Developing a model to measure academic performance at private higher education institutions

SM Rehman

https://orcid.org/0000-0002-5677-5337

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Promoter: Prof CA Bisschoff

Co-Promotor: Prof CJ Botha

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ABSTRACT

The South African public higher education system is not able to absorb the increase in demand for higher education, and this is an opportunity for private higher education institutions to assist and fill the skills gap. To do so private higher education institutions need a better understanding of the academic environment and its role-players. Hence the primary objective of this study is to build a conceptual model to measure the academic performance of a private higher education institution in South Africa. This study investigated the academic performance measures that impact on a private higher education institution in South Africa. This study aims to analyse the higher education sector in South Africa and provide a basis to develop a model that would be relevant so that a private higher education institution can roll out this model to ensure successful academic performance and ultimately ensure growth and sustainability. The study starts by reviewing the literature on higher education and private higher education to establish a broad theoretical framework to guide this study. After statistically ensuring that the respective theoretical measuring criteria selected do actually measure the specific academic performance antecedents, the thesis then develops and presents a model to measure academic performance in private higher education in South Africa. The final model has a total of eighteen academic performance antecedents. These are *Economic factors, Selectivity, Expenditure and retention, Parent income level, attitudes and expectations, Motivation, Workload, External forces, Self-efficacy, Help-seeking, Attendance, Affective factors, Self-concept, Self-esteem, Stress, Active learning, Extracurricular activities, Adjustment, Class size and General measures of academic performance*. The study further established the reliability of each antecedent, measured in total by 86 criteria. A total of 250 questionnaires were distributed of which 248 were completed by private higher education supervisors and managers and returned, signifying an effective response rate of 99.2%. Data were captured on a five-point Likert scale and the analysis identified ten latent variables (or factors) using exploratory factor analysis. The factors explain a satisfactory cumulative variance of 73.70%. The factors are Motivation, Workload and student participation, Parent income level, Attitudes and expectations, Institutional commitment and self-efficacy, Active learning and infrastructure, Class size, Help-seeking and attendance, Selectivity, expenditure and retention, Economic factors, Student maturity and success and Self-concept. The study also succeeded to simplify the model to measure academic performance by eliminating 17 questions with low factor

loadings (<0.40) or those with strong dual-loadings from the questionnaire while retaining satisfactory reliability (Cronbach alpha 0.989), sample adequacy (0.946) and variance explained.

Due to the lack of studies in this regard in South Africa, the literature study, as well as the efforts undertaken in this research study, could provide valuable insights and basis to suggest a conceptual model that could measure academic performance in private higher education. It is envisaged that this research contributes to this area of study and also make a limited contribution to the body of knowledge of academic performance with particular reference to developing a model to measure academic performance in private higher education in South Africa. In so doing the study contributes to discourse in higher education as well as private higher education within the politically charged South African context as well as providing managerial and academic insights. The results of this study are of value to private higher education directors and managers as well as investors in private higher education to determine the academic performance antecedents that lead to a successful private higher education institution. It is also of value to researchers and scholars who intend to do research on academic performance models.

Key terms: academic performance, private higher education, higher education, performance, management, model, measurement

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LIST OF ABBREVIATIONS

CET	Community Education and Training Colleges
CHE	Council for Higher Education
DHET	Department of Higher Education and Training
DOE	Department of Education
GTER	Gross Tertiary Enrolment Rate
OECD	Organisation for Economic Co-operation and Development
PHE	Private Higher Education
PHEI	Private Higher Education Institution
SAQA	South African Qualifications Authority
TVET	Technical Vocational Education and Training colleges
UN	United Nations
UNFPA	United Nations Population Fund

CHAPTER 1
NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

In South Africa, several changes have taken place in the higher education sector. In 2019, the Department of Higher Education and Training reported that there are 96 registered and 28 provisionally registered private higher education institutions, an increase of 23 institutions (19%) over 13 years. Excess expenditure on higher education has led to a significant change in a system from one of direct control to a system of managing at a distance. Educational institutions were subsequently afforded greater freedom for innovation and supplementation of government's subsidies (Darkwa & Mazibuko, 2019); this also includes funding for disabled students (Chiwandire, 2019:3).

Globalisation today, according to Moutsatsos (2019:21), is characterised by unparalleled global interconnectivity, integration and interdependence in all the business sectors. This includes the economy, social life, technology and information, culture, politics and even the ecology; all have an impact on every country on the globe today. No country is isolated from other countries' decisions across any of these influences and this interdependence and inter-country influences invariably impact on international business (and other) decision making. In this regard, the impact of globalisation on the knowledge economy in Africa in particular plays a huge role in getting education to even the remotest parts of the continent. The ability of the knowledge economy to improve the social and economic lives of people and at the same time boost the economy of the country has significantly transformed Africa to engage in competitive business ventures like education (Geldenhuys, 2019).

Typical key components of the knowledge economy revolve around education, innovation, economic incentives and institutional regime, and information and communication technology which are key to the business success of any modern organisation (Tchamyou, 2018:1189). In this case, Lukovics and Zuti (2018:1-2) add that countries' assets such as knowledge or social capital, learning, innovation and technology are fundamental to the transformation and creating a competitive edge over other countries or societies and that this edge ultimately drives economic development. Here Geldenhuys (2019) pointed out that countries like Uganda, Kenya, Zambia and even Somalia are rolling out 4G and 5G communication systems in their competitive country quests. Universities also play a significant role in this regard by fostering research and

development, and to generate new ideas and concepts.

The 2018 Global Competitiveness Report (Dima et al., 2018:1706) states that countries developed new strategies, dynamics and became more innovative to remain or become more competitive after the financial meltdown in 2008. This report further states that to be globally competitive, all twelve the pillars of competitiveness (institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation) are essential for any country to be indeed globally competitive and to reap the benefits of long-term economic growth and development and prosperity.

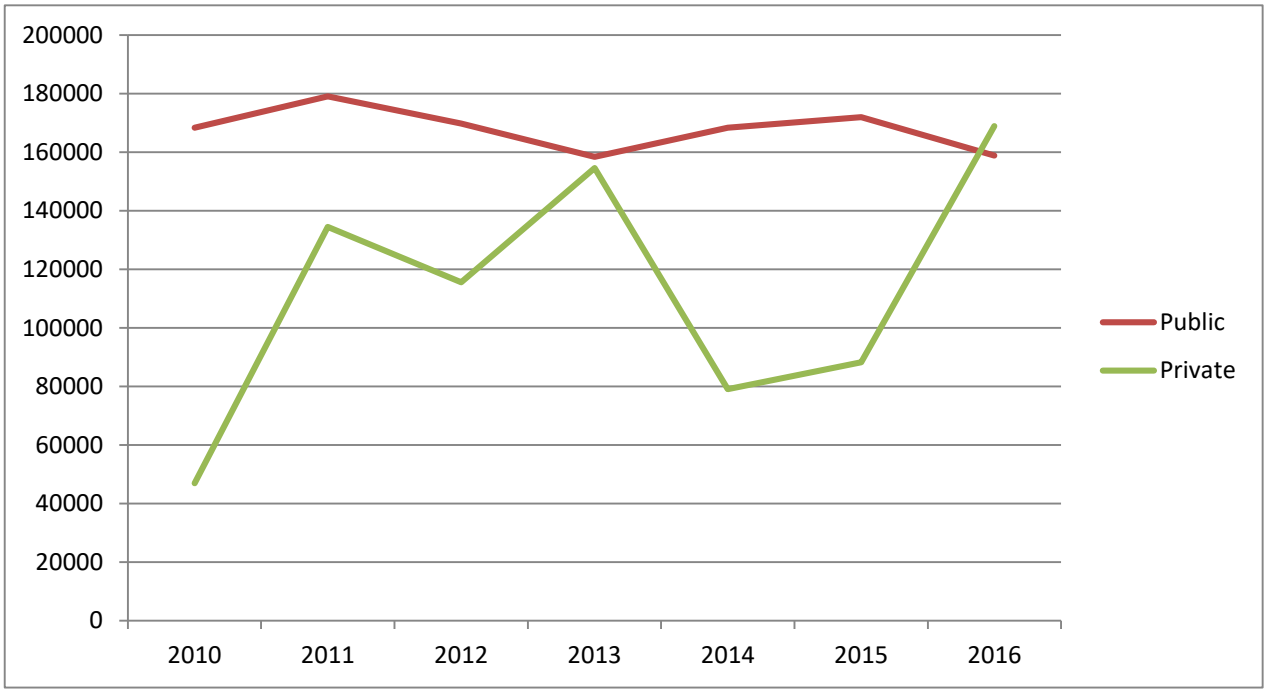
The consumption of knowledge and thus consolidating a country's position in the global marketplace ultimately leads to sustainable development and progress of the country (Schwab, 2017:1, 23-24). (This study focusses on the "higher education" pillar of the country's competitiveness).

Throughout the centuries, higher education has been central for scholarship, discovery and innovation. The desire to grow and develop has also led globally to the higher education sector playing a pivotal role in the world. Higher education, in terms of who can participate and succeed, has changed dramatically over the last few years. Currently, with the 4th industrial revolution, new methods and methodologies have been created to meet the new demands from industry and employers. Due to rapid changes in the world the knowledge economy, research and specialised skills have resulted in higher education to play an important role in the economy in terms of economic and social development (Parker, Dempster & Warburton, 2018). New technologies in the 4th industrial revolution have also rekindled a revival in particularly higher education and enabled the development of new learning platforms and models (Levin, 2018:133).

Institutions have evolved into centres for entrepreneurship where entrepreneurial incubators, research and discoveries are seen as vehicles to drive innovation (Becker et al., 2018:10). The rapidly changing higher education landscape in the post-modern world necessitates collaboration, and sharing of ideas and innovations have become a central pillar. The World Higher Education Database estimates that there are more than 18 500 higher education institutions which are located in 186 countries to share ideas and collaborate with (Becker et al., 2018:12-13).

Participation in higher education has increased, and in 2018 the highest growth rates in higher education were recorded in African countries, albeit growing from a low enrolment base. A global assessment in the number of global enrolments in higher education, as reported by Calderon (2018), showed that the 214.1 million students in 2015 (base year) would grow to 250.7 million by 2020, to 377.4 million by 2030, and to a staggering 594.1 million by 2040. East Asia and the Pacific is anticipated to be a region with the highest volume and share of enrolments with an increase of 148.8 million (39.4% share) by 2030, and 257.6 million (43.4% share) by 2040. Noteworthy is the fact that North America and Western Europe, however, anticipated a decline of global enrolments by 10.7% in 2030 (compared to 2015), and by7.4% in 2040 (compared to 2030 projections). Sub-Saharan Africa growth in enrolments in higher education is anticipated to be the largest. These countries are currently in the process to advance and strengthen their national systems of education and aims to improve not only enrolment numbers but also to increased completion rates in secondary education. In South Africa, private education institutions are increasing their enrolment numbers and graduate outputs. Figure 1.1 reflects first-time enrolments at public and private higher education institutions in South Africa.

Figure 1.1: First-time enrolments 2010-2016



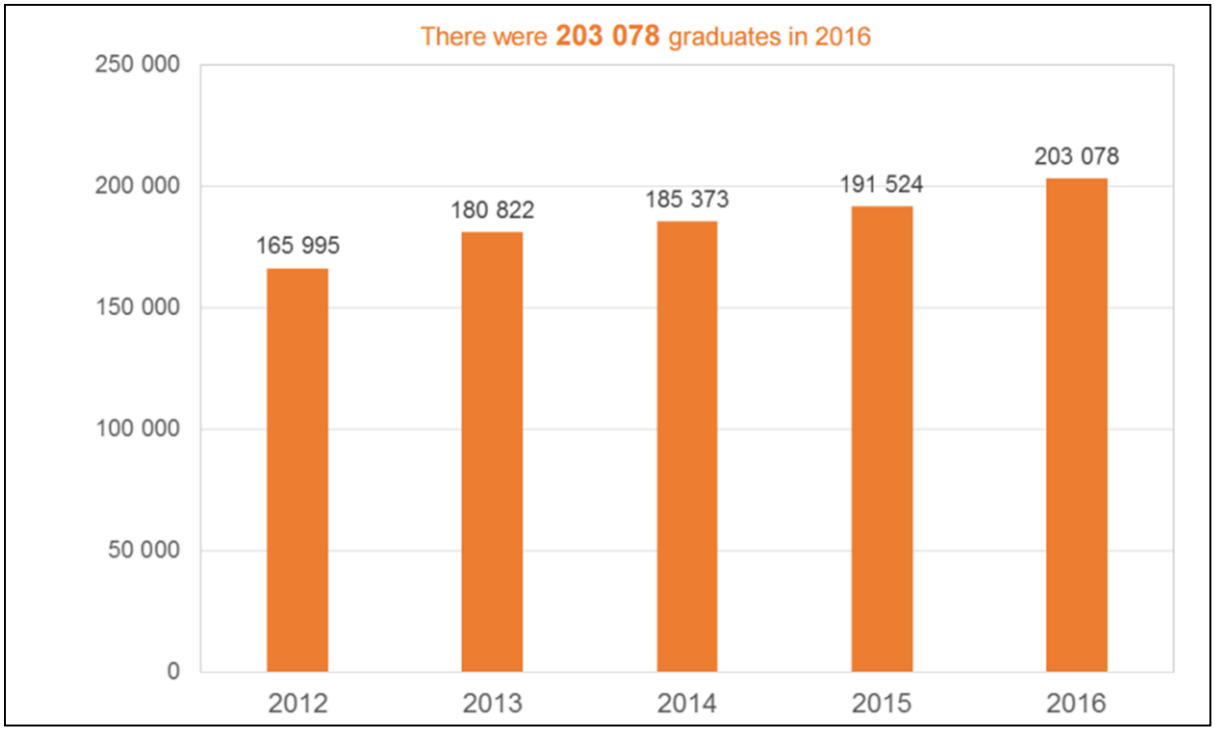
Source: South African Market Insights (2018)

It is anticipated that enrolments will grow from 7.4 million in 2015 to 8.8 million by 2030

and 21.7 million by 2040. Sub-Saharan African countries will be the new frontier for higher education. About 18 countries in Sub-Saharan Africa will feature in the top 50 population aged 18 to 23. Also, 32 of Sub-Saharan African countries is projected to be ranked in the top 50 countries in terms of population growth for the 18 to 23 cohort. South Africa as a developing nation and the increased participation in higher education is a critical strategy for addressing the skills shortage, high unemployment rates and poverty.

According to the White Paper for Post-School Education and Training from the Department of Higher Education and Training (DHET, 2012:X), and later the Green Paper (DHET, 2013:IX), many challenges still exist in South Africa's higher education system. Although many advances and gains have been made since 1994, the post-school education in South Africa faces still gender, class, racial and other inequalities concerning access to educational opportunities. One of the most significant challenges are that, although there is a 99% (in 2016) literacy amongst young people between 15 and 24 years old (The World Bank, 2018), few of them continue their education through the post-school system. Only 22% of students eventually achieve a college or university education (South African Market Insights, 2018). Figures 1.2 and 1.3 show graduate numbers and youth literacy figures in South Africa.

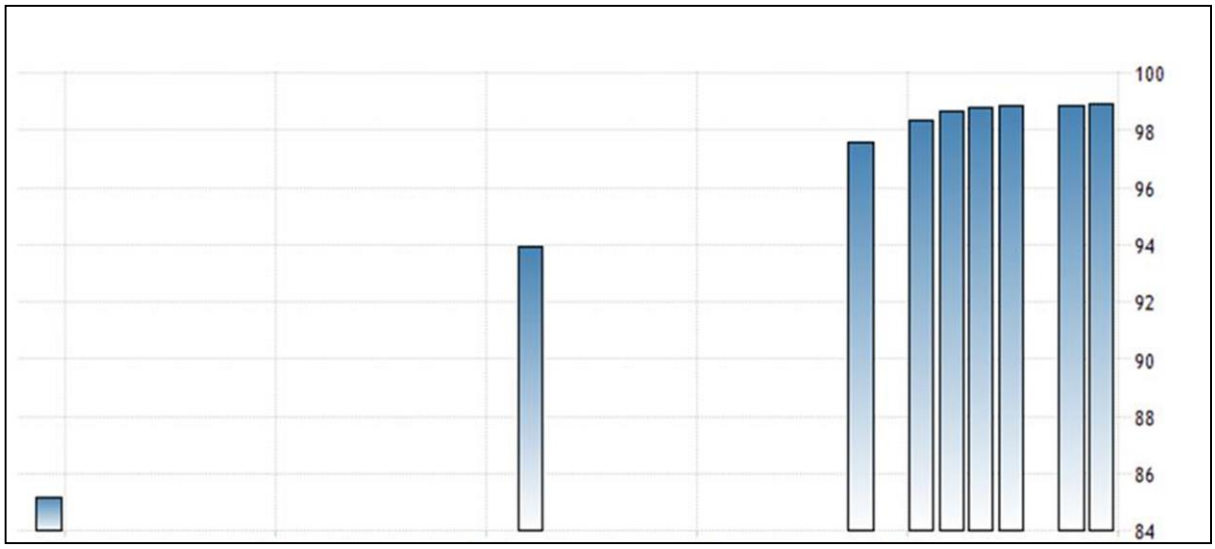
Figure 1.2: Number of graduates 2012-2016



Source: South African Market Insights (2018)

Figure 1.3 shows the improved youth literacy figures for South Africa. (Comparative pre-1994 statistics are not available except for one measurement in 1981).

Figure 1.3: Youth literacy in South Africa



Source: The World Bank (2018)

Traditionally public institutions fielded the need for education. However, strong demand and population growth resulted in public institutions no longer being able to do so. This demand has led to strong growth in private higher education. With the constraints that the South African government has in terms of resources allocation to public universities, private higher education institutions are filling the increasing gap. In this case, the Executive Committee Report issued by The World Bank (2018) indicated that some of the private higher education providers in South Africa experienced increases in student enrolments in the period 2010 to 2018 to be between 10% and 20%.

The South African post-school education system formulated several developmental strategies in an attempt to overcome the challenges faced by higher education. Here strategies such as the New Growth Path, the Industrial Policy Action Plan 2, the Human Resource Development Strategy for South Africa 2010-2030, and South Africa's Ten-Year Innovation Plan plays a role to enable South Africa to contribute more effectively to the goal of inclusive economic growth and development, fundamentally reducing unemployment and poverty through education (DHET, 2013:X; The World Bank, 2018).

The increased educational demand is not limited to South Africa. Higher education in Sub Saharan Africa is rapidly growing at a rate of 10% annually. This resulted in additional pressure on the South African higher education system. Student enrolments in South Africa have increased by 67% in the past decade. It is also noteworthy that 70% more

African students enrolled in 2017 at South African higher institutions than ten years ago (Motala, 2017:15-17). This happened in a period where government funding to public institutions has been constrained and was decreased by 9% (Motala, 2017:18).

The South African higher education landscape is made up of 26 public higher education institutions and 123 private higher education institutions (DHET, 2018:2). Public and private higher education enrolments have reached a total of 1.1 million in 2016. Public HEIs student enrolment in 2016 was 975 837, which decreased by 9 375 students as compared to 2015. However, price higher education enrolments increased to 167 408 in 2016, which was 13.7% (20 198) higher compared to 2015 (DHET, 2018:9). Student profiles are also changing rapidly, and both public and private higher education institutions are faced with changes such as global student mobility, market growth, increased access via branch campuses or improved communication technology and franchised and joint degrees. English is the language of choice for teaching and research worldwide, growing globalisation and the rapid rate of technological developments (Altbach, 2018:2).

This overview of the higher education environment above highlights the opportunities and challenges that exist. This study aims to analyse the higher education sector in South Africa and provide a basis to develop a model that would be relevant so that a private higher education institution can roll out this model to ensure successful academic performance and ultimately ensure growth and sustainability.

1.2 PROBLEM STATEMENT

The existing educational gap provides a strong signal to South Africa and other African countries. If this (growing) educational gap does not address the educational needs of the growing African youth, this young population could quickly become a considerable burden to African countries (Yahya, 2017). They would not be able to sustain themselves to participate successfully in the economy because their education levels would limit them to low-level labour where their potential to earn a decent wage would be very low. In this scenario, a negative economic transformation will result in poverty, starvation, political unrest and an uncertain future for Africa. Grants, medical services and other costs would further burden the governments.

Most African governments are challenged to comply with education needs, and in particular with higher education. These include a limited capacity at public institutions, poor quality of training, providing access to students as well as increasing capacity as the

population grows. Governments are further constrained when graduates leave higher education institutions, and there are few or limited opportunities to find productive and gainful employment in Africa. Public higher education just cannot cope with the high demand created by population growth (The Africa Report, 2017-2018). Private higher education is an alternative educational option to alleviate the demand for higher education. Already 21% of African children and young adults are being educated by private education institutions, while predictions show that by 2020, this number will grow to 25% (Caerus Capital, 2017).

Since 1994, South Africa's post-school education and training system cannot accommodate or have sufficient places for the youth and adults seeking education and training. The result of apartheid is still felt and experienced in traditionally black institutions which are evident by lack of resources and poor quality of education. Expansion is needed, both regarding numbers of available places and the types of education and training that are available (DHET, 2016:1).

Higher education in South Africa is in a fluid state as higher education institutions are focused on social, financial, and political equity and redress which the government is committed to (Chetty & Pather, 2015:2). The South African government aims to raise university enrolments by 2030 to 1 500 000 (a projected participation rate of 23%) as opposed to the 2011 enrolments of 899 120 (a 16% participation rate). Also, South Africa aims for 4 000 000 enrolments (approximately a 60% participation rate) in colleges or other post-school institutions. To achieve these goals, the Department of Higher Education and Training has to build, resource and support an expanded higher education system (Research and Markets, 2017). Public institutions will not be able to cope with the increased demand. Private higher education institutions in South Africa offers one avenue to alleviate the education demand.

Private Higher Education Institutions operate in the business environment which is market oriented and face typical business micro and macro-economic factors. The political and regulatory environment, as well as market forces, have a direct impact on private higher education. The South African higher education regulatory and accreditation frameworks ensure the quality of provision and the maintenance of high standards in both public and private higher education institutions in South Africa. This augers well for the country as the quality of the students coming out of both the public and private higher education institutions are of high quality and standard (Research and Markets 2017). However, as private businesses, private higher education institutions cannot use the title of "university"

as compared to the public higher education institutions. They are also not entitled to receive any subsidies, tax rebates or facilities from government. These financial realities signify that private higher education institutions need a better understanding of this business environment and its role-players to not only be competitive as businesses of higher education but also to be able to compete in the open business environment for lucrative investors seeking a fair return on their investments. Hence the primary objective of this study is to develop a management model to effectively measure the academic performance of a private higher education institution in South Africa.

1.3 RESEARCH OBJECTIVES

1.3.1 Primary objective

The primary objective of this study is to develop a management model to measure academic performance for private higher education institutions (PHEIs) in South Africa.

1.3.2 Secondary objectives

The following secondary objectives achieve the primary objective of the study:

- Analysing the academic environment private higher education institutions function in;
- Developing a model to measure the academic performance of PHEIs;
- Identifying the latent variables (factors) embedded within a theoretical model that measures the academic performance of private higher education institutions; and
- Measuring the academic performance of private higher education institutions in South Africa.

1.4 RESEARCH METHODOLOGY

1.4.1 Literature base

The literature review focuses on the factors of success and challenges faced by private higher education providers in South Africa, identify antecedents relevant to performance measurement in private higher education and the actual measurement of academic performance. The literature review included academic articles, official publications, conference proceedings as well as acts, to name but a few sources. The following electronic databases have been consulted:

- Library catalogues
- Internet journals
- International journals
- Academic search lists

- Ebscohost
- Emerald
- Psychinfo
- Sabinet

In addition, the university libraries of North-West University, Management College of South Africa (Mancosa) and Regent Business School in Durban were consulted to locate academic articles, electronic sources and textbooks relevant to the study.

This study employed a literature and empirical review. The literature study encompasses the topic of academic performance and how to measure it. Academic performance antecedents and their respective measuring criteria that are important to PHEIs (as identified by Asvat, Bisschoff and Botha, 2018) were used to collect the data. The methodology to validate and modelise the antecedents and its criteria was recently used by Shaikh, Bisschoff and Botha (2017:138). These authors based their methodology on the success of various previous studies (Naidoo, 2011 Imandin, 2015; Bester and Bisschoff, 2016 and others) that also validated and modelised antecedents and measuring criteria to measure a variety of managerial dependent variables such as brand loyalty, stress management, employee retention and management skills. Using this methodology, Imandin, Bisschoff and Botha (2016:100) formalised eight steps to construct a model to measure employee engagement successfully. This study adopted and followed these steps as guideline to develop the model to measure academic performance of PHEIs. This model is then operationalised and applied to measure the academic performance of a PHEI. A total of 24 antecedents and their respective measuring criteria were identified from the literature. These antecedents were later reduced to 17 in total and one generalised antecedent.

1.4.2 Quantitative data collection

The questionnaire contained two sections: Section A: Demographics and Section B: Measuring criteria. Section A consists of five questions to compile the demographic profile of the respondents. Section B consists of the final 18 antecedents dealing with academic performance constructs, each with its unique measuring criteria. The criteria were formulated in statement format to which the respondents had to indicate their level of agreement or disagreement on a five-point Likert scale. In total, Section B consisted of 86 measuring criteria.

The population consisted of all full-time employees at two private business schools. These schools have a wide geographic service area which covers South-Africa and also Southern Africa. The total population was targeted; no sample was drawn. The employees were requested to complete the questionnaires. It was clearly communicated that participation is voluntary and also anonymous. The researcher forwarded the questionnaires to trained office managers in the outlying offices and to the academic managers at the head office in Durban to assist with the distribution and collection of the questionnaire. A total of 250 questionnaires were distributed of which 247 were completed and returned, signifying an effective response rate of 98.8%. The data was captured by the Statistical Consultation Services of the North-West University and analysed with the IBM Social Package for Social Services Version 25 (IBM SPSS, 2018).

1.4.4 Statistical analysis

The software IBM Statistical Package for Social Sciences software (Version 25) was employed as an analytical tool in conjunction with the North-West University's Statistical Consultation Services to analyse the data. The quantitative statistical techniques used to analyse the data and their respective decision-criteria is shown in Table 1.1.

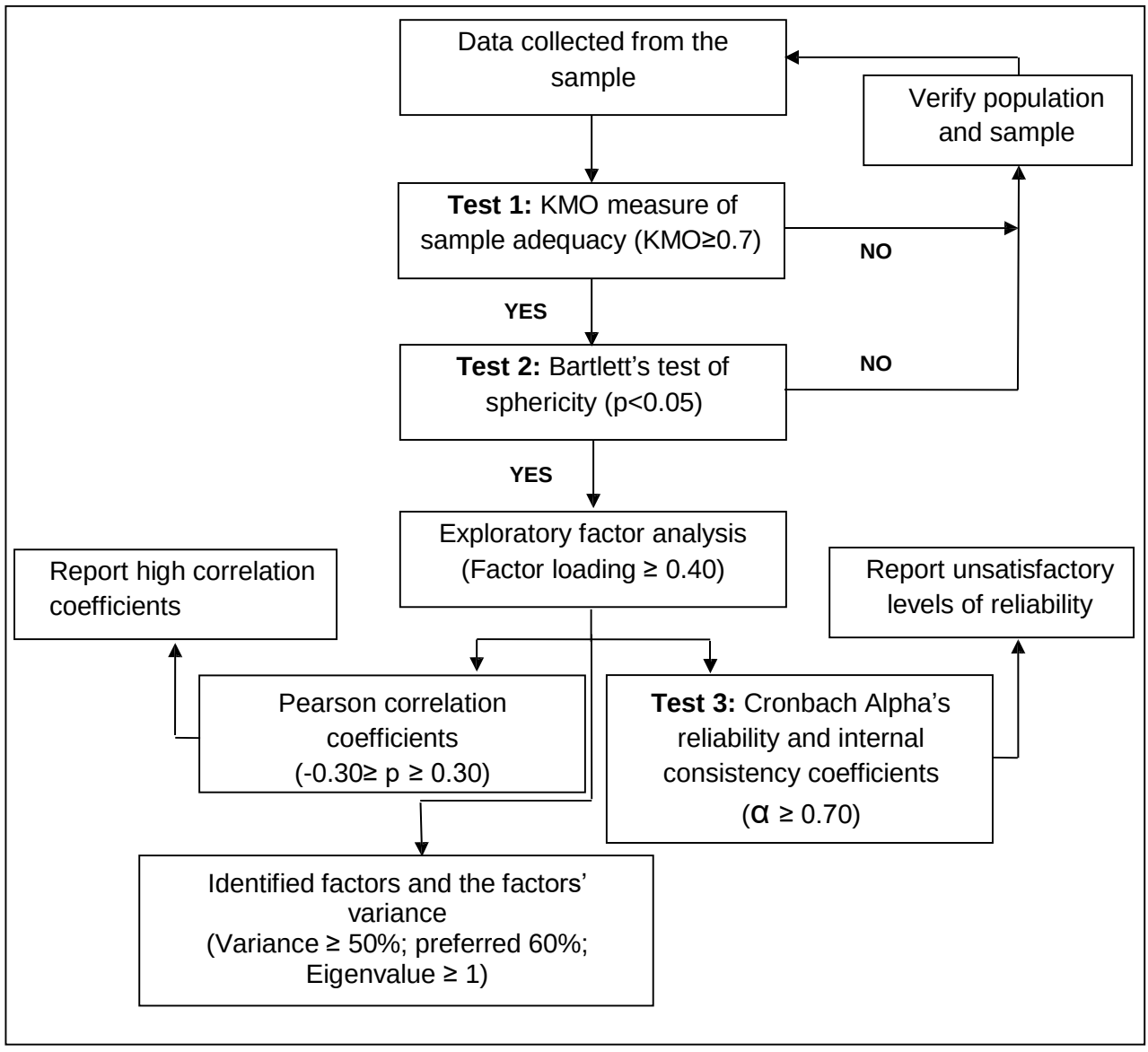
Table 1.1: Statistical techniques employed and decision criteria

Statistical technique	Decision criteria	Substantiating source
Descriptive statistics	***	Field (2009)
Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy	KMO ≥ 0.9 (Excellent) KMO ≥ 0.8 (Very good) KMO ≥ 0.7 (Good) KMO ≥ 0.6 (Acceptable) KMO ≤ 0.6 (Unsatisfactory)	Field (2009) Fields & Bisschoff (2013b) Imandin (2015) Golafshani (2003)
Bartlett's test of sphericity	$p < 0.05$	Field (2009) UCLA (2017a)
Cronbach Alpha reliability coefficients	$\alpha \geq 0.70$ (Reliable) $0.57 \leq \alpha \leq 0.70$ (Acceptable) $\alpha \leq 0.57$ (Not reliable)	Salkind (2000) Cortina (1993) Field (2009)
Exploratory factor analysis (Orthogonal Varimax rotation)	Factor loading ≥ 0.40 Variance ≥ 50% (Acceptable) Variance ≥ 60% (Desirable) Eigenvalue ≥ 1	Costello & Osborne (2005) Field (2009) Arbuckle (2012) UCLA (2017a; 2017b)
Pearson correlation coefficient	$-0.30 \geq p \geq 0.30$ $p \geq 0.05; 0.10$	Tang et al. (2003) Du Plessis (2010) Zikmund (2008)

Source: Compiled from Field, 2009; Naidoo, 2011; Fields & Bisschoff, 2013a; Shaikh et al. (2017)

The statistical analysis decision-tree in Figure 1.4 (originally developed by Naidoo, 2011) was used as a guide to illustrate the inter-relationships between the techniques and their chronological order of use, and is displayed in Figure 1.4.

