure and libraries.

The budget is premised on a break-even approach in which total income equals total expenses. For the past three years, however, the university has not topped up the operational expenses. The ICT system performs a budget check before any expenses are facilitated. Budget overrides must be approved by the Director of Finance. Units were thus required to apply for additional funding as their needs arose. These additional funding requests could, for example, include new programmes or growth in student numbers. An assessment is conducted to determine whether or not these additional requests have recurring costs and are aligned with the university's strategy.

The Central Finance team monitors the faculties performance on a regular basis. Cross-subsidisation is always a factor which the university is clear about. The university provides guidelines for a faculty that is oversubscribed in terms of its personnel costs. A three-year timeline is provided for the faculty to address the situation to "either increase [your] student numbers or [your] personnel costs must come down". Capital expenditure is sourced from one of the strategic pillars mentioned earlier. A committee considers the lists of items to ascertain its objectives and its alignment with the strategic plan of the university.

Surplus funds remain at the respective units to help sustain the faculties financial needs of the new year and the support services surplus funds are set aside as strategic funds and reserved for "anything unexpected that will happen." When the Finance Department releases the budget by December, it is understood to be entirely spent or committed by year-end. For the past two years, the university had not increased its operating budget to faculties. Rollover of funds which were sizeable assisted faculties to meet their operational needs. Participant G indicated that when faculties make representation for additional funds, Central Finance provides a status of the reserve and forces faculties to utilise their rollover funds. Deans at times are dissatisfied with the Central Finance response and provide counter-arguments that those funds are committed to other initiatives. Central Finance counters these arguments by threatening a 20% recovery of those funds. Participant G, however, confirms that it was unprecedented for the university to have implemented such a threat.

Participant G indicates that a few decades ago, UFS did find itself in financial difficulty and at that point embarked on a turn-around strategy resulting in right-sizing, where selected staff were retrenched. The current model adopted for implementation at the university stemmed from the recommendations reflected in the turn-around strategy. Participant G indicates that revisions to budgets seldom occur; however, when such revisions surface, strategic funds are

used to supplement the budget. Participant G further states that the university at times does consider “different things” regarding its approach to the budget framework. The Participant concludes by affirming that the current framework “really works for us” and for example, that a zero-based budgeting model would require numerous additional requests which pose a challenge for the current small team.

Earmarked funds that are received from the DHET have no impact on the allocations within the Main Budget. The impact on the Main budget comes into play when DHET requires universities to supplement their contributions to earmarked strategies. Participant G concluded that the University has never had any cash flow problems.

8.3 Summary

The chapter provided an overview of the data gathered from the seven participating universities in South Africa. Stemming from the gatekeeping permission obtained from the Universities Registrar’s office, I was routed to the respective finance specialists that deal with budgeting. After arranging meetings at their convenience, I travelled to the University and conducted face-to-face interviews in the comfort of their offices. These interviews were recorded with permission from the Participants.

Some interviewees went into great detail elaborating on the budget process, while others provided a brief overview. Over and above these details, similarities emerged from the data, such as the concepts of top-slicing, cross-subsidisation, earmarked funding, strategic funding initiatives, decentralisation and break-even budgets. A few differences were illuminated regarding timelines, with most being consistent in the beginning prior to mid-year and UKZN beginning its process in August. Significant differences existed in the treatment of surplus funds from main operations.

Most interviewed Participants alluded to the lack of awareness within the sector on the different approaches to the budgeting principles adopted at universities. This chapter provides insight into universities’ budget frameworks. What surfaced from the engagement are some innovative and unique concepts which lean towards meeting the objectives of this study; some of these are highlighted hereafter.

At the University of Stellenbosch, the allocation model is complex as it involves a hybrid methodology. These include cost drivers, student, staff and space ratios as well as historical

cost considerations. The university is committed to a “lean and mean” system which challenges itself to work within austerity measures. The carry-over of surplus funds is restricted to a specific level for the academic sector. Support sector surpluses help build strategic and contingency reserves. The seven-year infrastructure plan is an innovative idea to ensure that university buildings and infrastructure are adequately maintained.

At Wits University, the framework, by contrast, is a bottom-up approach and is well-balanced with close engagement between university Deans and Central Finance. The Participant indicated that when things work well, there is no reason to change. When things did not work, it resulted in change; for example, the student services portfolio encountered many challenges resulting in a shift of control from the Registrar to CFO. Once the CFO helped stabilised the unit, it went back to the Registrar only to return once again to the CFO’s control.

The payroll function is under the Finance Department at Wits, and the Participant believes that this segregation is helpful. Some Universities’ payroll divisions report to the Human Resources Directorate. Salary budget is calculated in detail using headcount as the key driver.

While the University of Johannesburg promotes zero-based budgeting, its Finance Department also reflects and considers historical spend patterns. UJ acknowledges that in a University setting, a one-size-fits-all approach is impossible. An interesting argument surfaced from the interview by the following statement by the Participant who indicated, “...if you have not spent your money, then you did not need it,” and “universities are not in the business of generating revenues.”

The University of Pretoria’s central Finance Department, in its search for innovative ways of approaching the budget framework, sent a delegation to a Canadian University. The Participant indicates that the South African challenges vary from those of other universities and almost confirms what another university’s Participant said, that what works for one may not necessarily work for another. One of the largest expenses within Fund E is related to staffing costs. The university conducted a right-sizing exercise within the support sector to reduce these costs. Further, academics are obligated to have their PhDs and improve their research standings in order to attract additional income.

UKZN is the only university interviewed that reflected a predominantly performance-based budgeting system. While other universities take into account the viability of the faculties, this

University's primary determining factor is performance. Further, the university's largest allocation criterion is research productivity. There is a drive to realign the budget to the university's strategic plan, especially in areas that were previously underfunded, infrastructure maintenance and security. The Participant indicated that the dependence on subsidy and tuition needs to be lessened and that the university must find ways to ensure that spending is controlled.

The Directorate at UCT prides itself on ensuring that through its transparent and open communication; the Deans, as well as the Student body, are well versed on issues in finance and sustainability. These constituencies understand the trade-off concept, and for the university, it seems like a major breakthrough in speeding up decision-making. Further, when Deans are requested to submit budgets, Central Finance is assured that it is not a mere wish list and the budget submitted is realistic and justifiable.

Given the substantial salary spends as in most universities, UFS has developed a model entitled the "53 Model". This model ensures a benchmark to the salary budget and is 53% of the total main operations resources that the university projects. This model works for the university, and the Participant indicates that the salary budget is driven by a formula based on the Staff Lecture Equivalent (SLE). Further, an academic (2/3) to the administrative ratio (1/3) exists at the University. Viability studies are performed, and those units within the faculties that are underperforming are placed on notice and given a maximum period of three years to turn around their deficit situation.

In Chapter Nine, I begin my data and engagement process by interrogating the literature reviews, theoretical framework, the South African funding framework as well as the data directly gathered from researched institutions.

CHAPTER NINE

ANALYSIS OF DATA: THE FINDINGS

9.1 Introduction

This chapter provides an analysis of data collected through the research tools, in seeking to address the research question, namely, *“to what extent are resources allocated to Universities in South Africa and their subsequent distribution promoting the principles of satisficing, fairness and justice?”* In the analysis, I place particular focus on identifying themes, recurring concepts and perspectives in relation to the higher education sector. I achieve this objective by categorising them into worldviews by drawing on the literature review (Chapters Two, Three and Four), where I identify common themes; the theoretical framework and its relevance and alignment to the higher education sector; the South African funding model, by identifying and acknowledging its strengths and its shortcomings, and participating universities’ funding models.

As I move along, I illuminate vital issues that provide answers to the latter part of the critical questions that focused on the universities span of control. I use Merriam’s (1998), six strategies of, crystallization, member checks, long term observation, peer examination, collaborative research and clearing researcher bias in the overall analysis whilst primarily making use of Samuel’s (2015), ‘The Research Wheel’ which provides the insight when analysing research. Samuel (2015), recommends the use of three levels of analysis (elaborated in Chapter 5.8), which include:

- Level 1: describes the findings;
- Level 2: evaluates the findings, and
- Level 3: confirms existing views, identify contradictions, variations and uniqueness.

The insight gained from this and preceding chapters should provide sufficient philosophical and thought-provoking ideas within me, enough, where I want to find myself being in a position to suggest various possibilities and recommendations. From the inception of this journey with my 25 years of HE sector experience, I have monitored the field, seen first-hand the protest action, the plight of students, the behavioural trait of management, experienced budget cuts. Through all of this, I identified the strengths and shortcomings, and through embarking on this research process, I align the knowledge gained to provide radical thought for further

deliberation, debate and testing and possible inclusion in funding modalities. These possibilities align themselves to that of the National Association of College and University Business Officers (NACOBO) task force who claim that the fundamental purpose of financial management is to attain long-term sustainability and the organisation's ability to accomplish its mission; the provision of adequate resources to support the organisation's present activities; the maintenance of accountability to those stakeholders; efficiency; cost containment, and productivity. Table 9.1 provides a snapshot of the analysis process that I undertake.

Table 9.1: Process of Analysis

Revelations from the field using critical questions as a lens.			
Level 1: Description of the findings		Level 2: Evaluation of the findings	
Level 3: Confirm existing views, identify uniqueness			
Thematic Analysis by a chronological sequence			
[1]	[2]	[3]	[4]
LITERATURE REVIEW	THEORETICAL FRAMEWORK	SOUTH AFRICA'S NEW FUNDING FRAMEWORK	PARTICIPATING UNIVERSITIES
HE: Its role, challenges and opportunities HE Financing: An International Perspective HE Financing: An African Perspective	Satisficing Fairness and Justice Critical Thought	Strengths Weaknesses	Similarities Differences Uniqueness

While I summarise and synthesise the review and the interviews, I occasionally refer to direct quotes or terms from the literature and the Participants to illuminate and categorise the themes. Such illumination provides the foundation that allows critical thought to answer some of the critical questions that were outlined in Chapter One (see Chapter 1.4) of the study.

9.2 Analysis of Data: Literature Review

This section provides an analysis of information that was extracted from the literature and is presented in subheadings as illustrated in Table 9.1.

9.2.1 Higher Education's history, role, challenges and opportunities

This analysis commences with Kittler's (2004) assertion that in order to prepare us for the future, we need to examine, analyse and question the past. For it is the past that helps pave the way for a better future. Historically, the payment of fees in higher education was born by students who wanted to reward their teachers for disseminating and providing them with knowledge. Students considered such action as their social responsibility. Such payments started as gratuitous donations and evolved to salaries. When students did not provide these donations, the municipalities took over to cover the costs. The concept of cost-sharing (where the state and the students/parents contribute) was born when higher education became the responsibility of the state (Anderson, 2004).

The sharing of costs was since explored by several countries with the exception of a few that took HE as being wholly the State's responsibility. The ones that did practise a shared costs system saw higher education as having mutual benefits serving both public and private good. However, as budget reductions continued to be enforced by governments, universities raised tuition fees to the extent that it soon became unaffordable. Such a rise in tuition fees gave rise to the debate on whether or not higher education should be free or shared. For universities, however, this debate centred around who funds the system, whether the private household or government.

In South Africa (pre-1994), the apartheid government practised racial segregation and universities were formed as properties of the state to primarily benefit the white population (de la Rey, 2001). The higher education sector itself was categorised to cater for two cohorts of students. Those that were university material attended universities and others who preferred to work in industry gained vocational and technical training at Technikons. There were designated institutions for the white and non-white population. A further segregation occurred that catered for both English and Afrikaans speaking students. (Refer to Figure 2.1, Chapter 2). South Africa (post -1994) embarked on a process of changing the HE landscape. The HE landscape was reconfigured some ten years later guided by a series of policy documents, with a range of mergers and reclassifications into Traditional Universities, Comprehensive Universities and Universities of Technologies (*see Chapter 7.2*).

A number of authors as discussed in Chapter 2.3 have shown the role of a university and its impact on civil society. HE education helps impact the lives of its people by developing thinking citizens who are able to function effectively, have a rich cultural and social life, have

better jobs and earn more and help sustain the economy. Higher education, according to the World Bank, is critical to any economy as it reduces poverty and inequality and therefore requires continuous sustenance. As graduates start to work and earn higher salaries (OECD, 2015), Economic growth occurs resulting in higher tax revenue for the state. Other forms of taxation, such as Value Added Tax (VAT), also help generate higher returns for the state. Essentially, a graduate once employed will earn more and such earnings permit spending more and when one spends, the government collects VAT.

Further, companies that sell products are also expected to pay corporate taxes and so the cycle continues. Higher education's role, therefore, is not limited to knowledge dissemination, but more to impact society in many other ways by fuelling research for commercialization and entrepreneurship, thus promoting the development of goods and services that help provide a better life for all. A qualified and learned society lives healthier and longer, and creates a solid foundation for their children and children's children. Nisar (2015) indicates that higher education's role goes beyond its own citizens in that it adds to investor confidence which has a significant positive spin-off for a country's economic growth. Winter-Ebmer and Wirz (2002) add that higher education provides stable democracies and enriches cultural life. Although Teferra (2013) by contrast is less optimistic, stating that a college degree does not guarantee a job, without a degree, it is that much more difficult to get a job that pays well.

Encapsulating all of the above is UNESCO's sense of the role of higher education as being the producers, for the transfer and the service of knowledge. In essence, a sacrifice made by one government/society in one time-frame will help build a nation for many years to come. In South Africa, the DHET (2013) goal for higher education is to develop thinking citizens and help the government with its civil society obligations. While the value of education has been proven to impact a countries economy in many ways, providing it comes at a cost and require adequate resources.

The biggest challenge for many Governments is that resources are never in abundance and how one addresses these challenges is key to a nation's success. Higher education is also fraught with other challenges (*see Chapter 2.4*). These challenges range from access, inefficient systems, maintain high standards, leadership, monitoring and control. Although a communist country and one of the fastest-growing economies in the world, China reflected increased demand for HE coupled with calls for more funds from the government. China's challenges reside in three areas, human, financial and material (Ma, 2010). Other studies that emerged

from China promoted private higher education to address the governments access challenges (Guimarães, 2013). Most challenges demand resources. Technology further adds to these challenges bringing with it issues around globalisation.

Winston (1999) concluded that using 'for-profit business' theories were a poor guide to understanding higher education. Ferlie et al., (2008) add that the higher education sector must be viewed as a 'stand-alone'. However, Wildavsky (2010) cautions that globalisation is changing the shape of higher education; thus university leaders including government, need to take cognizance of this reality. It is a new order of business where competition is increased, and other forms of technological advancements threaten the very core of public higher institutions.

However, globalisation could provide a range of opportunities for the higher education sector. Some factors that promote globalisation include transferring skills, products and technologies, international collaboration, student exchange programs, curriculum enhancement, research fellowships and the like. Globalisation thus is a key process to help transform higher education (Wildavsky, 2010). In short, it forces universities to this reality and prompts necessary change. Following from globalisation is the concept of commercialization, a concept used to generate third-stream income. Bok (2003) aligns its definition for the sector to make profits from teaching, research and other activities.

Washburn (2005) follows by nudging universities to be more business-like in their approaches. Other important aspects that have derived from the US are the issues of patents for research and development. Universities in the US raised a substantial amount in royalties as a direct result of these patents, licence fees, and business contracts. More university leaders are forced to make tough decisions regarding income streams and implementing costs savings (Myklebust, 2012; Doyle & Delaney 2009).

Universities are dependent on state resources in order to meet their operational plans. Given the declines recorded over the years, the State is faced with enormous pressure in addressing the challenges of the country. As such, Universities need additional funding support to ensure that their mandates are carried out. This additional support can only be sourced from other public or private sectors, nationally and internationally. The Danes introduced a system called the 'match fund' which in effect is an amount provided by the state to top up income the public universities received from the private donors/sponsors. This incentive scheme seemed to have been a success in Denmark, something other governments should consider.

In South Africa as a case in point, only three universities have generated third stream income greater than 40% of revenue (PWC, 2014). The downside to commercialisation is that the knowledge may not be disseminated; however, patent rights (like in the case of the US) protect universities in these cases. Such restriction to knowledge dissemination must then be offset with appropriate financial gains. Christensen and Eyring (2011) provide a viewpoint where universities need to start changing their DNA and should rid themselves of their blinkered approach and start to generate more third stream income to relieve the pressure on both governments and the students who are finding it more and more difficult to raise funds to sustain their studies.

9.2.2 An analysis of HE Financing from an International Perspective

This section provides an analysis of key themes that emerged from Chapter Three which dealt with the financing of higher education from an international perspective. In the backdrop of this analysis, is Lederman's (2013) assertion that literature stemming from higher education primarily originates from within the sector. The analysis nonetheless draws on the key themes that were identified in the literature which include:

- shared costs system;
- loan mechanisms;
- funding modalities;
- the role of politics in higher education, and
- Change management.

The analysis paves the way for the critique and recommendations set out in Chapter Nine that follows.

(a) Shared Costs

Universities found innovative ways to maintain financial sustainability. They had to ensure that the three structures of their resource base, namely, subsidy, tuition fees and third stream income, were sufficient in meeting all their operational needs. Any reduction of the Government's allocation of subsidy to universities inadvertently placed pressure on the other two structures of their resource base. Thus, in order to compensate for such reductions, universities, in turn, either increased tuition fees or source third stream income. Should such

an adjustment be absent, the result would negatively impact areas of operations, the accumulation of which would have a ripple effect on resources that influence the quality of education. In order to offset such situations, raising tuition fees became an easier option. However, even raising tuition fees could not go beyond the affordability of students.

The fundamental characteristics of a shared costs system in relation to higher education refer to both the State and the private household mutually supporting all operations of a university. The reality is that tuition fees have continued to spiral out of control, prompted by increasing costs and inadequate state funding. Universities are maximising on their autonomy, gradually increased the tuition fees to the point that they outpaced the country's CPI. To such an extent that in some States like in the case of the UK, these cappings were regulated. Universities opted for the maximum capping of their fees.

In the case of the US, the resultant effect over a period of time of regulated capping of fees was that tuition fees became the primary sources of university resources followed by state funding. The US provided a unique experience in that their higher education system has shifted to tuition fees to be their primary source of funding. This decision began with the government's decision to implement budget cuts across the sector (Doyle & Delaney, 2009). In the US, higher education was not seen as a top priority during its period of economic flux, and all believed that it should be self-sustaining. In other countries like England and Spain, private contribution to higher education ranged over 60% (Schwarzenberger, 2008).

In Germany, Ireland, and Belgium at different historical periods, it was possible to sustain low or no fees due to low demand, strong economies, or if they realised a desirable level of return on investment. Free higher education in Germany, for example, since 2014; led to a change in their position and the implementation of a much more aggressive policy which translated into those students who failed, having to complete their degrees in minimum time; if they failed but wished to continue, they needed to pay tuition fees.

While the tuition fees debates continue, governments that have implemented shared costs, needed to assist those students who were not able to contribute to their funding at that point. They could at a later stage after graduating, seek employment and only then be in a position to repay such loans. As a result, governments embarked on providing funding in the form of low interest-bearing loans.

(b) Loan Mechanisms

Recommendations by Lucas (2012) for Canada included granting access to students with academic merit from the poorest families. Lucas (2012) claimed that 80% of enrolments had to be within the province. Gender and ethnicity considerations were also recommended. The justification provided by Lucas (2012) indicates that the middle and upper class have more tools at their disposal to succeed in HE and that these students could partially fund their studies. On the other hand, the least fortunate would not be able to afford accommodation, books, transportation and meals. A study in England conducted by Chowdry et al. (2012) proved that a loan/subsidy scheme was progressive as it allows access to poorer students gaining entry into universities.

The Browne Review on higher education financing in England further recommended increasing the number of years for repayment of loans from 25 years to 30 years. For students that opted for the loans, the study by Chowdry et al. (2012) provided evidence that participation rates were not impacted as a result of universities increasing tuition fees. Eckwert and Zilcha (2012) indicate that in some European countries, the governments even provided guarantees for students to access the credit markets. The Dearing commission provided some 93 recommendations for state reform of its HE sector in the UK. Some included tax agencies are getting involved with loan repayments and calls for the reintroduction of tuition fees and graduates in work contributing to higher education. The reform promoted that repayment of those students that took loans should be dependent on their earnings and their repayment terms extended. The downside of a loan system, however, is that students may choose not to participate in higher education (Dearden et al., 2008).

Globally, most of the universities/governments, however, acknowledged that the main challenge was related to non-payment of student loans. Many loans were simply written off.

(c) Funding Modalities

The third theme identified in the literature was on the funding modalities, and the issue of performance funding. Performance funding is characterised by incentivising inputs and output variables that are used to allocate resources. Generally, government funding models of the HE sector are driven by their knowledge of revenue sources, spending categories and trends (Johnes, 2007). Despite countries' differences in political systems, economies and cultures amongst countries, their funding systems are similar (Johnson, 2013). The similarities include

categories of resources, these being the state in the form of block grants or subsidies, students in the form of tuition fees (excluding those countries that offer free higher education like Germany, Greece and Denmark). Further, spend categories include staffing for academic and support sectors, infrastructure costs, provision for ICT, Libraries and the like.

A study by Kaiser et al. (1992) argued that funding models or funding itself have a direct impact on the efficiency and effectiveness of the HE sector. The author provides three broad categories of options. These are *input and output funding* (costs considerations, student enrolment, graduations); *variable funding* (objective criteria applicable to all institutions, wish lists to the government); *conditions imposed* (control of spending, level of autonomy, fund surpluses and deficits). These were mostly applicable to those countries that had shared costs system. Three of the seven countries that were examined did not charge tuition fees to students. These were Germany, Denmark and Greece, which came with State restrictions on enrolment, as in the case of Denmark and wish lists submission, in the case of Greece. Kaiser et al. (1992) stated that most governments demanded a greater return on investment for the funds ploughed into the higher education sector, and reduction of costs, ensuring financial sustainability of universities. Costs and expenditures differ, according to Johnes (2007), and a cost-based funding system would eradicate inefficiencies.

In other studies, institutions were output funded, based on performance indicators primarily from student enrolment and graduation data (Jongbloed and Vossensteyn, 2001). Miao (2012) concurs with the view that graduation rates are a good indicator of a performance system. However, Jongbloed and Vossensteyn (2001) argued that for such funding modality systems to work, there could not be enrolment restrictions, simplistic curriculum structures, and degrees aligned to the needs of government and the promotion of lifelong learning. Dougherty et al. (2013) highlight a performance funding system based on graduate employment. However, they indicated that such performance funding systems leave little room for promoting State targets that were required. The US also relies heavily on performance funding which has been around for more than 30 years (Dougherty et al., 2013), and Layzell (1999) adds that data integrity is critical to its successful application. However, some States continued to use student enrolment as the key driver for allocation to universities (Dougherty et al., 2013). Tandberg and Hillman (2013) found empirical evidence to suggest that the performance management system did not improve productivity and conceded that performance funding is not a 'silver bullet' as people think it is. Nisar's (2015) study concurs with this finding that performance models were

designed to result in positive behavioural influences; however, research has shown a limited impact on actual performance.

Other studies in Germany supported performance models, and their justification was to promote open competition. However, Orr et al. (2007) state that despite Germany subjecting 80% of its block grant to a performance model, universities preferred the incremental approach for their allocations to faculty and support services. Orr et al. (2007) found that within the performance indicators, teaching input variables were weighted higher than that of research inputs and outputs. They claim that when dealing with performance models, the first consideration is from total resources, what value should be subjected to distribution, how many performance indicators should be used, and to what extent should segregation of sectors occur. Layzell (1999) suggested that decision-makers keep a performance model simple with a minimum number of indicators. Further recommendations indicated that universities should align their allocations to the State model. Orr et al. (2012) in their German study added that diversity at a regional level must be considered in a funding model. The German model also provides incentives for universities that rank highly in world rankings.

Aside from a performance-based approach, in Germany, the State provides a basic guaranteed budget, and these are supplemented dependent on student intake and other indicators. A similar concept was practised in England with the 'standard resource' and 'assumed resource' (Johnes, 2007).

In Marginson's (1991) study, the author highlighted that the Australian government mission was not to increase allocations to HE but rather to reduce costs despite the funding ageing behind other countries in relation to GDP. University leaders, however, insisted on increased funding amidst challenges they faced in relation infrastructure, below-market salaries and library support. While Australian policy forums indicated increased state support, the forum also called for increased funding from other sectors, one of them being tuition fees (King, 2001).

In the UK, the Browne Commission (2010) provided three fundamental principles for supporting higher education, *access and transformation*, *quality and effective teaching* and *financial sustainability*. The Finnish debate added internationalisation to this mix. The UK shifted its funding support from the block grant to more earmarked grants, and these were allocated as part performance-driven, part formulae driven (Greenaway et al., 2003).

(d) Politics and Higher Education

In the fourth theme from the literature, the role of politics and the influence of government officials on decision-making for the higher education sector is analysed. Given that HE is one of the many obligations of the state globally, it is inevitable for the officials of government to involve themselves in HE, especially when many governments' education budgets range over 20% of the fiscus. Johnes's (2007) study, however, indicated that the HEFCE in England called for politics to be eradicated out of the HE system, a call that possibly stemmed from the Browne commission which saw politics intervene and all the work done by the commission rendered fruitless. Politics, according to the experiences in the Czech Republic, played a negative role in higher education financing whereby unfairness was spotted as a result of networks and connections from government officials. Čermáková et al. (1994) further stated that political influences cause dysfunctional implementation of funding.

(e) Change Management

The fifth theme refers to change management. Resistance to change is one of the key impediments in higher education financing as revealed by Kaiser et al. (2002). This resistance results in minimal changes being implemented so as not to impede the stability of stakeholders. The literature indicated that it takes over five years for a change to be implemented from its initial planning phase. As a result, most governments 'tweak' the current system and do not opt for a complete turnaround.

Another related aspect to change management is that whenever a change in leadership occurs within the government or the university, changes to policies subsequently follow. These changes stem from ideologies of respective leaders, which are promoted and subsequently implemented.

9.2.3 Section Summary

This section focused on the international perspective in financing higher education and key themes discussed here are issues around tuition fees, performance funding modalities with their reliance on input and output data, income-contingent loan schemes, cost containment and improved third stream income. Further, the role of politics and their impact stemming from the many commissions of inquiry the sector was subjected to, was examined. The section closed with change management.

Regarding tuition fees, most countries practise a shared costs system that ensures both state and private household contribute to higher education. For those that do have free higher education, the pressure continues to mount as costs escalate faster than the country's CPI. It is easier to move from a 'fee-paying system' to a 'no fee-paying system' than the other way around. Any negative change that impact society is resisted. Some students of this generation do not see things the way past students have who wanted to, based on their convictions, reward their teachers. The issue of income-contingent loans schemes is the government's guarantee of ensuring that students contribute to their studies whether now or at a later point. It is a mechanism that helps support a shared costs system.

Performance funding systems, while driving positive behavioural attitudes, also have their weaknesses. The key then is to strive to reach a balance and determine the perfect mix as to what extent of the resources should be subjected to such a system. The benefit of the higher education sector is that it enjoys different levels of autonomy, with such autonomy providing the respective universities control of their policies, financial operations and sustainability strategies. Such autonomy allowed universities to choose different methods of allocating resources. They could if they wished to, adopt the government's formula in order to allocate resources to faculty and administration similar to the Germans, or use their own models as in the case of the US, where many universities choose to adopt their resource models (with under 50% making use of the governments performance-based model).

Performance models, like all other models, come with pros and cons, and the experiences gained from the financing of higher education revolve around the broad concepts dependent on the leadership at a specific point in time. A common factor derived from the above is the choice on the selection of data, and for teaching grants, there is no better driver than enrolment. The US is a case in point, which used student numbers to provide funding to universities. Staff numbers are also a driver; so too is research assessments when providing research grants. Some governments went as far as providing incentives to universities upon the successful job placement of their graduates. Critical areas in any formula funding are determining the correct mix with regard to which resources, the number of indicators, and which sectors within the institutions impact such a model. If, however, formula funding is adopted, these must align with the strategic objectives of the respective governments and universities.

Politics and higher education seem to have a 'hand in glove' relationship across countries and play a major role in the decision-making processes of higher education, prompting one author

to recommend that politics be eradicated from the sector. Unfortunately, as long as the state is funding higher education, government officials will always intervene. The UK and the US higher education sector experienced first-hand the role politics plays in the sector with overbearing politicians over-ruling commissions of enquiries set up by the government itself. Higher education in the Czech Republic was also under intense political control influenced by personal and political contacts.

Čermáková et al. (1994) state that interferences of politics help justify the confusion of funding higher education which in many cases reflects unfairness, where connections and network come into play, where there is a muddle of relations. This view was supported by Dougherty et al. (2013), who conceptualised the role of politics and concluded that political structures, values and ideologies tend to frustrate the success of performance-based funding. They went on to argue that although the implementation of funding decisions exist, political dynamics stifle its progressive and sustainable effectiveness.

Other essential experiences abstracted from the literature include:

- The Canadian model which restricted enrolment to 80% within the geographical location;
- The UK model that introduced the concept the earmarked grants as an add-on to the block grant. These grants were based on a formula for specified purposes aligned to the government's strategy.
- The US was passing a law that ensured universities patent their inventions.

The international experiences are best conceptualised by Johnstone (2013), who stated that despite differences in political systems, economies and culture, the financing of higher education globally reveals significant similarities between nations.

In the next section, I analyse the literature of higher education financing from within the African continent.

9.3 Analysis of Data: Literature Review HE Financing: An African Perspective

a) Massification and shared costs

Higher education in the African continent has seen enormous growth in student enrolment, with authors labelling it 'the massification of higher education'. Such massification coupled with the acknowledgement that higher education was the critical driver of economic success

and status, resulted in increasing the number of universities. In the case of Ethiopia, the country started with two universities, which increased to thirty-one in eleven years.

Higher education started to pose challenges for the few countries on the continent that opted to provide free education. While it was possible to provide free education with the limited enrolments, governments like Botswana, even funded private higher education studies and paid for students who wanted to study abroad, while it was possible to do so. Higher education, however, demanded substantial financial resources and costs spiralled faster than the country's CPI. Governments were forced to shift their positions and change policy in light of the growing demand, as higher education soon became unsustainable, prompting a change towards billing students in line with UNESCO (2009) recommendations.

UNESCO (2009) promoted a shared costs approach with both government and students/parents sharing the costs, with Governments providing subsidies/block grants and students/parents paying tuition fees. Botswana shifted away from supporting private higher education due to the lack of return on investment. However, re-introducing a fee-paying system was not well received, especially in light of student's affordability and the mindset that the state ought to provide. Governments then needed a scapegoat and a plan of action that would soften the burden on students. They provided loans, some of which were converted to scholarships and bursaries. The loans were payable at a later point after graduating from the system.

b) Recommendations

The financing then of higher education became a 'hot topic', and many researchers have engaged this topic. Based on their research, a range of recommendations surfaced which included a shared cost approach based on a per capita system; increased revenue generation through joint research; increased private sector contributions and the introduction of a levy or graduate tax system.

Further recommendations included:

- the introduction of a student loan scheme with low-interest rates payable upon graduation;
- collection methods are linked to the countries revenue services;
- a fixed percentage of all levies charged to be channelled to the higher education sector;

- a fixed GDP rate for higher education funding;
- selected funds are pooled and disbursed via an approved funding mechanism, and
- industry collaboration with the higher education sector, ensuring a balanced supply of graduates.

The Ethiopian government devised a policy that aligned itself to the country's national plan which focussed on science and technology. As such, students were provided funding in the form of scholarships and loans and were steered towards acquiring qualifications in areas the State deemed essential; in this case, the State-supported 70% science and technology students and 30% human sciences students.

When funding was provided to universities, a further policy of 'use it or lose it' was applied and funds not used needed to be returned. Authors have found, however, that such lost funds being returned to the State were as a result of possible mismanagement and lack of planning on the part of the universities. Further, these authors also proposed outsourcing non-core university services like residences and catering and went on to promote both contact and distant education in all public universities.

The debate surrounding the government's preference for ploughing levels of resources between primary education and higher education is one that caught the eye of the World Bank. Developing countries, however, have little choice but to favour primary education and, Kenya as a case in point, made primary education a priority, believing that the return on investment is morally justifiable. Higher education, seen as secondary to primary education, was funded based on the student enrolment using a unit cost approach and did not consider fields of study. The Kenyan governments did, however, consider requests from universities; however, the author records those erratic funding allocations made medium to long-term planning that much more difficult. Otieno (2010) examined the current funding mechanism believed that an incentivised scheme might be better suited to Kenya.

Otieno (2010) further provided a hybrid model that encompasses the following broad variables:

- Students were classified from poor to rich using five rating scales;
- Course offerings were prioritised in order of science and technology, social sciences followed by human sciences;
- Females were given preference, and

- Considered a system ranging from full scholarship to part scholarship-part loan, to full loan.

The literature from other smaller States on the African continent reveals that education has received the lion's share of the resources, with countries like Lesotho, for example, providing almost 40% on education. Although the State provides loans to meeting access barriers, the recoveries of such loans pose a significant challenge. Other factors include the provision of bursaries to students preferring to study outside the country. A direct link to promoting student access and success was driven by an incentive scheme that provided for certain portions of loans being converted to full scholarships.

Other interesting policies derived from, for example, Madagascar, where the State dictated management of the sector, regulated tuition fees increases, froze academic positions and increased the retirement age of academics to 70. Namibia stipulated expenditure thresholds and toyed with the idea of performance funding. The reliance on tuition fees and other donor funding provides a valuable cover for the sector within developing countries as most have a shared costs approach. What we also gather from the literature, is that most funding models are based mainly on historical modalities, and some are so dated that many authors prescribe them as unsustainable and unrealistic.

Experiences that have emerged from the literature on the African continent, centre around the debates for free higher education. This call dates as far back to the 1960s. In some African countries where free higher education was practised, over 90% of students came from well-off families who could have afforded tuition fees (Teferra, 2013). Opportunity income that could have helped sustain the universities. South Africa experienced one of its most effective student movements which started with the #RhodesMustFall campaign, a call for decolonisation which culminated with #FeesMustFall. What commenced as a call to have fees reduced soon spiralled into a call for the abolishment of fees in South Africa. The then State President subsequently ruled a zero percent increment and further increased the threshold of per capita income for qualifying aid students by injected cash to support those that were previously excluded. These interventions were taken after the national budget was finalised and thus impacted the fiscus. Altbach (2013) is not in favour of a free higher education system and believes that such a system is unsustainable. Langa et al. (2016) add that tuition fees were always used to augment higher education's rising costs and cautions that South Africa cannot compare itself to other developed countries (Norway, Germany, etc.) which provide free higher education.

Governments in their quest to avoid the free higher education, debate and the mass protest that surrounds it, opted to pacify the students with generous loan agreements as a ‘softener’ to end the crisis. They used alignment to national plans to offer strategic bursaries and scholarships in specific programs that the State promoted. Many African countries provided these bursaries for private education, with some supporting overseas education, as in the case of Botswana. The South African NSFAS system provided poor students with a semi-bursary/loan mechanism, where if students passed their module, the loans were converted to part-bursaries part-loan. The system became problematic to manage in that those with loans who left the university, now had to service huge debts prompting NSFAS to enhance its system (Chapter 6, Section 5.2).

9.4 Analysis of Data: Theoretical framework

Resource Allocation Models- In a perfect world where unlimited funds are available, all resource allocation models claiming to be rational would also be identical. The fact that resources are never in abundance drives decision-makers to make choices when allocating them. This is done to avoid unnecessary conflicts and balancing those who bid for funding for their own advantage to the disadvantage of their colleagues. The works of three philosophers pertained to this study, as they address different areas of allocating scarce resources. These are Herbert Simon (1959), John Rawls (1985) and Luc Boltanski (2011), and the gist of their application here follows.

Rational allocation models appeared first in the 18th Century search for a formalized economics and for insight into a justifiable choice. Herbert Simon (1973, page 1) developed these insights into a managerial strategy and model applicable to a wide range of institutions and their resources with the use of what he refers to as ‘satisficing’. This term is a decision-making strategy that is available when one examines the alternatives until one reaches an acceptable threshold. Simon used satisficing to explain the behaviour of decision-makers when an optimal solution cannot be determined, that is, to find satisfactory solutions and rational choice. He further argues that short term gains would have an overall negative effect on medium and long term goals.