Figure 1.4: **Data analyses decision-tree**



Source: Adapted from Arbuckle (2012), Naidoo (2011:19) & Field (2009)

1.4.5 Ethical considerations

The North-West University's Ethical Committee (Faculty Economic and Management Sciences) evaluated this study for compliance with its ethical standards, practices and requirements. The committee approved the study and classified it as a low-risk study; a study-specific ethics number NWU-00600-20-A4 was issued.

1.5 LAYOUT OF THE STUDY

1.5.1 Approval of the study programme

This doctoral thesis is structured according to the North-West University's A-rule 5.2 and 5.10.4. The faculty relevant rule (EMS 14.1.3) governing these A-rules in the Faculty of Economic and Management Sciences (Buys, 2017) then states that:

- "Approval of the study programme and the procedure that must be

followed take place in terms of general rule A.5.2. The study programme must, to the satisfaction of the director of the research entity, contribute to the research programme(s) of the University as determined by the different research entities.

- For the purposes of a thesis in article format, a minimum of three published articles or three unpublished manuscripts in article format should be presented.
- At least one article presented to a subsidy bearing journal is required before the thesis is handed in for examination as a requirement to obtain a PhD-degree (refer A rule 5.10.4)."

1.5.2 Chapter layout of the study

The study consists of four articles (exceeding the required minimum of three articles) in six chapters. These chapters are as follows:

Chapter 1: Nature and scope of the study. This chapter introduces the research environment and focuses on the problem statement. The primary and secondary objectives are formulated, and the research methodology and statistics employed in this study are discussed.

Chapter 2: Article 1 – An analysis of the academic environment of private higher education institutions in South Africa. In this first article of the study, the higher education environment is examined as well as the theoretical analysis is conducted. This article has been submitted to the journal *Current Issues in Education.* It is a subsidy bearing journal indexed by Scopus. This article is currently under review after the editor's approval.

Chapter 3: Article 2 – A theoretical model to measure academic performance for private higher education institutions. This article was submitted in April 2019 to the *Acta Commercii*. The second article develops a theoretical model to measure the academic performance of PHEIs. It employs a wide array of previous performance measurement models and selects respective measurement criteria in doing so. This article has been accepted for publication and scheduled for the December 2019 edition of the journal. The journal is subsidy bearing and indexed by Scopus.

Chapter 4: Article 3 – Factors to measure the academic performance of private higher education institutions in South Africa. The third article identifies latent variables embedded in the data to measure the academic performance of PHEIs. The article was submitted to the *Journal of Contemporary Management.* It has been accepted for publication (Vol. 16, No. 2) and is currently in press. The journal is subsidy bearing and indexed by International Bibliography of Social Sciences (IBSS).

Chapter 5: Article 4 – Measuring the academic performance of a private higher education institution in South Africa. The final article of the study culminates in applying the developed model to measure the academic performance of a PHEI. This article is in the process of submission to the *Journal for Higher Education*. It is a subsidy bearing journal indexed by Thompsons ISI. The article will be submitted in November 2019 for perusal by the editor.

Chapter 6: Conclusions and Recommendations. This is the final chapter. The chapter presents the integrated model to measure the academic performance of a PHEI and then focusses on the conclusions and recommendations of the study. This chapter also identifies areas for future research and provides a final summary of the study.

It is also important to note that some information needs to be repeated in the article layout because each article is a stand-alone article. For example, the research methodology is relevant in all the articles, hence the relevant parts for the specific article needs to be repeated. Another example is where the second article develops and tabulates the theoretical model. The third then uses this model as a point of departure. Hence it requires repetition at the beginning of the third article for the article to make sense when it published as a stand-alone article. Albeit these examples of repeated material are limited, readers need to take note hereof.

The citations and referencing of sources also differ among the articles presented in Chapters 2 to 5. Although the default reference style of the thesis is the Harvard style referencing (as per North-West University's guidelines), the articles are cited and referenced as per their specific journal requirements. The font choice, letter size and formatting also adhere to journal guidelines. Where no particular journal guidelines are relevant (Chapters 1 and 6 for example), Arial "12" is used as the standardised formatting style.

1.6 CONTRIBUTION OF THE STUDY

The study attempts to make the following contributions:

- There are many PHEIs in South Africa and across the world, and all have developed their own academic performance measures to be successful. There is limited or no research conducted to determine the factors required to achieve academic performance. The literature identified the antecedents needed to develop the conceptual model to measure academic performance in private higher education in South Africa.
- Due to the lack of studies in this regard in South Africa, the literature study, as well as the efforts undertaken in this research study, could provide valuable insights and bases to suggest a conceptual model that could measure academic performance in private higher education. It is envisaged that this research contributes to this area of study and also make a limited contribution to the body of knowledge of academic performance with particular reference to developing a model to measure academic performance in private higher education in South Africa. In so doing the study contributes to discourse in higher education as well as private higher education within the politically charged South African context as well as providing managerial and academic insights.

1.7 LIMITATIONS OF THE RESEARCH

There is limited research with regards to measuring academic performance in private higher education institutions in South Africa, and to make a comparison is difficult. The study is limited to only two institutions in South Africa, and had the study been conducted in other similar institutions in South Africa and other African countries, this would have enhanced the findings in the study. The study was not able to exhaust all the literature in the field as the study was focused only in South Africa; this places limitations for comparative purposes.

1.8 SUMMARY

This chapter provides a broad outline of the aims, essential questions, significance and research framework to test the academic performance measures required by private higher education institutions in South Africa. It is essential that directors, managers and investors in higher education have insight into the regulatory and academic environment

in South Africa, as well as being able to measure the academic performance. Once these are understood, these essential academic performance measures can be utilised to develop strategies to achieve the desired success and return on investment. This is a complex area of research and study, and it is hoped that a finite contribution to the body of knowledge would be made and, it is expected that research in the future by other researchers would make added contributions in this direction.

This chapter introduced the study and provided a broad overview of the layout and the expected content of the study. The topic of measuring academic performance in a private higher education in South Africa is introduced, including a perspective of the higher education regulatory environment and the South African government's plan to address the increased demand for higher education and training, the objectives of the study and the relevant scientific techniques are discussed, and the layout, as well as the format, is presented. The statistical decision making is presented as it was applied in the study, and the limitations of the study were also indicated.

The first stand-alone article is presented in the next chapter. This article provides an environmental analysis of Private Higher Education in South Africa.

CHAPTER 2

ARTICLE 1:
An analysis of the academic environment of private higher education institutions in South Africa

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An analysis of the academic environment of private higher education institutions in South Africa

ABSTRACT

South Africa, a former British colony, inherited the colonial education-based system where colonial interests such as segregated education standards and different governing boards among the racial divide were historically supported. Local inhabitants did not receive a uniform education, while some were never properly educated. However, since the first free and democratic election in 1994, reforming the education system is high on the political agenda, receiving 20.8% (2018) of the country's budget for basic and post-school education and training. Traditionally colonial public higher education institutions dominated, and only a few private higher education institutions, restricted to non-degree and certificate programmes, existed before 1994. Although higher education is still dominated by public institutions, private higher education institutions have rapidly grown and may now offer degrees. This article analyses the higher education environment, the role-players and the challenges they face in managing academic performance in the higher education sector in South Africa.

Key terms: private higher education, role-players, education environment, challenges

INTRODUCTION

The Fourth Industrial Revolution and the globalisation drive are radically changing the way national economies around the world design, produce, distribute and consume goods and services. This poses specific challenges to the higher education sector of a country aiming to remain competitive in this fast-changing environment. Education is specifically in the spotlight as a competitive enabler.

In this environment, private higher education providers (and also public institutions of education) are faced with numerous challenges, such as distance learning, language and access in trying to educate and adequately train students for the job market. Deans and their faculties are under constant pressure to improve efficiency and efficacy across some areas such as teaching, modes of delivery, entry-level student education, learning, and research (Siller and Johnson, 2017). These challenges are also confirmed by Page, Loots and Du Toit (2015) who state that higher education institutions in South Africa report continuously dismal student graduation rates over the past number of years. Anstey (cited by Page, Loots and Du Toit, 2015 in support of their view) had stated in the public press that the 2013/14 academic year already reported on perspectives that, although South African tutor and mentor programmes have the highest number of higher education students in sub-Saharan Africa, fewer than two students in every ten actually graduate.

Statistics SA (in Economics, 2017) reported that macro-environmental issues such as the economy, crime, security, exchange rates and education reflect that one in five undergraduates and postgraduates drop out every year, costing South Africa R1.3 billion in subsidies. The social cost also has a devastating effect on student lives, their families and work opportunities. A similar situation exists at some American universities where one in every four students drops out in the first year. About 54% of the low-income segment students studying towards a four-year degree, graduate after six years (Marcus, 2017). The 2018 budgetary allocations to higher education amounted to R324bn and another R57bn for free education to qualifying low-income families (Nickolson, 2018).

It is evident from the above that higher education is clearly requiring a significant facelift to meet the challenges and changing demands that have been illustrated above. This means that institutions will have to stay focused and relevant and continually adapt to business environmental changes, where needed. In this regard, the fast-paced change instilled by the Fourth Industrial Revolution also adds to the speed of adaptation by universities. Here, future innovative management methods and organisational processes employed by deans to meet the educational and university-business challenges faced also affect private higher education institutions. To better understand these challenges, it is vital to understand the context regulatory and business environments wherein private higher education institutions in South Africa operate and how they compete with public education institutions.

HISTORY OF SOUTH AFRICA'S EDUCATION SYSTEM

South Africa's educational difficulties can be traced back for many years. Back in 1948, the notorious announcement in parliament by Hendrik Verwoerd, the then Minister of Native Affairs (1950-1958), architected apartheid:

"The native must not be subject to a school system which draws him away from his own community, and misleads him by showing him the green pastures of European society in which he is not allowed to graze."

SA (1951, 58)

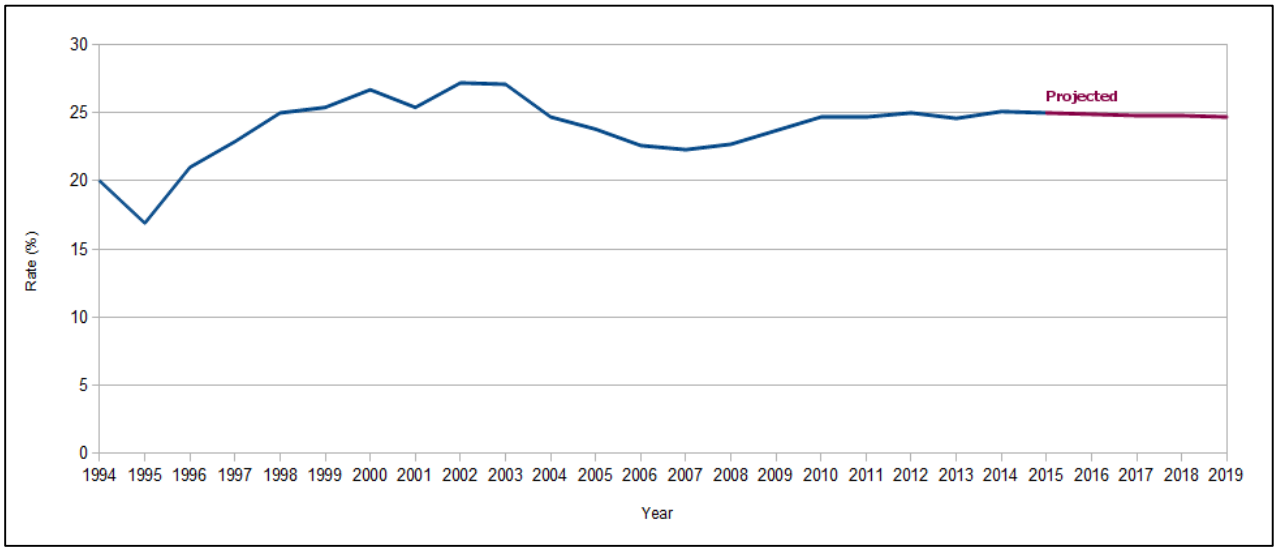
Later, Hendrik Verwoerd became the Prime Minister of South Africa (1958-1966) and apartheid in education gained momentum. Verwoerd then continued to introduce different education boards to parliament for each population group. These were established by firstly regulating Bantu Education (1953), then Coloured Education (1963), then Indian Education (1964), and finally, White Education (1967) (Parsons, 1982). The universities were segregated in 1959 via the Extension of University Education Act, No. 45 of 1959. This officially began the era of apartheid education using the Bantu Education Act No. 47 of 1953 (SA, 1953; SA, 1959; Pelser, 1966). South Africa became an independent republic in 1961 with a government that continued its official policy of racial segregation.

During this time, it is important to note that different groups' education boards remained intact to govern education. After the first free and democratic election in 1994, the newly elected African National Congress government of South African began dismantling their discriminative laws; education was targeted as a critical development area in the country's future (Worldatlas, 2017).

Nelson Mandela became the first democratically appointed president. Mandela retired in 1999 and Thabo Mbeki, the deputy president, won the presidency in a landslide vote. Mbeki was re-elected in 2004, but resigned from parliament in 2008; Kgalema Motlanthe then acted as interim president until the 2009 elections. Jacob Gedleyihlekisa Zuma was elected as the President in the 2009 general election and unseated in 2018 by Cyril Ramaphosa as the new South African democratically elected president (New Learning, 2018).

The new democratic government also has difficult issues to deal with. The poor currency value of the ZAR, education and even unemployment, and a legacy of corruption and state capture, are some of the pressing issues. The ZAR has traded poorly against the US$ around R15-16 per US dollar for most of the year, the unemployment rate in 2017 was 26.6%, and political pressure and unrest in higher education cost the government a minimum of R600mil in 2016 (Worldatlas, 2017).

Figure 1: Unemployment in South Africa 1994-2019



Source: Worldatlas (2017)

Although many of these problems can partially be attributed to the current government's policies, failure to achieve monetary and fiscal discipline, weak exchange rates, the 2008 economic meltdown, crime rate, as well as the AIDS pandemic sweeping across Sub-Saharan Africa, these are typical challenges the government must face and address. On the positive side, South Africa remains a popular tourist destination and brings in over 850 000 tourists a month (200 000 of whom come from outside the African continent). Unfortunately, the number of tourist has declined substantially in 2019 due to high crime rates and gender violence.

HISTORY OF SOUTH AFRICAN TERTIARY EDUCATION

The first moment of education in South Africa coincides with the foundation of the colonial experience at the Cape in 1652. Six years after the Dutch East India Company established its colony at the Cape, the first formal school began in 1658. Christie (2016:233) states that as early as 1880, Dr Stewart of Lovedale drew attention to the need, which might soon arise, for an institution for black people that would offer an education under Christian auspices on a university level. In 1905, the Inter-Colonial Native Affairs Commission, influenced largely by Stewart's evidence, but also by the

conviction that an overseas university education, such as had been obtained by a few black people from South Africa, was not an ideal situation.

In 1908, a select committee on black education, appointed by the Cape Parliament, reported, with one dissentient, in favour of support being given to a proposed inter-provincial native college, to provide black people with higher education. However, it was only to be later on that this goal of establishing a tertiary education institution for black people was to be realised.

Eventually, in February 1916, the South African Native College at Fort Hare, which was established and financed by the Scottish Missionary Society, was declared open by the Prime Minister of South Africa; at that time General Louis Botha (Christie 2016).

The South African Native College, by its constitution, was a Christian institution. Although it was established primarily for the benefit of the black races of South Africa, it also accepted coloured and Indian students. The college started by accepting not only graduate students but also secondary school students who were preparing for the Junior Certificate and Matriculation Examination. In 1935, Fort Hare (the South African Native College) had a total of 156 students, of whom 66 were undergraduates. By 1936, over 50 students of the college had obtained Bachelor's degrees from the University of South Africa.

The number of full-time black students at the South African Native College, Fort Hare, in 1948, was 226. In 1949, out of 343 students, 40 were women, and 303 were men. All the students stayed in residence, in four hostels, erected by the Methodist Church of South Africa (to the value over £17 000), the Presbyterian Church of Scotland (to the value of £10 000), the Church of Province of South Africa (to the value of £12 000), and the College Council (the women's hostel).

From 1916 until 1959, the interdenominational Fort Hare University College offered University education (mainly) to black people and other races, without any tribalism,

racialism or segregation (Hartshorne 2015:62). In 1959, apartheid was effectively instituted at all universities, following the passing of the Extension of the University Education Act of 1959. This act entailed taking over the control of universities by the central government, and the establishment of tribal universities (Kallaway 2017:173; Christie 2016:233).

The Extension of University Education Act, No. 45 of 1959 also saw to the final setting up of separate tribal university colleges for black people. For this reason, two tribe-based university colleges were established in 1960 (SA, 1959). Typical examples were The University College of the North at Turfloop (near Polokwane, Limpopo), which was established for the Sesotho-, Sepedi-, Setswana, Tshivenda- and Xitsonga-speaking people; and the University College of Zululand at Ngoye (near Richardsbay, KwaZulu-Natal) for isiZulu-speakers. The University College of Fort Hare (near Fort Beaufort, Eastern Cape) would only accept isiXhosa-speaking students (Christie, 2016:56; 233-234).

In 1959, there was fierce and tense resistance and protest against these apartheid measures (setting up of separate tribal university colleges for black people). By June 1972, all universities were boycotting as a pledge of solidarity with Turfloop University. The South African Police crushed the boycott and protested with violence, using batons. Resistance at the universities and campuses continued until 1973 and beyond this period (Kallaway 2017; Christie 2016).

Initially, missionary societies established and controlled their universities in South Africa. For instance, from 1916 to 1959, Fort Hare University College was managed and administered by the Scottish Missionary Society (Christie 2016). Fort Hare was also aided and partially controlled and operated by the Union Department of Education of Arts and Science, under the provisions of the Higher Education Act of 1924, and not under the legislation in force for universities.

The central government eventually took over the control of Fort Hare University, following the passing of the Extension of the University Education Act of 1959. In 1960, two separate tribal-based university colleges, under the control and administration of the central government, were established, following the influence of the passing of the Extension of the University Education Act of 1959 (Christie 2016). From 1960 until 1973, all the black university colleges, such as the University of the North at Turfloop, Zululand at Ngoye, and Fort Hare at Transkei, were under the control of the central government (Kallaway 2017; Christie 2016).

Enrolments in education began to grow rapidly in the early 1990s, bringing hope to many for whom degrees and diplomas had seemed beyond reach. Expansion of the South African education system was a response to the calls for equity and development, but it also ushered in a period of confusion and contradictions. This growth in public higher education enrolment was also coupled with rapid growth in enrolments in private institutions (Cairns, 2015). Public institutions included many students who were unable to pay their fees, or who withheld payment based on pollical grounds. Some even withheld payment because they believed that poor administrative systems and management at some institutions would discard them from debt collectors' lists.

THE HISTORY OF PRIVATE HIGHER EDUCATION IN SOUTH AFRICA

The first private provider of higher education was the South African College, founded in Cape Town in 1829 by influential citizens who sought a better quality of education for their children. Almost a century later (1918), this institution was granted university status and became what is now known today as the University of Cape Town. Then, in the 19th century, a second private provider of higher education, the Kimberley School of Mines, was created to serve the needs of the rapidly expanding mining industry. The school moved to Johannesburg in 1908; it was decided to split the school into two entities. These entities then later became the University of Witwatersrand and University of Pretoria (Mabizela, 2015). Both these institutions, similar to the South African College, eventually became public institutions.

A third initiative to provide private higher education had its roots in religious affairs, as colonial life became more deeply entrenched. Both the Anglican and Dutch Reformed Churches started colleges in several South African locations during the 19th century. Cape Town, Grahamstown, Stellenbosch and Burgersdorp were sites of private church-supported colleges, all of which evolved into public institutions during the 20th century (These institutions later became known as University of Cape Town, Rhodes University, Stellenbosch University and Potchefstroom University for Christian Higher Education – now merged as the North-West University.) The early 20th century also saw the beginnings of racially segregated and privately supported higher education. The South African Native College was founded in 1916; it eventually became the University of Fort Hare. In 1929, a private initiative led to the creation of a technical college for Indian workers in Durban. This later became ML Sultan Technikon; also a public institution. The evolution of higher education from private initiatives into public institutions, and into divergent racial groupings, was underscored by the passage of the Extension of University Act No. 45 of 1959, which created separate universities for the 'non-white' population. Not surprisingly, given the framework of 'grand apartheid', racial separation also featured in the legislation in 1967 that created the Colleges of Advanced Technical Education.

According to Mabizela (2015), these colleges were upgraded to technikons (universities of technology) in 1979. By 1980, the landscape of higher education in South Africa had stabilised into racially divided sets of universities and technikons the roots of which had long been forgotten. During the post-war industrial boom of the 1950s and 1960s, another set of dynamics in the provision of education and training emerged that would lay the bases for significant changes later in the century. The dual demand for professional training and alternative routes to matriculation fuelled the growth of private providers of professional, technical and vocational education and training programmes.

By 1974, there were 32 registered private institutes, the majority of which were privately run. Some of these private providers also responded to the demand for alternative routes to matriculation – a demand that had led to the creation in 1906 of Intec College and

Lyceum College in 1928, and Damelin College in 1945. By the 1950s, all of them also offered certificate qualifications as well as alternative matriculation programmes (Mabizela, 2015). There are also linkages between Afrikaner capital in the creation of these private, skills-focused providers and efforts to develop an education and skills base for the Afrikaner population, which had been marginalised by British governmental, economic and social powers in the Cape colonies.

Further to the above growth, Cairns (2015) indicates that when the Nationalist Party took control of the country in 1948, it was able to shape education and training policies in a way that reflected its racial values. As global attention focused on the apartheid policies of South Africa in the late 1960s and 1970s, international donors and South African non-governmental organisations (NGOs) began partnerships addressing some of the deficiencies in education and training opportunities for black South Africans. By the 1980s, some initiatives of this nature were well established, including the well-respected South African Committee for Higher Education (SACHED). It had started in the 1960s as a provider of higher education for black students through a linkage with the University of London. Later, it offered programmes in adult basic education and secondary education, and contact sessions for black students enrolled in the correspondence courses of the University of South Africa (Unisa), the large distance education university that was essentially the only 'non-racial' provider of higher education in the country at the time. A significant focus of many NGOs was the need to improve the competence of black teachers in South Africa's primary and secondary schools.

Bezuidenhout (2016) argues that more than 80% of these teachers were not adequately prepared for the courses they were teaching regarding educational qualifications. Many had little more than high school education; some even lacked that. All had been trained in the philosophy and pedagogy of Christian National Education, the value framework promulgated by the apartheid government. In response, partnerships involving NGOs, foreign universities and sympathetic departments or faculties of education in a few South African universities began creative programmes to upgrade teachers' competencies and qualifications and to offer an alternative to apartheid educational values. For example, the

Teacher Opportunity Programme (TOP), a partnership involving the University of South Carolina in the United States and the Universities of Durban-Westville and Western Cape, reached over 10 000 teachers and school administrators through its two-track programme of courses in the 1980s and early 1990s. The supply of these NGO programmes found a ready demand among teachers who were able to earn salary increases by adding to their educational qualifications, irrespective of the relationship between their teaching responsibilities and the courses they pursued.

According to Gutto (2014), the apparent success of NGOs in attracting international support and the widespread publicity being focused on the shortcomings of teacher education did not pass unnoticed among the private providers of education and training programmes, nor by an increasing number of universities previously not involved in such programmes. This is a significant point for private institutions because the growing awareness of the 'black teachers' market' was instrumental in motivating a shift in the landscape of higher education a few years later through the rapid growth of distance education programmes offered previously by three historically white Afrikaans-medium universities in partnership with private providers.

The result was an unusual degree of co-operation among unions, corporate management and education and training leaders both in government and in anti-apartheid education organisations aimed at creating a National Qualifications Framework (NQF) similar to recent initiatives in Commonwealth countries. The proposed NQF was seen as a structure through which educationally disadvantaged groups might be fast-tracked to education and training qualifications that were deserved, but denied by apartheid. By embracing the idea that lifelong learning, with appropriate recognition for prior learning, would become a way of life through which South Africa could catch the global economic express, the proposed NQF found widespread support, except in the higher education sector where it was initially contested (Mabizela, 2015).

As Sehoole (2016) indicates in his review of higher education policy, these debates led to the adoption of several major policy initiatives by the ANC-led government after its

election in 1994. In addition to the adoption of a new Constitution, the key actions included the 1995 creation of the National Commission on Higher Education with the task of developing a vision for a new higher education system, the adoption of the National Qualifications Framework (1995), the passage of the Technikon Act of 1995 that permitted technikons to award degrees in addition to diplomas, and the adoption of the Higher Education White Paper and the Higher Education Act of 1997 (SA, 1997b).

This suite of policy and legislative actions ushered in a new era for South African higher education. The Constitution of South Africa No 34 of 2001 (SA 2001) and the Higher Education Act of 1997 (SA, 1997a) made it possible for private providers to offer degrees and diplomas, a right previously reserved for public universities and technikons. Consequently, private providers began to operate differently. In addition to acting as partners to public institutions, some of the private providers began aggressive marketing of their own programmes. As one marketing person stated, about the advertising done by a private provider, 'They basically owned the "Tonight" section of The Star (one of the largest daily newspapers in South Africa) for November and January' (Bezuidenhout, 2016).

In attempting to obtain reasons for this sudden interest in private providers, at least three probable causes can be suggested: (1) a belief that the government was going to invest heavily in education and training programmes; (2) the absence of a comprehensive regulatory framework, coupled with the belief that government lacked the will or capacity to regulate aggressively; and (3) a conviction that there were significant profits to be made by providing the skills needed for national economic development.

The South African government had taken a position that the country was going to become a part of the global economy, and this required a shift to a more highly skilled workforce than had been the case in earlier decades. Although many of those professing interest in registering as private providers of higher education were small operators, a few were huge corporations for which the entry into the field of higher education fuelled a boom in the value of their shares in 1998. Notable were four firms: Adcorp, Advtech, Educor and

Privest. Three of the four moved to acquire or launch operations that spanned the education and training sectors from pre-tertiary through postgraduate levels, while Privest maintained a focus on skills-based training primarily spanning the further and higher education levels.

In addition to these four, there were many other smaller, private providers seeking to find a niche in what appeared to be a wide-open playing field. According to a study conducted by Cloete (2006), there were 120 private providers with enrolments of fewer than 1 000 students, and within this group, 90 providers had fewer than 250 registrations (Mabizela, 2015). There was a rapid growth of private, high profile MBA programmes that attracted media coverage and accentuated public interest in private higher education.

By 1991, two private for-profit providers, Midrand Campus and Damelin College, had also begun offering contact instruction to students enrolled at a distance learning public university named the University of South Africa, thereby exploring a market opportunity where distance students receive personal tuition on their registered university curriculum (Bezuidenhout, 2016). Proper market segmentation saw the Midrand Campus providing instruction to the niche market of white, middle-class, mostly Jewish students who, because of poor matric results, were not able to gain admission to one of the public English-medium universities, and therefore enrolled at private institutions such as Midrand and Damelin.

Damelin, on the other hand, pursued a market of middle-class black students who also had problems gaining access to the better universities or who wanted the benefit from face-to-face contact. Damelin had been very successful as a provider of correspondence and contact education and training at the schooling and further education levels, but saw an opportunity to develop its markets vertically by moving into higher education.

By the time Higher Education Act legislation changed in 1997, both Damelin and Midrand Campus had broadened their markets and had become part of the Educor stable of

private higher education providers. The enrolment of Midrand Campus had grown in less than a decade from 250 students to more than 3 500 students (Cairns, 2015).

Development of partnerships

Paralleling these moves by private providers was rapid growth in partnerships between public and private institutions during the middle of the 1990s. A study of the emerging public-private partnerships commissioned by the Department of Education (DoE) and the Council on Higher Education (CHE) indicated that at least 251 such partnership agreements were in existence by the middle of 2000 (Gutto, 2014). These partnerships involved over 30 000 fulltime equivalent students (Mabizela, 2015).

Three public universities – Rand Afrikaans, Pretoria and Port Elizabeth – were active in implementing partnerships and nine public universities accounted for 162 partnerships with private providers, while four technikons accounted for 89, with one technikon reporting 82 partnership agreements. Unisa and the universities of Pretoria and Potchefstroom accounted for 134 of the 162 partnerships reported by public universities. Two historically white English-medium universities (Natal and Rhodes) reported having 18 partnerships (Gutto, 2014).

The partnerships involving private providers and public universities reflected creative responses to opportunities implied by drafts of new policy initiatives, as well as a growing awareness of the need for new skill development among employers. Previously, the public universities and technikons providing residential, contact instruction had not been permitted to provide off-campus instruction in either contact or distance mode.

In 1996, the National Commission on Higher Education challenged that prohibition, and it became apparent that the Department of Education was sympathetic to the development of dual-mode capability by institutions. Such a move seemed appropriate to meet the calls for increased access to higher education and responsiveness to growing demands from the economic sectors of the country (including government departments)

for more skilled human resources to carry out programmes of national development. This resulted in more than 600 organisations enquiring about the registration procedures announced in 1998 – a number far greater than the wildest speculation of anyone knowledgeable about the sector.

Table 1: History of private higher education in South Africa

YEAR	EVENT
1829	• Establishment of the South African College in Cape Town. • Founded by influential citizens who sought a better quality of education for their children. • Almost a century later (1918) this institution became the University of Cape Town (UCT).
1890	• The Kimberley School of Mines was created. • The focus was to serve the needs of the rapidly expanding mining industry. • Eventually (1908) split into two entities: The University of Witwatersrand and the University of Pretoria.
1916	• The South African Native College was founded. • It eventually became the University of Fort Hare.
1929	• Creation of a technical college for Indian workers in Durban. • This later became ML Sultan Technikon, a public institution.
1974	• There were 32 registered private institutes. • These private providers also supplied alternative routes to matriculation.
1980	• Start of partnerships addressing deficiencies in education and training opportunities for black South Africans. • South African Committee for Higher Education (SACHED) was established.
1995	• Creation of the National Commission on Higher Education. • Adoption of the Higher Education White Paper and the Higher Education Act of 1997 (SA, 1997b).
1998	• 120 private providers registered with enrolments of fewer than 1 000 students. • Including 90 providers with fewer than 250 enrolments. • Rapid growth of private, high profile MBA programmes that attracted media coverage and interest in private higher education provision.

Source: Mabizela (2015)

Fehnel (2017) indicates that between 1995 and 1997, more than half of the public universities and technikons began facing severe problems arising from financial

pressures on students for the payment of fees. Their non-payment led to actions by institutions to exclude them from further enrolment and also created financial problems for the institutions that were dependent on the student fees to supplement the falling level of subsidy support from the government. There were violent student demonstrations that sometimes resulted in senior campus administrators being held hostage. Media coverage was dramatic and persistent.

The climate of optimism that blossomed in public higher education in 1994 and 1995 gave way to a period of gloom by 1997. The enrolment landscape in public higher education sector began experiencing significant and unexpected shifts. As indicated earlier, several of the historically white Afrikaans-medium universities had already begun major outreach programmes, in effect becoming dual-medium institutions offering residential and distance education programmes. At the same time, there was a sharp increase in enrolments across the technikon sector, in both historically white and black institutions. Additionally, simultaneously, all the historically black universities experienced sharp declines in enrolment – as much as a 50% decline in two years in several institutions.

For these institutions, the threat of a financial crisis caused by the sudden loss of students was very real. The financial problems were compounded by serious unresolved crises of governance and management in most of these institutions. At the same time, the private higher education sector appeared on the scene, with unconfirmed speculation about rapid gains in enrolments. In effect, a great student trek was underway, with no one at the time having a clue as to what its dynamics were. Approximately 15 000 fewer white students were enrolled in 1999 compared to 1997. Had they gone to the new private institutions? Had they emigrated? No one knew. Compounding this situation was the surprising realisation that the secondary school system was producing fewer graduates qualified to enter tertiary institutions.

The genuine financial despair experienced by many of the public institutions led to speculation about probable causes, and the private providers of higher education were suspected of having contributed to the problems. Suspicion grew during 1998 when

private providers were engaged in a complex dual process of registration with the Department of Education and seeking accreditation from the South African Qualification Authority (SAQA). This process suffered from frequently changing requirements and uncertainty about procedures, causing conflicts and tension between private providers and government officials. In the midst of this, a sharp shift emerged in the attitude and policies of government officials towards private providers.

Landscape changes within private higher education

During the period 1995 to 2000, there was considerable activity among private providers. The 'necessary' condition for this activity was the change in policy that permitted private providers to offer degrees and diplomas. Without this condition, it is highly unlikely that the magnitude of change would have been as substantial as it was. However, other conditions amplified the activities of private providers. These 'sufficient conditions' included at least four key factors: firstly, anticipated governmental economic policy that would provide financial incentives for education and training providers; secondly, available capital for investment in the development or acquisition of delivery capacity; thirdly, a wide pool of entrepreneurial capacity and initiative, some of which was created by the Department of Education through its policy of teacher retrenchment with generous severance packages, which many retrenched teachers used to start training programmes; and fourthly, the availability of public institutions as partners, giving the private providers immediate access to 'product' (course materials) and legitimacy in the eyes of the marketplace.

According to Altbach (2014), this combination of necessary and sufficient conditions made dynamic growth within the private sector possible. Although little information is currently available to document the details of this growth, anecdotal evidence suggests that more research would be needed to develop a typology that describes and analyses institutional behaviour. During this period of landscape shift (1995-2000), one group of private providers could be characterised as the 'empire builders. They moved aggressively to acquire smaller, family-owned training companies and invested heavily in marketing their 'brands'. They sought to develop 'cradle to grave' human resource

strategies by coupling their training divisions with recruitment and placement divisions. Another group of private providers, the ‘niche builders’, moved differently.

Rather than spreading their resources across a broad range of markets (both geographically and programmatically), they focused on creating a delivery capability that matched their existing competence and financial ability. This group tended to be the smaller, family-operated training programmes that were local or regional in scope. Within each of these two groups, two different strategic patterns of development seem to have been followed: one in the first phase (1995-1999), which perhaps created the basis for how the organisations responded to the changes in policy in 1999 and 2000, which initiated a second period of landscape shift (1999-2002). The two strategic patterns are differentiated by whether the providers took a long-term or short-term view of their operational mission.

Within both the ‘empire builders’ and ‘niche builders’, the organisations with a short-term view focused on activities that maximised economic returns. This meant that investment in course materials or academic staff tended to be minimal. In contrast, organisations with long-term strategies, regardless of whether they were ‘niche’ or ‘empire’ builders, were more prepared to invest in material, physical and human resources. For example, Monash University’s operation in South Africa – ‘Monash/South Africa’ – invested heavily in building a campus, hiring full-time academic staff and developing research capacity in curricular areas in which it offers degrees. This is in sharp contrast with the University of Wales, which carried out its South African operations through technikons using partnership agreements with the Committee of Technikon Principals (Marcus, 2015).

One of the most significant changes regarding institutional behaviour was the shift to a shorter-term strategy by the larger providers as a result of the loss of value in share price, and their reluctance to invest in the development of materials and human resources. Another significant change was the retreat by transnational providers. Although it may be argued that those who left were not the best, the fact that they withdrew sent a message of discouragement to others, perhaps of a higher calibre, which were considering

partnerships that would have benefited South Africa. The perception of hostility towards transnational providers may come back to haunt South African institutions, public and private, as they start developing more international education programmes and begin to market them in other countries.

Finally, as listed by the Department of Education (Fehnel, 2017), some of the providers that entered the field of higher education from the further education and training sector have since withdrawn from the higher education sector. Some observers, fearing a watering down of higher education by having too close an association with further education providers, applaud these withdrawals. However, many others, especially employers anxious to improve workers' skills and qualifications, see the division between further and higher education as being too artificial and regret these withdrawals, fearing that employees will have fewer opportunities to earn higher qualifications (Mabizela, 2015).

Private higher education establishes itself as a significant role-player

The cornerstones of higher education policy formulated in the mid-1990s in South Africa were equity, efficiency, responsiveness and co-operative governance. By the end of the decade, the landscape of public institutions had changed remarkably regarding these policy goals. Public sector institutions were developing a very mixed record of successes and shortcomings. The historically black universities were, in general, performing poorly, while the traditionally white Afrikaans-medium universities were performing best regarding market orientation and income diversification. In the private higher education sector, similarly mixed results seem to be evident, though the data is much harder to find on which to base solid analyses. However, trends are emerging. The private providers were responding to a broad cross-section of niche markets. Their presence was addressing questions of horizontal and vertical mobility more readily than public institutions.

Badat (2013) indicates that private providers could be seen as providing a complementary service to the public sector – a move that could improve the efficiency of the entire higher

education sector. Between 1995 and 2000, enrolment in the private higher education sector grew primarily through black student participation, in fields of study that had the most promise of employment and at a credential level that was most easily attainable. Approximately 7% of enrolments were at the master's and doctorate levels, a level not dissimilar to that in public institutions. While one would like to be able to analyse the efficiency of the private providers more closely, the lack of available data does not permit this. Whether these institutions can compete with public institutions regarding efficiency is a critical issue. Many of the public institutions have ample room for improvement in throughput and retention rates, two standard measures of efficiency.

Only five South African universities rank among the best in the world. They are WITS, University of Cape Town, Stellenbosch, University of Johannesburg and University of Kwa-Zulu Natal, while the North-West University has just been listed in the 2019 Academic Ranking of World Universities' Top 500 list (ARWU, 2019).

Kotecha (2013) found that a significant source of inefficiency in many higher education systems is the disconnection between education and training system components. This is what the National Qualifications Framework was designed to address. Many large private providers have the potential to achieve much higher levels of efficiency by creating clusters of programmatically linked networks of credentials within their different corporate divisions. This should encourage students to complete one qualification and move into the next with a minimum of effort around issues of application, admission and transfer of credits. However, this type of vertical market integration has not occurred in South Africa. In large part, this may be due to two fundamental reasons.

The first reason is the reported poor management within some private education corporations (Kelly, 2013). Interviews with 'insiders' revealed how some corporate 'profit centres' failed to develop a long-term strategy based on market co-operation, even within the same corporate structures, making it difficult for students to network across different educational programmes. One former insider revealed: "There were a lot of egos around

the board room table, people worth R60 million, R70 million, saying ‘this is my business, you don’t touch it’; so, you know, there wasn’t co-operation.”

They could have created an exciting model that shares intellectual property that could act as a common intellectual property chassis where they could list their different brands prominently. However, there were too many vested interests in it. There was also a great deal of greed, and it was a very ‘in for the quick buck’ scenario.

Experiences in other countries with large, corporate providers of higher education demonstrate that economies of scale and co-operation manifest when profit centres share costs and students (Kelly, 2013). These experiences are beginning to influence the way public and not-for-profit universities interact with each other, moving them towards a mode of ‘collaborative competition’ (Marcus, 2015).

The second reason that vertical market integration has not occurred may be due to the concerns held by government education officials about the separate classification of students who fall under different governmental funding policies and administrative structures – namely the distinction between further education and higher education – even though more fluidity between these levels may be what is needed to raise throughput rates and improve efficiency. Many employers and providers in South Africa think that the Labour Department’s approach to human resource development is much more flexible and consistent with the vision of the NQF than that of the Department of Education. However, the position held by education officials is primarily due to the Constitutional ‘division of labour’ between national and provincial education departments, and because the funding formula in higher education has different conditions for different categories of students (Pfeffer and Fong, 2014).

The literature on the worldwide growth of private higher education addresses another policy factor that South African policy-makers and implementers have not heeded sufficiently. This concerns the strategic importance, regarding national human resource

development, of managing the growth of a robust private higher education sector to complement public institutions (Altbach, 2014).

The existence of a diversity of institutional and programmatic options has important social and economic benefits such as access and affordability that, in the aggregate, address goals of equity, efficiency and responsiveness. Modestly, the limited South African experience seemed to be affirming international trends in private higher education.

The small private sector was addressing niche markets, and through its innovations in partnering with public providers, it was creating additional access to higher education. In some cases, it was also introducing diverse curricular options and a standard of service delivery not previously experienced by learners (Cairns, 2015; Marcus, 2015). These practices had the effect of inducing public institutions to begin imitating some of the private providers (Bezuidenhout, 2016). These are the desired outcomes that effective policies in other emerging markets have experienced.

Table 2 below reflects a list of some of the private higher education providers in South Africa and the year in which the institution was founded.

Table 2: **Private Higher Education Institutions in South Africa**

Institution	Founded
Helderberg College	1928
Damelin	1943
IMM Graduate School of Marketing	1948
Rosebank College	1968
Cornerstone Institute	1970
CTI Education Group	1979
Inscape Design College	1981
Eta College	1983

Midrand Graduate Institute	1989
Oval Education International	1989
The Open Window School of Visual Communication	1989
The Design School Southern Africa	1990
Varsity College	1993
Akademia	1994
Red & Yellow School	1994
South African Institute for Heritage Science and Conservation	1994
Management College of Southern Africa	1995
Southern Business School	1996
Milpark Business School	1997
South African College of Applied Psychology (SACAP)	1997
Regenesys Business School	1998
Regent Business School	1998
Vega	1998
St Augustine College of South Africa	1999
Centurion Akademie / Academy	2000
Monash South Africa	2001
Stenden University South Africa	2002
Boston City Campus and Business College	2003
Qualitas Career Academy	2008
Akademie Reformatoriese Opleiding en Studies	2011

Source: SAQA (2017)

Higher education in the post-democracy period

From the above discussion, it would seem that South Africa needs to assess carefully what policies will strengthen the entire productive capacity of the higher education sector,

and move to implement such policies even when this may mean providing financial subsidies to private providers, as is the case in a growing number of countries. It may be far less expensive, regarding unit costs and aggregate sector budgets, to pay private providers to provide quality education in fields where there are critical shortages of strategically important human resources than to invest heavily in public institutions by building new facilities and staffing them.

According to Altbach (2014), the period since 1994 has revealed that, in South Africa, both public and private sectors of higher education have institutions that are poorly managed and have programmes and institutions that need to be closed down to protect the public. It also demonstrated that both public and private institutions could be innovative, well managed and genuinely concerned about the quality and the welfare of staff and students. Furthermore, public and private institutions could work together, in partnership, to design and deliver programmes that open up access to needy and deserving students, and that show promise of addressing critical skill gaps. What may be needed now is a review of the goals and objectives of the higher education sector, its role in meeting the growing human resources needs in areas that are critical to national development, and the possibilities that exist to have public and private institutions work in a complementary manner to achieve these ends.

It may now be possible to imagine the emergence of a differentiated policy structure reflecting the variety of needs, missions and operating cultures of the full range of public and private institutions that make up a growing and effective national system, rather than a ‘one size fits all’ policy (Gordon, 2015). There are positive signs that such a debate could begin: The South African Universities Vice-Chancellors Association, a key stakeholder organisation representing the public sector institutions, has acknowledged that it is essential that a framework is developed to ensure complementarity between public and private providers of higher education (Kotecha, 2013).

The Executive Director of the CHE, the statutory body responsible for advising the Minister of Education on higher education policy and on assuring the quality of higher

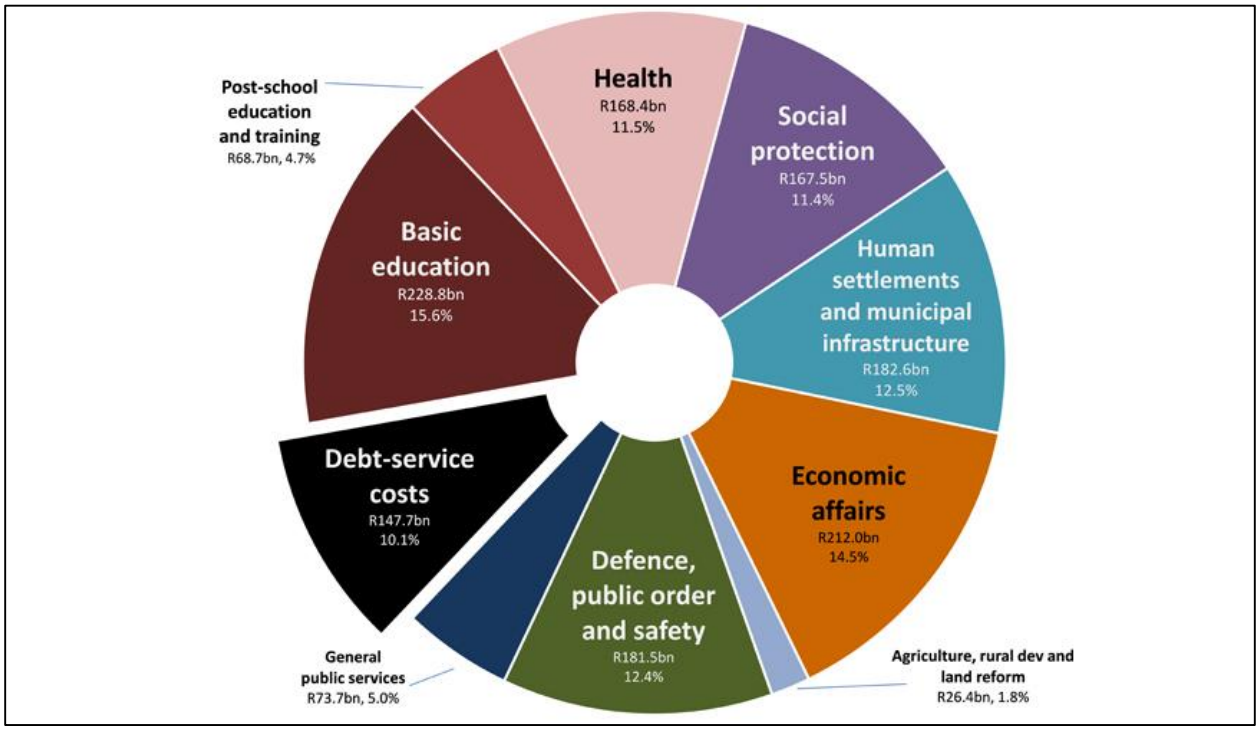
education, has also signalled the necessity of taking a long-term view on the development of policy to support the creation of a robust and high quality private provider sector that complements the role of public institutions (Badat, 2013). The panic over student enrolments in the private sector has subsided as more evidence surfaces to support the understanding that the private providers do not constitute a severe threat to public institutions – that the most significant competitors of public institutions are other public institutions, and that the private institutions are, in fact, beginning to address the kinds of access and equity issues called for in earlier policy documents.

New debates about higher education policies need to be shaped by expectations of future demands on the higher education system. The government of South Africa has committed itself to play a significant role in the economic and political recovery of the African continent, through the New Partnerships for Africa's Development (Nepad). To carry out this role successfully may require a long-term strategy of human resource development that is shaped by the needs of many African nations, not just its own citizens (Fehnel, 2017).

The last three authors agree that catering for the higher education needs of students will require the intellectual, financial and infrastructure resources of a comprehensive, coordinated higher education system that embraces public and private institutions, working in close partnership with the private sector and a broad range of government agencies at home and throughout the continent.

In 2017, a study of the private sector was being carried out by a team of researchers under the auspices of the Human Sciences Research Council (HSRC). The study aimed to provide a detailed description and analysis of operational characteristics from a sample of providers within four categories: transnational institutions, 'franchising' colleges, vocational education and training colleges, and corporate 'classrooms'. The figure below depicts the 2017-2018 South African annual budget allocation.

Figure 2: 2017-2018 South African annual budget allocation



Source: Tagwireyi (2017)

GROWTH IN ENROLMENTS WITHIN THE PRIVATE SECTOR

In 1950, an economic boom led to highly mechanised industries that, in turn, exerted pressure on organisations to hire employees who were literate to operate these machines. It was also imperative for organisations to employ managers who could mobilise and coordinate this workforce that was an imperative for the mechanised workplace. It is against this background that private institutions were designed.

This objective of private institutions took a turn during the 1950s where these organisations were under pressure to return to academic respectability. The proposed solution was ‘a sophisticated command of analytical and research tools derived from the fundamental disciplines’ as well as sound training in the physical and social sciences and mathematics and statistics combined with the ability to apply these tools to business problems. Private providers could now help the graduates, among others, with advancing their careers, change jobs, start their own businesses and allow graduates to develop business expertise.

Kotecha (2013) suggests that within South Africa, private institutions changed the branding landscape during the 1990s by selling an 'experience' (even a lifestyle) as opposed to old buildings, smiling student faces, and impressive library collections. The rationale behind this approach was to market the institution as a place of both learning (perceived as work) and socialising (having fun). This balance became important to recruit students who may have been considering tertiary education as a means to an end, rather than the start of an academic or professional career. Other students may simply have been interested in engaging in tertiary studies to delay the inevitable prospect of having to pursue a full-time job.

The above analysis of the growth in enrolments within the private sector must also be considered alongside the governance of private higher education.

GOVERNANCE OF PRIVATE HIGHER EDUCATION

The South African CHE is an independent statutory body and has executive responsibility for quality assurance in higher education and training (Strydom & Strydom, 2014). The provision of private higher education in South Africa is governed by:

- the Higher Education Act No 101 of 1997 (SA, 1997a); and
- the Regulations for the Registration of Private Higher Education Institutions (SA, 2002).

All private institutions providing higher education, that is, programmes equivalent to those provided by public institutions must be registered with the Department of Higher Education and Training (DHET). This requirement applies to both local and foreign institutions (DHET, 2013). Regarding section 75 of the Act, private institutions that were providing higher education before the promulgation of the Act were allowed a transitional period during which they could continue operating without registration until January 2000. Then, in terms of Government Gazette no. 19389 of 30 October 1998, as of 1 January 2000, no private institution is allowed to offer higher education in South Africa unless

registered or provisionally registered with the Department (SA, 1998). Table 3 below reflects the current (2017) qualifications level.

Table 3: SAQA Framework

Level	Qualification
10	Doctoral degree
9	Master's degree
8	Bachelor honours, Postgraduate diploma
7	Bachelor degree
6	Diploma advanced certificate
5	Higher certificate
4	National certificate
3	Intermediate certificate
2	Elementary certificate
1	General certificate

Source: Adapted from Slidesharecdn.com (2017)

In addition to access and affordability, one of the biggest challenges for the current and future parliaments of South Africa is the need to provide financial resources to build a vibrant higher education sector capable of absorbing millions of unemployed youth and providing much-needed skills for the economy (Nzimande, 2017). A new policy framework is therefore required.

THE EMERGENCE OF PRIVATE HIGHER EDUCATION UNDER A NEW POLICY FRAMEWORK

In a recent study (Bezuidenhout, 2016), it was reflected that the call for a National Qualifications Framework was just one of a growing number of outcomes emerging from policy debates in the late 1980s and early 1990s. These debates drew attention to South Africa's higher education system and the need for it to undertake significant changes if

the economic, social and political demands generated by 40 years of repression were to be successfully managed.

Other studies (Mintzberg, 2015; Tagwireyi, 2015) reflect that, in 1998, the DoE issued guidelines for private providers on registration procedures. In these guidelines, the Department recommended that private institutions form partnerships with public institutions to facilitate registration. Less than a year later, the Minister of Education proclaimed a moratorium on public-private partnerships. The moratorium was just one act in some actions signalling a significant change in policy towards private providers. Other actions included the passage of the Higher Education Amendment Act of 1999 (SA 1999), which gave the Minister of Education much greater powers to regulate private providers of higher education.

From government's side, the shift seemed to be justified by growing concerns about the quality of many programmes offered by private providers, as well as the fear that the growth of the private higher education sector may be threatening the viability of some public institutions. These positions were held by both the Minister of Education and Director-General of Education (Xako, 2014), and reiterated recently by a Special Advisor to the Minister of Education (Taylor, 2013). Many of the new providers were inexperienced and could not provide the necessary registration information to the Department of Education, or appropriate course materials for quality assurance purposes to the SAQA.

The course material being offered had not been upgraded for up to ten years. In human resource programmes, for instance, a course on labour relations would not have had the latest legislation on labour law. With few exceptions, many providers were not forthcoming with data about enrolments, which only fuelled speculation about their operations. There was speculation that the historically white Afrikaans-medium universities were being entrepreneurial in using the newly created partnerships in distance education programmes to admit black students, and it was suspected that they structured the mode of delivery to not have the black students on their campuses. Response to the shift in

attitude and policy from the providers' side ranged from anger to incredulity (Marcus, 2015; Gordon, 2015).

The Alliance of Private Providers of Education, Training and Development, representing approximately 250 organisations, took the position that amendments proposed in 1999 to the Higher Education Act 'would introduce substantial uncertainty and risk and would seriously prejudice both existing private education providers and those wishing to enter that industry' (Bisseker, 2014). That concern seemed to materialise as many organisations seeking registration withdrew from the process, and the share prices of publicly traded firms in the education and training business fell sharply, causing one of the large firms to take the drastic step of delisting, and a second to consider this action.

Despite justifications, the actions taken by education department officials have had severe consequences. The moratorium on public-private partnerships stopped some innovative projects that were about to be launched.

A similar embargo in early 2000 on new distance education programmes by residential, public institutions stopped a project between a leading distance education NGO and a public university to offer an 'open learning option' in science and mathematics aimed at the critical issue of bringing more black students into the science programmes of universities. On the international front, several foreign public universities dropped their plans to register and work with South African organisations.

It has been recognised by South African public institutions that the curricula of foreign universities added value to what was on offer in South Africa and stimulated local institutions to improve their programming. The actions by education officials caused investors to withdraw support from the higher education sector at a time when additional support was needed to upgrade programmes and reach new markets of students and workers seeking access to better qualifications. Considering these opportunities, private providers have augmented into various categories.

The four categories of private higher education

Enrolments at private institutions have soared, and business education has become big business; however, little evaluation of the extent to which private providers' training meets expectations of South African industries and that of students exists (Currie & Knights, 2014). Bennis and O'Toole (2015) concurred that neither possessing a business school qualification nor grades earned in courses correlate with career success.

What the 20th century demonstrated in South African higher education is that governments, for good or bad, seek to shape the responses of institutions in ways that reflect governmental values and priorities; that institutions, for good or bad, try to maximise opportunities to assure their future, whether by becoming public institutions (as all the original private institutions did in the early part of the century) or by becoming entrepreneurial and responding to the marketplace (as some, public and private, did in the final years of the century); and that 'the market' is continually changing, requiring new responses from both the government and institutions, often more quickly than policy and structural mechanisms permit.

When that happens, pressures for a shift in the landscape of institutions emerge and, depending on the prevailing "rules of the game", a new landscape may evolve. What happened in private higher education in South Africa at the end of the 1990s reflects reasonably accurately the results of the interaction among policy, the marketplace and institutional initiative.

As market opportunities became more apparent following the political settlement of 1993/94, the landscape of higher education providers began to reflect responses to new opportunities. The first category of providers consisted of the large corporations that moved into the field of higher education in one of three ways: as an extension of existing education and training at the further education level; as partners with public institutions in extending access to new markets for the public institutions; or as part of corporate strategies to provide recruitment, academic qualifications and job placement – a sort of comprehensive career-service agency.

The second category of providers that emerged consisted of small, independent providers that focused on limited knowledge and skill areas and attempted to create a sustainable niche. While loosely falling in the field of management and commerce, they responded to needs across a wide range of economic sectors – from the many facets of the tourism industry to healthcare delivery and other niches of personal service.

The third category that emerged involved the transnational providers that sought to create an educational beachhead in South Africa, either on their own or in partnership with local providers.