Parallel to satisficing is a concern with social justice and fairness as a criterion for rational choice under restricted conditions of information. John Rawls (1985) refined the classic statement of this problem and applied it to individual behaviour. In his *Theory of Justice*, Rawls

highlights the kind of rules that people would freely agree to and reason around. Bou-Habib (2010) likens the solutions to funding higher education challenges to the theories of social justice and fairness. Vice-Chancellors in the UK supported what was termed income contingent loans in the UK, much to the dismay of students. Ma's (2010) study on challenges in China also recommended that the government consider fairness and benefit in its allocation models.

Luc Boltanski (2011) applied the situational models in social justice discussion to institutions and the principles guiding their conduct. Boltanski promoted critical reevaluation of oneself whereby one can change to practices. He begins with the assumption that humans are all equal.

Since most enterprises operate under conditions of limited resources, such allocation models are introduced precisely to maintain the highest standards of rationality. Thus, they are obliged to introduce and develop procedures for financial resource management. These are applied on foreseeable consequences, that is, they are not applied to facts but to possibilities that are at best probable and improbable. These decisions are based on norms, which assist in building and exploring all scenarios or possibilities of choice. They are thus the primary instruments for fitting limited resources to demands which exceed them in the most rational way. This introduces additional risks of failure since it involves the managing of the possible and not just the actual. It is the core of risk management in resource allocation models and explains their complexities and reliance on a different style of deploying norms.

9.5 Analysis of Data: South Africa's Funding Framework

DHET and Transformation of the HE Sector - From a national perspective, the higher education sector is governed by a dedicated Ministry that being the Department of Higher Education and Training (DHET). As such, all 26 public universities in the country together with other Traditional Vocational Education and Training Colleges (TVET) are governed under the Higher Education Act No 101 of 1997. South Africa when entering into democracy in 1994 initially combined both primary and higher education, however, within a decade later the country saw the need for and created a separate Ministry for its primary education sector.

At the outset, universities in SA are autonomous, as such, they develop, manage and review their budget frameworks within the confines of the respective institutions. Each University Council, being the highest governing statutory body of the institution has part of its member's representation from Government. Sub Committees of Councils exist at all universities with each mandated to specific tasks.

One of the fundamental principals adopted by South Africa and the DHET is granting universities autonomy or the flexibility in managerial decision making within higher education. Autonomy in South Africa provides Universities with the opportunity to manage and control their respective institutions' finances. Autonomy is a term that means 'self-norm' or earning the right of self-government or self-determination. In essence, autonomy ensures that the respective decision-makers within Universities are responsible for the execution of tasks.

The DHET thus, delegates the authority to University Management (inclusive of its Council). The DHET expects in return that such responsibility and accountability will inevitably lead to excellence academics, governance and financial management. This section focusses on the latter two areas that being governance and financial management. Governance refers to the freedom of the institution to manage its affairs while autonomy in financial management is the freedom of the universities to manage its financial resources.

While autonomy provides significant positive spinoffs, it could also be detrimental if such autonomy is abused or the levels of it misunderstood and neglected. We have seen from many a protest action that while most issues are dealt with internally within the university, the latest student crisis via the #RhodesMustFall and #FeesMustFall movements catapulted higher education to immense public scrutiny prompting the State to be called to action and intervene. Such was the magnitude of the protest that it forced the President to commission an enquiry and make rulings that perhaps were seen dubious and irrational to some critics. Here then comes the reliance of Management and the critical role players who up to this point managed to resolve issues internally within their organisations. Management places great emphasis on autonomy when it comes to finances, more so budgeting principals that are adopted and so forth. In budget frameworks, management within the institutions seem to differ in its approach and principles, and some of the critical decision-making mechanisms come into play here.

As I come to the closing stages of this study, I am reminded consistently of my initial aim for the higher education sector - that aim being to develop a model for universities to adopt whether partly or wholly. The study gradually evolved around the DHET allocation of resources and how their model could be replicated and cascaded in many ways to its universities. I have chosen to provide variables for consideration to impact a funding model for higher education.

I take cognisance and remain guarded of Ma's (2010) observance of the insufficient deepness of research in higher education financing together with his statement that reads:

“When most domestic scholars make assessment and analysis in the status quo of allocation of higher education resources, they tend to list just some data for discussion in generalities, so they are usually short of objectivity and accuracy in the assessment results.” (Ma, 2010, p.60)

Ma (2010) further argues that assessments and analysis of current allocations is core to achieving an optimal resource model and if this is not done, it is “unlikely for us to put forward rational and compelling countermeasures for optimal allocation of higher education resources.” (Ma, 2010, p. 60)

As a countermeasure to Ma’s cautionary statements (above), I believe that the journey provided me with sufficient grounding to impact a reformed model at least for the next five years. Further, it seems reasonable to assume as evidenced by the #FeesMustFall movement and its magnitude of opinions and comments that the South African Higher Education System needed radical reform. This, despite making massive strides towards transforming the landscape, more is needed. The route I have chosen was based on the many engagements with the supervisor, senior research specialists at UKZN and the decision grounded in the philosophies of Rawls, Simons, and Boltanski.

9.6 Analysis of Data: Participating Universities

This section analyses the data received from the seven participating universities. I begin the analysis by identifying common themes and thereafter centre my discussion around these themes by drawing on the Participants’ feedback received during the interviews. The objective is to identify common practices, differences in thought process and uniqueness in their budget frameworks. Strategically, I begin the discussion with governance structures within universities, which sets the tone for the remainder of the section.

(a) Governance in South African Universities

Every public university in the country is governed by its Council as prescribed by the Higher Education Act No 101 of 1997. Members are made up of government elected Councils at the discretion opt for sub-committees to assist them in steering the Universities’ strategic direction. Universities’ Executive Management structures manage the day-to-day operations and are headed by its highest authority, Vice-Chancellors (as in the case of UKZN, UCT and UJ) or Principals (as in the case of UP). The Deputies at Universities are termed Deputy Vice-Chancellors (DVC), while others term them Vice-Principals. Regarding financial management,

some universities term their executives Chief Finance Officers, while others call them the DVC Finance.

Given that the public universities in South Africa are under the direct control of the State and governed by the Higher Education Act, it would be appropriate despite the issues of autonomy to have a consistent governance and management structure, including the naming of them. A good starting point to re-engineering the sector without infringing on the universities' autonomy is to synergise and standardise the terminology of University Council's and its various sub-committees, for example, Finance Committee, Remuneration Committee, Institutional Forum, Senate and the like. One should associate this with the respective Councils of the Universities. It is consistently applied as all universities term their highest governance structure as the 'Council of the University'. Similarly, the naming of its respective sub-committees must be aligned, and these should be dictated by the Higher Education Act. This would ensure consistency of governance structures across all public higher education institutions.

Universities management terminologies also need to be standardised. Similar to what is currently the case as with Deans, Professors, Associate Professors, Senior Lecturers and Lecturers, Chief Finance Officer and so forth, the executive management naming needs consistency and synergy. This synergy will help alleviate any form of confusion and will ensure a better comparison plus standardisation within the University's governance and management structures.

(b) Budget Processes - Main Operations

The subsidy or block grant from the State form over 60% of the revenue for main operations at most universities. By autonomy and cross-subsidisation, the block grant is provided for day-to-day operational costs at the discretion of the HEIs. Tuition fees rate second-best followed by investment and other income.

The reliance on past budgets seems paramount to most universities in consideration of the new allocations. Historical trends provide a significant indication of the spend patterns and the resources allocation that is required to operate. There is a direct link between the actual budget and the Consumer Price Index (CPI), as most institutions merely top up the past budget granted the previous year by a percentage increase based on CPI. These could also be termed incremental budgeting. Some universities rallied around the zero-based principal in order to

achieve the desired true costs of running a faculty without having to rely on any historical dated spend pattern. Zero-based budgeting in effect is to start the year with a clean slate, a nil budget; as and when spending is required individual motivations and submissions need to be made, they are assessed by a team of experts before approved.

The only university that operated a largely performance-based system (aligned somewhat to DHET) is UKZN. Performance budgeting relies heavily on data management and is derived with the use of formulae. This university, however, moulded the performance targets to suit their strategic needs and realigned the DHET model which favoured teaching inputs to research output. The university made research output the critical driver for colleges to generate higher revenue through its model. This seemed to have worked for the university as it catapulted into one of the top-performing research universities in the country.

The issue with historical budgets is that it does not consider the changing circumstances of the faculties. Universities undergo constant changes and these changes need to be taken into account when allocating resources. Using CPI as an increment ratio is not a driver for actual increments in costs as HE costs differ. Higher education due to its spiralling costs, as identified in the literature, differed from the CPI and has started to possess own its price index. Terminology such as the 'Higher Education Price Index' surfaced. This index is generally approximately 2% higher than the standard CPI, indicating that the reliance on CPI could be short-changing the faculties.

It would be opportune thus, to embark on a system of zero-based budgeting every two to three years in order to ensure that costs are kept to a bare minimum and spend is directly related to the academic endeavour of the faculty. It does provide more realistic spend as compared to the past budget which may have built within it elements of wasteful spend. Across the US, performance/formula budgets have proven to be a highly recommended budget system that rewards faculty based on their performance. In South Africa, the model favours teaching inputs (approximately 62%), teaching outputs, e.g. graduations (approximately 20 %), research output and institutional factor grants (approximately 13% and 5% respectively). However, this system is a one size fits all, and no preference is given to any other driver that perhaps the State requires in meeting its objectives.

Perhaps while historical budget should weigh in on the silence of zero-based budgets, a system that starts with zero-based in say 2019, could migrate to historical budgets incremented by the average of the CPI and CPI-based 2019 year for the next three years ago to end of 2022. Then

in 2023, we can begin another round of zero-based budgeting, thus promoting efficiency within a system. Performance budgeting has its pros and cons. Some of its pros include the fact that the State could set specific higher criteria as part of their objectives for the period and with the data output for that area. As an example, if the state wants to increase the enrolment of differently-abled students, it could tweak the model to favour a higher allocation to universities for the student intake of these students.

Performance-based models, however, may not in some cases cover real costs or may provide a budget for 'cash cow' faculties that did not really need the funds. There is also the element of subjective decision-making within the formula that is used to derive performance measures, as in the case of UKZN, where its management chose to reward research more than teaching inputs. The extent of the shift in percentages can be subjective and can have negative consequences. Therefore, I argue that a hybrid model needs to exist that considers an extended performance budget. A system of performance budgeting would be highly recommended in order to drive productivity within faculties. As long as DHET focussed their attention on performance data, universities must respond to moulding their strategies to suit the budget framework.

(c) Budget Timelines

The data from participating universities reveals that there is a high degree of consistency that exists when comparing universities that participated in the study. At the outset, the consistency lies in the budget calendars which in most instances start between July-October of the current year for the ensuing year. Most budget processes involve stringent timelines and a process flow that ensures final approval by the respective University Council at their last meeting in November/December.

Budget is ready for action come 1 January of the new calendar year. Another consistency is that all universities prepare year-on-year budget despite possibly having plans. Some universities conduct detailed cash flow analyses and pinpoint and analyse variances to cash flow management.

All universities seem to operate on a budget calendar that revolves around the statutory bodies meetings that include Finance committees and ultimately, the Councils of the university. For the Finance Department and the Deans, this process must be time-consuming, especially when there are so many other challenges that need action. I question whether these budget calendars

are feasible or even workable, given that the time could be spent elsewhere in the academic environment.

(d) Level of decentralization

The term decentralisation, which can be associated with a devolving or devolved model, reigned supreme at ALL universities. In essence, decentralisation refers to the shifting of management and control of the daily operations about finances from top management to middle or lower management. In the case of the participating universities, these are from Executive Management to the respective Deans/HODs. These include decision-making responsibilities; thus once the budgets are released, the accountability and responsibility rest with the Deans and Heads of Departments. The success of a decentralised system is as a result of Simon's (1959), 'satisficing' whereby options are chosen that meet at least minimum requirements.

The downside of decentralisation, however, is its ability to create divisions within the organisation. Deans and HoDs start to focus on their individual unit's success as compared to the collective success of the Faculty or University as a whole. Further, you relinquish control in a decentralised system, and you have no choice but to have faith in the abilities of others to meet the strategic and operational imperatives of the university.

Universities are involved in their operations and differ in size and shape. Of paramount importance is the need to ascertain the correct balance between centralised functions and decentralised functions. The Participant from UCT made the point that perhaps the university is 'overly devolved' and the UFS Participant stated that it would be impossible to micro-manage the budget once it is devolved.

(e) Wish Lists

With the belief 'there is nothing as constant as change', decision-makers ought to be strategists and fully aware, firstly, of their role in a system and secondly, of the impact and consequences of their decisions. In resource allocation, we have seen from the literature that decision-makers play around with the digits without having to engage and critically assess the changing needs and wants of its constituencies. Most of the variances year-on-year remain within an 'acceptable range' with no significant shifts reflected. The recipients themselves, by using wish lists, tend to distrust the system and extract as much as they can get out of the system for the benefit of their constituency.

Most of the participating institutions which happened to be previously classified as HWUs make direct use of this budget process by engaging faculty to be part of the budget process and imposing on the deanery to analyse their sector, engaging their team and presenting the budget request to respective budget authorities. UKZN was flagged as one of the only universities within the sample which ignores wish list budgeting and has instead adopted a wholly operated performance-based system. Their system distributes funding to Colleges via a full formula budget, based on DHET *n-2* data principles.

An organisation cannot function without the input of its key stakeholders in order to reach its goals and objectives. Such goals could only have buy-in from its stakeholders when they are seen to have a direct role to play in decision-making. The success of the wish list system has been proven to work at most universities. However, the UKZN model does have within it some critical aspects of budgeting that could assist a newly-designed matrix model.

There seems to be a direct correlation between HWUs and the budget processes adopted especially about the wish list system of budgeting. Is it a case of the funding received from DHET sufficient to provide such a framework for adoption or is there another driving force like a participative management style that drives this decision? Wish lists are an indication of a participative management style and are crucial to any organisation's success, whereby the role of each is seen as crucial to the broader success of the organisation. Of course, this could be prone to abuse as mentioned earlier, where those wishing a budget wish for more than a requirement and 'up' their wish list.

Wishlists only become irrelevant and less reliant when the attitudes of managers surface. This occurs with silo management approaches which seem to care only for the needs and wants of their faculty and tend to play the system for their constituencies' own betterment. Hence, wish lists slowly became a system ask: "ask for R100, if you get R70 it will work especially since you only needed R50 in the first place". Most participating universities have gone beyond this and engage the deanery and insist on them being financially savvy and aware of the university state of affairs with regard to its financial standing.

(f) Top Slicing

Top slicing is another recourse that is dependent on Managerial discretion. Top Slicing for budgetary consideration is a process of excising funds from the resources base before any

decision-making on further allocations across the institution. The data revealed that all universities exercise a level of ‘top slicing’ to cater for expenses in specific areas. Some of the examples that emerged from the data show support for administration, strategic planning, contractual obligations, essential services and infrastructure maintenance.

Top slicing is a norm across all universities and is seen as a constant driver within a budget framework. Two broad areas that generally fall under this umbrella and have an effect on top-slicing are those of contractual and strategic obligations (termed differently at institutions). Areas that are primarily classified as being contractual obligations are where the university is contracted to service delivery such as staff salaries, essential services and so forth. The other area is strategic initiatives which are mostly top-slicing for specific initiatives that are aligned to the respective universities’ strategic plan.

Top slicing, in general, can be subjective as the values tend to be ‘thumb sucked’ even though there may be elements of data reliance to derive its ratio. The contractual obligations within a budget system follow more of an objective nature for deriving the budget value while strategic planning tends to have subjectivity built into it. Areas of strategy are subjective and values derived are generally large budgets based on a group of specialists’ assessments on costs and so forth.

As part of the broader university need, top-slicing is inevitable and must form part of any budget system. The critical issues around top-slicing are its level of subjectivity and the process that university follows in deriving these values. There must be openness and transparent communication around this area. This is the only way to obtain stakeholder buy-in. One must consider that the level of top-slicing is a direct influence on the allocable resources since the higher the top-slicing, the lower the extent of allocable resources. In order for the stakeholders to be part of the budget process, their input and understanding of the top-slicing aspects must be considered. They should be part of the decision-making body which could provide a broader positive spin-off as they set out to defend the universities’ budget frameworks and the budget allocation process.

In most cases, these top slices cannot be associated with a funding modality that is precise and driven by any virtual datasets. The concept of funding discretionary ventures and strategic objectives must be commended given the many challenges faced by the sector and its demands from stakeholders. The fact that the institutions in its planning process can sustain such categories is in itself proof of good financial governance.

Most universities in South Africa must work towards a financially sustainable plan, and although autonomy exists in the higher education landscape within South Africa, Councils of the institutions have as part of their membership Government representatives whose mandate it is to ensure financial governance and good standing. Universities are not permitted to operate outside of their resource base, and as such most Councils only approve budgets that are breaking even, with surpluses. In sporadic cases, they approve deficit with strict conditions on its financing.

An example of a strategy and its subsequent financial alignment is the concept that UKZN leadership embarked on to meeting its academic equity goals. It was felt that the academic sector needed to have been radically transformed and as a measure and in order to accelerate this process, an executive decision was taken to embark on the concept of appointing some 50 developmental lecturers within the four colleges with strict conditions that they should be South African from the African race group.

The Colleges were allocated the numbers based on their submissions and these lecturers, while being placed in the colleges and reporting to their respective Deans, were funded from Central Finance. Further, it was funded by Central Finance up until these lecturers were promoted, via a credentialing process, to fully-fledged lectureships. At this point, the College takes over the bill for these posts.

Despite the standard budget system that each university adopts, there seems to always be room within the system to provide once-off budget values that drive innovative new ideas, like a short course or a process of the new self-generating initiative, for example, extra specialised lessons or notes. Some universities term these options contingency measures or strategic initiatives.

The budget system must be able to accommodate the requests of such nature and mechanisms for its extraction must be identified, and a transparent process of tapping into such a fund must exist. The creation of an efficiency fund that forms part of perhaps a top-slicing mechanism could exist. Also, the percentage of resources that fund this can be determined upfront during the budget process.

(g) Cross-subsidization

In all instances, the Management ensures that the University need is its first consideration, the resultant effect being the issue of cross-subsidisation. Cross-subsidisation can be explained as the support of one unit coming from the funds generated by other units. Across all universities, the data suggests that Universities are in the business of providing higher education and some programmes may not necessarily generate sufficient income to fund themselves. Further, every organisation needs an administrative sector, and these in the current funding framework are not funded. Participant X from UKZN made this point in her interview. Levels of cross-subsidisation rest entirely with the managerial discretion.