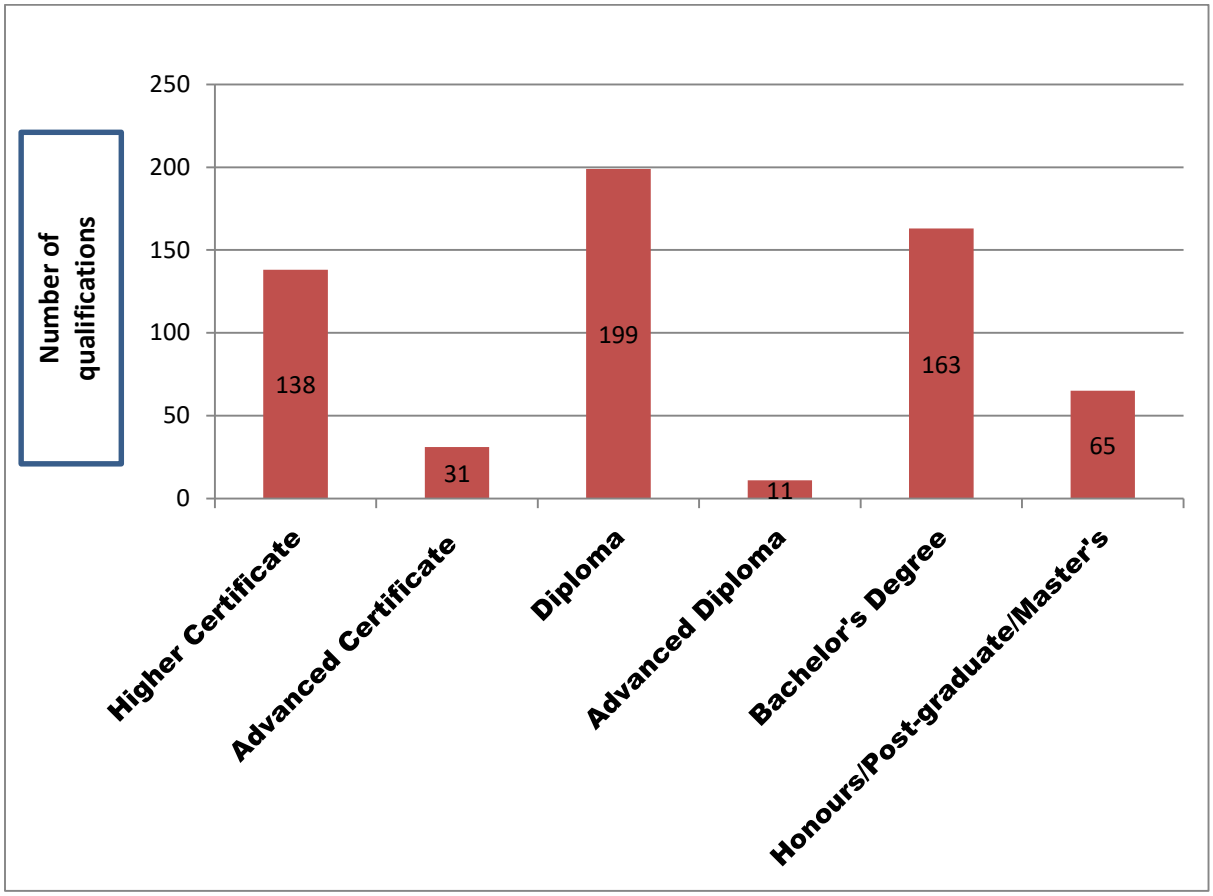
The fourth category that emerged was the 'corporate university' with several distinct variations, including partnerships with public institutions – South African and foreign (Mabizela, 2015). Data supplied by private providers during the registration process initiated in 1998 indicates that the provision of higher education by private providers had been meeting some of the goals established by the White Paper and Higher Education Act No 101 of 1997 (SA, 1997b).

It is clear that South Africa's current policies towards private higher education providers should aim to move the education sector and the economy in a direction that is in the best long-term interests of the country. One approach to achieve this objective would be to consider how government policies have influenced the landscape of private higher education.

THE PRESENT PRIVATE HIGHER EDUCATION LANDSCAPE IN SOUTH AFRICA

In 2017, the DHET reported the following regarding the number of various qualifications or programmes being offered by private higher education institutions:

Figure 3: Number of qualifications



Source: Adapted from DHET (2017)

All the above-mentioned qualifications are registered by the National Qualifications Framework Act, 2008 (Act No. 67 of 2008) (SA, 2008) and its qualifications sub-frameworks.

The DHET (2017) also reported that there are 96 registered private higher education institutions and 28 provisionally registered institutions. In 2004, there were 101 institutions; that is, an increase of 23 institutions (19%) over 13 years. Indeed, there have been cancellations of registrations for various reasons, ranging from non-compliance to liquidation.

The following are the notable trends observed by Pola, Paula and Smith (2014) in the private higher education sector (also later confirmed by the DHET (2017)):

1. Expansion regarding programmes, sites and student numbers.
2. Level of stability and consolidation.
3. Enrolment at a private institution with the intention of furthering studies at a public university.
4. Some synergy between the public and private sector.
5. Strong on ‘paper’ compliance.
6. Increased student confidence in the sector.

In South Africa, private higher education institutions have experienced growth and due to market demands have had to become a ‘big business enterprise’. Within the higher education sector, the byword is *competition* – including competition for students, faculty, research funds and donors. The market now matters in higher education, including both the private and public sectors (Beneke, 2013). It is also recorded in Pola, Paula and Smith (2014) that private higher education institutions have become financial success stories and also that colleges and universities that offer management education have also seen an increase in student intake for both undergraduate and postgraduate qualifications.

Notwithstanding the many advances and achievements of higher education such as research and teaching and learning methods, the student protests of 2015 and early 2016 have given expression to underlying fault-lines in quite a dramatic way. The pressures of worsening underfunding within the context of enrolment growth, and increasing student expectations and frustrations concerning access and financial aid have led to widening fissures in the system. This review has identified, in addition to under-funding, the limits of academic staff capacity as a further crack in the foundations that threatens to widen and have a detrimental impact on the quality of provision. Immediate solutions to the particular crisis that higher education finds itself in need to be found, but it is important that any future courses of action are informed both by rational analysis of empirical data, and reflection on and understanding of the directions, trends and trajectories of the system in the past.

The successes and limitations of policy in steering the system, the responses of the system to global trends to which it is vulnerable, and the agency of institutions in shaping the system, are all aspects that lend themselves to careful unpacking from various perspectives, so that the past may inform the future.

The success and advancement of private higher education did not occur without challenges. An explanation of these challenges is therefore necessary.

Challenges facing private higher education institutions

The trend to acquire a tertiary education has taken hold and minority groups, particularly, are being enticed to enter the higher education market in a quest to empower themselves and better their lives (Parvianinen, 2013). However, this demand is not being met by an adequate supply of tertiary education providers in both the public and private spheres. The global situation is no different from that in South Africa. Globally, institutions are facing changes in government funding methods, globalisation of higher education is bringing new competitors into the fray, and applications from new students at some institutions are declining (Tagwireyi, 2014). International research suggests that these trends, in broad terms, are being reflected worldwide.

Private higher education providers, particularly, are adopting sophisticated marketing techniques to persuade matriculants to study at their institution instead of the competition. Both public and private institutions are effectively competing for the same pool of potential customers, and the marketing muscle of ‘for-profit’ institutions is forcing ‘non-profit’ institutions to respond accordingly.

For instance, Bundy (2013), former Vice-Chancellor at the University of the Witwatersrand, reports that the booming private higher education sector was responsible for the fact that white enrolments at universities and universities of technology fell in five years by 41 000, or 19%, in the mid-90s.

Private providers serve a complementary or alternative role to the public sector and at the same instance can respond to specific demands in the market by providing another alternative for prospective students. The private sector is also not bound by bureaucratic red-tape. This particular sector also straddles various skills development sectors by reflecting strong links to industry and possible employment for students and therefore, the more established private institutions are strong in their respective fields (DHET, 2013).

The more pertinent challenges being faced by private providers include security around admissions and certification, curriculum/programme development, weak governance, the credibility of qualifications, articulation and lack of recognition by some public institutions.

The DHET (2015) explains that moving forward private providers will continue to play a crucial role in education, training and skills development and that the registration of more private providers will serve to strengthen and streamline private provision, thereby creating greater accountability and reporting. Policies such as articulation and recognition of prior learning will continue to dominate the landscape, and therefore the credibility of qualifications will have to be safeguarded.

Private higher education has now entered a period where changes such as online learning are required, but the management structures that are in place do not provide the needed support to encourage and facilitate these changes (Siller and Johnson, 2014). Siller and Johnson (2014) go on further to argue that today's world demands a more responsive education system that can rapidly change, while at the same time maintaining quality. The focus of private higher education providers should, therefore, be specifically on innovative management methods and organisational processes that are employed by private higher education institutions to meet the challenges faced by these private providers.

The Cambridge Judge Business Schools (2014) survey indicates that one of the significant challenges facing the deans of most private institutions is obtaining funding for

their academic operations and research to sustain world-class educational quality. This quality, then, would inform the various teaching methods used.

Teaching methods used by private providers

Not all private higher education providers use the same method of teaching. Some institutions prefer to use the case study method, some prefer a lecture method, and some schools use a combination. Clinical training or training by doing is provided, in limited instances, even in established private providers, notwithstanding the suggestion that real experience is the basis for observation and reflection where experiential learning is provided (Jordan, 2014). Mintzberg (2015) indicates that students at private higher education institutions learn to talk about business but wonder whether talking about business translates into learning about business. Unfortunately, according to Pfeffer and Fong (2014), actual management cannot be simulated in the classroom. The issue with the case study is that students with little or no managerial experience are told to pronounce on the strategy of a company they hardly know, but were given a case study of. Mintzberg and Lampel (2014) argue that, although a scientific approach may be useful for study, it is not at all clear whether it helps in teaching. As Gray (2014) noted, “private schools have been designed without practice fields”.

According to Pfeffer and Fong (2014), the explanation for why consulting firms can replicate practical experience is through the teaching of wisdom or mastery of practice and not a method of instruction stressing language and concepts. Programmes provided by consulting firms include teaching their consultants the corporate jargon; it is a question of teaching the vocabulary of the corporate world (Pfeffer and Fong, 2014). Mintzberg (2015) has argued that management is a practiced craft and the typical business school experience is too far removed from the context of business. Therefore, after considering teaching methods, it is also necessary to consider another pillar of higher education, and that is research.

Research in private higher education

Bennis and O'Toole (2015) expressed that private higher education research has adopted a model of science that uses abstract financial and economic analysis, multiple statistical regressions, and laboratory psychology. Bennis and O'Toole (2015) further argue that policy emphasis on research has undoubtedly acted as a catalyst to the enhancement of the quality of research produced in private higher education. Jordan (2014) compares the private management schools with law schools and schools of medicine by saying that today, private management schools will never appoint a person who is good in managing an assembly plant like the private management school used in its initial stages. The management school will instead hire a highly qualified individual even if that person does not have any management experience.

In departments such as economics and physics, according to Jordan (2014), these faculties pay attention to and focus on their disciplines. Demonstration of practical use by practitioners is not a requirement for these institutions to teach. They are at liberty to conduct research on whatever they choose to, and to produce a subsequent generation of scholars. The primary objective of the university in this scientific model is to support the interest of the scholar. The private sector seems to be accepting and is comfortable with these arrangements that universities help society advance by supporting students/ learners and even academics who push back the boundaries of knowledge, while in the meantime leaving out the practical implications to others (Jordan, 2014).

Pfeffer and Fong (2014) conclude by stating that the law and medical schools operate differently; they interact with the outside world. It is expected of faculty members to be first-rate scholars at the law schools; in fact, articles often cited in trials are the articles published in law reviews. Similarly, medical schools carry on advanced biological research, but most of the teaching faculty members are also practising doctors. The business schools prefer the scientific model of physicists rather than the professional model of doctors and lawyers. This model saves the private provider from having to deal with complex social and human factors, and it also eliminates time to be spent in the field having to discover the actual problems facing managers.

The initial objectives of the private higher education institutions as one of the major role-players in managerial education were to address the issue of management skills of corporate America post-Second World War. When business schools started, their focus was to educate managers and create knowledge through research. Private providers were similar to trade schools where those who were teaching at these schools were managers who were excellent in their departments and were sharing their experiences and wisdom with students during the first half of the 20th century. Of late, the inability to impart useful managerial skills, failure to instil norms of ethical behaviours, inability to prepare leaders, and even the failure to lead graduates to good corporate jobs are some of the criticisms labelled against the private sector (Mintzberg, 2015).

Bennis and O'Toole (2015) state that criticisms that are levelled against management education can be traced to a shift in the culture of the private providers, as the criticisms are broader in their scope. According to Mintzberg (2015), private providers measured themselves almost solely based on the rigour of their scientific research, instead of measuring themselves on how well their faculties understand important drivers of business performance or measure themselves in terms of the competence of their graduates in the work environment. This is as a result of adopting scientific models that use abstract statistical multiple regression, financial and economic analysis and laboratory psychology (Merrit and Lavelle, 2015).

This scientific model, according to Bennis and O'Toole (2015), was adopted as a result of the assumption that management is an academic discipline, such as chemistry or biology, instead of regarding business as a profession, such as law and medicine, which would require business schools to be professional. Pfeffer and Fong (2014) state that the degree of separation from the profession that is served by professional schools such as social work, law, medicine, architecture, education, and engineering degrees makes the private sector relatively unique. This takes into consideration the fact that business school faculties do teach in company executive programmes and also consult for business, and

it also takes into account the fact that students from private higher education go on to practice management.

Curricula in the various professions may or may not be linked to the concerns of the profession and directly oriented toward preparing the students to practice that profession. The proportion of faculty who move in and out of the profession or who practice it regularly is a degree of separation that differentiates management from other professional schools.

According to Gerdes (2015), it is imperative that all higher education providers, both public and private, get closer to industry and their students to understand their needs and structure their programmes to match these needs if they are to have a long-term survival in the management and executive development business. Research conducted by Matheson (2015) indicates that the greater percentage of the skills training budget in South Africa (which is well under half of the national average) that employers spend on training is now undertaken in-house. There are mixed perceptions of what the most appropriate mode of delivery towards the attainment of management education is, which continues to be a priority in most businesses. It is against this background that the present study aims to comprehensively construct a conceptual framework to measure skills for management competence, to empirically test the relationship between the identified managerial skills from the literature, and to determine the relative importance of each skill to managerial competence.

Private higher education in South Africa has never been more volatile than it currently is. There is much that private higher education can claim to have achieved, and therefore the commercialisation of higher education also requires analyses.

THE COMMERCIALISATION OF HIGHER EDUCATION

Sociologist Manuel Castells (2013) contends that all (both public and private) higher education institutions fulfil five main functions, namely to:

1 select ‘dominant elites.
2 provide these individuals with academic training.

3 generate new knowledge through research.
4 link knowledge in the institution to applied contexts through entrepreneurial activities.
5 act as part of the ideological apparatus of society.

Bay and Daniel (2014) contend that universities with a large number of international students are referred to as ‘export industries’ (Gatfield, 2014), courses are termed ‘educational products’ (Adler, 2014), new instruction methods such as internet courses are referred to as ‘distribution methods’ (Gatfield, 2014), and other institutions are referred to as ‘competitors’ (Landrum, Turrisi and Harless, 2014).

To achieve these objectives, institutions need the necessary human capital. This human capital comprises both established academic figures as teachers and advanced researchers, and younger minds as undergraduate students, postgraduate students and junior researchers. Despite the differing viewpoints, it appears that contemporary views suggest that the need for marketing in higher education certainly exists. Underscoring this is the extent to which higher education is becoming commercialised in the literature.

Furthermore, potential students are sometimes referred to as the ‘customer base’ (Browne and Kaldenberg, 2014), returning students are called ‘repeat business (Licata and Maxham, 2014) and attempts to determine to what extent the institution is meeting the students’ perceived needs are related to ‘customer satisfaction’ (Licata and Maxham, 2014).

SUMMARY

This article focused on the theoretical analysis while also describing the role-players and their challenges in the private higher education sector in South Africa. It has been found that private tertiary education providers have been commercial successes; there are substantial questions about the effects on both the careers of their graduates and on management practice due to the challenges being faced by these institutions.

These concerns, coupled with the rise of many competitors including executive education, consulting and training companies, e-learning and company in-house programmes contribute to the challenges being faced when attempting to manage academic performance at private higher education institutions.

The next article identifies the variables relating to academic performance for private higher education institutions in South Africa.

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CHAPTER 3

ARTICLE 2:

A theoretical model to measure academic performance at private higher education institutions in South Africa

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A theoretical model to measure academic performance at private higher education institutions in South Africa

Mr. Sayed Moinuddind Rehman[1] (MBA)
Academic manager, Regent Business School, Durban &
Doctoral student at the North-West University, Potchefstroom
Contact details: P.O. Box 10686, Marine Parade, Durban, 4056
Mobile number: 072 640 7371
E-mail: accounting@Regent.co.za
ORCID Id: **http://orcid.org/**0000-0002-5677-5337

Prof. Christo Alfonzo Bisschoff (DCom)
Professor in Marketing, North-West University Business School, North-West University, Potchefstroom.
Contact details: Private bag X6001, Potchefstroom, 2520
Mobile number: 084 548 2256
E-mail: Christo.bisschoff@nwu.ac.za,
ORCID Id: **http://orcid.org/**0000-0001-6845-7355

Prof. Christoff Jacobus Botha (PhD)
Professor in Labour Relations, North-West University Business School, North-West University, Potchefstroom, South Africa
Contact details: Private bag X6001, Potchefstroom, 2520
Mobile number: 082 737 7823
E-mail: Christoff.botha@nwu.ac.za
ORCID Id: **http://orcid.org/**0000-0003-4517-8526

[1] This article originated from a PhD study by this author at the North-West University

Tweet message: Need to measure academic performance of your institution? Find out what to measure and how to do it.

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Corresponding author: Prof Christo Bisschoff

Authors' contributions: Sayed Rehman is a PhD student and primary author. Proff. Bisschoff and Botha are the promoters responsible for corrections, guidance and leading in the writing of this article.

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ABSTRACT

Orientation: Private higher education institutions in South Africa are responding to the increased demand in higher education, especially since public institutions struggle to keep up with this growing demand in education.

Research purpose: Higher efficiency and better education outputs are required to remain competitive. However, measuring academic performance is difficult since limited models exist to do so for private higher education institutions. Detailed models for public universities are not directly transferable to private education, nor is performance models developed for other private businesses.

Motivation for the study: At present, management of private higher education institutions appears to be concentrating on the structural changes and infrastructure creation rather than optimisation of the current educational activities.

Research design, approach and method: A theoretical study of the antecedents relating to academic performance scrutinised similar studies and models that measure academic performance and refined a list of applicable antecedents to the academic performance of PHEIs specifically.

Main findings: This study identified antecedents and measuring criteria to effectively measure academic performance in private higher education institutions; thereby developing a model to enhance the management of academic performance.

Practical/Managerial implications: Managers of private higher education institutions could use the measuring model to apply to measure the academic performance of private higher education institutions.

Contribution/Value-add: No model could be found that measures the academic performance of private higher education institutions. This model is the first step to enable private education providers to actually measure their academic performance and thereby improve their efficiency and competitiveness in the South African higher education market

Key terms: academic performance, antecedents, academic performance model, private higher education institutions, management.

JEL Classification: M10; I25

INTRODUCTION

In South Africa, private higher education institutions are confronted with a myriad of new policies, legislation and qualification frameworks. These are governmental, institutional, community and student demands for new political awareness and commitment, the "Africanisation" of curricula, and the addressing of language issues (Garcia and Pintrich, 2014:7).

The high failure rate at university level is a great concern to the community, government and education providers. According to Garcia and Pintrich (2014:8) the cost, both in social and financial terms, is high and there is an imperative to better understand the factors that affect students' academic performance. Educational research into student achievement has broadly focused on two major areas; namely, cognition and motivation.

In the area of cognition, researchers have found that factors such as prior knowledge and the use of cognitive and metacognitive strategies will influence the type of learning undertaken and consequently student achievement. In the area of motivation, research has concentrated on why students display certain behaviours and how these, in turn, affect their achievement.

Private higher education is one of the most rapidly changing sectors within South Africa. In recent years the environment in which private higher education operate has become increasingly complex, uncertain, turbulent, and has manifested an ever-increasing rate of change (Beaty and Cousin, 2015:141). The environmental changes include, for example, growing global competition, shifting stakeholder expectations, technological development, economic restructuring, different work and management practices, and social reconstruction.

Historically, in the early 90s, South Africa started to experience real international learning and a highly competitive education environment (Kerr in Beaty and Cousin, 2015:8). This competitive environment then necessitated the role of managers in private education institutions, who then, more than ever, needed to understand the strategic goals of their

institutions, be part of the developments of these goals, and be able to engage in the strategic application of their skills to compete aggressively against international market entrants. However, traditional market positioning of Private Higher Education Institutions in South Africa were segmented into two broad categories: historically Black and historically White education providers. Student profiles still reflect this historical character of the institutions although much progress has been made by both segments to be inclusive to all. Furthermore, institutions overall make an effort to recruit students from historically disadvantaged scholastic backgrounds and groups. Unfortunately, these changes in the demographic profile of student populations have had little effect on the academic performance of students, and low pass rates and even lower graduation rates (below 40%) remain. This impacts negatively on skills development and employment whilst placing a high financial burden on the society, government and providers of private education (Page, Loots and Du Toit, 2017:2). As a result, the South African Universities Vice-Chancellors Association's (SAUVCA, 2018) National Quality Assurance Forum prioritised throughput rates and poor academic performance at South African universities.

A number of key criteria were isolated by the National Quality Assurance Forum to improve the academic performance of students; all the criteria focus on staff and student support to facilitate success, access, and equity. The regulatory body, Council on Higher Education (2016), previously expressed their concern on academic performance of students and published a revised and condensed list of nineteen criteria for institutional audits; two criteria (Criteria 1 & 3) specifically have a direct impact on the core activities of teaching and learning, research and community engagement to improve academic performance. In this regard, the researchers Beaty and Cousin (2015:141) stated earlier that private higher education institutions in South Africa have found it increasingly important to articulate their mission and to have a strategy to manage change. The poor academic performance with relatively high drop-out rates also negatively influences the rollout of financial assistance granted to students who would otherwise not afford tertiary education, putting the National Student Financial Aid Scheme (NSFAS, 2018) (as established in terms of the National Student Financial Aid Scheme (Act 56 of 1999) (SA, 1999), under pressure.

There is a growing interest in factors to manage, understand and even predict academic performance. This interest is directed at creating, and improving already existing interventions and support services for students who are at risk of having academic problems (McKenzie and Schweitzer, 2016:21).

PROBLEM STATEMENT

South Africa has undergone significant transitional changes, some of which aim to address the injustices of the past by moving from an authoritarian regime to a democratic one. The education sector is no exception to this transition as the government attempts to standardise the quality of education for the economically disadvantaged populations. Almost 30% (in 2015) of engineering students at the University of Cape Town, South Africa, dropped-out of university before completing their studies (Gibson, 2015:41). Nationally the recent dropout figures show that 52.1% (in 2018) of students did not complete their studies (Gumede, 2018). Interestingly, Gibson (2015:41) found in his study that the academic performance of first- and second-year engineering students relied heavily on the quality of the high school education they received. This means that students with a traditional disadvantaged educational background are challenged to perform academically at university level. That is if the student from a disadvantaged educational background makes it into university. This poses a second challenge; does the student receive the opportunity to engage in higher learning or not. This determining power lies in the fact that the quality of a school a child goes to determines to a large extent, their performance in matric; and up until now, matric results are still widely used as very important, if not sole determinants of university admission.

Therefore, universities project students' potential based on their matric performance which depends heavily on the overall quality of the high school. It has been taken into consideration that the matric scores of students from previously disadvantaged academic backgrounds are not always an accurate reflection of their potential as they were from schools which had limited resources. Thus, the University of Cape Town and other South African universities now allow some students who do not necessarily meet the minimum

requirements an opportunity for higher education (Gibson, 2015:42). South Africa's National Plan (SA, 2001) specifically identified the lack of access, poor graduation and retention rates, and high drop-out rates as focus points for South African universities.

South African universities have thus become increasingly concerned with developing ways to increase retention and graduate output to achieve the goals outlined in the National Plan. Private higher education institutions are also faced with the particularly difficult task of developing ways to improve retention and graduation rates and redress past inequalities, against a backdrop of no government funding.

The long-term plan to redress past inequalities and increase retention and graduation rates at South African universities, as communicated in the National Plan (2001), highlights the need for higher education institutions to re-examine the factors that determine students' academic success and failure. This poses the problem of specifically what antecedents play a role in the South African educational environment and how these antecedents can be measured.

OBJECTIVES

The primary objective of this study is to develop a theoretical model to measure the antecedents relating to academic performance at PHEIs.

The following secondary objectives serve this primary objective:

- Perform literature research to identify relevant academic performance antecedents;
- Identify, from the literature, the measuring criteria which are relevant to the antecedents in the private higher education institution environment; and
- Develop the instrument used to measure academic performance in PHEIs.

RESEARCH METHODOLOGY AND DESIGN

The methodology followed involved a theoretical study of the antecedents relating to academic performance. These included all institutions that measure academic

performance; economic circumstances and motivation were abundant while other criteria also surfaced as possibilities. The literature study employed similar studies and models that measure academic performance. The literature study identified a wide array of possible antecedents to measure academic performance (about all types of institutions). This extensive list was impractical, and many of these antecedents had little or no relevance to the academic performance of PHEIs specifically. The next step was then to further refine and reduce the number of antecedents and identify only those key antecedents relevant to PHEIs along with its measuring criteria.

IDENTIFYING ANTECEDENTS OF ACADEMIC PERFORMANCE

The results and progression towards the development of a conceptual model to measure the academic performance of PHEIs are discussed and then summarised in Table 1.

The identification and analysis of a wide array of relevant academic performance measurement models listed several constructs and their measuring criteria; albeit, not all of them are relevant to private higher education. Table 1 reflects a list of the selected studies that were used to identify antecedents to measure academic performance. These studies are generalised over an array of institutions and were not specific to private higher education. Table 1, therefore, shows the antecedents the respective researchers employed to measure the academic performance of the specific institution.

Table 1: **Academic performance models and antecedents examined**

Number	Antecedent	Source
1	Selectivity, expenditure and retention	Alexander (2013:12) Barron (2017:2). Berger (2014:181) Built (2015:22) Gansemer-Topf and Schuh (2016:9-10). Mayer-Foulker (2014:485)
2	Boredom amongst students	Mann and Robinson (2017:248) Harvard Graduate School of Education (2017)
3	Affective factors	McCoach (2015:67) Rice (2016:128)
4	Self-concept	Sikhwari (2017:525) Rice (2016:130)

5	Motivation	Fallis and Optotow (2014) Moore (2015:7) Petersen, Louw and Dumont (2017:100) Sikhwari (2017:527) Van der Aardweg and Van der Aardweg (2016:10)
6	Attitude	Sikhwari (2017:527) Harvard Graduate School of Education (2017)
7	Self-esteem	Petersen et al. (2017:104)
8	Economic factors	Berg (2017) Malefo (2015 National Plan for Higher Education (SA, 2001) Petersen et al. (2017:105) Sikhwari (2017:525)
9	Stress	Kennett and Reed (2017:160) Malefo (2015:45
10	Workload	Malefo (2015:45) Merriam, Caffarella and Baumgartner (2017:2) Petersen et al. (2017:104)
11	Active learning	Ali et al. (2013:85) Malefo (2015)
12	Attendance	Ali et al. (2013:85) Marburger (2014:22) Moore (2015)
13	Time spent on task	Nickerson and Kritsonis (2016:1)
14	Extracurricular activities	Ali et al. (2013:85) Darling, Caldwell and Smith (2005)
15	Peer influence	Gibson (2015:593)
16	Adjustment	Built (2015:22) Petersen et al. (2017:105)
17	Help-seeking	Lowis and Casley (2017:333) Petersen et al. (2017:104) Robbins (2014:8)
18	Grades improvement and retention	Fenollar, Roma'n and Cuestas (2017)
19	Effective time management tools	Swart, Lombard and Jager (2013:83)
20	Self-efficacy	Bandura (2016:12) Bong (2014:23) Fenollar et al. (2017) Greene (2014:500)
21	Study strategies	Fenollar et al. (2007) Watkins (2015:8)

22	Class size	Finn, Pannozzo and Achilles (2013:42) Fenollar et al. (2017)
23	External forces	Bodovski (2016:143) Epstein (2014:166) May, Bidgood and Saebi (2016:246) Palmer (2013:350)
24	Family and society	Bodovski (2016:146)
25	Parent income level, attitudes and expectations	Ermisch and Francesconi (2016:137) Jacobs and Harvey (2015) Ma (2017:132) Malefo (2015:44)

Selectivity, expenditure and retention

As the costs and price of higher education continue to outpace inflation, the public is scrutinising the financial decisions of institutional leaders more closely (Petersen et al. 2017:104). Although the public considers a university education a smart investment for students and parents legislatures are placing higher expectations on institutions to verify that they are using their resources effectively and efficiently (Alexander, 2013:12).

Two common measures of institutional effectiveness are first-year retention and six-year graduation rates (Gansemer-Topf and Schuh, 2016:9). Built (2015:22) cited by Gansemer-Topf and Schuh (2016:10) asserts that first-year retention and six-year graduation rates are important because they assess an outcome that is valued by students and parents, namely, pursuing and completing a degree.

Research focusing on the impact of university experiences on students generally ignores organisational behaviour as a source of influence (Berger, 2014:181). Little research has examined how an organisational financial strategy such as resource allocation may provide insight into improving undergraduate retention and graduation rates.

Within the context of this dilemma lies another critical element that affects the relationship between resource allocation and retention and graduation rates: institutional selectivity. Institutional selectivity is a measure of admissions competitiveness (Barron, 2017:2).

Selectivity scores provide information on the general academic qualities needed for admittance into a specific institution. Universities with high selectivity ratings enrol students with higher standardised scores (Sikwari, 2017:525), high school grade point averages and higher school rank than institutions with lower selectivity ratings and as a result, may have higher retention and graduation rates regardless of how they allocate their resources (Mayer-Foulker, 2014:485)

Therefore, a more comprehensive understanding of the relationship between institutional expenditures and retention and graduation only can be achieved by sustained academic performance. Academic performance and the antecedents contributing to performance are discussed below.

Boredom amongst students

Boredom in class has been found to have an adverse effect on students' academic performance. A study conducted by Mann and Robinson (2017:248) indicates that boredom in education has been associated with poor academic performance. The findings suggest that 59% of students find at least half their lectures boring with 30% who find most or all of their classes boring. The results of the above study indicate that lecture boredom has significant outcomes of academic performance. As a result, students miss classes and are not willing to attend in future. Although this study suggested some factors contributing to students' boredom, boredom is an attitudinal problem which result in poor class prepareation, attendance and even laziness among student populations (Harvard Graduate School of Education, 2017).

The results suggest that an individual's propensity towards the personality traits of boredom proneness has a substantial effect on their experience of boredom. High boredom proneness students rated more time in lectures more boring than low boring lectures, suggesting boredom proneness is a significant predictor of experiencing boredom in lectures (Mann and Robinson, 2017:250).

Affective factors

Most of the research conducted on antecedents which influence academic performance has concentrated more on cognitive factors, while affective factors have been ignored. Intelligence, for example, is regarded as a prerequisite for academic performance and it is believed that an intelligent child is more likely to be successful in learning than a less intelligent student. Intelligence is, however, just one of the important factors which can influence academic performance.

McCoach (2015:67) argues that reasons for differences amongst students with regards to their academic performance remain a mystery. It is well known that ability is the best predictor of academic performance; however, it explains less than 50% of the assets in students.

By McCoach's argument, one can conclude that, besides intellectual ability, there are other factors which play crucial roles in students' learning and academic achievement. Students' interests and their involvement in various academic tasks, how they perceive their interactions with their lecturers and what they feel and think about themselves about the execution of academic tasks are important factors in learning.

Affective factors such as motivation, attitude, self-concept and self-esteem also play an important role in academic achievement. According to Rice (2016:128), students who are confident have positive self-concepts, and they are, therefore, motivated to achieve better in academic work. Students who have negative attitudes about themselves impose limitations on their achievement.

Self-concept

Sikhwari (2017:525) argues that self-concept is a psychological construct which refers to a cluster of ideas and attitudes an individual hold about him or herself. Based on this definition and description, one may view self-concept as the way an individual regard himself or herself and as a psychological concept which forms an integral part of a person's personality. It is never static, as it can change from positive to negative,

depending on the perceptions an individual has about himself or herself due to the prevailing circumstance or situation.

This means that one should always strive toward developing a positive self-concept as it can lead to success rather than a negative self-concept which can make one feel inadequate and worthless, thus leading to failure. Rice (2016:130) indicates that literature is deluged with reports indicating that learning increases when self-concept increases positively.

Motivation

Van der Aardweg and Van der Aardweg (2016:10) define motivation as the driving force, the impetus of the personality, which is put into effect by an act of the will by what a learner wants to do. It energises behaviour and can be an intrinsic and extrinsic force.

Moore (2015:7) states that motivation has to do with a set of independent or dependent variable relationships that explain the direction, and persistence of an individual's behaviour, holding constant the effects of aptitude, skills, and understanding of the task, and the constraints operating on the environment.

In essence, motivation can be described as a driving force or an urge behind what an individual does (Sikhwari, 2017:527). This driving force can be, for example, a desire to do well in a task. A highly motivated person tries to achieve to the best of his or her abilities and to be consistent in that achievement. Motivation is an important factor in academic achievement. Regarding academic performance, Petersen et al. (2017:100) refer to motivation as one of the most important psychological concepts in education. Academic motivation on educational outcomes is linked to academic performance at university. In this regard, the Self-Determination Theory (SDT) is an intrinsically motivated theory associated with competence and self-determination (Fallis and Optotow, 2014).

People who are intrinsically motivated engage in activities that interest them, and they do so freely, with a full sense of volition and without the necessity of material rewards or

constraints. Intrinsically motivated behaviour includes curiosity, exploration, manipulation, spontaneity, and interest. High levels of intrinsic motivation have been linked to better academic performance at university (Petersen et al., 2017:103).

Attitude

An attitude is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related (Malefo, 2015). In the learning context, an attitude can be described as a general tendency or state of preparedness to behave in a particular way about a learning task. In the study conducted by Sikhwari (2017:527) attitude was found to be significantly related to self-concept and motivation. However, the Harvard Graduate School of Education (2017) points out that the right attitude is crucial to succeed in tertiary studies and that students' attitudes should be a point of departure to manage academic performance of students.

Self-esteem

Self-esteem has been referred to as a personal resource necessary for positive psychological adjustment to stressful life transitions. A study conducted by Petersen et al. (2017:104) indicates that individuals with high levels of self-esteem perceive themselves to have the ability to complete specific tasks adequately, and thus employ effective coping strategies and manage their resources well in completing those tasks.

It further indicates that self-esteem is associated with adjustment and academic performance. This positive association would suggest that students who show a high level of self-esteem were able to adjust to the university and performed very well academically (Petersen et al., 2017:104).

Economic factors

In light of the history of South Africa, there are inevitable socio-economic divisions between social classes in this country. These socio-economic circumstances have various consequences on the quality of the lives of the people. This socio-economic

disadvantage filters down to the quality of education that the people who are its victims receive.

Petersen et al. (2017:105) argue that although familial poverty often leads to poor academic performance, however, this could be countered by strong social support systems and the possible moderating antecedents such as psychosocial factors which include adjustment, help-seeking behaviours, academic motivation, self-esteem, perceived stress and academic workload. In South Africa, the NSFAS bursary scheme has progressed a long way to elleviate poverty constraints among students and to enable disadvantaged students to study on tertiary level.

In the South African context, the term ‘disadvantaged students’ refers to students who attended historically ‘black’ high schools. These students are regarded as educationally disadvantaged due to the inequalities in their schooling which could, initially, be attributed to the legacy of apartheid, and later, to the failure of government to rectify these equalities in the 25 years of post-apartheid. This shows that there may be many other contributing factors apart from economic factors. The higher education system in this country has been described as “a system in transition” which is constantly changing and improved to be more accommodating to all of South Africa’s people (Sikhwari, 2017:525).

Strong emphasis on change is that of the equity of access to higher education and equity about the opportunity to succeed within higher education. South African universities are required to respond to the National Plan for Higher Education (SA, 2001) by focusing on increasing the enrolment of previously disadvantaged students, and doing whatever it takes to improve retention and graduation rates. Economic circumstances, therefore, are a major interference with academic performance.

These findings are in agreement with Sikhwari’s (2017:525) study which showed poverty as a substantial stressor in South African university students. The groups of students who are from economically disadvantaged backgrounds have the highest reported dropout rate. Sikhwari (2017:525) also suggests that perhaps these high drop-out rates from

economically disadvantaged students are based on unrealistic expectations that the students have regarding their performance and also the expectations their families have. These expectations are suggested to be low. This area grew in interest as more and more researchers wanted to identify the factors that lead to these results.

In the past cognitive abilities such as intelligence, aptitude and matric grades were generally believed to be the deciding factors of academic performance and this was standard practice worldwide (Sikhwari, 2017:525). However, some studies from the late 1990s and early 2000s started investigating the influence of these cognitive abilities and showed that academic success in university does not solely depend on cognitive abilities and therefore encouraged studies that were going to focus on other factors. Nonetheless, cognitive abilities have been shown to have a significant, yet minor contributing roles in academic success especially with black South African students due to the history of the country. They do however have more significance for previously advantaged students. This difference has indicated that there may be more factors at play in determining academic performance (Malefo, 2015).

There is, therefore, a wide range of factors involved apart from cognitive factors; these include the already discussed educational background, social and occupational status of parents, self-beliefs, academic integration, interfering problems which often involve finances and family environment (Berg, 2017).

This outcry calls for immediate investigation into what these factors that are affecting their performance so strongly are and only until these are known can the institutions assist in addressing them. The prediction and explanation of academic performance and the investigation of the variables relating to the academic success and persistence of students are topics of utmost importance in private higher education too (Berg, 2017).

Academic performance is an important predictor of performance at other levels of education and other important job outcomes, such as job performance and salary. One of the most relevant perspectives in understanding academic performance is a social

cognitive theory of motivation. The main premise is that student behaviours are a function of desires to achieve particular goals, and research has focused primarily upon the two dominant goals of learning; namely, learning (also called mastery or task-oriented) and performance (also called ego-oriented).

Stress

Malefo (2015:42) stresses the importance of two more factors, perceived stress and academic overload, on university experiences and the outcomes of disadvantaged students. This is supported by a study conducted by Kennett and Reed (2017:160) that examined psycho-social factors predicting the performance and retention of students at the university. The study examined variables that are determinants of academic resourcefulness and grades. The results of this study indicate that students who were more academically resourceful at follow-up were likely to be more generally resourceful, have higher academic self-efficacy beliefs, and be less inattentive, hyperactive, and anxious.

Moreover, students showing the most considerable improvements in academic resourcefulness over time were more generally resourceful at pre-test. These findings provide an impression that there is a need for specific holistic courses that would be aimed at helping students. Malefo (2015:45) also conducted a study on the psycho-social factors among African women. The study aimed to investigate the relationship between family contexts, experiences of stress and coping strategies. Furthermore, the study explored the impact these factors have on the academic performance of woman students in South Africa. The results of the study indicate that students who experience less stressful life events will demonstrate problem-focused coping mechanisms. Students with a higher negative life change will show maladaptive coping strategies. Thus, students whose scores on the stress index were lower tended to use problem-focused efforts which include seeking other people's help dealing with stressful life events (Nagel, Liza, Sheri and Brown (2014:255)

Workload

McClusky's theory of margin cited by Malefo (2015:46) is grounded on the notion that adulthood is a time of growth, change, and integration where an individual is in constant search for balance between the energy needed to accomplish certain tasks and the load required to achieve those tasks.

This balance is conceptualised as a ratio between the load (L) of life, which dissipates energy, and the power (P) of life, which allow one to deal with the load. The margin in life is the ratio of load to power. More power means a greater margin to participate in learning (Merriam et al., 2017:2). Based on this margin theory, it is indicated that an imbalance between load and energy to perform a particular work leads to poor performance of a task to be achieved. In respect of this, the study conducted by Petersen et al. (2017:104) suggests that adjustment mediates the effects of students' help-seeking behaviours, academic motivation, self-esteem, perceived level of stress, and perceived academic overload on their academic performance. These authors also state that difficulties in managing the academic workload do have a negative impact on academic adjustment to university and academic performance.

Active learning

Of many factors determining students' academic achievement within the private higher education environment, active learning has received considerable attention. In a study conducted by Ali et al. (2013:85) on the factors influencing students' performance at a diploma level, active learning was found to have a significant role on students' academic achievement. These findings indicate that students who were actively engaged in the learning activities did well academically. These findings were supported by the study conducted by Malefo (2015) on developing and testing a conceptual framework of the factors that play a significant role in academic performance at the university context. Malefo (2015) found that active engagement in learning activities such as in-depth mental processing strategies and that their efforts were linked to higher academic achievement

Attendance

The literature reviewed on whether attending lectures has a contributing effect on students' academic performance shows that there is a causal effect of attending lectures. Attending lectures is linked to high academic achievement. Research by Ali et al. (2013:85) reflect that attending lectures plays an important role in improving students' academic performance. They found that students who avail themselves in lecture theatres regularly obtained greater symbols in comparison with those who did not attend lectures. These results are consistent with Marburger's research (2014:22), and also with the findings by Moore (2015), who found that students who did not attend lectures were likely to give incorrect answers to question regarding a lesson taught on a particular day than students who attended. Moore (2015), more specifically aimed to determine how students' attitudes about attending lectures are related to their academic performance in an introductory science class. The results suggest that attending lectures increase students' ability to learn. It is further indicated that students who attended lectures received good grades (Moore, 2015).

Time spent on task

Nickerson and Kritsonis (2016:1) conducted a study on the determinants of academic performance. This study was aimed at analysing the factors that impact academic achievement among higher education students. This revealed that, among other findings, that time spent on work, determines how students perform. Nickerson and Kritsonis (2006:2) further indicated that students also devote time to not only the task but also on reading textbooks, watching movies or participating in extracurricular activities. Some students endure curfews regarding time spent on the phone and going out on the weekends. Nonetheless, these curfews do not impose much influence on the academic success of students.

Extracurricular activities

There is a significant relationship between extracurricular activities and academic performance of students in higher education. A positive relationship between students' involvement in extracurricular activities and academic performance has been indicated

(Ali et al., 2013:85). This study was conducted to determine variables that influence students' performance at a higher education institution. The results indicated that students who actively participated in extracurricular activities do well academically. Even though the correlations of involvement in extracurricular activities with academic performance have not been found to be statistically significant, these authors believe that there is strong evidence of a positive relationship (Ali et al., 2013:87). Here Darling et al. (2015:9) recorded similar findings in their study on students and extracurricular activities. They found that adolescents who actively engage in extracurricular activities, receive higher grades on academic work and that they were more interested to attend classes than their inactive counterparts (Darling et al., 2015:11).

Peer influence

Among other things, peer influence is one of the factors that have either a positive or negative effect on academic performance. In a study conducted by Gibson (2015:593) on the factors that promote or impede success in academic work, the results suggest that students were aware that in some situations peers could be a negative influence.

However, there was the support that students received from their peers. One of the participants in the study indicated that if you are a student that is associated with people who do well in academic work, you also stand an excellent chance to excel academically (Gibson, 2015:593-4). The respondents explained how they counted on their friends to motivate them, to provide help when needed with homework, to share information on what modules to select at university, and to help one another with much needed emotional and social support.

Adjustment

De Villiers (cited by Petersen et al., 2017:105) indicates that there has been a lack of success in predicting the academic success of undergraduate students because of the static view taken of the determinants of academic success. Petersen et al. (2017:105) asserted that various authors suggest that psychosocial factors play a crucial role in

predicting the academic success of undergraduate students, considering their social and educational backgrounds.

Much effort has been expended on investigating the role of adjustment to higher education experiences as a factor in predicting higher education outcomes (De Villiers in Petersen et al., 2017:106). Adjustment is typically defined as a multi-dimensional process of interaction between an individual and his or her environment, in an attempt to bring about harmony between the demands and needs of the individual and his or her environment.

Academic performance has been identified as a major determinant of retention and graduation and has been referred to as the single most revealing indicator that a student is coping with the academic demands of the university and is thus likely to graduate (Built, 2015:22). This indicates that adjustment is a key determinant of academic performance.

Help-seeking

Robbins's (2014:8) study on meta-analysis identified adjustment to university life, help-seeking, academic motivation, and self-esteem were as possible contributors to the academic success of undergraduate students. Help-seeking via informal student-faculty interactions has been associated with better socialisation at the university (Lowis & Casley, 2017:334). Students experience and learn institutional values and requirements through their interaction with academics, other university staff, and their peers. Student-faculty contact and the utilisation of student support services and intervention programmes have been shown to have a positive impact on academic performance (Robbins, 2014:8).

Petersen et al. (2017:104) specifically tested help-seeking as a mediating behavioural variable in academic performance and found a correlation between help-seeking and students' academic performance. This positive correlation significantly indicated that those students who experienced difficulties and sought help to address their problems during the year showed higher levels of self-determined academic motivation. They also

displayed high levels of self-motivation and adjusted better to the university environment. Resultantly they also performed better academically. These findings are supported by Lowis and Casley (2017:333) in their research on factors that affect progression and achievement. In this case, help-seeking was found to have positive outcomes on students' performance. Typically, instant contact with tutors that could provide the needed assistance, advice and encouragement were specifically helpful to students while establishing study-groups was also identified as a key factor to achieve academic performance (Lowis and Casley, 2017:334).

Effective time management tools

At a higher education level, students are expected to have some degree of time management skills. This is because each module taught either in a term or semester system has assessments that students need to complete to determine whether they pass or fail a particular module. These assessments have deadlines that students need to meet. Considering this commitment that is required of a student, one needs to balance the time required to do activities at the university context.

Interestingly, in a study on South African engineering students conducted by Swart, Lombard and Jager (2013:83), no significant link between students' time management skills and academic performance could be found. Most of the students did not experience problems with managing their time. The relationship between time management skills and academic performance of students was not statistically significant. However, the study did identify some time management tools that were found to help higher education students to live more productive lives and to help them to recognise that the time is ripe to complete their academic work (Swart et al., 2013:87):

- Students may find it helpful to survey and maintain the schedule;
- Maintain a time planner organised according to priority;
- Keep a checklist of tasks completed and outstanding;
- Implement an effective filing system;
- Create a routine time and place for studying;
- Study in time blocks of sixty minutes;

- Take regular breaks; and
- Begin working on long-term assignments in advance.

Self-efficacy

In Bandura's (2016:12) self-efficacy theory, the concept 'perceived self-efficacy' is defined as people's judgement of their capabilities to organise and execute courses of action required attaining designated types of performances. These capabilities are determinants of academic motivation, choice and performance. Self-efficacy has a positive influence on the mastery of goals (Bong, 2014:23). High self-efficacy will encourage someone to pursue challenging personal goals and spend much effort to realise them and show high academic performance, and low self-efficacy will result in lower levels of academic performance (Bong, 2014:23). In support, Fenollar et al. (2017:880) also conducted a study to develop and test a conceptual framework of the factors that play a significant role in academic performance at university. One objective of their study focussed on the role of goal-orientated motivation and improved self-efficacy on academic performance. The results indicated that there was a positive relationship between self-efficacy and academic performance, specifically where self-efficacy was related to deep mental processing. Inverstely, self-efficacy was also negatively related to surface mental processing. Students who believed that they are able to, and that can and will do well, are more likely to be motivated to make more effort, show better persistence and diksplay better academic behaviour than those students who believe they are not able and not expected to succeed (Bong, 2010:24). Similarly, confident students are more cognitively engaged in learning and thinking than those students who doubt their capabilities to do well (Greene, 2014:500). Green's research also revealed the importance of self-efficacy for successful learning by reporting on that self-efficacy is positively correlated with measures of meaningful (deep) cognitive thought processes.

Bandura (2016:16), on the matter of student confidence, states that students who are not confident or perceive themselves incapable may avoid behaviours that are seen as challenging or difficult. Based on his findings, Bandura theorised that it is expected that self-efficacy has a positive influence on deep mental processing and effort, and a negative

influence on surface processing. Self-efficacy is also an antecedent to outcome expectations; a postulation supported in earlier research by Greene (2014:500). Both Greene (2014) and Bandura (2016) regard self-efficacy as a strong predictor of academic performance.

This means that, according to Fenollar et al. (2017), Greene (2014) and also Bandura (2016), active interventions to improve self-efficacy should have a positive effect on the academic performance of students. Students could therefore improve their grades or be retained as students if they develop strong beliefs about their capability to perform the academic work required at a tertiary level (Bandura, 2016:12; Fenollar et al., 2017:886). One way to increase self-efficacy is to provide feedback to students with the aim of helping them develop reasonable efficacy beliefs (Greene, 2014:501).

Study strategies

Research by Fenollar et al. (2017) show a positive correlation between deep processing and academic performance. However, Watkins (2015:8), in his meta-analysis, Lizzio, Wilson and Simons (cited in Fenollar, Roma'n. 2017), and Cuestas (2017) all reported clear positive relationships between a study strategy approach and a higher-grade point average (GPA).

Class size

Small classes in elementary grades have been found to boost students' academic performance. Here Finn et al. (2013:42) argue that smaller classes have a positive impact on students' learning behaviour because of higher attentiveness, participation in learning activities and taking the initiative in the classroom. They further indicated that children in large classes are more distracted from work and were more often off the task. In smaller classes, at the university level, interactive discussions can be used instead of lectures, facilitating better 'delayed recall' learning and critical thinking. A smaller class also allows for more personalised instruction by which students are given a clear understanding of what is expected of them and how to achieve such goals (Fenollar et al., 2017).

External forces

Epstein (2014:166) examined the effects of parental involvement on various academic outcomes and found that in both quantitative and qualitative studies, parental involvement has been found to affect students' educational experience positively. Students benefit academically when there is a close relationship between parents and schools, and that these partnership effects cover a variety of positive outcomes such as improved homework and study habits, better attitudes toward schools, low absenteeism and dropping out (Bodovski, 2016:143).

The importance of habitual factors in further education has been cited as a key factor in the academic achievement of students (Palmer, 2013:350). Also, the study by May et al. (2016:246) reports that ethnic minority students from less worthy families are not so well supported from home and that they are under more pressure to get a job. They are, therefore, more likely to drop out. This supports Palmer's (2013:350) earlier study on student dropout from post-compulsory education. He postulated that ethnic minority students were, on average, more likely to come from poorer families, they experience getting no or limited help from their parents, and find studying at a university particularly tricky. It is therefore particularly difficult for these students to perform academically.

Family and society

Family social class is reproduced across generations through various cultural and social resources and practices. Cultural resources refer to family-based cultural traits such as work habits and basic learning orientations, prevailing cultural norms, values and attitudes, and parenting styles and practices (Bodovski, 2016:146). In his survey of Wisconsin high school seniors, Bodovski (2016:146) examined the social psychological mechanism of status attainment and discovered that although parental education, father's occupation, and family income affect children's attainment directly, part of the effect is mediated by the child's own educational and occupational aspirations, peer influence, and the perceived encouragement of parents. The findings reflect that effort, organisation, enthusiasm, and discipline contributed to students' success in school above and beyond their objective knowledge.

Parent income level, attitudes and expectations

Malefo (2015:44) conducted a study on psychosocial factors and academic achievement among African women students at a predominately white university in South Africa. The findings of this study indicate that there is no statistically significant relationship between parents' economic status and students' academic performance (Malefo, 2015:49). However, a study conducted by Ermisch and Francesconi (2016:137) suggests that there is a positive relationship between parents' level of education and their children's academic achievement. This study revealed that a mother's level of education as compared to the father's education was strongly associated with the child's academic achievement. Children internalise their parents' demands and use them even at the university level. Jacobs and Harvey (2015:435) discussed the importance of parental interest, expectations, attitudes, and aspirations on children's academic achievement. He proposed that these mediate the negative effect of other variables, such as socioeconomic status, single-parent families, uninvolved parents, and contribute significantly to academic achievement.

The importance of parental attitude and expectations were further supported by Ma's (2017:132) study of student participation in advanced mathematics. She found that the two most important predictors of student participation were the parents' expectations and plans for their children's future tertiary studies.

IDENTIFYING SELECTED ANTECEDENTS TO MEASURE ACADEMIC PERFORMANCE

The final selected antecedents to measure the academic performance of PHEIs are discussed next. In this case, the antecedents are theoretically evaluated for relevance and detail to ascertain that the antecedents and their measuring criteria are worthy of inclusion in the conceptual model.

Stemming from the literature study a list of measuring criteria was compiled to measure each antecedent. These criteria originate from the literature review performed. Table 2

below shows a summary of these key antecedents and their measuring criteria that can be employed to measure the academic performance of PHEIs. The supportive literature for the measuring criteria is furthermore shown in the table.

Table 2: Antecedents considered and their origin

Number	Antecedent	Measuring Criteria	Source
1	Economic factors	• Inequality • Disadvantaged • Quality of life • Social divisions	Berg (2017) Malefo (2015 National Plan for Higher Education (SA, 2001) Petersen et al. (2017:105) Sikhwari (2017:525)
2	Selectivity, expenditure and retention	• Access • Support • Cost of programmes • Selection criteria • Graduation rates	Alexander (2013:12) Built (2015:22) Barron (2017:2). Mayer-Foulker (2014:485) Gansemer-Topf and Schuh, (2016:9-10).
3	Parent income level, attitudes and expectations	• Parent involvement • Family structure • Culture • Ethnic goals	Ermisch and Francesconi (2016:137) Jacobs and Harvey (2015) Ma (2017:132) Malefo (2015:44)
4	Motivation	• Personality • Behaviour • Determination • Beliefs • Competence	Van der Aardweg (2016:10) Moore (2015:7) Petersen et al. (2017:100) Fallis and Optotow (2014)
5	Workload	• Capacity • Change • Integration • Energy	Malefo (2016:45) Merriam et al. (2017:2) Petersen et al. (2017:104)
6	External forces	• Parental involvement • Ethnic minority	Bodovski (2016:143) Epstein (2014:166) May et al. (2016:246) Palmer (2013:350
7	Self-efficacy	• Choices • Assurance • Experience • Challenges	Bandura (2016:12) Bong (2014:23) Fenollar et al. (2017) Greene (2014:500)

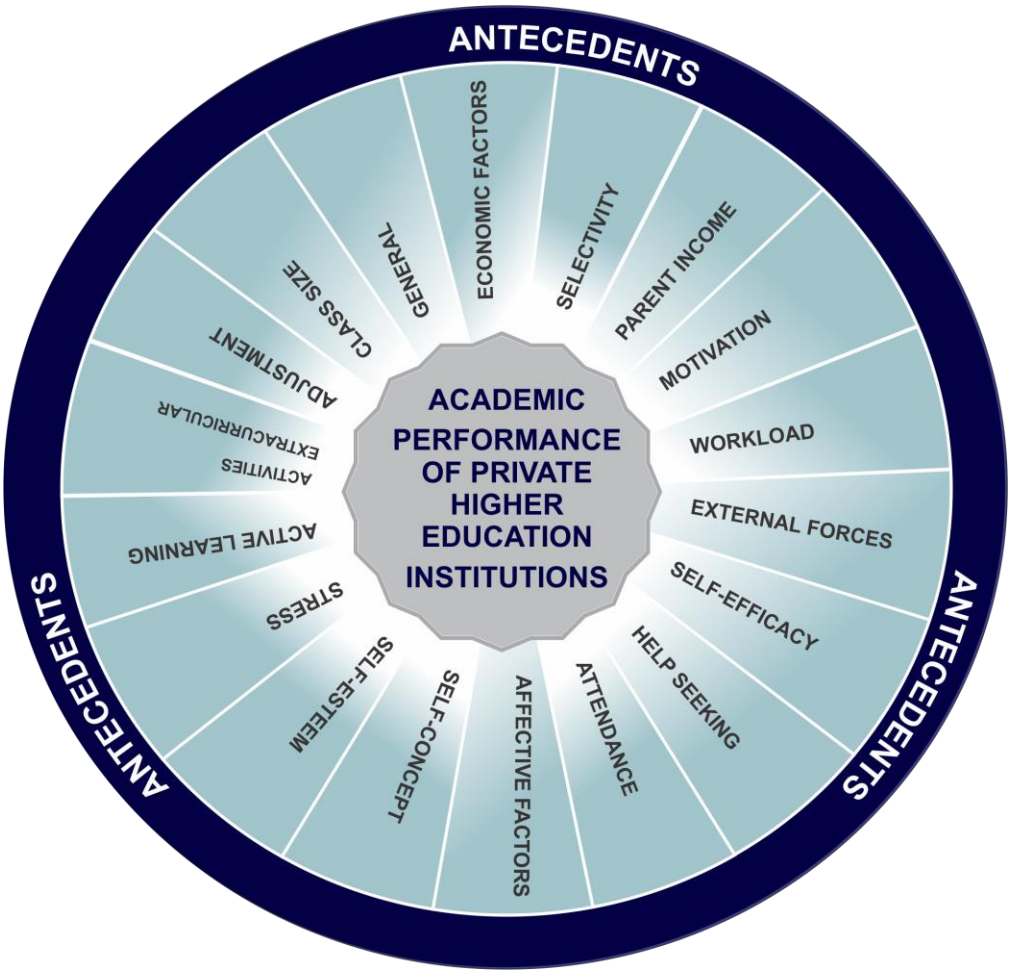
8	Help-seeking	• Faculty interactions • Values • Staff • Peers	Lowis and Casley (2017:333) Petersen et al. (2017:104) Robbins (2014:8)
9	Attendance	• Lectures • Contact • Availability • Teaching and learning • Communication	Ali et al. (2013:85) Marburger (2014:22) Moore (2015)
10	Affective factors	• Attitude • Self-esteem	McCoach (2015:67) Rice (2016:128)
11	Self-concept	• Ideas • Attitude	Rice (2016:130) Sikhwari (2017:525)
12	Self-esteem	• Transition • Stress • Task completion	Malefo (2015:42) Petersen et al. (2017:104) Harvard Graduate School of Education (2017)
13	Stress	• Resources • Attention • Experience	Kennett and Reed (2017:160) Malefo (2015:45)
14	Active learning	• Engagement • Achievement • Effort	Ali et al. (2013:85) Fenollar, Roma´n and Cuestas (2017)
15	Extracurricular activities	• Involvement • Performance • Age • Grades	Ali et al. (2013:85) Darling et al. (2005)
16	Adjustment	• Psychosocial factors • Background • Outcomes	Petersen et al. (2017:105 Built (2015:22)
17	Class size	• Attentiveness • Participation • Classmates	Finn et al. (2013:42) Fenollar et al. (2017)
18	General measures		

THEORETICAL MODEL TO MEASURE ACADEMIC PERFORMANCE

The antecedents and the measuring criteria detailed in the table above, culminated in a theoretical model to measure academic performance at private higher education

institutions. The final 17 antecedents (and one generalised antecedent) to be measured is represented in the model which is depicted in Figure 1 below.

Figure 1: A theoretical model to measure academic performance at PHEIs



The theoretical model consisting of the antecedents and their respective measuring criteria requires validation to ensure the criteria actually measure the antecedents. Also, the relative importance of each antecedent needs to established. This empirical validation should then realise a working validated model that can be used measure academic performance of PHEIs.

SUMMARY

This article focused on the identification of the antecedents relating to academic performance for private higher education institutions in South Africa. The study identified 18 important antecedents from literature which included similar studies and models that measure academic performance. The criteria that measure each of the antecedents have also been determined. These criteria can now be structured into a questionnaire to measure academic performance at private higher education institutions in South Africa.

The primary objective of the study was to develop a theoretical model to measure the antecedents relating to academic performance at private higher education institutions in South Africa. The secondary objectives were to perform literature research to identify relevant academic performance antecedents, identify from the literature the measuring criteria which are relevant to the antecedents in the private higher education institution environment and develop the instrument used to measure academic performance at private higher education institutions in South Africa. The study systematically addressed these secondary objectives to reach the primary objective. The models consulted are shown in Table 1 while the final selected antecedents and criteria are summarised in Table 2.

Although these research processes were scientifically approached and performed, it does not warrant the authors to claim success. The model is still in its infancy. Future research required to develop the theoretical model further is to:

- Apply the theoretical model in practice by using it to collect data;
- Empirically validate the model;
- Empirically omit non-significant criteria and/or antecedents; and
- Develop a validated and “purified” model to measure academic performance at PHEIs.