Within the budget framework of all universities lay elements of managerial discretion. Some areas of resource provision become imperative for the successful implementation of meeting student and staff priorities. Some of the cost factors that relate to these could be classified as contractual, and these include essential services, staffing costs, and infrastructural maintenance levels. Strategic obligations are those managerial decisions that relate to areas in which the university could respond to their strategic plans. Universities choose the level of support at which to drive strategy, and such support may differ year-on-year depending on the university levels of commitment to meeting its strategic objectives.

Universities by their very nature, being for the public good, must provide services that are in keeping with their existence. Such services, however, may not all be profitable, and income is generated but is essential and also required as part of the broader needs and wants of the country's skills set. When these so-called non-profitable or non-viable sectors surface, the most prominent policy decisions become the levels of cross-subsidisation that need to occur. Significant examples of these are an administrator in a university. Student enrolments and staff research, are drivers of income on budget systems. So what of the administration? A situation where the academic sector funds administration by way of cross-subsidisation can occur at a macro university level. On the micro-level, one could associate the likes of departments such as Anatomy which has electives and needs to be funded and is supported by other Health Science fraternities. On the issue of decentralisation, this is purely management's choice. Most universities are moving away from the central hold that used to be the norm, into a culture of responsibility of centre management, whereby the decentralised faculty or college is provided with budgets and expected to manage and control at a decentralised level. In such instances, the issue of staffing costs are the most significant expenses, and replacement of positions are

decentralised to the Deans or DVCs. The levels of cross-subsidisation are of paramount importance to the budget system. As such, these levels must be set out efficiently and transparently as they could lead to unnecessary frustrations with those who manage units that are cross-subsidised. The driving force to the desired balance of the areas discussed above can be summed up by the term ‘university need’, which should in its own right supersede any other need. University need includes formulating a policy that concretises its very existence and reminds us of the bigger picture and the role of the university. Such a role is to meet the public interest, needs and wants, and its core existence revolves around its core business - of providing higher education, to educate the public, helping to generate a knowledge economy and shifting civil society away from poverty and mediocre lifestyles.

University stakeholders must take cognisance of the broader role universities to play in society. Further, they must also consider that any business has a sector that generates the income (production line) and a sector that manages the administration of that income. These are imperatives one cannot ignore or shy away from. It is the levels of cross-subsidisation that are key to success, and finding the right balance could be the success factor.

(h) Communication and Levels of transparency

Each university, given its autonomy, decides on the level of transparency within its system and the forms of communication regarding budget frameworks. With budget calendars beginning in August for most universities, it is essential that proper communication mechanisms are practised. What forces management to ensure a good level of communication and transparency is the State’s decision to insist on financial data reflected within universities’ annual reports. The key to successful organisations is ensuring excellent levels of transparency, inclusiveness, maintaining good corporate governance standards and promotion of good leadership whilst mastering the art of communication skills

We have seen from the data represented earlier that stakeholder relations form the key to successful negotiations. Further, stakeholder respect from management ensures a feeling of great role-playing and such stakeholders acknowledge their role as being crucial to the decision-making process. In higher education, two such stakeholders are ranked as high order, the students and the staff, with the students, possibly having a more significant role to play given their size/numbers, deserving such recognition. It is critical therefore to engage student leaders in every aspect of the managerial process. We have seen this work at one of the

universities in the country, where the Participant stated that they have an open-door policy when it comes to the SRC, and the relationship is of such a high standard that mutual respect is a given. The key to such respect is transparency and the levels of trust built into the system by the leaders of the organisation. Of course, it is a culture that needs to be built and cannot be an overnight accomplishment.

The level of transparency and stakeholder management can be associated with the budget framework adopted by an institution. By having a wish list system and a balance as indicated, one Participant noted that where there is a commitment to the broader goals of the university, there is a level of assurance of good corporate governance that speaks to accountability, transparency, fairness and the like.

(i) Surplus Fund Strategies

The surplus funds that are derived from perceived savings achieved throughout the year are treated differently by participating universities. Some universities create a separate cost centre and house the funds for future use. Others do not carry over funds and operate on a system of 'use it or lose it'. One Participant indicated that "if you did not use it then you did not need it". Another university only permits surplus funds up to a percentage of the original budget, in other words, the faculty can only carry forward a maximum of 5% of the original budget into the faculty reserves, and the balance reverts to the university. One of the participants indicated that the reserves reached sizeable proportions and departments were requested to tap into these funds for any new initiatives.

The decision around surplus funds differs from institution to institution depending on the management approach towards its budget framework. It is a dilemma for most managers, as creating a sustainable reserve, on the one hand, restricts the use of funds on a yearly basis. When you curtail budgets from the sector in order to save and build a reserve, you inadvertently restrict faculty, which could have negative consequences. On the other hand, if budgets released by the system are more than what is required, then spending for the sake of spending becomes a wasteful expense.

To balance out the decisions, the initial budget released must be lean and mean and savings that are derived should not be as a result of managerial discretion but for unusual and unforeseen circumstances. An example of this is in recruitment, where perhaps an incumbent is only free to take office a month later than expected, hence a system with the 'use or lose it'

policy could in these instances reflect a harsh budgeting process. Perhaps to troubleshoot this decision is to hold the reserve at Central Finance under the respective colleges/faculties that made the savings. The minimum savings percentage could also have negative connotations to it, as faculties will reach towards that 5% spend and budget around a 95% budget instead of a 100% budget. This is where zero-based budgeting could provide the solution as it does not consider a total budget but rather spend as required.

The carry-over of a surplus budget is recommended with restrictions on the basis that at least a certain percentage of the budget must be spent. This would avoid the situation of not providing adequate funding to units and would ensure comfort against the notion of ‘underspending is as bad as overspending’. Further, these funds could be, as in the case of UCT, ring-fenced and controlled separately from the main operations. However, limits need to be set on reserve balances.

(j) Budget Over-runs

Similar to generating surpluses, the situation may arise whereby individual units sometimes overrun their budget for a range of reasons. These form part of any budget process the broad leeway does exist at all universities. Spending more than what was initially allocated in some cases is inevitable as a budget is what it is, a guideline and at times actual costs differ from what was budgeted for. It is unlikely mainly that a high number of departments would overrun their budget as a budget system, given its stringent adoption criteria covers most challenges faced by the departments.

Zero-based budgeting eradicates this to some extent, but the hybrid model proposed earlier could come into play. One has to obtain permission and have a system that red flags overrun much earlier in the budget process, and mechanism for providing for it must exist. Funding overruns can be managed from savings derived elsewhere either within the faculty, central finance or other faculties/support sectors.

(k) Capital Expenditure

The responses show that most universities have a separate capital plan and their main operations largely focus on operational spending. The introduction of the earmarked grants which catered for building improvements or in some cases new buildings has assisted universities a great deal in funding capital expenditure. Further, other private grants generated

by academic staff help with major and minor capital spend. These assets in most cases are owned, managed and controlled by the university and forms part of their asset registers.

In the case of UKZN, no capital spending was provided for in their main operations to Colleges for a good few years running. Instead, a major portion of the budget is top-sliced and provided to central management services. Some Colleges chose to provide for minimal capital spend from the main operational budget.

The provision for major capital works must and should form part of the main operations. That is, funding must be provided for on a yearly basis as a provision for major plant shut down and actioned accordingly. Some examples of these include roof replacement, lift replacement or roads maintenance each subject to renewal say every 10-15 years.

(I) Earmarked Grants

Over the past few years, the DHET seems to have been placing great emphasis on earmarked grants, so much so that the data reveals a systematic shift of Rand value from block grant towards supporting earmarked grants. There has been a reallocation of funding from the Block Grant category to the Earmarked category over the years, which significantly impacted the funding framework for HEIs. Block Grants which are based on performance data did not necessarily address the mandates set out in the National Development Plan. Instead, Universities were in a race to strive towards high-performance outputs in order to maximise on their share of the spoils. Hence Government's corrective measure was to erode the dependence on pure performance by HEIs systematically and shifted funding to areas they saw as strategic interventions aligned to the States priorities.

There is a downside to the funding for Earmarked grants. While they are provided for as an independent allocation from DHET for specific projects in line with the National Development Plans for Higher Education, once the period of funding lapses, thus the on-going upkeep becomes the costs of the universities.

Another factor surrounding Earmarked grants is that all participants indicated that the Earmarked grant has no bearing on the decision of funding the unit or faculty within the main operations. For instance, if an Earmarked grant was allocated to Engineering for say infrastructure and efficiency, a university's main budget allocation to the Engineering

department will not be influenced by this grant. They would receive the same allocation as they usually would despite this additional inflow.

Another issue surrounding Earmarked grants is that they require a top-up from the respective institutions. In trying to meet these top-up obligations and perhaps for other reasons, some universities opted to obtain loan finance. Such loan finance as part of the Higher Education Act must be approved by the Minister of Higher Education and Training. Also, other grants received from DHET such as clinical training grants and teaching development grants, discussed in Chapter 6.5.2 also do not influence allocations of the block grant.

The DHET forces universities to spend in line with the grants designated purpose. As such, the DHET imposes on universities to submit yearly progress reports that are accompanied by an external audit certificate. I question whether this portrays a sign of distrust that emerges from the DHET perspective. Nonetheless, these detailed submissions and call for 100% audit reviews force universities to abide and align themselves with spending these funds for its designated purposes.

9.7 Summary

In this chapter, I presented the main areas of governance within the higher education sector in South Africa. What has emerged from the discussions with participants is that there does not seem to be alignment in relation to the naming of the management hierarchy. This makes comparisons more difficult and indicates that Universities could act as they wish. In addition, such naming is largely historical with no indication of adopting for alignment to the majority of public universities.

I discussed the so-called privilege that HEIs enjoy in SA with a form of autonomy that allows universities to manage their operations as they see fit. Such autonomy carries with it a high level of responsibility; however, stemming from the catastrophe that hit the country with students calling for free education, universities themselves were quick to point fingers at the government and redirect students to the State. On the other hand, Government started to infringe on the rights of privileges dictated by this autonomy by imposing a lockdown on fee increments and later ruling a zero percent increment.

I illustrated the major themes that have emerged with regard to the budgeting processes adopted by most universities. Having gone through an in-depth account of the literature (Chapters Two,

Three and Four) and the theoretical framework (Chapter Five), together with a case study account of the South African experience, I am now in a position to conclude the study with possibilities for a funding model, directions for future research and a snapshot of my journey.

CHAPTER TEN

FINANCING SOUTH AFRICAN HIGHER EDUCATION

RECOMMENDATIONS AND FUTURE RESEARCH POSSIBILITIES

10.1 Introduction

This research study is an analysis of Higher Education Funding, with the development of considerations towards a viable model for South Africa. In response to the research question, *“to what extent are resources allocated to Universities in South Africa and their subsequent distribution promoting the principles of satisficing, fairness and justice?”* and the objectives of analysing the resource allocation models at participating SA HEIs; identifying key variables that drive the budget process; formulating similarities, differences and highlighting areas of uniqueness, and empowering decision-makers in the HE sectors by providing innovative principles, guidelines and strategies for consideration, has highlighted a range of debates around funding of the higher education sector. While there have been numerous commentaries on higher education financing, in particular, views and opinions from specialists within and outside the sector provided insight and outlined the challenges that higher education faces. Very few suggestions provided tangible solutions to these challenges as most placed blame at the door of government and called for increased funding for the sector.

Having engaged the literature, the research was grounded in the theoretical framework which directed it, along with the contextual features of South Africa. It reviewed international and continental practices and responses to the challenges of higher education funding, analysing how resource allocation in the South African HE sector compare to similar sectors abroad; the role of managerial discretion in balancing the inevitable split between normative and qualitative consideration inherent in allocating resources; the principles and variables determine the resource allocation to different units within the university, and are resource allocation principles applied in a given administration, and with what degree of consistency and justification for variance and discretion.

Establishing its research paradigm as a qualitative study, it relied on interviews, ministerial statements and public reports to gather data, and offered a thick description of the funding frameworks in higher education in seven institutions in South Africa. Validity and reliability of the findings were established through the review of literature pertaining to issues of financing higher education which formed the basis of a series of open-ended interview

questions designed to understand the mechanism and approaches to downward distributions. The nature of the study lent itself to the interview being largely unstructured. I met with financial officers at selected universities in South Africa in their offices and conducted in-depth one-on-one personal interviews for comparison and discussion around diverse approaches to resource allocation. The interview responses yielded subjective perspectives on how resource allocation occurs at their respective institutions.

The reliability and rigour of data gathered through these interviews were subject to the good faith, goodwill, honesty, integrity and openness of the interviewee. Interviews were recorded with permission, transcripts of the interviews were produced, and these were forwarded for verification and amendments. Any potential risks were offset by acquiring a significant and varied number of data points through the interview method, to compensate for the lack of transparency and bias. The findings from participating universities nationally were presented and discussed, leading to synthesis. In this concluding chapter, I discuss various possibilities and recommendations for funding frameworks, including a roadmap for the future. I unpacked these ideas as recommendations emanating from the empirical evidence of the literature, the theoretical framework, the research results and general trends. Given the currency of this topic, I boldly include some ‘wild card’ options, as they provide food for thought and provoke us to think out of the box, in the South African context. These ‘wild card’ options stem from my insider perspective based on my experience and financial expertise gained within the higher education sector.

The section that follows has five sets of recommendations, with a discussion of possibilities:

- Recommendations for State considerations;
- Recommendations for University consideration;
- Recommendations for Future Research;
- Recommendations for a Roadmap for a Funding Framework, and
- Recommendations on Reflection: My PhD Journey.

The first two sets of recommendations relate to State-controlled and University-controlled measures, taking cognisance of the autonomy factor. Some ideas presented may be considered to be far-fetched and radical; however, for a sector that is grappling with challenges consistently, the time has come for decision-makers to take drastic measures in order to preserve the essence and purpose of a university, with long term sustainability being the key driver behind these decisions.

This final chapter incorporates possibilities for future research endeavours with a Roadmap that proposes diagrammatically, those aspects fundamental for consideration in HE funding frameworks as recommended in this study. It closes with a brief reflection on my journey as a researcher, and the recommendations I make from that standpoint.

10.2. Recommendations for State considerations

10.2.1 Maximising on the State guidelines and benchmarks

Although the higher education sector grants universities autonomy, arguably the highest levels are granted to financial management and operations. This is left entirely to the Councils/Vice-Chancellors or Principals of each university. Their budget frameworks, how they allocate funds, what and how they spend funds and day-to-day cash flow management and so forth, are all entrusted to the respective university leaders to manage.

While some universities have capitalised on such autonomy, others have abused it, and through their mismanagement, the government needed to intervene by placing some institutions under administration. This meant that the State appoints administrators or specialists to help steer the universities out of trouble.

The State presented a set of guidelines a few years ago on the expected levels of staffing and operational expenses for which universities needed to align themselves. University management always reverts to these prescribed guidelines as a scapegoat in their negotiation with both staff (in discussing remuneration) and students (in discussing fee increments). By referring to the prescribed guidelines, university management shifts the focus to the DHET benchmarks almost to suggest to unions and student leadership that ‘our hands are tied’ or ‘we are governed.’ Staff unions rarely question or oppose State policy on higher education finances. Further, State policy is seldom met by vigorous debate or creation of turmoil within the system, be it on the suggestion of mergers, change to frameworks, governing enrolment plans, locking fee increments or imposing transformation benchmarks.

Given the stronghold that is enjoyed by the DHET and the government, greater and more forceful benchmarks and guidelines need to be set by DHET. The recommendation made here is that DHET should make decisions at a national level that would bind institutions to adherence. Such impositions, if found to be for the greater good of the society they serve, are

generally easily adopted by universities. The DHET would then be able then to capitalise on a more robust level of power and a set norms and standards for operations.

10.2.2 A case to support Private Universities

In the current dispensation, no support is provided for students who attend private higher education institutions in the country, nor to the private university they attend. It is somewhat disconcerting that the current framework funds international students studying at public universities via the block grant. Furthermore, these students are rated equally in merits and weightings to a South African student in FTEs and graduation data. Such students in all likelihood return to their respective countries and thus opportunities for the return of investment are zero. The potential tax revenue is thus diminished. On the other hand, a fellow South African student who gains his qualification at a private university in the country, who is destined to earn more, pay more taxes and help develop the economy, is not supported.

Botswana was progressive in relation to supporting students that attended private universities and universities abroad (*see Chapter 4.2.1*) and should be considered as a model. The Botswana government-funded students who were high achievers to study at private universities in the country and also funded the students who opted to study abroad. There could be a viable contractual agreement that could bind the students to the country, thus providing a return on investment in the form of taxes and other revenue-generating mechanisms that exists within the economy.

This research recommends that consideration and some level of support, if not directly then indirectly, for example, via some indirect form of tax relief, should be granted to students at private higher education institutions in the country. The expansion of the private higher education sector will provide relief to government by reducing the burden of costs on the treasury. Thus government should consider providing interest-bearing loans to students attending these private higher education institutions.

10.2.3 Rectifying the imbalances of the past

There was a legacy in South Africa under the apartheid system whereby historically white universities and technikons experienced more privilege than their historically black universities and technikons (*see De la Rey, 2001*). South Africa operated under the Group Areas Act which

sectionalised its population based on race, into respective economic and residential zones. These privileges were thus expanded to the funding module which favoured HWIs.

Great disparity existed in the level of funding that routed to specific sectors of universities and technikons. The reality was that the HBUs and HBTs were funded as little as three to four times less than their counterparts. Even the so-called 'a' factor that was adopted by the state to scale down the funding to institutions which privileged the HWIs, for example, differed for different institutions. This created a further divide and helped provide a solid foundation for these institutions which had sufficient cash flow to address their facilities, other essential services, curriculum, and quality of academics and a range of other benefits that would normally accrue to them as a direct result of having sufficient resources at their disposal. Further, the leaders of the universities at the time continued to build their reserves.

While there have been attempts by the government to address these disparities with the allocations of the institutional factor grants and certain earmarked grants, their impact is simply insufficient. These disparities were never addressed in the new framework where a strategy of equilibrium could be attempted. The research recommends that the State and the Ministry take cognisance of these disparities and plough more funds via the block grant and earmarked grants to HDU.