This empirical application should indicate if a usable base for validation and amendment of the model is possible; in that case, the study should make a significant contribution to managers and researchers investigating how to manage academic performance at PHEIs.

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Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

Authors' contributions

Sayed Rehman is a PhD student and primary author. The other two authors are the promotors responsible for corrections, guidance and leading in the writing of this article.

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CHAPTER 4

ARTICLE 3:
A model to measure academic performance of private higher education institutions

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A Model to Measure Academic Performance of Private Higher Education Institutions

SM REHMAN

Regent Business School & North-West University, Business School

Sayed.rehman@regent.ac.za

ORCID NUMBER: https://orcid.org/0000-0002-5677-5337

CA BISSCHOFF*

North-West University, NWU Business School

Christo.bisschoff@nwu.ac.za

* corresponding author

ORCID NUMBER: https://orcid.org/0000-0001-6845-7355

CJ BOTHA

North-West University, NWU Business School

Christoff.botha@nwu.ac.za

ORCID NUMBER: https//orcid.org/0000-0003-4517-8526

ABSTRACT

This article postulates a model to measure the academic performance of a private higher education institution in South Africa. The broad theoretical framework identified eighteen antecedents and its respective measuring criteria to measure academic performance. Statistical scrutiny ensured that these criteria are actual measures of the respective academic performance antecedents which culminated in a theoretical model to measure the academic performance of private higher education in South Africa. The eighteen academic performance antecedents are Economic factors, Selectivity, expenditure and retention, Parent income level, attitudes and expectations, Motivation, Workload, External forces, Self-efficacy, Help seeking, Attendance, Affective factors, Self-concept, Self-esteem, Stress, Active learning, Extracurricular activities, Adjustment, Class size, and General measures of academic performance. The results showed that all the antecedents are reliable indicators of academic performance ($\alpha \geq 0.79$) and that the academic performance can be successfully measured by the antecedents. In addition, the model seeks to determine if any significant correlations exist between the academic performance antecedents. The measurement of academic performance is of value to business school directors, managers and investors in private higher education. Researchers and scholars who intend to explore this avenue of academic performance models further could also benefit from this article.

Key phrases

Academic performance; measurement; model and private higher education

JEL Classification: *M10; I25*

1. INTRODUCTION

Globalisation, the fourth industrial revolution, the high demand for higher education, increasing competition and the collapse of geographic boundaries, amongst other factors, have forced both private and public institutions of higher education into a highly competitive business environment where efficiency and performance are essential for survival (AbuMezied 2016:Internet; Xing & Marwala 2017:Internet). Specifically, the business models of private higher education are here under scrutiny as investors expect a fair return on their investment compared to other investment opportunities. In this regard, Jegede (2016:Internet) points out that the return on investment in African higher education institutions is lucrative and that, on average, investment opportunity yields an average return of 21%; this is at present one of the highest rates of return in the world in education. Measuring the performance of resources, machinery, faculty and investment is, therefore, imperative to determine if a private higher institution (PHEI) performs amicably (Bashir 2017:82-83).

Traditionally, public colleges, technical colleges (Technikons) and universities dominated higher education in South Africa. Resultantly, performance measurement revolved strongly around state requirements and activities, such as publishing research articles in subsidy earning journals, to earn additional subsidy income. The situation for privately owned institutions is that they find themselves in a competitive business environment where financial performance is critical. Competition for an education also exists from the social development objectives of the government who has implemented a free higher education system from December 2017 to all new first year students from families that earn less than R350 000 per year (Muller 2018:Internet). In this system, the poor and working-class students (South African households with a combined annual income of up to R350,000) who are currently enrolled in TVET colleges or university students, are subsidised.

This investment in higher education is expected to contribute to greater economic growth, social justice, reduce poverty, reduce inequality, enhance earnings and increase the competitiveness of the South African economy (Bekezela 2018:Internet). The South

African government's ambition is to increase student enrolments in higher education, in both public and private institutions. This increase in student numbers in public institutions will place a further strain on government resources. The figure indicated by government is1,62 million and it was, 950,000 in 2010 (South African Government 2012:Internet). In 2016 there were 938,201 student enrolments in public higher education alone (SANews 2017:Internet); 309,788 were already funded by the National Student Financial Aid Scheme (NSFAS) while the scheme expects to add more than 100,000 students in 2018 (Nxasana 2017:Internet). In this regard, PricewaterhouseCoopers (2017:Internet) points out that South Africa needs to accommodate 1.5 million higher education students by 2030. In this regard, Badat (2016:72-74), as well as Maharaj (2016:55-66), further highlight that South African higher education has various challenges which include inadequate funding for students' fees, insufficient resources for academic development and student support, skills shortage of adequately qualified academics with doctoral qualifications as well as funding for infrastructure and creating efficiency within public higher education institutions (Havergal 2015:Internet). This is the context within which private higher education institutions function.

In this context, an opportunity exists. Due to the financial constraints that South Africa and many other sub-Saharan Africa countries face, public institutions and system just cannot cope with the growth in enrolments (Garwe 2016:238), and a business opportunity for private higher education realised. This has led to the growth of the private higher education institutions who are responding to the increased demand for education in South Africa (Ilie & Rose 2016:436). Private investors and entrepreneurs responded and entered the tertiary market for education.

Becker, Cummins, Davis, Freeman, Hall and Ananthanarayanan (2017:45-46), in this regard, postulated some entrepreneurial and investor issues regarding entering into a PHEI as an investment opportunity because of the difficulty to determine institutional business performance measurement. These include issues such as: What is on the five-year horizon for higher education institutions? What are the trends and technology developments that will drive educational change? What are the challenges that we

consider as solvable or difficult to overcome, and how can one strategise effective solutions? These questions would, according to these researchers, provide direction and focus on the business strategy and performance measures required to achieve the desired outcome. Despite these issues, measuring the performance of a PHEI is more complex. Here the government, quality standards, stringent regulations and legal requirements serve as examples of complexing factors to measure the performance of PHEIs (Department of Higher Education and Training (DHET 2018:Internet)). Given this background, this study aims to identify antecedents and its respective measuring criteria to measure the academic performance of a PHEI in South Africa.

2. PROBLEM STATEMENT

The business environment of PHEIs, driven by many technological and social forces, is undergoing large-scale and fundamental changes. Businesses function in a complex environment and are required to react effectively and efficiently, be flexible, innovative and respond speedily to the continuous and at times unpredictable changes (Hitt, Ireland & Hoskisson 2017:7). These businesses transform resources into products and services, aiming to do so at a profit while remaining competitive and sustainable in the long-run (Erasmus, Strydom & Rudansky-Kloppers 2016:3). Sustainability requires academic performance measurement. In this regard, Kurniawan and Christiananta (2018:11) assert that academic performance needs to be measured to determine whether improvements and resources deployed have had a positive effect on the business. In practice, the term to measure means to set realistic objectives and then to devise a method to perform an accurate measurement. In practice, the measurement of academic performance is complex and includes various factors to consider.

In addition, measurement models differ according to the type of business and the business environment. Although many models do exist to measure performance variables in higher education institutions, most of these models were developed for public institutions. Performance criteria in public institutions, however, differ from that of private higher education institutions aiming to realise profits and present attractive investment opportunities. Public institutions typically receive; in addition to class fees, also subsidies

on approved student numbers stratified per degree they study (Strydom 2019). They also earn subsidies from research publications and can apply for government grants to expand teaching facilities (Higher Education South Africa **(**HESA) 2011). The DHET (2004:2) indicates that a broad category in the flow of funds to public institutions are government grants (50%), Student tuition (25%) and other private income, such as training courses and contract research projects, amount to 25%. Private institutions' income originates primarily class fees while they compete with public institutions for training and research contracts (Asvat 2018:6). It is also noteworthy that PHEIs are operating in a harsh regulatory environment set by the Department of Higher Education and Training where new educational programmes are regulated by the Higher Education Act (No. 101 of 1997) (SA 1997). PHEI, therefore, cannot launch new programmes without approval, while the application process to do so, is slow. This results in a slow time-to-market environment where it is not possible to quickly act on market needs. Resultantly, although a PHEI as an organisation shares mutual attributes with other private enterprises, they possess unique attributes in its operating and business environment. PHEI's are, therefore, not typical private business enterprises, and as a result private performance models cannot just be applied 'as is' to measure performance of PHEIs. They require an adapted performance measurement model.

Although there are a growing number of private education institutions, research that focussed specifically on the performance measurement of South African PHEIs, is still limited (Asvat 2018:2). This article then aims to develop a model to measure the academic performance of a private higher education institution in South Africa.

3. RESEARCH OBJECTIVES

The primary objective is to validate a model to measure the academic performance of private higher education institutions in South Africa.

The following secondary objectives serve the primary objective:

- Theoretically underpin academic performance antecedents;
- Validate the antecedents of academic performance and its respective measuring criteria statistically; and

- Construct a visual model to measure academic performance.

4. ACADEMIC PERFORMANCE

4.1 Defining academic performance

Many researchers and business analysts have tried to define academic performance. Most definitions include institutional objectives and also criteria to measure academic performance as a construct. Some also include the intelligence generated by the academic performance measurement process. The concept also seems to have been well researched as the core of definitions changed little over the past decade. Some academic performance definitions are:

- 'The capability to measure the level of performance of any organization' (Olusola 2011:Internet).
- 'Academic performance measures are a set of quantifiable metrics taken from various sources that together with an appropriate analytical process, allows the management of a business to track and assess the current status of a specific business, project or process' (Baskerville 2015:Internet).
- 'Businesses measure what they manage and academic performance aims to achieve this. This is a complex activity and requires focus and clear objectives and goals to be measured' (Van Looy & Shafagatova 2016:1797).
- 'Business performance management entails reviewing the overall academic performance and determining how the business can better reach its goals' (Business Directory 2017:Internet).

Academic performance, after consideration of the above and also other definitions, imply specifically formulated outcomes, a component of measurement of these outcomes that an organisation achieves during one particular period, and the application of the intelligence generated from the measurement. Therefore, to measure academic performance, it is necessary to establish whether the outcomes desired have been met. In practice, this means that the desired outcomes need to be identified clearly, and then to develop efficient measuring criteria (other than mere accounting norms) to effectively measure how well (or not) the organisation achieved these outcomes.

4.2 Measuring academic performance

Measuring academic performance requires a multidimensional approach because businesses are impacted by various factors. These could be micro, market or macro environmental factors (Kurniawan & Christiananta 2018:9-11). Venusita and Dyani (2018:4) further state that modern academic performance is strongly influenced by the external business environment where factors such as globalisation, disruptive technological changes, the free flow of goods, services and information and instant communication abilities are prevalent; these are all aspects that influences the organisation to reach its desired outcomes. Academic performance measurement also incorporates financial objectives such as value creation for the shareholders or stakeholders of the business. In this regard, Primadonna and Emrizal (2018:1121) state that modern businesses' performance cannot be measured only from a financial perspective. Financial information is a basis for only one of many performance outcomes a current business should achieve. Back in 2002, Hussain and Hoque (2002:167) strongly argued the consideration of non-financial performance measurements that could improve academic performance. Today many business analysists and researchers (Butler 2017; Hecht 2018; Kaplan Knowledge Bank 2018; VisionEdge 2018; Yulliansyah & Razimi 2015) support Hussain and Hoque (2002) by stating that performance measures such as reputation, innovation, customer value, competitiveness, the balanced scorecard and customer indices are key performance measurement antecedents. In addition, these analysists also add that constant communication and enabling technology abilities, specifically in the education business environment (Learning Portal 2018:Internet), play an important role in the performance of these institutions by maintaining customer loyalty, forming relationships with customers and to develop trust with your customers as part of the academic performance measurement exercise.

Measuring academic performance is central in any organisation regardless of whether the organisation is a public enterprise or if it is privately owned. All organisations are challenged to operate productively and to achieve its planned outcomes as effectively and efficiently as possible (Van Looy & Shafagatova 2016:1799). In this quest, using an

appropriate academic performance model that contains the appropriate performance indicators is vital to measure the academic performance of the organisation against the planned outcomes. Noteworthy is that both the planned outcomes and academic performance measurement model should be aligned to an organisation-specific developed business strategy (Sandeep & Bedi 2016:603; Silvestro 2014:276). This strategy and the expected outcomes should be efficiently communicated throughout the organisation so that all the personnel in the organisation know what the performance expectations are, how it will be monitored, what feedback is needed, when feedback is expected and also so that managers can motivate employees to achieve these desired results (Sandeep & Bedi 2016:607; Teeratansirikool, Siengthai, Badir & Charoenngam 2013:180). Measuring academic performance is not an end by itself but rather a mechanism or tool for review of strategy and effective use of the resources of the organisation to guide management towards achieving higher performance levels (Sandeep & Bedi 2016:605).

4.3 Academic performance measures and strategic management planning

Academic performance is an integral part of the strategic plan, while academic performance measures are dependent on the organisation's capability to meet the planned outcomes. These outcomes are industry-specific and also differ between organisations within the same industry. Same-industry differences exist because of possible different business models, competitive forces, market focus, ownership structure, ownership expectations, the current business life-cycle stage and other differences between organisations (Geldenhuys 2018:Internet). It is because of these differences that academic performance indicators vary across various dimensions to fit the needs of the specific industry and also the specific organisation. This includes the financial indicators, the non-financial performance indicators and the influence of social capital on academic performance (Primadona & Emrizal 2018:122); all three these performance indicators should be considered when designing organisational academic performance measures. Strategic planning mobilises the capabilities of the organisation to reach the desired outcomes. Satisfactory academic performance should be one of the strategic thrusts, and measuring academic performance should be integrated into the

strategic plan of the organisation (David & David 2017:33).

Ultimately, in a private organisation, financial performance trumps other measures when it comes to shareholder wealth and future investments. This is because shareholders invest capital and resources that are required for production and delivery of the products or services offered to the market so that the organisation can meet the desired outcomes by making a profit (Hill, Jones & Schilling 2017:4-5). It is important to note that although a business has to be profitable to survive in the long-run, profitability can also be improved by other nonfinancial measurement antecedents (Butler 2017:Internet; VisionEdge 2018:Internet). It is also important to note that each business model and its planned business strategy is unique. Therefore, developing academic performance measures should adapt to incorporate the uniqueness of the specific business and the industry (Geldenhuys 2018:Internet). There cannot be a one size fits all approach when determining academic performance measures for any business today (Hill *et al*. 2017:8).

4.4 Advantages of measuring academic performance

The fast-changing business environment and globalisation require fast reaction and adaptation of business strategies. Traditional 5-year strategic plans have been redesigned into typically 3-year rolling plans and annual scenario planning (Venter 2017:2). In this regard, businesses attempt to understand the factors that affect performance, to measure the performance of these factors, and to take the necessary action to enhance them, so that they can improve their performance (Gomes & Romão 2014:Internet). In this case, they improve their competitiveness and react to the changes in the business environmental forces before their competition can (Ogunsiji & Ladanu 2017:77). This leads to the competitive advantage of rapid changes in business strategy. Other advantages of performance measurement are:

- Dynamic financial measures, rather than annual financial statements that reflect
- historically on the past accounting period, can be used by management to adjust their strategic focus (Hill *et al*. 2017:7).
- Enhanced predictions about the long-term financial performance (Aker 2017:Internet).
- Performance standards are communicated and well-known throughout the

organisation (Charboneau 2017:Internet).

- Linking strategic planning to execution by acting on dynamic performance measurement information (Schiff 2005:Internet).
- Achievement of the long-term organisational goals (Aker 2017:Internet).
- Higher profitability as a result of using non-financial metrics that influence the performance of the organisation (Singh, Darwish & Potočnik 2016:214).
- The organisation can determine how well it performs overall (not only financially) (Singh *et al*. 2016:217).
- Acting on real-time data and making better managerial decisions (Schiff 2005:Internet).
- Rapid changes in business strategies (Ogunsiji & Ladanu 2017:75; Venter 2017:4).
- Higher levels of customer loyalty (Aker 2017:Internet).
- Developing agility and adaptability within organisational structures to adapt to changing global trends, yet focused on meeting the objectives of the organisation (Hitt *et al*. 2017:404).
- Cost saving and increased profits (Schiff 2005:Internet).

Aker (2017:Internet), however warns that although the advantages of academic performance measurement far exceeds the disadvantages, there are also some disadvantages. They are:

- Short-term results orientation may result because short-term performance (to meet the performance measurement requirement) becomes more valuable than the factors that cause them.
- Employees may become too focused on the business outcomes, lose sight of their customers' needs and allow service or satisfaction to decline.
- Standardisation may result as employees start to modify their work habits to align with the performance measure applied. This could lead to a decline in employee creativity.
- A loss of innovation because in adhering to the applied performance measure, employees could be discouraged to experiment with innovative solutions that might produce a better result.

5. RESEARCH METHODOLOGY

5.1 Literature base

This study employed a literature and empirical review. The literature study encompasses the topic of academic performance and how to measure it. Relevant business performance antecedents and their respective measuring criteria that are important to PHEIs as identified by Asvat, Bisschoff and Botha (2018:62) were used to collect the data. The methodology to validate and modelise the antecedents and its criteria were recently used by Shaikh, Bisschoff and Botha (2017:138). These authors based their methodology on the success of various previous studies (Asvat 2018; Bester & Bisschoff 2018; Imandin 2015; Naidoo 2011) that also validated and modelised antecedents and measuring criteria to measure a variety of managerial dependent variables such as brand loyalty, stress management, employee retention and management skills. Using this methodology, Imandin, Bisschoff and Botha (2016:100) formalised seven steps to construct a model to measure employee engagement successfully. This study adopted and followed these steps as a guideline to develop the model to measure academic performance of PHEIs. This model is then operationalised and applied to measure the academic performance of a PHEI. A total of 24 potential antecedents were identified from the literature. These antecedents were then subjected to literature scrutiny to ensure their relevance to measure academic performance (Moolla 2010). The antecedents listed by various literature sources and those used in similar studies and models to measure academic performance were retained (Asvat 2018). Six antecedents were omitted from the initial list. The measuring criteria for the remaining 18 antecedents were then developed from the literature and compiled in a questionnaire. These antecedents, their description and literature origins, are outlined in Table 1.

5.2 Quantitative data collection

The questionnaire contained two sections: Section A: Demographics and Section B: Measuring criteria. Section A consists of five questions to compile the demographic profile of the respondents. Section B consists of the final 18 antecedents dealing with academic performance constructs, each with its unique measuring criteria. The criteria were formulated in statement format to which the respondents had to indicate their level of

agreement or disagreement on a five-point Likert scale. In total, Section B consisted of 86 measuring criteria.

The population consisted of all full-time academic and academic support employees at two private business schools. These schools were selected because they dominate the South African market share in private business schools, have a wide geographic service area which covers South-Africa and also Southern Africa, and the top management of both schools support the research project actively. The total population was targeted; no sample was drawn. The employees were requested to complete the questionnaires. It was clearly communicated that participation is voluntary and also anonymous. The researcher forwarded the questionnaires to trained office managers in the outlying offices and to the academic managers at the head office in Durban to assist with the distribution and collection of the questionnaire. A total of 250 questionnaires were distributed of which 247 were completed and returned, signifying an effective response rate of 98.8%. The data was captured by the Statistical Consultation Services of the North-West University and analysed with the IBM Social Package for Social Services Version 25 (IBM SPSS 2018).

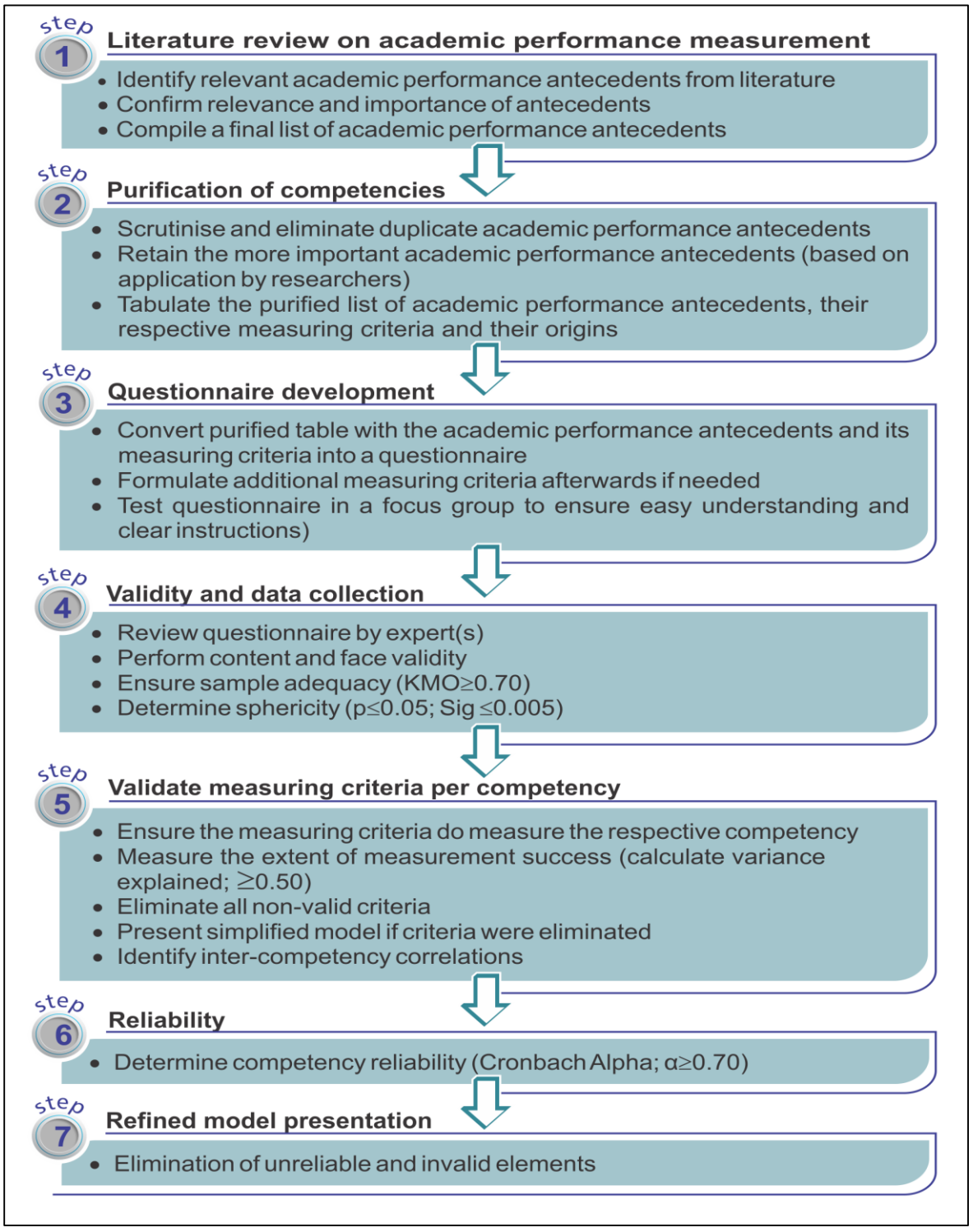
5.3 Ethical clearance

The study was subjected for ethical clearance to the Ethics Committee of the Faculty of Economic and Management Sciences at the North-West University and classified as a low-risk study. The North West University Business School then issued a formal ethical number (No. NWU-00600-20-A4).

5.4 The methodology used to develop and validate the model

The methodology developed by Imandin *et al*. (2016:101-104) to develop and validate measuring models underpins this article. This seven-step process (see Figure 1) was successfully applied by other researchers such as Shaikh (2017) and also Asvat (2018) in their quest to develop models to measure leadership competencies and to measure academic performance in the private higher education environment.

Figure 1: Methodology to develop and validate a model to measure academic performance



Source: Adapted from Asvat 2018:50

6. RESULTS

In the first two steps, a total of 18 antecedents were identified from the literature. Some 86 relevant measuring criteria about each antecedent were also identified from the literature. In Step 3 the questionnaire realised to collect the data using a 5-point Likert scale. Steps 4, 5, 6 and 7 require statistical confirmation from the empirical study. In these steps, the measuring criteria of the antecedents, the adequacy of the sample, variance explained and reliability are calculated. The measuring criteria of each antecedent are subjected to exploratory factor analysis to determine if the antecedent is indeed measured by these criteria. Ideally, all the criteria should load onto the antecedent identified from the literature; this signifies validity and also that the antecedent is a pure construct and does not have embedded sub-constructs. This means that the relevant criteria measure one construct only (Field 2009:786). Numerous researchers (Asvat 2018, Bisschoff & Moolla 2014, Fields & Bisschoff 2013a & 2013b; Shaikh 2017) successfully validated their models' antecedents likewise.

Where two factors are extracted, it means that the antecedent actually consists of two sub-antecedents and as such, the antecedent is measuring not one, but two or more academic performance constructs. Bisschoff and Moolla (2014:1117) found one such case where the antecedent 'value for money' was actually a dual measure consisting of the two sub-antecedents' 'quality' and 'price'. A low loading criterion (with a factor loading ≤0.40) also indicates its lesser importance in the measuring of the antecedent (Field 2009:631). Hence the criteria with low loadings were omitted from further analysis. The sample adequacy, sphericity and reliability are shown in Table 2. Then Table 3 shows the results obtained from the exploratory factor analysis per antecedent. The criteria and its factor loadings are also shown in Table 2.

Table 1: Academic performance antecedents' suitability statistics

Antecedents	Sample adequacy (KMO)	Sphericity (Bartlett)	Reliability (α)	Variance explained ($\sigma^{2)}$
Economic factors	0.78	0.00	0.79	62.71%
Selectivity, expenditure and retention	0.83	0.00	0.84	61.82%
Parent income level, attitudes and expectations	0.77	0.00	0.86	69.82%
Motivation	0.88	0.00	0.92	76.14%
Workload	0.83	0.00	0.92	80.92%
External forces	0.80	0.00	0.87	72.26%
Self-efficacy	0.85	0.00	0.92	80.31%
Help seeking	0.83	0.00	0.86	73.23%
Attendance	0.83	0.00	0.90	77.50%
Affective factors	0.79	0.00	0.88	74.21%
Self-concept	0.78	0.00	0.90	77.33%
Self-esteem	0.83	0.00	0.93	77.35%
Stress	0.79	0.00	0.88	73.17%
Active learning	0.73	0.00	0.88	80.01%
Extracurricular activities	0.57	0.00	0.80	72.07%
Adjustment	0.82	0.00	0.89	75.02%
Class size	0.81	0.00	0.92	80.61%
General	0.93	0.00	0.93	61.29%

Source: Compiled from the survey results

Table 2 above should be read in conjunction with Table 3 below. Table 2 showed the results on evaluating the reliability of the antecedents and ensuring that the data is suitable for use in validating a model. Table 3 below shows the details on the measuring criteria and their validity towards the antecedents.