10.2.4 Reserves

Given the favoured funding towards HWIs which manifested itself within the regions and the autonomous nature the HE sector enjoyed, many HWIs have provided better conditions for students and staff. They could afford to. Further, these universities were in a position to gradually build up reserves via savings achieved, on the one hand, while they enjoyed the benefits of rapid third stream support, on the other. To bolster these funds, many a privileged philanthropist provided endowment funding and bequests to these HWIs.

It remains unclear whether the State, despite its improved reporting mechanisms, has paid the desired attention to the historical reserves of each institution under its control. The funding distribution under the NFF that is reflected in the schedules in Chapter Six is one that assumed that all institutions are equal in strength from financial, infrastructural and academic standpoints. This, however, is far from the truth. Even the 'a' factor in the New Funding Framework is currently listed from a stance of equilibrium as if all universities are operating

under equal conditions. This study recommends that reserve balances need to be disclosed in a transparent manner to DHET and the funding framework need to take cognizance of these balances.

10.2.5 Data management

The role of data commonly termed in recent times as ‘big data’, is critical to any resource decision. Data management has emerged as ensuring synergy and trust amongst resource recipients. While the reliance on big data is crucial, the notion of ‘what you put in, is what you get out’ surfaces. Any data system is prone to human interface and interactions. Errors and incompetence, however, do prevail.

This study recommends that reconciliations and hi-tech monitoring systems be put in place in all HEIs to eradicate misrepresentation, and severe penalties are enforced when errors are detected. There seems to be too much reliance on auditors, yet the profession itself dictates reasonable assurance based on procedures. Audits are not meant to pinpoint and vet every single entry in the system. It is imperative for institutions and government to have proper controls in place and ensure accountability from those that input data into the systems.

10.2.6 Match Funds

A ‘match fund’ system similar to the Denmark experience which **need not** be Rand for Rand, should be instituted. This would force institutions into a culture of generating additional funding to supplement their budget and support their operations.

10.2.7 The creation of a Higher Education Sector Endowment and Trust fund

Presently, individuals concerned who wish to invest in the future of higher education choose respective Universities (possibly through their affiliation or alumni) as their preferred choice to preserve their bequests. As such, previously disadvantaged universities may lack the opportunity of attracting these types of funding. Given the inequality in the system, such bequests favour selected sectors and regions of Universities.

From the recommendations of this study, there could be two possibilities that present to Government and DHET, the first being that returns need consideration in DHET’s allocation models in order to level the playing fields. This could be done in many ways, one of which could include a levy on such returns earned or by reducing the block grant by a small margin.

Secondly, and the preferred option, would be the assumption of proper accountability, management and control within Government and DHET. The State could nationalise all NEW endowment funding and create a Higher Education Endowment and Trust Fund that benefits the entire sector fairly, transparently and justly. Such funds could be associated with significant tax benefits.

10.2.8 Higher Education Entrance Requirements Timelines

As in most countries, the tertiary education sectors qualifying criteria for access in South Africa are heavily dependent on the matriculation or grade twelve results. South African Universities make use of the point systems. Most Universities align the points to the DHET scoring based on a sliding scale. However, some have their own scoring system in place.

The debate on matriculation pass marks continues to date with those that are promoters of high quality of education standards insisting on a higher percentage. Historically, the final year's results were released in December allowing institutions and students alike to plan to provide both parties sufficient time to finalise their enrolments. It is recommended that we revert to this earlier date for the release of matriculation results.

Currently, matriculation results are released much later, towards the mid-January. This decision has more cons than pros and creates significant challenges for parents, students and universities. It cuts across the new year and places undue pressure on the system, a system which could ensure quicker registration, a better start to the academic year, catering for unexpected downtime and perhaps, most importantly, more quality time for those in higher education to ensure success.

10.2.9 Planning and timeframes

The current system is almost a year-on-year release of budget based on the allocation from the Minister of Finance to the DHET. As such, it is difficult to plan, especially with the Minister's level of discretion on the different categories that being teaching and research inputs and outputs. More significant than this discretion is the level of the block grant to earmarked grant. Over the years, earmarked grants have grown at the expense of block grants. All this makes medium term (at least three years) planning for universities much more difficult.

The study recommends that the DHET should be considering a minimum guaranteed amount. Further, within the universities, the DHET should impose on the SRCs and staff unions to

secure longer-term agreements with regard to fee and salary increments. The benefits derived from these decisions have many positive spin-offs, and heightened stability for the sector will help eradicate mass action on fees and salaries. Stakeholders can get on and move forward with the business at hand.

10.2.10 Playing the system

The variables of any performance-driven model that is implemented to drive resource allocation rest in the hands of the recipients. With DHET's current model, which is primarily a performance-based one, the smart and opportunistic university immediately latches onto these variables in order to maximise on the 'slice of the pie'. A distribution method to multiple recipients based on output becomes a race, with the 'most energised' maximising on the spoils. In essence, it is a cross allocation of resources, where the proactive and those in good financial standing tend to attract the bigger slices of the pie. They have the necessary tools at their disposal to do so.

Is this a question of the rich getting richer? It is indeed, for the more disposable resources that are available to these proactive universities, the more they could support initiatives that drive the critical variables of the formula for attracting maximum benefits. In essence, it is survival for their institution with little or no bother for other institutions under the DHET umbrella. I doubt there has ever in the history of university leadership been a situation where a University Vice-Chancellor or CFO sacrificed any portion of their share voluntarily to Government for the betterment of lesser or poorer universities. It is then, this study could argue, left to Government to ensure equity and balance for the sake of fairness.

One can gather that any model that is performance-driven, in a sense benefits more those universities with better financial standing, while the poorer ones are disadvantaged. Such models should, therefore, guard against perpetuating unfairness and injustice. This study recommends that there should and must be a case for incentive funding for those that go beyond. However, it cannot be a key driver, or the gross value cannot be of such materiality that it makes incentive funding open to manipulation.

The maximisation and 'fiddling of the system' to attract funding is one of the main reasons for funding models to evolve and change every three to five years.

10.2.11 Maintenance Costs

University buildings form part of national assets, and it should be expected that they are maintained to keep pace with ensuring that they do not reach a state of dereliction. The main argument here is that over the years, funding for these areas became less relevant or less critical and most executive management tends to look over critical maintenance obligations to fund other so-called more pressing areas. Once this practice is done in year one, it slowly becomes a norm. As a result, most universities seem to call for deferred maintenance funding and these buildings are left in an unsatisfactory state. This research thus recommends that DHET impose on and benchmark a fixed percentage of university resources for maintaining its national assets.

10.2.12 Fees increments

It is recommended that fee increases be regulated and aligned to the country's CPI, more so since the National Student Financial Aid Scheme (NSFAS) provides full settlement of fees for qualifying students. Further, tuition fees should be standardised taking into account cost of living dependent on geographical locations. There cannot be a situation where one public university fee structure for a degree, for example in commerce, is materially different from another public university. The only justification that could create this possibility is the differentiation and cost of living within that region. Further, DHET does not differentiate the subsidy portion for that student, so why should there be a fee differentiation? What this creates is an over-allocation to these so-called élite institutions by NSFAS which jeopardises the possibilities of funding other deserving students.

10.2.13 State-imposed guidelines

Earlier (see Section 9.2.1 above), I discussed DHET prescribing a set of guidelines for which universities need to adhere and align themselves. However, these guidelines are broad and broken up into only three areas, salary, operational and capital spending benchmarks.

Given that salary constitutes a significant drain on resources, at times between 90-98% of faculty's costs, this study recommends that there should be benchmarks set for salary costs per sector. Further, such benchmarks should filter to executive management's costs. There cannot be a situation of an expenditure line that does not correlate with the size and shape of a university. It is noted that there may be another university with half the size of students and staff, having the same executive staffing bill.

10.2.14 Possibilities for curriculum standardisation

Although somewhat independent of the scope of this study, this issue does impact resource allocation. The issue refers to the standardisation of the curriculum within public universities. Currently, a historical trend exists where each university designs its own set of curricula for their qualifications. Although quality controls are in place, that of the National Qualifications Framework (NQF) and South African Qualifications Authority (SAQA), the actual content differs from one university to the other. The funding granted for enrolment or a degree is equal.

The funding is equated irrespective from which institution it originates; hence perhaps curriculum alignment is the way in the future. The study recommends that there should be a system of knowledge generation when such knowledge generation has different standards and different content, especially for an undergraduate degree. There is no distinction in matriculation papers at public schools; I, therefore, question why then should undergraduate curricula differ? This difference promotes different levels of knowledge dependent on the entrance criteria of the university. Further disparity is thus promoted if this system is to continue. A further concern is a difference in graduates who stem from professional qualifications such as Engineering, Architecture, Law, Psychology and Medicine. Currently, Universities' take comfort in Councils and other statutory organisations within these fraternities who provide accreditation. There has to be a collaborative effort from all stakeholders to synergise curriculums.

10.2.15 NSFAS Allocations

The study recommends that the National Student Financial Aid Scheme (NSFAS) should be considering decentralising its allocation processes to universities similar to what Government earmarked as a grants process. All universities have a student funding division, some within the Finance Directorate, and others within the Deans of Students/Registrars wing. NSFAS would do better to play a detailed monitoring and fundraising role rather than involving itself in specific applications and allocations processes. This would help create an efficient system as it becomes a process that is now split 26 ways (the number of public universities), especially given that ALL universities have ICT systems in place that assist with management and control of their resources.

10.2.16 The NSFAS Loan Component Recovery

Many countries have and continue to grapple with loan repayment that was awarded to qualifying students. The literature records that most students failed to honour their loan agreements upon graduation, and some have dropped out and ignored this obligation.

Here lies a case of data management within a country. If the country has its data banks speaking to one another, then its revenue services which for most countries is the resource lifeblood has to be '*high-tech*' and fool-proof. The country's tax system and collection laws must also be sound.

Higher education, being a public benefit under the same government, should then be able to tap into its technology of other systems to ensure that the country receives what is due to it. NSFAS should continue the loan mechanisms and conversion process to a bursary. A model that could address both incentivising passing modules while at the same time converting loans to scholarships would be, for example, if students' pass marks are above 80%, the scholarship is 50% and then scaled downwards to reach a 50% pass mark.

The country had an opportunity to avert the #FeesMustFall movement had they been proactive in reaching to the students and the massive demand for higher education. Students were demanding to study, to obtain places at university, to graduate and make a better life for themselves. Under no circumstances should these qualifying students be turned away from the doors of a University. The country should be supportive of those wanting to gain access to knowledge from its universities. Such knowledge, when accomplished, would have significant positive benefits, not only for the incumbent but for the economy as well.

Sacrifices need to be made by Government, and one such sacrifice is taking the chance and ensuring that students are provided with the funding – not necessarily free of charge, but via an amortised loan system. That portion of the loan could be recouped using systems like the South African Revenue Services (SARS) via the employers. For employees, a tax system is in check whereby employers are held to account for defaulting in tax collection and payment to SARS. Thus, is it recommended that a percentage not greater than 10% be deducted monthly and paid over until settlement, in order not to jeopardise the individual and their family's well-being.

The new debate may have its pros and cons: perhaps it could be an interest-free loan, a low-interest fee loan, but interest rates on loans or outstanding balances more significant than the

CPI would be unproductive. As such a low or interest-free loan whereby government sacrifices that portion of the interest as a scholarship is recommended. Interest should be billed only to those students that have not graduated, who chose to encumber the system and dropped out.

Simkins, Scott, Stumpf and Webbstock (2016) point out that in order for a good system of ensuring universities secure their funding for those that do not qualify for the NSFAS fund, there needs to be an efficient credit market which provides funding at reasonable rates. They propose that a system of this nature would provide access while recouping funds from future income streams upon graduates entering the workforce. This recouping of funds could be re-utilised for future loan agreements. Simkins et al. (2016) refer to a 'funding envelop' which in essence is a regulated constant proportion of GDP for funding higher education. They go on to indicate that while a constant portion of GDP share is in effect, spending at HEIs "would need to be accompanied by cost-saving measures, a more prudent form of expenditure within higher education" (Simkins et al., 2016, p. 324).

10.2.17 - NSFAS – A funding house

NSFAS could become the government's funding agent in generating resources for financing student studies. The research recommends that the State should be considering the introduction of additional taxation incentives for the private sector businesses that wish to plough resources to the education sector, be it primary or higher education. Also, such incentives should not be restricted to private businesses but also cascade downwards to those parents and individuals that help support students.

10.2.18 Tax Incentives for fee payments

It is recommended, further, that those who can afford to pay fees should continue to do so, but be given some avenue of financial reward, for example, if all payments are made to public higher education institutions, certain tax incentives can be enjoyed like in the case of Botswana (*see Chapter 4.2.1*).

10.2.19 Rewarding Research Productivity

Research has become an area of growing importance, especially since universities are seen as the economy's knowledge producers. Research comprises peer-reviewed publications in the form of books, chapters in books, conference proceedings and journal articles which accrue

benefits to both universities (see Table 7.4, line item 1.4 and Chapter 7.5.1c), and in some cases to academics themselves. Such research, however, is seen to be prescribed, as the STATE only deems approved (accredited) publications to be worthy of a reward.

For example, in the case of journals, such publications are only considered in the funding rewards model if the research was published in the DHET's Accredited List of Journals. This list is updated annually by DHET. Currently, all journals that appear on the DHET's list are rated equally, despite their standing in the academic community, where some journals are considered to be of higher impact internationally than others. There could be a rating/weighting mechanism and validity to this selection criterion based on the rating of the journal. Further, natural science research could be given the edge in its classification, and the model should, therefore, weight natural science research higher than human sciences in line with its CESM fund group strategy. What follows, and recommended by this study, is that academic staff would be expected to deliver on a normed output and any approved and published submissions over and above the normed output, should be incentivised by way of payroll increments, accelerated promotion or productivity rewards in research cost centres.

The recent creative outputs policy (DHET, 2017), which is yet to be tested in practice, reveals that creative work is not accorded the equivalent reward status as their published counterparts. This latter disparity is not consistent with the fund groups' classification (CESM), in which visual and performing arts are rated higher than other humanities disciplines. DHET maintains that the monetary return on creative outputs is not rewards but incentives (DHET, 2018; for a detailed account on the Policy for Creative Outputs, see Government Gazette, 28 April 2017).

10.2.20 Incentives for driving transformation

The study recommends that there ought to be a balance when dealing with access, and public universities should ensure that students from disadvantaged backgrounds are equitably represented in the sector. This means that students from quintile one schools (most poor, while quintile 5 is the least poor), are not given the same foundation in primary education through equitable infrastructural requirements, teaching requisites, quality of teachers and curriculum. An option would be to drastically improve funding to universities that are committed to ensuring equitable access to students from disadvantaged backgrounds.

The introduction of the policy within the white paper, promoting an open learning system whereby TVET and community-based college students could embark on university

qualifications, provides hope for a highly skilled and critically thinking population. One could envisage a class of 100 third-year students direct from matriculation to university, engaging in a classroom filled with 50 adult learners who came through the system via the TVET and community-based colleges. The opportunities for engagement and critical thinking will shift the higher education sector to another level, provide greater collegiality and behavioural benefits within the classroom setting. It would also force the academic in charge of the classroom to ensure the content, teaching methods and style are relevant, engaging and of the highest standards.

10.2.21 Equity

This research recommends that there should be rewards for universities that drive staff equity. Universities should be provided additional funding for fast-tracking promotional prospects within the academic sector which should be aligned to national imperatives. The input and output grant should be race and gender classified in order to reward universities that enrol and graduate students that stem from disadvantaged or previously marginalised backgrounds. The latter could be accomplished using the quintile school classification system as discussed above.

10.2.22 Classification of Universities

In South Africa, there are three types of universities under the control of DHET: Research Universities (or Traditional Universities), Comprehensive Universities, and Universities of Technology. There is a clear, distinctive line that exists between each of these universities. They have their own identity. As such, their cost structures differ. Funding should in the first instance, take cognisance of this differentiation.

Over and above these types of universities, there is one institution, the University of South Africa (UNISA), which is a distance education university. The model must also take cognisance of the fact that a Distance education Institution, therefore, cannot be treated in the same as a contact HEI. The current research recommends further research into the cost structures at universities in order to identify whether the claim made here is one that is valid. It is assumed that contact universities cost more than distance universities. Although the DHET acknowledges the cost structures of UNISA, recent downward amendments to the fund group values indicate that it was possible that UNISA may have been overfunded.

10.2.23 Tax Incentives for companies and individuals for supporting Higher Education

A further recommendation is that substantial tax rebates should be granted to a business or person that chooses to fund higher education in the country. However, given the disparity that exists between poorer and richer universities, nationalised third stream income mechanisms could drive this support. Cost-sharing thus becomes shifted from students/parents to big business and private philanthropists. Apart from tax incentives, the question of what other benefits can be awarded to philanthropists/donors should be considered.

10.2.24 Incentives for graduate employment

South Africa is classified as a developing country which has an unacceptably high unemployment rate of 27.1% (Trading-economics, 2019). Given that South Africa models itself on incentivised funding, rewarding universities when its graduates are employed could be the solution to reducing the country's unemployment rate. This would force the university to engage and collaborate with the industry to ensure their curriculum is relevant and helps graduates secure employment. There are a range of positive spin-offs for the student, the university, industry and the economy if such a system is sanctioned. In essence, it is recommended that the model that is currently in place for UoTs with Work Integrated Learning, be expanded to all universities. This can be done through research studies into the various sectors in order to establish where there are needs and restructure curricula accordingly.

10.2.25 Funding Higher Education Services without impacting the fiscus

In any resource model, its income drivers are critical to the success of meeting its objectives. Instead of overtaxing and further burdening the taxpayer or attracting foreign loans to cater for higher education's needs, there are ways in which the ordinary taxpayer may willingly and unwittingly support the higher education system.

This section provides some wild card possibilities (apart from those discussed above) as recommendations or food for thought:

- Fund higher education via National lotteries and sin taxes, mainly gambling tax;
- Promote investment via government bonds for which a share is routed to supporting higher education;
- Create what is a Higher Education holding company which fully registered and abides by the country's governance laws under an umbrella with multiple

subsidiaries. These subsidiaries must include all forms of areas that are usually built into the higher education systems salary and operational spend. For example, the creation of multiple scheme deals for all public servants of the sector may include a higher education pension/provident fund, higher education medical scheme, higher education group life scheme and so forth, all at no additional cost to the employer but shifting the income source from the private sector to the public fund, where it belongs.