Table 2: Factor analysis on individual academic performance antecedents

Economic factors	Factor loadings	Selectivity, expenditure & retention	Factor loadings	Parent income level, attitudes & expectations	Factor loadings	Motivation	Factor loadings
b1n2	0.841	b2n4	0.875	b3n3	0.897	b4n3	0.918
b1n3	0.794	b2n3	0.802	b3n2	0.861	b4n4	0.881
b1n4	0.781	b2n2	0.796	b3n4	0.814	b4n5	0.866
b1n1	0.75	b2n1	0.756	b3n1	0.777	b4n2	0.849
		b2n5	0.693			b4n1	0.847
Workload	**Factor loadings**	**External forces**	**Factor loadings**	**Self-efficacy**	**Factor loadings**	**Help seeking**	**Factor loadings**
b5n3	0.921	b6n3	0.872	b7n2	0.92	b8n2	0.889
b5n4	0.911	b6n4	0.868	b7n3	0.907	b8n3	0.883
b5n2	0.889	b6n1	0.841	b7n4	0.884	b8n1	0.875
b5n1	0.876	b6n2	0.815	b7n1	0.871	b8n4	0.771
Attendance	**Factor loadings**	**Affective factors**	**Factor loadings**	**Self-concept**	**Factor loadings**	**Affective factors**	**Factor loadings**
b9n3	0.908	b10n2	0.892	b11n2	0.895	b10n2	0.892
b9n2	0.899	b10n1	0.868	b11n4	0.888	b10n1	0.868
b9n4	0.884	b10n4	0.862	b11n1	0.885	b10n4	0.862
b9n1	0.827	b10n3	0.82	b11n3	0.85	b10n3	0.82
Self-concept	**Factor loadings**	**Self-esteem**	**Factor loadings**	**Stress**	**Factor loadings**	**Active learning**	**Factor loadings**
b11n2	0.895	b12n3	0.905	b13n2	0.917	b14n4	0.919
b11n4	0.888	b12n2	0.898	b13n1	0.853	b14n2	0.897
b11n1	0.885	b12n4	0.895	b13n3	0.834	b14n1	0.867
b11n3	0.85	b12n5	0.874	b13n4	0.814		
		b12n1	0.82				

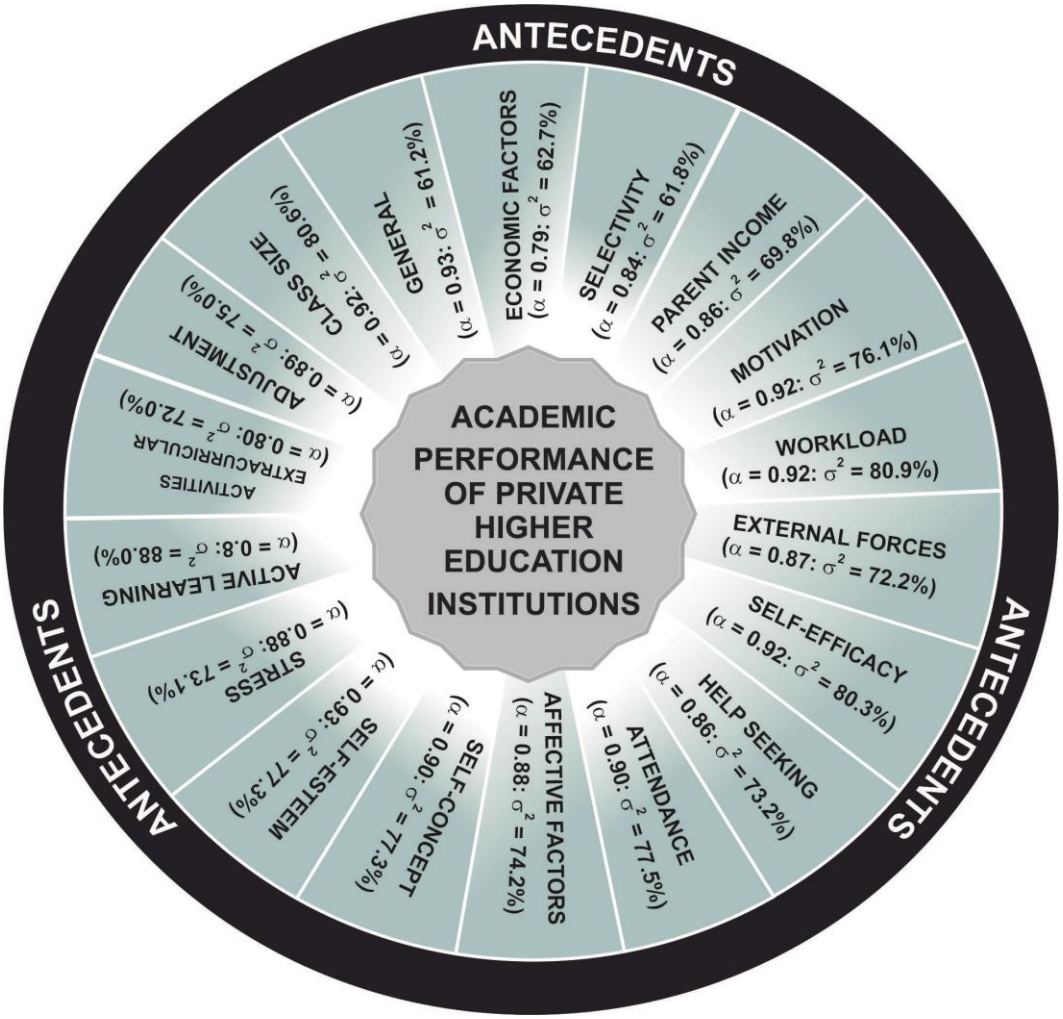
General	Factor loading	Adjustment	Factor loading	Class size	Factor loading	Extra-curricular activities	Factor loading
b18n9	0.843	b16n3	0.922	b17n2	0.919	b15n2	0.948
b18n8	0.817	b16n2	0.906	b17n1	0.896	b15n1	0.932
b18n3	0.806	b16n1	0.837	b17n3	0.891	b15n3	0.627
b18n6	0.794	b16n4	0.793	b17n4	0.884		
b18n1	0.787						
b18n7	0.783						
b18n4	0.766						
b18n5	0.756						
b18n10	0.751						
b18n2	0.714						

Source: Compiled from the survey results

A total of 18 antecedents were evaluated and the results appear in the table above. All of the antecedents are statistically satisfactory; they all exceed the required 60% variance explained, have satisfactory (α≥0.70) to excellent reliability (α≥0.80), have low sphericity (≤0.05) and all but one antecedent (Extracurricular activities) show that an adequate sample was used to validate the antecedents (Field 2009:658). In fact, most of the antecedents explain high variances. This means that the measuring criteria effectively measure the specific antecedents well and that the antecedents have high validity embedded because a limited percentage of variance is left unmeasured. This is substantiated by the high factor loadings of the measuring criteria, which show strong relationships with the specific antecedent. No dual-loading or low-loading measuring criteria were present in the analysis (see also Table 3) hence there was no need to eliminate these criteria from the model (Imandin *et al*. 2016:99). Also noteworthy is that none of the antecedents consisted of two or more sub-factors. This means that the measuring criteria do measure the specific antecedent and not only some components thereof. See Figure 2 for the model to measure the academic performance of PHEIs.

From the results in Table 2 and the model in Figure 2 it is then concluded that antecedents and their criteria postulate a valid and reliable model and that the criteria identified do measure what it is supposed to measure (in this case the respective antecedents) (Asvat *et al*. 2018:60; Shaikh *et al*. 2017:135). It is also concluded that the measuring criteria and their respective antecedents can be applied in practice to measure the academic performance of a private higher education institution.

Figure 2: A validated model to measure academic performance of PHEIs



Source: Compiled from the survey results

The model in Figure 2 is next applied to measure the academic performance of a private higher education institution.

7. MEASURING THE ACADEMIC PERFORMANCE OF A PHEI

The collected data was next applied in the model to measure the academic performance of a private higher education institution in Southern Africa. Inferential statistics such as the mean values and standard deviations were calculated to signify if the respondents or agree or not concerning the respective academic performance measuring criteria. The mean values were interpreted by using two indicators. The initial indicator or mid-point highlighted that the academic performance antecedent is important when the (scoring is higher than the midpoint), or if it is not (then scoring below the midpoint). The method of interpretation was developed by Fullerton (1993) and used internationally in various management studies (Fullerton and Bisschoff, 2013; Craven, 2010; Fullerton, Bisschoff & Neale, 2016). The mid-point for unequal scales (such as the 5-point scale used in this study) is calculated by the formula (n+1/2) = 3; hence criteria with mid-point values above three are regarded to be important while those below three reflect the not-so-important criteria.

The secondary indicator was the mean value which was interpreted as providing more information on the required business performance antecedent by indicating a relative measure of importance or unimportance of a criterion or antecedent. Numerous managerial studies (for example Addai et al., 2017, Tnay et al., 2013; Bashir, 2017; Danis, Chiaburu & Lyles, 2010) have applied the guidelines to explain the mean scores using the guidelines originally applied by Bisschoff and Hough (1995:174) where:

- Scores of 1.5 and lower indicates that the academic performance antecedent is not very important;
- Scores above 1.5 but below 3.5 indicate an important academic performance antecedent;
- Scores of 3.5 and higher indicate a very important academic performance antecedent; and
- Standard deviations more than one indicate that the respondents do differ from one another, while deviations higher than 1.5 shows that they differ a lot from one another on the importance of the antecedent.

The final indicator is the deviation between the responses of the participants. In this case, the standard deviation was used; deviations exceeding one are regarded noteworthy on the 5-point scale used (Field, 2009:38). The results and scores of the respective antecedents and their measuring criteria are shown in the table below.

Table 3: Means values and standard deviations of academic performance antecedents

Code	Antecedent	N	Mean	SDev
Economic Factors		**203**	**3.8313**	**0.79769**
B1N1	Programmes that are affordable	202	3.82	0.945
B1N2	Students from an economically disadvantaged background	199	3.76	1.049
B1N3	Supports students at risk due to inequalities in schooling	200	3.61	1.134
B1N4	Provides students with equity of access to higher education	199	4.12	0.844
Selectivity, Expenditure and Retention		**203**	**4.0706**	**0.69109**
B2N1	Selection criteria in addition to admission criteria	197	3.95	0.994
B2N2	Increased the number of programmes year after year	202	4.21	0.810
B2N3	student support policies in place	201	4.04	0.902
B2N4	Provides alternate routes of access to certain programmes	202	4.11	0.824
B2N5	Has a high student success rate	200	4.03	0.856
Parent income level, Attitudes and Expectations		**203**	**3.4323**	**0.92181**
B3N1	Encourages parent participation	202	3.34	1.118
B3N2	Conducts background checks on students	200	3.11	1.196
B3N3	Has systems in place to control and monitor students at risk	201	3.46	1.140
B3N4	Constantly reviewing strategies to be profitable	199	3.79	0.917
Motivation		**203**	**3.8135**	**0.83975**
B4N1	Has students who are motivated	202	3.73	0.945
B4N2	Encourages good behaviour from its students	202	3.93	0.967
B4N3	Has students who are determined	202	3.79	0.962
B4N4	Inspires students to have strong beliefs	202	3.84	0.951
B4N5	Has students who display good attitudes	202	3.78	0.977
Workload		**203**	**3.5755**	**0.90991**
B5N1	Has students who are able to manage their time adequately	202	3.43	1.073
B5N2	Is continually improving student change management	201	3.67	0.945
B5N3	Attracts students who want to integrate with other students	203	3.66	0.975
B5N4	Attracts students who display high levels of energy	202	3.55	1.060
External Forces		**203**	**3.6088**	**0.89571**
B6N1	Continually develops parent participation	202	3.15	1.142
B6N2	Has students who belong to ethnic minorities	202	3.78	0.983
B6N3	Embraces community involvement	201	3.60	1.123
B6N4	Uses alternative platforms to supplement delivery of programmes	202	3.90	0.974
Self-efficacy		**203**	**3.6490**	**0.97919**
B7N1	Provides a variety of student activities	202	3.27	1.241
B7N2	Is continuously improving	203	3.83	1.041
B7N3	Meets the needs and wants of students	203	3.69	1.047
B7N4	Is orientated towards assisting students to cope with challenges	203	3.80	1.039

Code	Antecedent	N	Mean	SDev
Help-seeking		**206**	**3.8815**	**0.75825**
B8N1	Has students who interact with faculty	206	3.84	0.910
B8N2	Encourages students to have good values	206	3.85	0.845
B8N3	Allows for staff accessibility	206	3.96	0.851
B8N4	Has students who use study groups	203	3.89	0.943
Attendance		**206**	**3.8236**	**0.83701**
B9N1	Has high student attendance	206	3.48	0.9996
B9N2	Encourages students to attend lectures	205	3.91	0.937
B9N3	Allows for innovation in teaching and learning methods	205	3.99	0.907
B9N4	Is passionate about communication with students	206	3.93	0.960
Affective Factors		**206**	**3.7132**	**0.87422**
B10N1	Monitors student attitudes	206	3.27	1.119
B10N2	Is conducive to teaching and learning	206	3.85	0.952
B10N3	Is target driven to achieve outcomes	205	4.06	0.903
B10N4	Employs measures to enhance student self-esteem	203	3.69	1.056
Self-concept		**201**	**3.8690**	**0.85876**
B11N1	Is influenced by new ideas	201	4.00	0.962
B11N2	Encourages new ideas	201	4.01	0.969
B11N3	Has students who are innovative	198	3.65	1.006
B11N4	Promotes positive attitudes amongst students	200	3.83	0.969
Self-esteem		**206**	**3.9085**	**0.84385**
B12N1	Is positively perceived in the community	206	3.93	0.973
B12N2	Has an impact on the society it serves	206	3.88	0.973
B12N3	Is influenced by self-esteem needs of its students	206	3.67	1.010
B12N4	Creates the next generation of African leaders and professionals	205	3.99	0.970
B12N5	Aims to achieve its said outcomes and objectives	206	4.07	0.878
Stress		**205**	**3.6902**	**0.88048**
B13N1	Assists students in making the transition to higher education	204	3.84	1.005
B13N2	Ensure students are able to cope with study stress	205	3.68	0.935
B13N3	Conducts surveys to understand student' experiences	204	3.73	1.075
B13N4	Provides programmes that aim to reduce student stress levels	199	3.50	1.114
Active Learning		**205**	**4.1683**	**0.80457**
B14N1	Uses social media	205	4.21	0.965
B14N2	Has an effective website to assist students	204	4.19	0.881
B14N4	Is conducive to student engagement	203	4.10	0.858
Extracurricular Activities		**205**	**3.6911**	**0.84143**
B15N1	Promotes student involvement	205	3.61	1.045
B15N2	Provides activities to enhance performance	205	3.54	1.036
B15N3	Has more mature students than young students	205	3.92	0.899
Adjustment		**205**	**3.7215**	**0.84739**
B16N1	Has students who adjust to higher education	205	3.74	0.983
B16N2	Considers student background when providing support	204	3.49	1.048
B16N3	Is committed to achieving its student adjustment outcomes	205	3.70	0.943
B16N4	Provides orientation programmes for students	205	3.95	0.938

Code	Antecedent	N	Mean	SDev
Class Size		**205**	**3.8240**	**0.88938**
B17N1	Considers class sizes when planning student activities	203	3.87	1.021
B17N2	Encourages attentiveness	205	3.84	0.984
B17N3	Attracts students who want to participate in discussions	205	3.71	1.005
B17N4	Embraces class discussions	199	3.87	0.964
General measures of Academic Performance		**205**	**3.9609**	**0.71065**
B18N1	Has an efficient Learner Management System (LMS)	201	3.76	1.116
B18N2	Has employability programmes for students	205	3.72	1.084
B18N3	Aims to improve the student experience	205	4.03	0.807
B18N4	Promotes student engagement in promotional campaigns	204	3.81	0.898
B18N5	Strongly believes in student success	203	4.18	0.795
B18N6	Has good infrastructure for higher education	205	4.16	0.857
B18N7	Has staff who are professional in their interaction	205	4.11	0.892
B18N8	Is perceived by students as trustworthy	205	3.98	0.863
B18N9	Empowers students to achieve their objectives	205	4.10	0.840
B18N10	Has students who communicate effectively	205	3.78	0.959

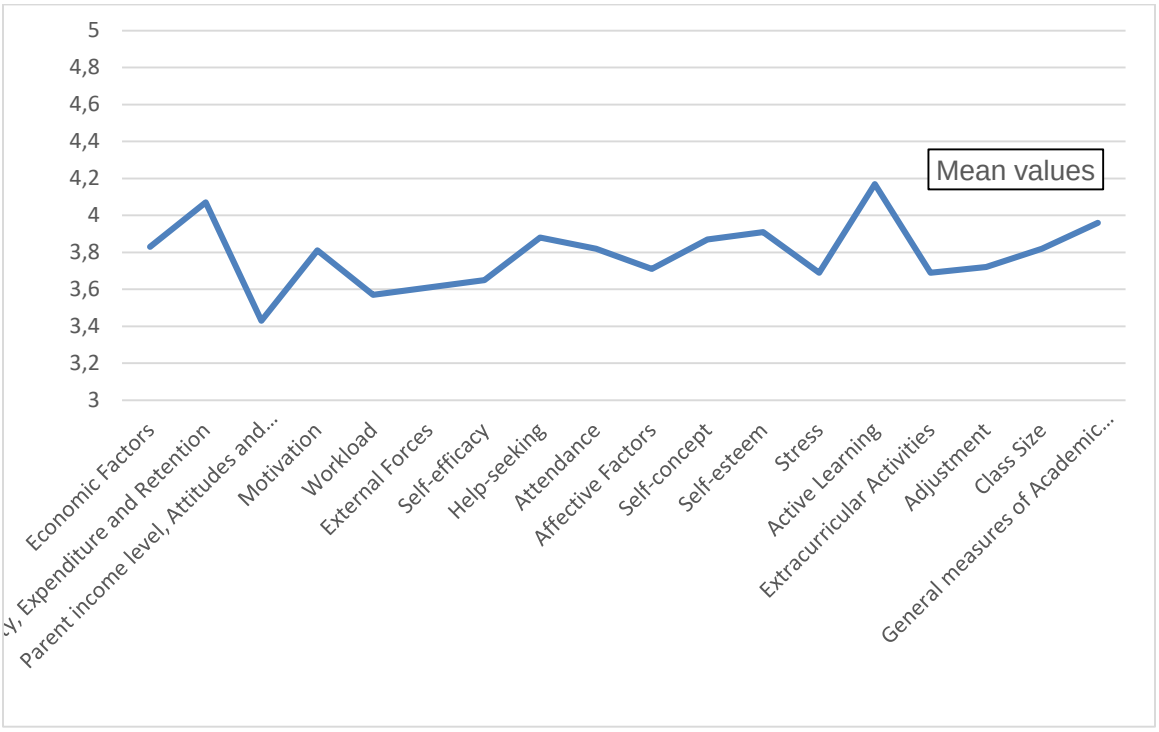
All the antecedents and their respective measuring criteria show high levels of importance by exceeding the mid-point of three. In practice, this means that all the selected criteria are deemed to be important in measuring the academic performance of a private higher education institution.

Reference to the secondary measure (scoring a mean of higher or equal to 3 or even 3.5) shows that the majority of the antecedents and their measuring criteria are deemed as very important to measure business performance of private higher education institutions. Noteworthy is that mean values of the antecedent *Selectivity, expenditure and retention* return values of four and higher; this indicates that this antecedent is a very important consideration for business success and that the regulator and compliance to government requirements is of primary importance. *Active learning* also scored above four which highlights the importance of finance and the well-being of the shareholders as an antecedent. In practice, this shows that investors require sound returns on their investments and that this requirement is no different for the private higher education businesses. *Self-esteem* also scores high and further indicates that the respondents are not in agreement on this antecedent. *Parent income level, attitudes and expectations* is the least important antecedent, albeit it still exceeds the mid-point; it scored the lowest at 3.4. This indicates that the respondents do not regard technology as such an important compared to the other antecedents. High standard deviations in *Parent income level,*

attitudes and expectations as an antecedent, however, indicate that all the respondents are not in agreement on the importance of this antecedent.

Overall the mean scores are high and this indicates that high levels of importance are ascribed to the antecedents. Also, most of the standard deviations are below one indicating that respondents do agree with one another on the importance of the antecedents and the measuring criteria. In summary, the mean values of each of the competencies are shown in Figure 3 below.

Figure 3: Mean values of antecedents



From Figure 3 it is clear that the antecedents identified and validated by the model (see Figure 2) are all important considerations to measure the academic performance of PHEI's. Only *Parent income level, Attitudes and Expectations* (3.43) marginally drops below the desired 3.5 mean value.

8. CONCLUSIONS

This article used a tried and tested scientifically-researched process that proved to be successful in some other social science studies to construct a model to measure academic performance. The study, firstly, identified the relevant antecedents of academic performance in higher education, and the, secondly, developed relevant measuring criteria (83 in total) for each antecedent. Thirdly, the validity of the measuring criteria was empirically established, and finally, the reliability of each antecedent was calculated. From the development of the empirical model, it can thus be concluded that:

- The process followed to identify the 18 academic performance antecedents and then to develop the respective measuring criteria once again proves to be scientifically sound.
- Using exploratory factor analysis to determine if all measuring criteria actually contribute towards calculating each antecedent, respectively, the analysis continued and scrutinised the sample adequacy, variance explained and reliability of each antecedent. Based on these results, the sample is adequate, the antecedents of the model are reliable and the sphericity between the variables is satisfactory.
- Based on the first two conclusions, it is also concluded that the model to measurement of academic performance for a private higher education institution in South Africa is valid.

9. MANAGERIAL IMPLICATIONS

This study presents a usable validated model to measure the academic performance antecedents of private higher education institutions in South Africa. Resultantly, the managerial implications are that managers can:

- apply the model to measure the academic performance of a private education institution;
- partially use the model and measure the performance of specific antecedents;
- determine which antecedents are performing well and which ones are not performing well in the strive to improve the academic performance of their students;

- initiate managerial interventions to improve specific antecedents;
- determine the success of managerial interventions in specific antecedents; and
- determine if the academic performance improved or declined over a specific period of time.

Further, this model is relevant to managers, directors, potential investors and owners of private higher education institutions to assess the academic performance of a private higher education institution in South Africa.

10. LIMITATIONS OF THE STUDY

The following limitations pertain to the study because the data were collected from two major private sector business schools in South Africa. This means that:

- Firstly, care should be taken when extrapolating the study to a wider audience outside South Africa. The regulatory constraints imposed by the Council for Higher Education is only relevant to South African private education institutions, hence private institutions governed by other councils of higher education may operate under a different regulatory environment.
- Secondly, the business of managing a business school may differ from that of other private higher education institutions that provide education in, for example, information technology, technical training or natural sciences. In measuring academic performance in these (and other) educational scenarios, care should be taken to add the uniqueness of the specific fields of study to the measuring model.

11. SUMMARY

This study focused on the development of a model to measure academic performance. The point of departure in the development of the model was to identify the relevant antecedents that pertain to the academic performance of a private higher education institution in South Africa. This was followed to identify measuring criteria for each of these antecedents. Both the antecedents and their respective measuring criteria were identified from existing models and other literature sources. Next, the identified measuring criteria required statistical proof that they are valid before they could be included in the model. The empirical results showed that 18 antecedents exist and that they are measured by a total

of 88 valid measuring criteria. The model also succeeded to rank the antecedents in order of importance to assist managers to gain most benefit from their managerial interventions.

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CHAPTER 5

ARTICLE 4:

Factors to measure the academic performance in private higher education institutions

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Factors to measure the academic performance in private higher education institutions

Sayed M Rehman[2]

Regent Business School, Durban, South Africa

Telephone: 27 31 304 4626

Sayed.rehman@regent.ac.za

Christo A Bisschoff[3]

NWU Business School, North-West University, Private bag X6001,

Potchefstroom, 2520 South Africa

Africa, Durban, South Africa

Telephone: 27 18 299 1411

Christo.bisschoff@nwu.ac.za

Christoff J Botha

NWU Business School, North-West University, Private bag X6001,

Potchefstroom, 2520 South Africa

Africa, Durban, South Africa

Telephone: 27 18 299 1367

Christoff.botha@nwu.ac.za

[2] This article stems from doctoral research by Sayed Rehman (student number: 29980178) at the North-West University

[3] Corresponding author

Factors to measure the academic performance in private higher education institutions

ABSTRACT

The latent variables embedded within the model to measure the academic performance of private higher education institutions are identified in this article. For the quantitative research design, 247 questionnaires, using a five-point Likert scale, were analysed after completion by private higher education supervisors and managers. The data has high reliability with a Cronbach alpha coefficient of 0.989 and excellent sample adequacy with a KMO value of 0.946. The analysis identified ten latent variables (or factors), using exploratory factor analysis explaining a cumulative variance of 73.70%. These are Motivation, workload and student participation, Parent income level, attitudes and expectations, Institutional commitment and self-efficacy, Active learning and infrastructure, Class size, Help-seeking and attendance, Selectivity, expenditure and retention, Economic factors, Student maturity and success, and Self-concept. The study also succeeded to simplify measuring performance by eliminating 17 questions with low factor loadings (<0.40) or those that are cross-loading highly onto more than one factor from the questionnaire while retaining a satisfactory level of reliability. The results are valuable to private higher education managers and to the employees wanting to measure and improve academic performance at private higher education institutions. Researchers and academia could also benefit from the contribution of the study to either build on the academic performance of private institutions or to adopt the methodology employed in this study for another application setting.

Key terms: Performance, private higher education institutions, management, measurement, success, factors, academic, PHEI

JEL codes: M10; I25

LIST OF ABBREVIATIONS

CHE	Council for Higher Education
CFA	Confirmatory factor analysis
DHET	Department of Higher Education and Training
EFA	Exploratory factor analysis
HE	Higher education
KMO	Kaiser, Meyer & Olkin
PCA	Principal component analysis
PHE	Private higher education
PHEI	Private higher education institution

INTRODUCTION

Globalisation, together with the rapid growth of the knowledge economy, has created an increased demand internationally for higher education (HE). This is even more so in a developing country such as South Africa where there is a population growth of 1.45% (2017) and 1.2% (2018) (WorldoMeter, 2018). The inability of public education to cope with the historical increase in demand on education on all levels has resulted in an increase in private education, and also private higher education institutions (PHEIs) to fill this educational gap (Stander & Herman 2017:206). The important role that higher education plays in economic growth is perceived as a panacea to the poverty and inequality faced by many people throughout the world. Hanushek (2016:538) specifically mentions the positive influences that higher education could have on South African economic growth and also individual economic empowerment. Here, increased knowledge capital, communication skills (Geldenhuys, 2018), exponential personal development, innovations, and inventions are vital to facilitate economic growth.

South Africa needs professionals across all sectors; managers, doctors, teachers and engineers are all vital to future economic success and education stands central to deliver these professionals. This is a question also facing many other countries. Furthermore, the rapid transformation of economies and countries due to the fourth industrial revolution has further impacted on governments to meet the need for a skilled population that can take their countries forward. However, McGrath (2015:28) warns that particular skillsets are required for particular countries. South Africa, for example, is ideally suited for astrological skills development due to its ideal geographical location, while skills for the motor-industry are less attractive because lucrative, but geographically remote export markets (such as Australia), have a competitive disadvantage in transportation costs. Identifying and delivering the required country-specific skills are key and reside not only with educational policies and the state but also with private higher education to identify and enter into entrepreneurial activities to harvest the market demand in South Africa.

The higher education market demand is further fuelled by the age demographic profile of South Africa where more than 50% of the country’s population of 57 million is younger

than 25 years old (South Africa Population, 2018), and where the median age is 26.3 years (WorldoMeter, 2018). This creates a high-demand situation to equip and skill the future new workforce. However, this poses a significant challenge for all countries in Africa where high educational demand, public budget constraints, the exodus or brain drain of the skilled and young workforce and limited suppliers are a reality. In this regard, private education is a viable option for many countries to adopt to meet the need for the youth to be skilled and be of benefit to Africa.

Although the highly regulated educational environment of South Africa complies with the CHE, SAQA and DHET requirements to be recognised and able to operate in the country (Stander & Herman, 2017:207), the South African higher education environment, including PHEIs, strives to provide unsubsidised education to its students. Furthermore, despite the fact that PHEIs may not legally use the term 'private universities', they have to adhere to similar regulations, accreditations and oversights than the public universities. In this regard, PHEIs in South Africa face many managerial and entrepreneurial challenges to be successful and to meet the growing demand for higher education and to educate and form the skilled workforce for the next generation of South Africans.

PROBLEM STATEMENT

There are many barriers to entry and regulatory challenges in the South African PHE market. Stringent requirements from the government via particularly the CHE, the DHET and SAQA enforce quality standards in education; however, in doing so, also strain PHEIs in South Africa to comply. Some researchers (Stander & Herman 2017:207-208) believe that these quality control processes border on over-regulation. However, although they continuously do present challenges that managers of PHEIs need to address and overcome to remain compliant and competitive in the educational market, the role that PHEIs played in the education of South Africans is acknowledged by the government. In addition, the National Development Plan for 2030 (SA, 2012) acknowledges the role that PHEIs can play in addressing the need for higher education in South Africa. In this regard, the South African government should aim to create an enabling regulatory environment for education that invites PHEIs into the education system while also remaining the

guardian of quality education in South Africa (South African Government, 2012:268).

The National Development Plan aims to achieve a 25% graduation rate as well as aiming for an enrolment target of 1.62 million by 2030 in comparison to the 950 000 students who graduated in 2010; this signifies an increase of 70% graduates (South African Government, 2012:277). Public universities simply do not have the capacity to accomplish this goal and as a result, PHEIs are part of the solution to equip and skill-up the people of South Africa and embrace the 4th industrial revolution.

However, for PHEs to offer lucrative business opportunities in a developing economy such as South Africa, PHEIs compete with other industries and business opportunities for investors seeking to earn an adequate income from their investments. In practice, this means that PHEIs must be competitive, profitable and, in general, able to perform well as a business. Measuring business performance is, however, complex and an intricate topic. Here, Van Looy and Shafagatova (2016:1) comment that measuring the academic performance of any organisation is a critical success factor. Typical factors to be considered range from access, transition, internal processes, technology and also the issue of learning and development. In addition, Maulina (2018:2017-220) highlights that students are also affected by external factors, which include politics, government policy, law, economy and social, as well as the cultural, demographic and community environment. Furthermore, other internal academic factors such as human resources, marketing, profitability, production and innovation also play a role in academic performance. Although various models or methods have been designed and applied to measure public higher education academic performance, few delved into determining the factors affecting private higher education academic performance.

Given the history of the development of tertiary education in South Africa, most educational academic performance models focus on public universities where subsidies and state income are the primary sources of funding. This, in essence, postulates the challenge that PHEIs face, namely that little research has been done on the unique challenges and performance indicators that PHEIs face if they want to measure their

academic performance in the South African business environment. This study, therefore, aims to focus on identifying the factors that are important to measure academic performance of a PHEI.

RESEARCH OBJECTIVES

The primary objective of this article is to identify factors (or underlying variables) that are embedded in the theoretical model that measures the academic performance of private higher education institutions.

The following secondary objectives were formulated:

- Scientifically simplify the measuring criteria;
- Identify the factors of academic performance;
- Measure the reliability of the data and factors; and
- Identify any relationships that might exist between the factors.

LITERATURE REVIEW

The literature study of this article consists of three parts. Firstly, a theoretical discussion on the statistical techniques employed and their relevance to this study is given. Secondly, the antecedents are defined, their origin discussed and the respective measuring criteria of each antecedent is introduced. Thirdly, the theory that supports the factors emanating from the analysis is discussed. This would show if the identified factors are new or if they confirm the findings from other documented studies in the literature. The literature review on the identified factors should also reveal if these factors are prevalent in similar application settings, or if they have been identified in different application settings.

In addressing the primary objective of this study, to identify latent variables embedded in the data, this study employs factor analysis. Two gatekeeper tests are required to successfully employ factor analysis as a multivariate statistical technique namely, the measure of sample adequacy and sphericity, which refer to the inter-relationships between the variables.