- Stemming from all higher education funds to be housed under one umbrella, use the said resources to eradicate private loans that universities service in their books of account. That is, instead of the university service debt to the private sector, they can service the same debt via the State, where the State is seen as the funding agent. These liabilities tend to continue indefinitely, and valuable resources are being wasted on servicing such debts.
- There must be a concerted effort directed from the State for universities to curtail costs; benchmarks need to be adhered to, or the university called to book. The Higher Education Price Index should be as closely aligned with the CPI. Universities should be driven towards financial sustainability, and sub-committees of councils need to play a more defined role in ensuring the same.
- Similar to government bonds create a higher education investment fund whereby private citizens and public/private companies may invest their surplus funds at preferential rates. A longer-term action plan is to consider listing on the Johannesburg Stock Exchange (JSE), using banks as security agents: a far-fetched idea, but worth considering!
- There should be a separate pool of funds to deal with special needs students who may require additional resources and services.
- A University that ranked highly brings honour to the country and should be provided incentive funding via the block grant.
- When students migrate from the area they resided, financial support should be reduced to deter them from doing so. Providing funding to those students who voluntarily migrate costs the State more than it should and these additional costs should be borne by the student and the university that accepts them. Only students specially selected based on the meritorious academic performances in final secondary schooling exams should be granted 100% scholarships.

- The State should consider a weighting factor that caters for an area of location about its cost structures. Some tolerance allowance is acceptable since costs structures differ from one province to the next where the same goods and services are more expensive.
- Mirror the Nelson Mandela teachings of the role of sport in positively impacting a nation. Use sports like soccer, rugby and cricket as starting points to form leagues registered with the official arm, e.g. South African Football Association (SAFA). These leagues must be for students and staff. Use the students as players that are owned by the university and should clubs both local and international spot the talent, they can make the sale and earn income. A further deal could be struck to earn royalties from the players' future earnings to support higher education in general.

10.3 Recommendations for University consideration

In this section, based on the research findings, I present possibilities for university decision-makers. At the outset, a greater alignment to the State's model is proposed. The suggestions below are in no particular order. The call is for universities to consider a hybrid model that balances cross-subsidisation, top-slicing, departmental needs, performance (only when exceeded the norm), all of which consistently managing financial sustainability.

10.3.1 Use of independent variables

While the State funds universities with the use of data based on a two-year lag, the universities themselves may find that aligning the two-year lag could be dated. Given the above, perhaps the key ingredient is separating the resource base by its dictated variable. This entails breaking down each resource base to that of subsidy, fees, other income and investment income. The subsidy component thus could consider dated mechanisms and make use of performance-based funding given its alignment to the DHET $n-2$ model where ' n ' equals the current year. On the other hand, tuition fees could adopt an $n-1$ model with more consideration of a real-time solution. Any funding mechanism, however, must come with its share of top-slicing and cross-subsidisation.

10.3.2 Activity-based costing

The purpose of an activity-based costing model which funds the sectors by activity should be considered, as it involves funding a unit based on its costs to teach a student. Examples may include the actual costs of lecturing a module with all its infrastructure and administrative requirements assigned to it. It is imperative for universities to ensure individual units are financially viable, sustainable and are not overly funded. With regard to financial viability and sustainability, early detection would assist decision-makers in putting in place mechanisms to remedy the situation before it spirals out of control. An activity-based approach provides key information that could inform such decisions.

10.3.3 Basic plus commission

In any given system, and provided at some point the universities conducted a viability testing, and realignment of costs exercise, it is recommended that the departments should be provided with a normed output that being the basic value. Thereafter, a system of incentivising performance could be used to reward productivity over and above (commission) the normed output. Such a model has a two-pronged benefit, the one being that it resolves fixed costs and the other that it provides additional incentives for individuals within the sector that are high performers. Such a model could be cascaded to the individual performance of the incumbents, Deans, DVCs, VC and so forth, as part of their HR key performance areas.

10.3.4 Wasteful Expenditure

Each university at some point in a given year has built into their expenses, line items that could be constituted as wasteful, upon close inspection. This statement is justified by the fact that higher education inflation rates often supersede the country's CPI rate by as much as two percent. Universities need to analyse the extent of their spending patterns. University expenses can be constituted as generic in the sense that the nature of expenses is generally standardised year-on-year.

This study recommends that controls be put in place primarily in the areas of salary spend where many contract staff is employed to do the work of already salaried, full-time employees. Universities seem to lack control in this area of achieving maximum value for the salaried academic or support staff member. Academics are paid, irrespective of whether or not they succeed at what they are contracted to deliver.

Another area on the operational side that requires attention is the duplication of services across the sector. Each respective university operates in silos, and the sector itself is not necessarily maximising on the buying power and potential that it possesses. However, universities, especially those that have devolved elements within it, work in these silos. That is, one sector may purchase the same item at a lower price than another sector, and no cross-checks are done. Procurement is decentralised to those individual departments. In such cases, the devolution of responsibility, especially procurement-related to common goods and services, is recorded as a negative factor rather than a positive one, with the university bearing the loss. Most universities operate a centralised receiving system; however, as in the case of UKZN, many seem to be ridding themselves and releasing the responsibility to faculties instead. Procurement is decentralised.

10.3.5 A Zero-Based Approach

Most universities operate on a historical system of spending and base their budget allocations on prior year spending. However, with the changing times and improved technology, these spending patterns may be unrealistic. For a reshaping of spend trajectories, a zero-based system every few years is recommended to start to generate real-time data and spend patterns. As an example, the University of Johannesburg (*see Chapter 8.2.3*) experimented with this process. All universities at some point need to do the same to ascertain the true nature of spending. The study recommends all universities to drive cost containment.

10.3.6 Synergy in Salary costs

Salary costs constitute one of the most significant expenditure line items at every institution, eating up the dominant share of university budgets. Within the sector, however, these salary ranges differ considerably from one university to next. Even pay progressions programs or systems, e.g. the Peromnes System, differ. No synergy exists within the sector and Universities are of the belief that their system is the most appropriate, given that it was historical and presumed to work. At times even within the same region, academic scales may differ, thereby prompting staff to migrate and continue to do so, chasing better salaries in the process. Therefore, this study recommends a standardised higher education pay system.

10.3.7 General increase

This process of annual increases is awarded to university staff. Each university, however, based on the negotiations with their respective Unions, decides upon a percentage increase year-on-year. Strangely, most universities that delay the process tend to piggyback on the settlement of their counterparts and use these as bargaining mechanisms. The situation perpetuates, and disparities within the sector continue.

Each university operating in their respective regions has to face its cost of living factor. For example, prices of goods and services may differ from one region to another depending on cost structures that are built in to provide such services. The cost of living in a city like Johannesburg may differ from, for example, Durban. The study calls for standardisation with consideration for costs of living across the sector.

10.3.8 Salary range per sector

If one considers the sectors within a knowledge system, it depicts a borderline between natural sciences and human sciences. The very system from primary schooling indicates that the costs of teaching natural sciences are higher than that of its counterpart. This notion is synchronised into higher education, and with the use of the CESM categorisation, more funding is granted for natural science courses. With this notion, one can ask the question: why then are lecturers' compensations the same? The scale system is applied across the board. For example, a social science lecturer earns the same pay as the civil engineering lecturer. The current research recommends that universities should be considering separate salary ranges that befit the efforts of the sector. The fact that it is more costly for a civil engineer to graduate may also justify a higher salary range.

10.3.9 Unpacking salary costs and creating opportunities

Universities could choose to be proactive, and by unpacking the salary costs to their minute details, could identify opportunities for massive savings and investments. At this point, the private sector enjoys the benefits of providing services to the institution's staff. Such services come at a premium price. A typical example is a provision for an in-house medical or group life scheme. This study recommends that salary costs be 'unbundled' and universities exploit any opportunities for cost containment.

10.3.10 Staffing model that is representative of the university need

The model adopted by the University of the Free State (*see Chapter 8.2.7*) about its staffing costs seems innovative in the context of ensuring minimal or no disruptions to the academic calendar from the perspective of staff employed. Their “53 Model” almost dictates and resolves any such disputes about general salary increase or pay progressions. In essence, this model dictates that if the resource base equals x , then the salary budget should equal 53% of x , thus leaving very little room for negotiations around salary costs. Numerous positive spin-offs could be derived from such a model, and these include:

- No downtime (staff strikes) and wasting valuable energy on negotiations;
- The building of trust between Management and Staff;
- University stakeholders will work harder to generate more resources for the University;
- In difficult and challenging years, everyone is aware and shares the grief;
- A top slice percent upfront is a salary bill, with reduced negotiation around the wage increase, and
- Stakeholders will work harder to ensure sound financial management.

Further, from general trends and discussions from participating universities, what is clear is that most staffing positions that are vacated, are replaced based on motivations from Deans of Faculties. Almost all of these positions are seen to be relevant based on historical existence. This study recommends a model that could dictate the desired requirement of academic and support staff, which would revolutionise the industry. Such a model is in the process of being developed by this writer as a pilot study for the College of Humanities at UKZN. In essence, with the use of key performance indicators that stem from already existing data and taking cognisance of DHET guidelines, key variables will drive the model. The objective formula to determine the required number of staff follows, where, if x (key variables stemming from data) = a sum total then y (staffing), should equal to x number of headcount staff.

10.3.11 Permanent or contract staff

South Africa is fraught with challenges of funding the higher education sector and issues around return on investment must be the key driver to decision-making. Given the very nature and purpose of a university, this return is not limited to monetary factors alone.

This study recommends that the issue of tenure of academic and support staff be debated. Universities tend to have aligned themselves to the historical model of permanent (lifetime) appointment. Whether these academics are productive and meeting their contractual agreements or not, they continue to cost the university without sufficiently funding their salaries. Support services should also be subjected to tenure conditions to ensure efficiency in the system. Five-year tenure is recommended for all positions at universities.

10.3.12 Duplication of offerings

The study recommends that universities ensure that there is no room for duplication of offerings within the curriculum. Areas of commonality are replicated in different spaces. This situation is more common at a postgraduate level where similar modules are taught by multiple lecturing staff. An example of duplication is the case of a research methodology module that is offered within different schools or faculties. These naturally increase cost structures.

10.3.13 Shared Costs and third stream income

Universities need to ensure that as a stakeholder to the Government, their role is crucial in ensuring alignment to national imperatives. As such, the shared costs approach promoted by the State requires universities to also assist themselves. Universities are in a position to attract massive sums of funding as compared to other sectors (e.g. law and order, health, home affairs and so forth). Therefore, the study recommends that they should be doing much more than they currently are, to support the main operations of the university and attempt to relieve the burden imposed on private households and the State, by attracting third stream income.

10.3.14 The eradication of duplicating services

The HE sector in the country is primarily rooted in the foundations prescribed by the apartheid government. Most universities operate independently, and the universities themselves have seldom rationalised. Universities of the Witwatersrand and Johannesburg are a case in point: they operate in close proximity of each other. Both offer a range of courses and degrees, whether viable or not. It then becomes a student's choice as to which university s/he prefers to attend to attain a qualification. The study recommends that universities, through a system of collaboration and equal benefit to the sector, should eradicate such duplication.

10.3.15 University Debt

One of the significant challenges facing all universities in the country is the issue of student debt. Historically, due to the fees billed to students being beyond their control, this debt rose to exorbitant amounts. Exacerbating this problem is the issue of interest being billed on these outstanding amounts. I then ask: if all universities seem to have somehow managed over the years without this funding, does it not suggest that the fees are misaligned with real costs? Universities simply continued to operate despite unpaid fees year on year. This study thus recommends that universities through negotiation offer realistic settlement amounts by writing off the interest charges and if need be slashing the debt by a substantial percentage, get a newly signed acknowledgement of debt with stop/debit order agreements and clear this historical 'nightmare' from its books.

10.3.16 Disparity in fee structure

Another issue that ought to be considered is that of the differentiation of fee structures from one university to the next, and its implications for NSFAS support. The University fee structures have been based on historical trends, and costs for similar programmes differ substantially between these public universities. In a system of justice and fairness, the State cannot pay differential support, and the recommendation here is for standard support, with the university footing the bill for the differences. This forces the universities to ensure that the fee structures reach equilibrium or are reduced to an acceptable differentiation. Of course, the issuer of tolerance levels for consideration of regional costs structures discussed earlier must be considered.

10.3.17 Collaboration, Learning and Sharing

Budget frameworks remain within the confines of the respective university. I am of the opinion that most Finance Officers together with their Executive Management team, believe that their budget model is suitable to their organisation and possibly have logical reasons as to why the preferred model is adopted.

This study recommends the sharing of best practice, ideas and concepts across HEIs, as this would only improve the system and create positive results. Greater collaboration in these areas must take place, whereby different sections within a Finance unit can engage and interact. These must include the sharing of information on both resources as well as spending.

When one considers that public higher education in the country is under one umbrella, that of the DHET, there are vast possibilities that exist for engagement in every sector. Higher education challenges could only be overcome by information sharing and adoption of best practice. The silo mindset of each university operating on its strengths or weaknesses needs to change in that the sacrificial lamb or beneficiary is civil society and ultimately, the country's economy.

10.3.18 International collaboration

Universities in South Africa have been operating independently historically and continue to do so. There is little collaboration within the sector, and while international collaboration does exist, much more needs to be done locally. Collaborating with other institutions locally and abroad provides a platform for engagement and could offer best practice scenarios to create efficiency, enhance quality and uplift the sector and its legitimacy. The study recommends that the State requests universities report on collaborative engagements. University leaders must promote collaboration at every opportunity. Mechanisms, including an incentive scheme, could be developed either by the State or the universities to help drive such collaborative efforts.

10.3.19 Mass Action and its Wasteful Expenses

Student and staff protest in HE has become a common occurrence in South Africa. Sadly, these protests often turn violent and result in massive damage to property especially the infrastructure. The damage incurred requires huge sums of funding to be ploughed into refurbishing and making good the environment post-protest action. It is recommended that HEI leadership, both student and management, should be contractually bound ensure that protest action is controlled and issues that require deliberation should be tackled without any destruction to property.

10.3.20 Creating an efficient supply chain management for the higher education sector

While the Purchasing Consortium of South Africa (PURCO), to which most universities are affiliated, exists, universities continue to operate independently. The higher education sector spends enormous amounts of money to run its daily operations. Higher education is fortunate to have an organisation within the sector focusing on maximising on the buying power for the system. PURCO has many universities subscribing to them.

Further, universities capital spending has increased in recent years, given the introduction of earmarked funding which predominantly favoured infrastructural upkeep. The demand for higher education resulted in more buildings, more residences and more general upkeep. This brought with it an influx of tenders. Sadly, such tenders remained independently sourced by each university. Universities have not ‘piggybacked’ on a previous process that was engaged within the sector. This study recommends that universities exploit the benefits of PURCO and start to trust its mission and vision for the sector.

10.3.21 Leadership styles

In leadership surfaces different managerial styles, the broad concepts being participative or democratic leadership, autocratic leadership and *laissez-faire* leadership. This also impacts decision- and policy-making and could have significant influences on the success or the failure of the institution. A leader who is prone to be less focused on issues of corporate governance principals will send a poor message to its stakeholders as compared to one that abides by the various codes of corporate governance. The level of autonomy almost nullifies the State’s influence on the leadership of its universities. There are various bodies within the system, such as the South African Universities Vice-Chancellors Association (SAUVCA) and Universities South Africa (USAF). This study recommends that these bodies strive to become more visible and play a greater role in marketing their existence and purpose.

10.3.22 Sweating of Assets

Many universities do not sweat their assets, in particular, the infrastructure, to achieve their fullest potential. Universities across the country tend to operate within general working hours, from 8am to 5pm (Monday to Friday). While there are few pockets that are exceptions to the rule, such as business schools, accounting and law schools that go beyond 5pm, most other departments shut down. Recently, we have seen that some libraries operate on a 24/7 basis providing students with the mechanisms necessary to learn. Aside from tests and exams that may be set after hours or on weekends, few lectures occur during these periods. The evidence that emerged on the issue of massification in the country together with unacceptable unemployment rates poses significant challenges. Imagine a university that is a vibrant 24/7 operation: this could be a self-funding system paid for by those wishing to attain a qualification who are not available during the standard working hours.

Three benefits are apparent in this recommendation. Firstly, by creating a system of block sessions, the country could substantially reduce its unemployment rate by duplicating academic and support services. This would allow the employment of more contract lecturers, which could have a profound positive result for the economy, the sector and the civil society at large. Secondly, assets could be used to their full potential instead of lying dormant after 6pm. Thirdly, and perhaps most importantly, we would succeed in educating the masses and alleviate purporting access as a challenge.

10.3.23 Water and Energy Efficiency

South Africa has of late been plagued with firstly, an energy crisis and subsequently, a water shortage. Such crises directly impact and destabilise education, posing a hindrance to teaching, learning and research, Universities are sizeable, and as such, consume vast amounts of water and energy. This research recommends that steps for energy savings are put in place if not by the State, then by the University itself. The use of green technology encompassing solar energy and water reticulation, for example, could be enforced, and funds typically used in these areas could be re-channelled to more critical challenges facing the sector. The UKZN Participant alluded to this notion (see Chapter 8.2.2) and called for “going green” with better control and monitoring systems.

10.3.24 Rewarding Research and Creative Contributions

Although DHET considers research output specifically from journal articles as a block grant variable, some universities pass on these credits to academic staff that produced the article by way of funding their personal cost centres. At UCT (*see Chapter 8.2.6*), the Participant indicated that researchers were not given any financial support from the block grant in general, as “that is the paycheque” and it is expected of them as academics. In contrast, UKZN provides its researchers with incentive funding of a productivity value per 60 productivity units generated per accredited journal article; at one point, this value was R24 000 per 60 PUs, which was subsequently reduced, to great dissatisfaction, to R14 000.

This study recommends that there should be debate around rewarding academic staff consistently for productivity units based on publications, with the aim of reaching consensus across the sector. Universities cannot record such disparity in their operations especially since all public universities operate under the DHET. Either all universities reward staff or none should. Thus a call for parity is made. I would recommend universities reward staff for greater

than their normed output. This way, the ingredients of the UCT model are covered, whereby staff are getting paid to research (normed output), and the incremental performance output that other universities adopt is rewarded, and performance greater than the norm is recognised.

With regard to creative outputs, which refer mainly to the Visual and Performing Arts, Universities need to find ways of standardising the recognition of such outputs. UKZN, as I am aware, started to acknowledge creative outputs recently but deliberations need to occur across the sector with the aim of adopting a workable model.

External examination remuneration, incidentally, varies across the sector and should also be standardised. The efforts required of an external examiner are constant. Hence I flag also the existence of the disparity.

10.3.25 Research Incentives through Citations and Supervision

When driving performance funding, output factors remain the common variable. In the case of research output data, in addition to the accredited journals and their weighting based on impact, another conduit model recommended could be based on citations. Students globally can assess the database and researchers could be rewarded for the number of citations.

A further criterion is to consider incentive variable on the number of Honours, Masters and PhD degrees that academics are allocated for supervision over and above normed output. Here I caution that quality should never be compromised.

10.3.26 Standard administration rate across the sector for grants

The overhead charges from research grants (bar NRF which does not permit this) form part of the Universities' third stream income source. As such, most Universities bill research grants a flat overhead rate ranging from, for example, 10% to 25%. It is recommended that universities ideally have a standard rate for administration fees billed to research grants.

10.4 Recommendations for Future Research

Throughout this project, as I engaged with literature, the SA funding framework and discussion with Participants from participating universities, I continued to identify gaps in a number of areas. The areas that I felt require further probing are outlined next.

10.4.1 Endowment and Trust funds within the sector

The level of funds that are currently in the books of each public higher education institution needs to be explored and disclosed then used appropriately (justice and fairness). Likewise, statistics around the history of funding per institution, including its replenishment, spending and balances for the past five decades, requires exploration and documentation. Mechanisms to attract further funding from potential donors are a key area for research.

10.4.2 Universities' Main operational expenditure

Studies need to be conducted on the various spend categories in a University. A comparative study must include a departmental breakdown, sector by sector within a university to ascertain the consistency in relation to size and shape, especially for the ticket items like Campus Protection Services, ICT, Libraries Infrastructure, Maintenance and the like.

10.4.3 In-sourcing: Before and After

A study here would test both the cost versus benefits of before insourcing occurred to outsourcing non-core activities. These must include all future costs for example post-retirement costs.

10.4.4 Unpacking the Annual Financial Statements

It would be of interest to conduct an analysis of the Annual Financial Statements per institution and classify these according to the various categories of Universities. A Du Pont Analysis could then be conducted, which provides a synopsis of the strength of the university regarding liquidity, solvency and risks. This would provide DHET sufficient tools to make informed decisions to address issues of redress.

10.4.5 Call for a Higher Education Budget Framework Symposium

The Participant from UJ, having been briefed that this study is located at UKZN and that the researcher is one of the Finance Managers at the University, was curious to know how UKZN approaches the distribution of resources. After providing a snapshot of the model adopted by UKZN, the Participant found this to be quite exciting and stated that she wished to spend some time with us. While UKZN would happily share its model and practice informally, a Higher Education Budget Framework Symposium could be initiated by DHET and this should be supported by the Minister.

10.4.6 Salary ranges per rank per region

Studies need to be conducted on salary ranges per rank (e.g. Professor, Associate Professor, Senior Lecturer, Lecturer), per region. What should be included in these studies is the scaling system that is adopted by each university and their subsequent performance management system.

10.4.7 Earmarked Grants

To test if its validity from shifting funds from the block grant to earmarked grants, growth, future, goals and objectives were met, a study on earmarked grants should be conducted.

10.4.8 National Student Financial Aid Scheme

An in-depth study on NSFAS funding is needed urgently, testing its legitimacy, student perceptions of it as a resource, and its funding mechanisms in meeting the goals and objectives of the scheme as well as highlighting the challenges. A longitudinal study will also reveal whether such a mechanism is achieving its desired goals (*see Chapter 5.3.1 on satisficing*).

10.4.9 Space Audit at Universities

Detailed space audits that relate to occupational health and safety as well as other pertinent indicators such as driving enrolment planning, need to be conducted at least once every three to five years. These space audits are critical given that all public universities form part of the State's national assets. In addition, data presented from these audits could be used as variables to drive funding models.

10.4.10 Sweating of Assets

Studies should be conducted on the traffic volumes at universities during different periods of the day and must include the location of the students: are they resident students or do they reside nearby; what costs are incurred within the system that could be saved in times of total shutdown?

10.4.11 The impact of higher education from a return on investment perspective

A two-pronged study that firstly focuses on the impact of graduates on the economy with the use of big data that tracks all graduates' income and their related tax revenue to the country

would be useful. This would provide the government with the statistics to test its current decision-making policies or inform new ones. Secondly, the NSFAS funded students and their contribution to the fiscus is vital as it provides critical information that could help drive policy reform.

10.5 Recommendations for a Roadmap for a Funding Framework

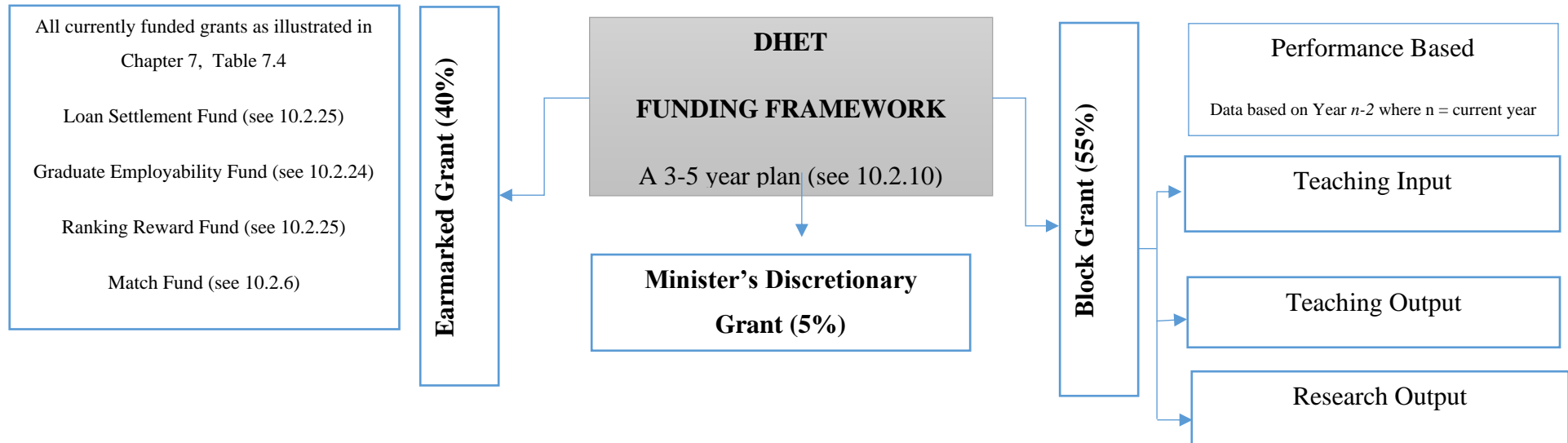
In an attempt to synthesise all the recommendations from this research, as well as from my experience of what works, I include a diagrammatic representation of what I have distilled as essential ingredients for a funding framework for higher education in South Africa, for its context and its needs. This is a Roadmap, hopefully pointing the way to a future without as much crisis.

In the Roadmap which follows, the following need to be noted:

- It is underpinned by Simon (1959), Rawls (1982) and Boltanski's (2011) Theories of Satisficing, Justice and Fairness and Critical Thought respectively, which are central to this research;
- For ease of reference, in order to offer a synthesis from different sections of this research as a written work (and as an experience), I include the relevant sections;
- It reflects the DHET funding framework and moves on to Entrepreneurial Ventures and other considerations, as recommended in this chapter, showing the synergy that underlies all;
- The second page captures the Variables of the Block Grant in terms of Teaching Inputs, Teaching Outputs and Research Outputs. The Minister's discretion is limited, and stability in the funded amounts are therefore guaranteed. Here I provide a range of variables that are essential add-ons to the current funding framework. These variables drive radical reform and ensure that disparities levelled by the apartheid government are addressed. Also, they align themselves to the National Development Plan of South Africa. These mechanisms would ensure social security and provide stabilised social welfare to the majority of our people. Such welfare and benefits to be cascaded down the line for generations to come.
- Thereafter, I provide notes and examples of these variables could be applied to a given model.

ROADMAP TO HIGHER EDUCATION FUNDING IN SOUTH AFRICA

Underpinned by Simon (1959), Rawls (1982) and Boltanski's (2011) Theories of Satisficing, Justice and Fairness and Critical Thought



Entrepreneurial Ventures

- Staff and Student League, Cricket Series, Rugby League (see 10.2.25)
- Private and business invest in higher education fund (see 10.2.25)
 - Tax Incentives for companies (see 10.2.23)
 - Tax Incentives for Fee Payments (see 10.2.18)
- Attract funding from National Lottery, Gambling Tax, Sin Tax (see 10.2.25)
 - Higher Education ICS System (see 10.2.25)
 - DHET Group Life Scheme (see 10.2.25)
 - DHET Pension Fund (see 10.2.25)
 - DHET Medical Scheme (see 10.2.25)
 - DHET Endowment and Trust Funds (see 10.2.7)
 - NSFAS: A Funding Arm of DHET (see 10.2.17)

Other considerations

- South African Students Doing Post Graduate studies at Accredited Universities (see 10.2.2)
- Reserve Status (see 10.2.4)
- Data Management (see 10.2.5)
- Improve Timelines (see 10.2.8)
- Planning and Timeframes (see 10.2.9)
- Fee increments (see 10.2.12)
- State imposed guideline (see 10.2.13)
- Curriculum Standardisation (see 10.2.14)
- NSFAS Allocations (see 10.2.15)
- NSFAS Loan Component recovery (see 10.2.16)
- Transformation Drive (see 10.2.20)

VARIABLES: BLOCK GRANT

(NOTES 1-14 THAT FOLLOWS PROVIDE FURTHER CLARITY)

Teaching Inputs

Teaching Outputs

Research Outputs

CESM (Note 1)
Fund Groups (Note 2)
FTE (Note 3)
Differentiation in Universities (Note 4)
Race and Nationality (Note 5)
Gender (SA Only - Note 6)

Head Counts (9)
Fund Group (Note 2)
Pass Mark (Note 11-Undergrad-Coursework Masters)
Qualification Level (Note 12)
Race and Nationality (Note 5)
Gender (SA Only- Note 6)

Fund Group (Note 2)
Pass Mark (Note 11- Full Masters and Doctoral)
Race and Nationality (Note 5)
Gender (SA Only- Note 6)
Disability Status (SA Only- Note 7)
Quintile Origin (SA Only- Note 8)

**FIXED
ALLOCATION**

**FIXED
ALLOCATION**

**FIXED
ALLOCATION**

NO MINISTERIAL DISCRETION EXISTS ON % ALLOCATIONS TO TEACHING INPUT, TEACHING OUTPUTS AND RESEARCH

NOTES

During May 2018, the DHET facilitated a series of consultative workshop for all universities. At the workshop, discussions were held regarding DHET's plans to 'tweak' the New Funding Framework. For this study, it is assumed that the level and detail amount of work undertaken by the task team set up under the Ministry is valid and accurate. Further, all new models retain the better parts of the previous model. As such, I make use of these newly proposed weighting tables that were made public and go one step further to suggest 'Add-Ons' and provide other variables that I believe need consideration.

The recommendations listed below are underpinned by the notions of *Critical Thought; Justice and Fairness, and Satisficing*. Against these notions, the following fundamental principles are considered:

- a) Maintaining and promoting university autonomy;
- b) Increasing DHET monitoring of the sector;
- c) Improving time-frames;
- d) Creating financial stability across the sector;
- e) Empowering and supporting university management;
- f) Reducing political interventions;
- g) Decision-making that is rational;
- h) Preserving National assets;
- i) Generating a knowledge economy;
- j) Making use of actual audited data that is based on year $n-2$ where 'n' = current year, and
- k) Aligning funding to any Ministry with the national goals.

In addition to the above fundamental principles, I provide a snapshot to complement the Roadmap and its variables. These are classified under 'notes' in the above figures. At the outset, DHET is to fund a student based on the maximum credit point per year with a ceiling set for the undergraduate degree; for example, for 320 credit points. If each module equals 16 credit points and a degree is aligned to $Y1=128$ (8 x 16 credit modules); $Y2=96$ (6 x 16 credit modules), and $Y3=96$ (6 x 16 credit modules), that student's funding is restricted to the total 320 credits for an undergraduate qualification. Similar principles must be adopted for

postgraduate qualifications. In other words, DHET should not fund students that go beyond the minimum allotted time OR fund ‘non-degree’ modules.

Note 1: CESM

The classification of educational subject matter provides a distinction between the different areas of study breaking them down into natural sciences and human sciences. Further, these classifications make use of a coding system between 1-20. See Table 10.1 below

Table 10.1: CESM

Funding Group	CESM	CESM field name
Funding Group 1	04	Business, Economics and Management Studies
	07	Education
	12	Law
	16	Military Sciences
	19	Public Management
Funding Group 2	05	Communication, Journalism and Related Studies
	06	Computer and Information Sciences
	11	Languages, Linguistics and Literature
	17	Philosophy, Religion and Theology
	18	Psychology
	20	Social Sciences
Funding Group 3	01	Agriculture, Agricultural Operations and Related Sciences
	02	Architecture and the Built Environment
	08	Engineering
	10	Family Ecology and Consumer Sciences
	15	Mathematics and Statistics
Funding Group 4	03	Visual and Performing Art
	09	Health Professions and Related Clinical Sciences
	13	Life Sciences
	14	Physical Sciences

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Note 2: Fund Groups

The DHET based on its National imperatives and costing mechanisms provides funding to universities by classifying the area of study into four core groupings. Table 9.1 above reflects the DHET’s grouping. Each fund group, however, is weighted between 1- 4 with one being the lowest funding unit and four the highest. In comparison to the previous old and current table, noted changes include psychology shifting from funding Group 1 to 2, Business from funding Group 2 to 1 and Agriculture from funding Group 4 to 3. All are signifying DHET’s analysis of the costing structures and its realignment in terms of national goals. These fund groups must be considered in all three drivers that being teaching inputs, teaching outputs and research outputs.

Note 3: FTE

The FTE principles must continue as they provide a mechanism to realign student headcount with the number of modules they choose. This must be seen in conjunction with Notes 2 and 3 below. Table 10.2 is an extension of Table 9.1 and reflects fund groups 1-4 with FTE weighting factors per NQF levels for contact, Unisa and other universities distance offerings.

Table 10.2: Fund Groups/NQF Qualification levels and Weighted FTE

Fund group	Undergrad/dipl & equivalent NQF Levels 5, 6 & 7			Honours & equivalent NQF Level 8			Masters & equivalent NQF Level 9			Doctoral & equivalent NQF Level 10		
	Cont	Dist: UNISA	Dist: Rest of Univ	Cont	Dist: UNISA	Dist: Rest of univ	Cont	Dist: UNISA	Dist: Rest of univ	Cont	Dist: UNISA	Dist: Rest of univ
1	1	0.4	0.5	2	0.8	1	3	3	3	4	4	4
2	1.5	0.6	0.75	3	1.2	1.5	4.5	4.5	4.5	6	6	6
3	2.5	1	1.25	5	2	2.5	7.5	7.5	7.5	10	10	10
4	3	1.2	1.5	6	2.4	3.0	9	9	9	12	12	12

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Note 4: Differentiation in Universities

South Africa boasts a diverse University structure with some institutions vibrant in research, others specialising in teaching and some in technical training. These differences bring with them different cost structures. The cost structures need to be considered in terms of a model. An example of possible weighting mechanisms is reflected in Table 10.3 below.

Table 10.3: Weightings for the different types of Universities

Research Led Universities	Comprehensive Universities	Universities of Technology
High per Capita Research Output	Low-Medium per capita Research Output	Low per Capita Research output
1	0,8	0,65

Note 5: Race and Nationality

These are classified in relation to the demographics of the country. The reason for a matrix system is to ensure equitability and fairness. Table 10.4 below provides an example of a race classification that would assist in redressing the country’s higher education landscape by providing more funding to those universities that drive equity. These are classified as and weighted around disadvantaged backgrounds, meaning being African, Coloured, Indian, White. The table further reduces funding assigned to foreign nationals within the continent and those from outside the continent.

Table 10.4: Weightings per Race and Nationality

Race	SA National	Within Africa	Outside Africa
African	1		
Coloured	0,75		
Indian	0,60		
White	0,50		
Foreign Nationals Within Africa		0,60	
Foreign Nationals Outside Africa			0,50

Note 6: Gender

The Roadmap is aligned with the National Plan for the promotion of women. An example is reflected in Table 10.5 below.

Table 10.5: Weightings per Gender (for SA Students only)

Gender	Weighting
Males	0,75
Female	1

Note 7: Disability Status

The Roadmap is weighted by disability status classified in line of levels dictated to by the State. An example is reflected in Table 10.6 below.

Table 10.6: Weightings per Disability Status (for SA Students only)

Disability Status	Weighting
Level 1	1
Level 2	0,50
Level 3	0,25
Level 4	0,10

Note 8: Quintiles

Universities are rewarded for enrolling students from schools that are ranked low in Quintile score - student origin (i.e. school flagged from undergraduate enrolment), weighted by Quintiles 1,2,3,4,5. This system tracks students from disadvantaged schools and provides more funding for them given the disparity that exists. An example is reflected in Table 10.7 below.

Table 10.7: Weightings per Quintile Status (for SA Students only)

School	Quintile Weightings
Quintile 1	1
Quintile 2	0,50
Quintile 3	0,40
Quintile 4	0,30
Quintile 5	0,10

Note 9: Headcounts

For teaching outputs, the graduation role would be the most appropriate variable audited against the systems audited degree complete requirements. This provides scientific data that could be relied upon for a performance funding model.

Note 10: Economic Zone

The cost of living amongst the various provinces within the South African landscape differs and this variable should be considered. Data could provide appropriate weightings for this category. An example is provided in Table 10.8. For this example, data was sourced from http://www.numbeo.com/cost-of-living_result.jsp?Country=South+Africa.

Table 10.8: Weightings per Economic Zone

Economic Zone	Geographical Weightings
Durban	18.86%
Port Elizabeth	19.02%
Cape Town	19.77%
Johannesburg	21.05%
Pretoria	21.30%

Note 11: Pass Marks

A critical factor in driving quality and rewarding universities for their star students. An example is provided in Table 10.9 below.

Table 10.9: Pass Marks

	QUALIFICATION			
Average Pass Mark	Undergraduate NQF 5,6,7	Honours and equivalent NQF 8	Coursework Masters and equivalent NQF 9	Coursework PHD and equivalent NQF 10
80%-100%	2	2	2,5	3
70%-79%	1,50	1,5	2	2
60%-69%	1,25	1,25	1,50	1,75
50%-59%	1	1	1	1

Note 12: Qualification Level for teaching outputs

The table below provides weighting factors per qualification levels as proposed.

Table 10.10: Weighting Factor per Qualification Type

Qualification Type	Weighting factor
UNDERGRADUATE/DIPLOMATE/CERTIFICATE (TEACHING)	
1 st certificates and diplomas of 1 year (old academic policies) Higher Certificate (minimum total of 120 credits) Advanced Certificate (minimum total of 120 credits)	0.25
1 st certificates and diplomas of 2 years (old academic policies) Diploma (minimum total of 240 credits)	0.5
1 st diplomas and bachelor degrees of 3 years (old academic policies) Bachelor's degree (minimum total of 360 credits) Diploma (minimum total of 360 credits) Professional 1 st Bachelor's degree (minimum of 360 credits)	1.0
Prof 1 st bachelor's degree of 4 years and more (old academic policies) Bachelor in Technology of 4 years (old academic policy) Bachelor Degree (minimum total of 480 credits)	1.5
Bachelor in Technology degrees 1 year (old academic policy)	0.5
Postgraduate and post-diploma diplomas (old academic policies) Higher diplomas (old academic policies) Advanced Diploma (minimum total of 120 credits) Post-Graduate Certificate in Education (minimum total of 120 credits)	0.5
Honours degrees (old academic policies) Bachelor Honours Degree (minimum total of 120 credits) Post-graduate diplomas (minimum total of 120 credits)	0.5
Postgraduate Bachelor degrees (old academic policies) e.g. LLB Advanced Bachelor's degree (minimum total of 240 credits) e.g. LLB	1.0
Non-research masters degrees and diplomas (old academic policy) Masters Degree (General or Professional) (minimum total of 180 credits) Coursework Component	0.75
Doctoral Degree (General or Professional) (minimum total of 360 credits) Coursework Component	2.25

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The weighting factors listed in the table could be complemented by the fund groups listing, thus aligning the qualifications, costs structures and national norms for the sector.

Note 13: Other recognised Research

The DHET should consider all types of research and knowledge production and weight them according to impact factors. The weighting of such research must consider the fraternity or fund groups (CESM) from which the research originates.

Note 14: Student Citation Model

In order to legitimise research and the production of new knowledge, citations should play a key role in driving a performance-based model. Currently, the student dissertations remain on the shelves of libraries and online platforms without them being substantially engaged upon or cited. Much focus seems to be placed on journal articles instead. I recall a post-graduate lecturer joking: “Let us be honest, aside from your supervisor, you will be lucky if you can get your wife or your mum to read your dissertation”. This speaks volumes!

How do we ensure that work done by the many students is not in vain, that it is critically engaged? The move towards enabling other scholars to engage and critically access and cite work done by past students is not emerging strongly from within Universities. Performance-driven systems tend to steer behaviour in a certain direction. Such a citation model could credit universities for using citations from past students. DHET could drive for example benchmarked percentages or ranges of citations per study, as illustrated in Table 10.11 below.

Table 10.11: Citation Model for research output from student research

Student work within University	1
Student work from other Universities in SA	0,75
Student Work from within the African Continent	0,5
Student work from outside the continent	0,4

10.6 Recommendations on Reflection: My PhD Journey

Throughout this journey, having engaged the literature on higher education financing, read the many articles from various commentators in print media about the challenges HE faces, interviewed the Participants from participating universities, and spent many an hour dwelling on the weighty matters of HE funding models, I have come up with two fundamental recommendations that constitute a winning formula in dealing with financing of higher

education, in particular the allocation of resources. These emerge from my personal reflection on what is required to alleviate the crisis in South African HE, with a focus on funding.

- Mastering the Art of Communication
- Mastering the Art of Leadership

The first attribute is for **Leaders to master the Art of Communication**, as it is proven from the engagement with Participants, that the highest levels of transparency, open-door policy, general behaviour, respect, trust and integrity, play a crucial role in problem-solving, averting mass action and resolving conflict in HEIs. The following words illuminate communication skills as an imperative to modern-day success:

THE ART OF COMMUNICATION

No matter what job you have in life, your success will be determined 5% by your academic credentials, 15% by your professional experiences and 80% by your communication skills.

Stephen Wang

The biggest communication problem is that we do not listen to understand, We listen to reply.

Stephan R Covey

A greater challenge is the recent violent protests and the inability of student leadership to engage management on their concerns without resorting to acts of violence or abusive confrontations. Jansen (2016) has prophesied on the future state of universities if an immediate moratorium is not declared on all violent protest action. He claims that academics will leave, African professors will be few, the rich will choose private education, and in a few years, universities will be reduced to teacher training colleges. The writing is on the wall, as he himself, together with a few other senior and leading academics have opted to continue their life's work outside the country.

To provide a background to my second attribute, I raise the following questions:

- If student protests had not taken place, would in-sourcing of non-core activities at Universities across the country have taken place?

- If student protests had not taken place, would the then President of South Africa, Jacob Zuma, have ruled a zero percent fee hike in 2016 and a shift of NSFAS qualification criteria?

Thus,

- Could it be that South Africa is filled with reactionary leaders?
- Could it be that mass action and protests drive change and the leaders of today are programmed in crisis to react as ‘headless chickens’ in search of a solution?
- Are solutions and change only possible as a result of mass protest action?

It certainly seems, from the events of recent years - the time it has taken for my PhD journey, incidentally - that nothing benefits civil society unless civil society itself takes to the streets, protests and destroys property. Sadly, it has become the norm in South Africa not only with students but the general public, who call for service delivery. I then ask, *Can the leaders of today not be proactive, responsive to the needs of civil society, and find solutions by following the philosophical teachings of Simons, Rawls and Boltanski, to name a few leaders who spring to mind?*

And so, my second attribute is for **Communicators to master the Art of Leadership** and I unpack the art of leadership through the following wise words:

THE ART OF LEADERSHIP

Leadership is not about titles, positions or flowcharts, it about one life influencing another.

John C Maxwell

Effective Leadership is not about making speeches or being liked; results, not attributes, define leadership.

Peter Drucker

Real leadership is servanthood; put the interest of others at the centre of your decisions.

Dave Ramsey

Leadership is proactive, problem-solving, looking ahead and not being satisfied with things as they are.

Anon

10.7 Conclusion

It is evident that financing, whether by its lack or its inefficient use, is the common thread that has been the bone of contention for higher education stakeholders. Whether the call or protest is about free education, inappropriate allocation of resources, NSFAS distribution, residence conditions and shortages, language policies or access, all roads lead to or indeed, stem from, funding. No university in South Africa is free of this funding problem. But potential solutions aligned to and emanating from the recommendations made, have been presented by the teaching of the philosophers I have cited in this study.

From this analysis of Higher Education Funding, and the considerations offered towards a viable model for South Africa, Government needs to critically assess and strike a balance between satisficing, justice and fairness - justice and fairness to change this unequal society we live in and provide all the tools necessary to shift the majority of its people from one level to the next, for better, not poorer. When the government achieves this goal, it could have sufficient resources to continue its sustainability path and make this country the powerhouse it could be. Satisficing is ensuring that the current average and rich are provided with the necessary safety and security and leeway that will help their financial standing and increase their confidence in the government. I argue, in conclusion, that the custodians of funding or finances at universities, be they the Chief Finance Officers or DVC of Finance and their respective Finance Committees, are the kingpins in the system. It is these kingpins who need to take cognisance of the two attributes of communication and leadership as discussed above. It is their art to master. Here, to reiterate lies the solution to many (though not all) of the challenges in higher education, and which plague its leadership.

I say that these fine arts are not the solution to all because these custodians cannot be alone in this struggle of balancing the books or resolving the crises. Our academics need to earn their keep and so too must support staff, who need to be effective and efficient at their jobs, thus saving funds at every possible turn. We are, however, key stakeholders of the University, and as such we are both ostensibly both the cause of our recent crises and the solutions, or the solutions are at our disposal. We are the ones who can save our universities. In closing, I wish to add:

*If you always do what you always have done,
you'll always get what you always got.* Henry Ford

END

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APPENDIX 1 INTERVIEW SCHEDULE
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Step 1: Establish a rapport between interviewer and interviewee. Introduce myself and inform him/her of the gatekeeper permission received from their institution. I will highlight the purpose and motivation of my study and indicate the significance of their institution into the sample and its relevance.

Step 2: I will request permission for the interview to be recorded and confirm the confidentiality of the information discussed. I will guarantee that the data will be solely used for the purpose of this study and will not be used to generate any negative response that may be detrimental or tarnish the reputation of the institution. A structure of the interview will be presented as well as expected timelines.

Step 3: The interview will commence with me asking the interviewee some questions about their background, their education, expertise and some experiences in the field. Questions will be short, simple and easy.

Step 4: I will ensure that the interviewee does most of the talking and will attentively listen with the use of active listening techniques such as:

- Repeat back
- Provide constant motivation, encouragement and single word feedback eg wow,
- With affirmative body language that suggests interest and making the interviewee feel that there is no other place or person that I would rather be with at this point.
- Will use descriptive comments eg. that is really interesting

Step 5: Upon the conclusion of the interview, I would request permission should the need arise to contact the interviewee to obtain clarification and authentication as well as consent to use the transcribed interview.

Step 6: The interview will conclude by me thanking them and their institution for their time and openness. An assurance will also be given that the result of my study and the findings and recommendations will be made available to them.

<p style="text-align: center;">APPENDIX 2 INTERVIEW QUESTIONS</p>

1. Discuss university structure citing UKZN as an example (ie VC- six Academic DVC and head of the college, Executive Directors (Finance, HR, Corporate Relation, Student Services, Registrar, DVC Research, ADD)
2. Could you perhaps outline or discuss the budget calendar?
3. Discuss the process of the allocation and the approval stages eg Executive Management to Finance Committee to Council. What happens next once the award is done?
Does your institution have any policies or policy guidelines or even practice documents that drive the Main fund budget preparation? If yes-How long have these been in existence? What are these termed at your institution?
4. How often is these policy, practice or procedure revised and who drives this process to final approval?
5. Do you feel that these are adhered to?
6. What aspects of these are inconsistently applied? (if any)
7. Could you cite what are the instances/examples where there has been a deviation/variation to this practice/policy?
8. What were the drivers of this deviation/variation?
9. Which administrative ranks are involved in the budget dissemination process?
10. Is CAPEX part of the Main Fund budget plan? Please elaborate.
11. Please discuss the Executive management level of discretion exercised in the allocation?
12. What are the principals that determine the resource allocation to academic sectors and why do you think it approached in this way?
13. Discuss cross-subsidization at a global perspective at the outset of the budget plan?
14. Discuss cross subsidization at department level?
15. How is the Main Fund award communicated to various units?
16. DHET releases certain earmarked funds- If your University is awarded such funds, does this award impact the decision making wrt awarding of the Main fund budget plan to the unit that receives earmarked funding.

17. Discuss virement of funds at Central University Office.
18. Discuss budget operational process at department levels eg line item budget. Discuss virement process at department level.
19. Discuss year-end results wrt surpluses / deficits- What incentives are there for department heads.
20. Discuss reporting requirements wrt the Main fund budget plan.eg monthly and to whom...

APPENDIX 3

A SAMPLE OF FORM SIGNED BY PARTICIPANTS CONSENTING TO
PARTICIPATE IN THIS STUDY

Consent (manager/s)

I (Full name) hereby consent to participate in the above research. I understand that my participation is voluntary and that I am at liberty to withdraw from the project at any time should I desire. I consent to the interviews being audio-recorded, documents to be analysed and observations of a professional development activity. I understand that some of the things I say may be directly quoted in the text of the final dissertation, and subsequent publications.

Signature: _____

Date: _____

Researcher: Mr Perumal Arumugam

Signature: _____

Date: _____

Address: P O Box 151, La Lucia, 4159

Telephone: Cell: 0837032960 (H) 031-5394381 (W) 031-2607079

Supervisor (Print name): Professor Chatrandari Devroop

Signature: _____

Date: _____

Faculty of Education, Edgewood Campus Private Bag X03 Ashwood 3605

Telephone: (W) 031-2603438 (FAX) 031-2603423

Mr. P. Arumugam

Student no. 205525333

APPENDIX 4 GATEKEEPER PERMISSION LETTERS

GATEKEEPER PERMISSION

The Registrar: Mr Nikile Ntsababa

Cape Peninsula University of Technology

PO Box 652

Cape Town

8000

Email: registrar@cput.ac.za

14 November 2016

Dear Mr Ntsababa

PERMISSION TO CONDUCT RESEARCH

I, Dane Arumugam, am a PhD student in the School of Education at the University of KwaZulu-Natal (UKZN).

As part of a PhD study, I am researching Higher Education (HE) funding models in South Africa. The study intends to deal with resource allocation models used by SA higher education institutions (HEIs). Whilst the Annual Reports incorporating the Annual Financial Statements (AFS) of HEIs are in the public domain, the budget frameworks adopted remain within the confines of each HEI's agenda and priorities. My study aims to document the variables used to inform the framework, to draw on similarities and differences and to provide key concepts that may assist decision-makers in dealing with the current financial challenges facing SA HEIs.

Ten Universities have been selected for the study. The intention of the study is not to compare institutions; instead, it is a comparison of the funding frameworks in search of an appropriate model for South African contextual peculiarities.

Participation in the study will require ONE interview with budget specialists at a place and time chosen by yourself and at your convenience. To ensure confidentiality and anonymity, each participant will be given a pseudonym in the thesis.

For further information, you may contact:

Dane Arumugam, at 031- 2607079

Email: arumugamp@ukzn.ac.za

Cell 0837032960

Or my supervisor, Professor Chats Devroop, at 031- 2601349

Email: devroopc@ukzn.ac.za

Cell 0823315048

I look forward to your directive moving forward and your positive response will highly be appreciated.

Thanking you in advance.

Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Dr Karen Lazenby

University of Free State

P.O. Box 339

Bloemfontein 9300

South Africa

Email: LazenbyK@ufs.ac.za

14 November 2016

Dear Dr Lazenby

PERMISSION TO CONDUCT RESEARCH

I, Dane Arumugam, am a PhD student in the School of Education at the University of KwaZulu-Natal (UKZN).

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Thanking you in advance.

Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Mr N Vermeulen

North West University

Room G24, Building 24

Vaal Triangle Campus

NORTHWEST

Email: neels.vermeulen@nwu.ac.za

14 November 2016

Dear Mr Vermeulen

PERMISSION TO CONDUCT RESEARCH

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Thanking you in advance.

Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Mr Johann Aspeling

Stellenbosch University

Private Bag X1

Matieland

7602

Email: jaa@sun.ac.za

14 November 2016

Dear Mr Aspeling

PERMISSION TO CONDUCT RESEARCH

I, Dane Arumugam, am a PhD student in the School of Education at the University of KwaZulu-Natal (UKZN).

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Thanking you in advance.

Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Dr Michael Mushaathoni

Tshwane University of Technology

Private Bag X680

Pretoria 0001

Email: MushaathoniMA@tut.ac.za

14 November 2016

Dear Dr Mushaathoni

PERMISSION TO CONDUCT RESEARCH

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Cell 0823315048

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Thanking you in advance.

Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Mr R Pillay

University of Cape Town

Lower Campus

Rondebosch

Email: registrar@uct.ac.za

14 November 2016

Dear Mr Pillay

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Email: devroopc@ukzn.ac.za

Cell: 0823315048

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Thanking you in advance.

Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Professor K Burger

University of Johannesburg

1st Floor Madibeng Building

East Wing, Auckland Park Kingsway

JOHANNESBURG

Email: icburger@uj.ac.za

14 November 2016

Dear Professor Burger

PERMISSION TO CONDUCT RESEARCH

I, Dane Arumugam, am a PhD student in the School of Education at the University of KwaZulu-Natal (UKZN).

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Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Mr Simon Mokoena

University of KwaZulu-Natal

King George V Ave

4041: Durban

Email: registrar@ukzn.ac.za

14 November 2016

Dear Mr Mokoena

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Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Professor N J Grové

University of Pretoria

Room 4-23

Administration Building

Email: regis@up.ac.za

14 November 2016

Dear Professor Grové

PERMISSION TO CONDUCT RESEARCH

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Yours sincerely,

Dane Arumugam

UKZN PhD Student No 205525333

GATEKEEPER PERMISSION

The Registrar: Ms Marike Bosman

University of Witwatersrand

PO Box 660

Wits

2050

Email: Marike.Bosman@wits.ac.za

14 November 2016

Dear Ms Bosman

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Dane Arumugam

UKZN PhD Student No 205525333

APPENDIX 5

THE WRITING STUDIO

Writing and Editing Practice

Certificate 2019/8

TO WHOM IT MAY CONCERN

28 FEBRUARY 2019

This dissertation, entitled **AN ANALYSIS OF HIGHER EDUCATION FUNDING: CONSIDERATIONS TOWARDS A VIABLE MODEL FOR SOUTH AFRICA**, has been re-edited and reviewed to ensure technically accurate and contextually appropriate use of language for research at this level of study.

Yours sincerely

A handwritten signature in blue ink that reads "CM Israel". The signature is written in a cursive style with a long horizontal stroke at the bottom.

CM ISRAEL, BA Hons (UDW) MA (UND) MA (US) PhD(UNH)

LANGUAGE EDITOR AND WRITING CONSULTANT

Connieisrael90@gmail.com Mobile 082 4988166

APPENDIX 6

TURN IT IN REPORT

feedback studio Perumal Arumugam draft thesis

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

An analysis of Higher Education Funding:
Consideration towards a viable model for South Africa

By
Perumal Arumugam
Student Number: 205525333

Submitted in fulfilment of the requirements of the degree: Doctor of Philosophy
School of Education, Edgewood Campus Durban, South Africa.

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