Factor analysis

Factor analysis originated in the early 1900s. Factor analysis aims to find the simplest way to interpret the data obtained (Harman, 1976:59). Initially applied in human ability studies by Charles Spearman in the development of the *Two-factor theory*, factor analysis sparked a number of research projects based on the principles of factor analysis (Harman, 1976:62). Although initially applied to human behaviour and psychology (Kerlunger, 1973:659), the advantages of factor analysis were quick to migrate towards other disciplines such as the social and behavioural sciences, medicine, management, marketing and even towards economics and geography as a suitable multivariate data analysis tool (Yong & Pearce, 2013:79). For example, psychologists have used exploratory factor analysis to categorise attributes such as *insomnia, nausea* and *suicidal tendencies* to identify *depression* as a single factor (Juneja, 2019). Therefore, the primary function of factor analysis is to simplify the dataset in fewer, more manageable summarised variable groups (Field, 2009:78; Gaskin, 2014:66). These groups are called factors, which allow for easier comprehension, interpretation and discussion (Child, 2006), and thereby acts as a data reduction technique (Yong & Pearce, 2013:82; Field, 2009:783; Pallant, 2013:108).

Factor analysis can, however, also be used to determine the validity of measuring criteria that measure a specific factor (Du Plessis, 2010; Naidoo, 2011; Bisschoff & Moolla, 2014). In practice, this means that the criteria measuring a specific antecedent or construct can be confirmed as true measures of the specific construct (Patel, 2015). Many studies (Asvat 2018; Bisschoff & Moolla, 2014; Imandin, 2015; Fields & Bisschoff, 2014; Shaikh, Bisschoff & Botha, 2017) have successfully applied factor analysis to do so and to weed out unworthy measuring criteria from measuring instruments. Identifying specific criteria that do not load onto a given factor is one way to weed out an unwanted criterion (Juneja, 2019), criteria with low factor loadings (below 0.40 in this study) is another way to identify unwanted criteria, while eliminating those criteria that dual-load onto more than one factor is a third way to get rid of unwanted criteria in a questionnaire (Pallant, 2010:192; Field, 2009:675).

The two main factor analysis techniques are confirmatory factor analysis (CFA) and exploratory factor analysis (EFA). The CFA is shortly introduced as a statistical technique in the next section, followed by a more detailed discussion on the statistical technique used in this study, namely the EFA.

Confirmatory factor analysis (CFA)

Confirmatory factor analysis is used later in the research process to test specific existing hypotheses or theories regarding the structure of the set of underlying variables (Pallant, 2013:179). It is more sophisticated and complex and is used when the researcher anticipates or hypothesises that a specific application setting could be explained by a specific variable structure; confirmatory factor analysis then determines whether this application setting indeed fits the hypothesised model and its various underlying dimensions (Patel, 2015:2). The objective of CFA is therefore to identify the measurement model that best describes (or fit) a specific set of data (Eaton & Willoughby, 2018:104), and thereby to check if indeed the model proposed by the researcher fits, or appropriately describes, the correlational groupings of items in a specific dataset by developing a model, estimating the model's parameters, as well as then calculating the model-fit statistics and model refinement (Eaton & Willoughby, 2018:108). Confirmatory factor analysis is therefore used to confirm findings, models and existing constructs. However, if the research (such as in this study) is exploratory of nature and no existing model exists, exploratory factor analysis serves as a more appropriate statistical tool (Field, 2009:783; 785).

Exploratory factor analysis (EFA)

Exploratory factor analysis is used as a multivariate statistical method to investigate whether a number of variables of interest are linearly related to a smaller number of unobservable factors (Gaskin, 2014:69; Tryfos, 1997:14-1). In doing so, it attempts to uncover the complex patterns in the dataset and simplify it into a smaller, more understandable set of variables (which is normally unobserved) (Child, 2006). Pallant (2013:179) further states that exploratory factor analysis is also used in the initial phases

of research to obtain evidence about the interrelationships among a set of variables. Resultantly, the exploratory nature of the technique is usually the first step to reduce the dataset into fewer, more understandable variables (Yong and Pearce, 2013:79), especially in cases where existing models do not exist or established variable sets have not yet been identified (Samuels, 2016:1). In practice, this means that the researcher does not know how many factors there are (if any) and exploratory factor analysis can then be used to determine the factors, their variance explained and also how many factors actually exist that better explain the original data (Patel, 2015). As a result, exploratory factor analysis is used mainly to better understand the variables and their grouping into fewer factors without losing their original meaning.

Two forms of exploratory factor analysis exist, namely factor analysis (FA) and principal component analysis (PCA) (Gaskin, 2014:70). These methods differ in that the reduced variables produced by factor analysis is known as *factors*, while those produced from the principal component analysis is called *components* (Samuels, 2016). In addition, factor analysis proceeds by trying to better fit the variable groupings (factors) to the data by rotating the factor axes to produce a better explanation of each factor (as measured in their respective variance explained). The rotated factors are also easier to interpret while they do not lose their original meaning. The PCA analysis does not rotate its components.

The next stage in the factor analysis process is to select a suitable method of rotation. There are two ways to rotate the factors. One rotational technique is an orthogonal (uncorrelated) rotation where the angle between the axes between the factors are kept constant. This makes for easier interpretation and reporting, but the researcher is required to make more assumptions to label the factors (Talbacha & Fidell, 2007:638; Pallant, 2013:183). Orthogonal rotation is used to explore new datasets and variable structures and has the advantage that it attempts to maximise the variance explained by the data in fewer factors (Field, 2009:796). The more popular orthogonal rotational techniques are varimax, quartimax and equamax.

The other rotational method is the oblique rotation. This rotation results in factors which are more difficult to interpret, report and describe. This method is usually used when the factors are correlated or established (Talbacha & Fidell, 2007:638; Pallant, 2013:183). Oblique rotation methods include direct oblimin and promax rotations (Field, 2009:790).

In exploratory studies, such as this one, the most common rotation used is the orthogonal varimax rotation because this rotation disperses the maximum factor loadings so that most of the variance is explained by data (Field, 2009:796). Furthermore, varimax rotation is specifically designed to reduce the number of variables that contain high loadings on more than one factor, and as a result, reduces the probability for strong dual-loading variables (Pallant, 2013:184; Yong & Pearce, 2013:84). Varimax also aims to maximise the variance explained across the factors (Field, 2009:786). This study selected the orthogonal varimax rotation, mainly because of its ability to successfully extract factors that explain the most variance per factor, limits dual-loadings of criteria, and also because many other researchers successfully applied varimax as a rotational method in similar exploratory studies (Moolla, 2010; Asvat, 2018; Shaikh, 2017; Naidoo, 2011; Fields & Bisschoff, 2013a; 2013b).

However, before applying exploratory factor analysis, it is important to test if the data adheres to sample adequacy and that it does not have a high sphericity coefficient. These two tests act as key gatekeeper statistics to ensure that the data analysis produces meaningful results. These tests and their decision criteria are discussed below.

Kaiser-Meyer-Olkin (KMO) measure of sample adequacy

The Kaiser-Meyer-Olkin (KMO) measures whether the sample is adequate; this means that there have been sufficient data points used to provide an adequate sample. According to Patel (2015:3), interpretation of the KMO values is that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are very good and values above 0.9, are regarded as superb. Furthermore, Osborne, Costello and Kellow (2014:17) indicate that the KMO statistic measures whether the data collected by the sample is adequate for analysis and that its results fluctuate between 0

and 1. If a value is near to 1, this signifies condensed correlation patterns and the factor analysis should produce distinct and reliable factors. If there are values below 0.5, the researcher has to either collect more data or reconsider the variables to be included in the analysis (Field, 2013:1976). In this study, exploratory factor analysis is pursued and the KMO as a measure of sampling adequacy should be equal to or higher than 0.70 to be considered as acceptable (Hassan, 2016:889; Mbuya & Schachtebeck, 2016:232).

Bartlett's test of sphericity

Sphericity is a condition where the variances of the differences between all combinations of related groups are equal (Laerd, 2018:111). Bartlett's test of sphericity is also a secondary measure to test sample adequacy (Field 2013:1980) because if the sample is inadequate, the sphericity should also portray insignificant values that are higher than the maximum significance level of 0.05. This test specifically examines whether the variance-covariance matrix is proportional to the identity matrix, and therefore effectively tests whether the group variances are similar in nature. If so, the off-diagonal elements would be approximately zero, which means that the dependent variables are uncorrelated and therefore indicate that factor analysis is a suitable multivariate technique to apply to the specific dataset (Field, 2013:2467). Bartlett's test of sphericity will usually be significant at a value of less than .05 (Field 2013:2005; Pallant, 2013:190). In practice, this means that sphericity guides the researcher towards determining how well the extracted factors explain the research setting.

Reliability

The Cronbach alpha is a statistical test performed to indicate the overall reliability as a measure of the internal consistency of the data collected (Mbuya & Schachtebeck, 2016:232); coefficients between 0 and 1 are displayed as reliability indicators (Hassan, 2016:891). High reliability implies that similar results (in this case factors) should present themselves in repetitive studies of a similar nature, while low reliability means that other factors should surface in such a repetitive study performed under the same conditions (Bester, 2018:60; Field, 2013:2031). It is noteworthy that a low alpha coefficient does not disqualify a factor from the current study; even factors with lower reliability remain

important to the present study. Reliability, therefore, yields a verdict on the repetitiveness of factors in similar studies and, consequently, the predictability of these factors in confirmatory factor analysis studies (Field, 2009:666). Cronbach alpha coefficients are regarded to be satisfactory once they equal or exceed 0.70 (Hassan, 2016:891; Field, 2013:2037), although seminal research by Cortina (1993:99) indicated that coefficients of 0.57 and higher are also acceptable in exploratory studies. Coefficients higher than 0.8 are considered to be good, while those exceeding 0.9 are considered to be excellent (Sekaran & Bougie, 2003:327).

RESEARCH METHODOLOGY

This study employed a literature and empirical review. The literature study encompasses the topic of academic performance and how to measure it. Academic performance antecedents and their respective measuring criteria that are important to PHEIs were used as criteria to collect the data. The methodology to validate and modelise the antecedents and its criteria were recently used by Shaikh, Bisschoff and Botha (2017:138). These authors developed their methodology based on the success of similar previous studies (Naidoo, 2011; Imandin, 2015; Bester and Bisschoff, 2016) that also validated and modelised antecedents and measuring criteria to measure a variety of managerial dependent variables such as brand loyalty, stress management, employee retention and management skills. Using this methodology, Imandin, Bisschoff and Botha (2016:100) formalised seven steps to construct a model to measure employee engagement successfully.

This study adopted and followed these steps as a guideline to develop the model to measure the academic performance of PHEIs. This model was then operationalised and applied to measure the academic performance of a PHEI. A total of 25 antecedents was identified of which 17 were retained and used for data collection. In addition, some relevant measuring criteria, originating from the analysis of the eight antecedents, were retained and included in a general measuring criteria sub-section.

Quantitative data collection

The study used a self-administered questionnaire to collect primary data. The questionnaire contained two sections: *Section A: Demographics* and *Section B: Antecedents and their measuring criteria*. Section A consists of five questions to compile the demographic profile of the respondents. Section B consists of the final 17 antecedents and the general sub-section. This section deals with academic performance antecedents, each with its unique measuring criteria. The criteria were formulated in statement format to which the respondents were asked to indicate their level of agreement or disagreement on a five-point Likert scale. In total, Section B consisted of 86 measuring criteria.

The population consisted of all full-time employees at two private business schools. These schools have a wide geographic service area which covers South-Africa and also Southern Africa. The total population was targeted; no sample was drawn. The employees were requested to complete the questionnaires. It was clearly communicated that participation is voluntary, anonymous and that the study was officially approved by management. The researcher forwarded the questionnaires to trained office managers in the outlying offices and to the academic managers at the head office in Durban to assist with the distribution and collection of the questionnaire. A total of 250 questionnaires were distributed of which 247 were completed and returned, signifying an effective response rate of 98.8%. The data was captured by the Statistical Consultation Services of the North-West University and analysed with the IBM Social Package for Social Services Version 25 (IBM SPSS, 2018).

Ethical clearance

The study was submitted and evaluated by the Ethics Committee of the Faculty of Economic and Management Sciences at the North-West University. The committee perused and classified it as a low-risk study. The study was accepted where after an official ethics number (NWU-00600-20-A4) was issued.

Table 1: Antecedents considered and their origin

Number	Antecedent	Description	Measuring Criteria	Source
1	Economic factors	The socio-economic divisions between social classes.	• Inequality • Disadvantaged • Quality of life • Social divisions	Berg (2017) Malefo (2015 National Plan for Higher Education (SA, 2001) Petersen Louw & Dumont, (2017:105) Sikhwari (2017:525)
2	Selectivity, expenditure and retention	Parents and legislatures are placing higher expectations on institutions.	• Access • Support • Cost of programmes • Selection criteria • Graduation rates	Alexander (2013:12) Built (2015:22) Barron (2017:2). Mayer-Foulker (2014:485) Gansemer-Topf and Schuh (2016:9-10).
3	Parent income level, attitudes and expectations	The relationship between parents' level of education and their children's academic achievement.	• Parent involvement • Family structure • Culture • Ethnic goals	Ermisch and Francesconi (2016:137) Jacobs and Harvey (2015) Ma (2017:132) Malefo (2015:44)
4	Motivation	A set of independent or dependent variable relationships that explain the direction and persistence of an individual's behaviour.	• Personality • Behaviour • Determination • Beliefs • Competence	Van der Aardweg (2016:10) Moore (2015:7) Petersen et al. (2017:100) Fallis and Optotow (2014)
5	Workload	An imbalance between load and energy to perform a particular work leads to the poor performance of a task to be achieved.	• Capacity • Change • Integration • Energy	Malefo (2016:45) Merriam et al. (2017:2) Petersen et al. (2017:104)
6	External forces	The cultures of ethnic groups may lead to different approaches to discipline.	• Parental involvement • Ethnic minority	Bodovski (2016:143) Epstein (2014:166) May et al. (2016:246) Palmer (2013:350
7	Self-efficacy	Confident students are more cognitively engaged in learning and thinking than those who doubt their capabilities.	• Choices • Assurance • Experience • Challenges	Bandura (2016:12) Bong (2014:23) Fenollar Roma´n & Cuestas (2017) Greene (2014:500)

Number	Antecedent	Description	Measuring Criteria	Source
8	Help-seeking	Informal student-faculty interactions are associated with better socialisation at higher education institutions.	• Faculty interactions • Values • Staff • Peers	Lowis and Casley (2017:333) Petersen et al. (2017:104) Robbins (2014:8)
9	Attendance	Attending lectures increases students' ability to learn.	• Lectures • Contact • Availability • Teaching and learning • Communication	Ali et al. (2013:85) Marburger (2014:22) Moore (2015)
10	Affective factors	Students who have negative attitudes about themselves impose limitations on their own achievement.	• Attitude • Self-esteem	McCoach (2015:67) Rice (2016:128)
11	Self-concept	The way an individual regard himself or herself which forms an integral part of a person's personality.	• Ideas • Attitude	Rice (2016:130) Sikhwari (2017:525)
12	Self-esteem	Students who show a high level of self-esteem are able to perform very well academically.	• Transition • Stress • Task completion	Malefo (2015:42) Petersen et al. (2017:104)
13	Stress	Students with a higher negative life change show maladaptive coping strategy.	• Resources • Attention • Experience	Kennett and Reed (2017:160) Malefo (2015:45)
14	Active learning	Students who are actively engaged in learning activities do well academically.	• Engagement • Achievement • Effort	Ali et al. (2013:85) Fenollar et al. (2017)
15	Extracurricular activities	A positive relationship between students' involvement in extracurricular activities and academic performance has been indicated.	• Involvement • Performance • Age • Grades	Ali et al. (2013:85) Darling et al. (2005)
16	Adjustment	Psychosocial factors play a key role in predicting the academic success of students.	• Psychosocial factors • Background • Outcomes	Petersen et al. (2017:105 Built (2015:22)
17	Class size	Small classes have been found to boost students' academic performance.	• Attentiveness • Participation • Classmates	Finn, Pannozzo & Achilles (2013:42) Fenollar et al. (2017)

Source: Rehman, Bisschoff & Botha (2019)

RESULTS

Reduction of the measuring criteria

Various researchers (Moolla, 2010; Naidoo, 2011; Fields & Bisschoff, 2013a; 2013b; Bisschoff and Moolla, 2014; Shaikh, Bisschoff & Botha, 2017, Asvat, 2018) have used exploratory factor analysis to reduce the initial data-set to a more understandable set of grouped variables. In this study, the measuring criteria are grouped together into meaningful factors with embedded intelligence.

The cut-off factor loading applied in this study was 0.40. Only criteria with factor loadings of 0.40 and higher were retained for interpretation. The study also aimed to explain at least 60% of the cumulative variance because this signifies “a good fit to the data” (Field, 2009:672). Noteworthy, however, is that 50% is already considered to be a satisfactory cumulative variance explained in exploratory research (Samuels, 2016), and was set as the lower limit for the variance explained. The number of factors to extract was based on the eigenvalues to be equal to or higher than 1 as the initial guideline (Field, 2009:670), but the refined factor extraction methodology developed by Mishra (2008) in their parallel research engine (in Patil et al., 2008a:162) was used to ascertain that the correct number of factors were extracted. In cases where the number of factors to be extracted differed, the parallel research engine was used as the definitive measure.

However, in some cases, a measuring criterion may show belongingness to two (or even more) factors. This belonginess is usually weak (prevalent from its low factor loadings) because the criterion’s variance is distributed across the two factors (Field, 2009:642). These dual-loading criteria should be omitted from the component matrix interpretation. Likewise, criteria with low factor loadings should also be omitted. Based on the success of the aforementioned researchers, this study also omits these criteria based on the decision criteria where the KMO is equal to or higher than 0.70, Bartlett’s sphericity is smaller or equal to 0.05, and the cumulative variance explained remains above 60%. Measuring criteria with factors loadings of 0.40 and higher were retained while dual-loading criteria were omitted from the analysis (Pallant, 2010:192; Field, 2009:675).

The analysis required four rounds to identify and omit all of the low- and dual-loading measuring criteria and to derive at a satisfactory component matrix. In each round of analysis, the variance explained, KMO test for sample adequacy, Bartlett's sphericity test and the reliability of the data-set was used to ensure that the integrity of the data-set remains intact. Eliminated criteria numbers correspond with Table 2. Round 4 represents the final factor component matrix after measuring criteria were deleted in the previous three rounds. The elimination of unwanted criteria is illustrated in Table 2.

Table 2: Elimination of unwanted measuring criteria

Round	Variance explain	KMO	Bartlett	No. of factors	Alpha	Criteria eliminated
1	76.70%	.923	.000	11	.989	B10n2, B10n3, B13n2, B16n4, B18n2, B6n2
2	76.70%	.947	.000	12	.988	B13n3, B18n3
3	75.24%	.947	.000	12	.988	B11n4, B16n4
4	73.26%	.946	.000	10	.988	None

Table 2 shows that the cumulative variance explained over the final ten decreased with 3.44% after eliminating ten unsuitable measuring criteria. In this regard, Asvat reports on findings by Hill and Hughes (2007:8) who postulated that "a marginal decline in total variance explained is but a small price to pay for the additional validity gained by the reduction in the number of factors and measuring criteria". Bartlett's test of sphericity and the reliability coefficients remained virtually unchanged while the number of factors initially increased from 11 to 12 factors, where after the final component matrix settled at ten clear factors. This, according to Shaikh (2017) is the real value of purification; the number of factors was reduced by two which results in a "much more measurable and manageable model to apply in practice".

Factor analysis

Grainger (2018) explains that factor analysis is used to simplify a large measurable data-set. In this case, the data collected from the questionnaire is tested and categorised statistically. Hereby, the large data-set is reduced to a number of factors, or underlying constructs that were not originally identified (Field, 2009:693). These

factors all possess a common variance or intelligence which enables the researcher to identify constructs not previously identified (Bartholomew, Knotts & Moustaki, 2011).

Prior to conducting exploratory factor analysis, two issues require investigation. Firstly, the data must be suitable for multivariate analysis. This is tested by ensuring that the sample used was adequate and that it would produce scientific results. Secondly, to use Bartlett's sphericity test to ensure that limited internal relationships exist between the data-points. These results appear in Table 3.

Table 3: The KMO test of sample adequacy and Bartlett's test of sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.946**
Bartlett's Test of Sphericity	Approx. Chi-Square	14381.871
	df	2415
	Sig.	**.000**

The analysis reflects that the KMO Measure (0.945) exceeds the required 0.70 with ease. This, in turn, indicates that the sample is adequate for analytical purposes (Statisticshowto, 2018). The significance, as calculated by Bartlett's test of sphericity, is also lower than 0.05; this shows that the data is useful to facilitate meaningful statistical analyses (Chan & Idris, 2017:403). Resultantly, the results confirm that the data-set can be used to perform multivariate statistical analysis (Pallant, 2007; Tabachnick & Fidell, 2007).

A varimax rotation was used in the exploratory factor analysis to extract a number of factors. Normally, the Kaiser criterion where the eigenvalue exceeds one is used in conjunction with the point of inflection in the scree plot, to determine how many factors should be retained (Kaiser, 1958; Hair et al., 2010). However, Patil et al. (2008a) developed a refined methodology to use as a secondary measure to determine the number of factors that should be retained. This is a more scientific and accurate method to determine the number of factors to retain. Here Patil et al. (2008a) point out that the factors to retain are those where the eigenvalue of the factors to retain does exceed the value of one, and if that eigenvalue is also larger than the parallel analysis value (as calculated by the parallel analysis engine (Patil *et al*. 2008b). These results appear in table 4.

Table 4: Retained factors as per the Parallel Analysis Engine

Factor	Parallel Analysis Engine	Eigenvalue	Retain or discard factor
1	1.930	10.637	Retain
2	1.751	9.326	Retain
3	1.654	7.887	Retain
4	1.551	6.089	Retain
5	1.484	4.028	Retain
6	1.420	3.705	Retain
7	1.356	3.462	Retain
8	1.308	2.958	Retain
9	1.249	2.196	Retain
10	1.186	1.334	Retain

Generated from: Patil et al. (2008b).

The eigenvalue, point of inflection and parallel engine analysis, as shown in Table 4, revealed that ten factors should be retained because the eigenvalues exceed the randomly generated eigenvalues generated by the Parallel Analysis engine (Patil et al., 2008b). The ten factors, extracted from the varimax rotated matrix, appears in Table 5. The table also shows the measuring criteria and their respective factor loadings. The variance explained by each factor, the cumulative variance explained by the factors, and the reliability coefficient of each factor also appear at the bottom of the table (Grainger, 2018). The ten factors cumulatively explain 73.7% variance; this is regarded to be a good fit to the data because it exceeds the required 60% margin with ease (Field, 2009:672). All except one of the factors show highly satisfactory reliability coefficients ($\alpha \geq 0.95$) (Field, 2009:666) while Factor 9 shows an acceptable level of reliability ($\alpha \geq 0.58$) (Cortina, 1993:101). In practice, this means that the results are reliable and that it could be operationalised.

Table 5: Rotated component matrix

Measuring criteria	Factors									
	Motivation, Workload & student participation	Parent income level, attitude & expectation	Institutional commitment & self-efficacy	Active learning & infrastructure	Class size	Help-seeking & attendance	Selectivity, expenditure & retention	Economic factors	Student maturity & success	Self concept
The institution...										
Has students who display good attitudes	.767									
Has students who are determined	.742									
Attracts students who display high energy levels	.735									
Has students who are able to manage their time	.672									
Has students who are motivated	.668									
Inspires students to have strong beliefs	.653									
Has high student attendance	.649									
Has students who are innovative	.639									
Is continually improving student change management	.615									
Attracts students who want to integrate with other students	.595									
Encourages good behaviour from its students	.564									
Has students who communicate effectively	.552									
Has students who are able to adjust to higher education	.478									
Has students who use study groups	.459									
Employs measures to enhance student self-esteem	.441									
Promotes student engagement in promotional campaigns	.429									
Provides a variety of student activities		.766								
Has systems in place to control and monitor students at risk		.723								
Conducts background checks on students		.707								
Promotes student involvement		.625								
Provides activities to enhance performance		.615								
Is continuously improving		.613								
Provides programmes that aim to reduce student stress levels		.605								
Considers student background when providing support		.581								
Is constantly reviewing strategies to be student centric		.577								

Continually develops parent participation	.568		
Monitors student attitudes	.559		
Encourages parent participation	.556		
Meets the needs and wants of students	.540		
Embraces community involvement	.479		
Is orientated towards assisting students to cope with challenges	.466		
Is committed to achieving its student adjustment outcomes	.442		
Has staff who are professional in their interaction		.696	
Has an effective website to assist students		.691	
Is conducive to student engagement		.672	
Is perceived by students as trustworthy		.630	
Has an efficient Learner Management System (LMS)		.594	
Has good infrastructure for higher education		.593	
Uses social media		.589	
Strongly believes in student success		.518	
Empowers students to succeed in achieving their objectives		.509	
Is passionate about communication with students		.487	
Has an impact on the society it serves			.637
Aims to achieve its said outcomes and objectives			.602
Creates the next generation of African leaders and professionals			.586
Is influenced by the self-esteem needs of its students			.567
Is positively perceived in the community			.539
Uses alternative platforms to supplement the delivery of programmes			.499
Assists students in making the transition to higher education			.456

Encourages attentiveness					.658					
Considers class sizes when planning student activities					.652					
Attracts students who want to participate in discussions					.627					
Embraces class discussions					.539					
Allows for staff accessibility						.608				
Encourages students to attend lectures						.563				
Allows for innovation in teaching and learning methods						.529				
Encourages students to have good values						.489				
Has students who interact with faculty						.489				
Provides alternate routes of access to certain programmes							.712			
Has increased the number of programmes year after year							.670			
Has selection criteria in addition to admission criteria							.652			
Has student support policies in place							.498			
Has students from an economically disadvantaged background								.759		
Has programmes that are affordable								.591		
Supports students at risk due to inequalities in schooling								.515		
Provides students with equity of access to higher education								.414		
Has more mature students than young students									.586	
Has a high student success rate									.474	
Encourages new ideas										.492
Is influenced by new ideas										.462
Variance explained (%)	**15.2%**	**13.3%**	**11.3%**	**8.7%**	**5.8%**	**5.3%**	**4.9%**	**4.2%**	**3.1%**	**1.9%**
Cumulative Variance explained (%)	**15.2%**	**28.5%**	**39.8%**	**48.5%**	**54.3%**	**59.6%**	**64.5%**	**68.7%**	**71.8%**	**73.7%**
Reliability (Cronbach alpha)	**.966**	**.963**	**.931**	**0937**	**.924**	**.905**	**.839**	**.799**	**.653**	**.892**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 10 iterations.

DISCUSSION OF FACTORS

Factor 1: Motivation, workload and student participation

The analysis categorised criteria dealing with motivation, workload and student participation, as the most important factor that a private higher education institution should take note of in order to improve academic performance. All the criteria listed show that motivation, workload and student participation are the key issues to adhere to. Motivation, workload and student participation has been identified as one of the most important psychological concepts in higher education. The reviewed literature (Petersen et al., 2017:100) on the effects of academic motivation on educational outcomes supports these criteria as crucial to academic performance.

Theories on motivation focusing on individuals' beliefs do not deal with the specific reasons why individuals will engage in different activities. However, these reasons are dealt with by the motivational theories which focus on the differentiation between intrinsic and extrinsic types of motivation. Self-determination theory (SDT) is an example of one such theory which describes behaviour as intrinsically motivated, extrinsically motivated, or demotivated. Intrinsically motivated behaviour is associated with competence and self-determination (Fallis & Optotow, 2014). Factor 1 is the most important factor and explains a variance of 15.20%.

Factor 2: Parent income level, attitude and expectation

The second most important factor deals with issues pertaining to parent income level, attitude and expectation, and the role it plays in supporting academic performance. Keeves cited by Jacobs and Harvey (2015) found that a strong association exists between students' mathematics and science achievement and parents' attitudes towards their children's education and future ambitions including education and occupation. Therefore, one of the most important predictors of academic performance is parents' expectations and plans for their children's future tertiary studies (Ma, 2017:132). There is also a positive relationship between parents' level of education and their children's academic achievement (Ermisch & Francesconi, 2016:137). This high factor rating of

13.3% of the variance demonstrates the importance of pertaining parent income level, attitude and expectation.

Factor 3: Institutional commitment and self-efficacy

Factor 3 deals with institutional commitment and self-efficacy. Various studies indicate that institutional commitment and self-efficacy is critical for academic performance (Bandura, 2016:12; Bong, 2014:23; Fenollar et al., 2017; Greene, 2014:500). In addition, these studies also highlight the importance of confidence; here, both cognitive strategy and effort are critical factors for academic success in higher education. The factor explains 11.3% of the variance.

Factor 4: Active learning and infrastructure

Factor 4 identifies criteria dealing with active learning and infrastructure as the third most important factor. Active learning has a significant role in students' academic achievement (Ali et al., 2013:85). Malefo (2015:42) found that active engagement in learning activities such as effort and deep processing strategies were linked with higher academic achievement. The factor explains 8.7% of the variance.

Factor 5: Class size

Factor 5 deals with class size. Students studying in large classes are more distracted from their work and tasks. In smaller classes at the tertiary level, interactive discussions may be used more than lectures, facilitating better 'delayed recall' learning as well as critical thinking. A smaller class size also allows for more personalised instruction by which students are given a clear understanding of what is required of them and how to achieve such outcomes (Fenollar et al., 2017). Students may also feel lost in a crowd or may lose interest in the class because of the number of classmates within a particular course (Finn et al., 2013:48). One can then expect that a large class size will have a negative influence on students' academic performance. The factor explains 5.8% of the variance.

Factor 6: Help-seeking and attendance

Factor 6 focuses on help-seeking and attendance. Robbins's (2014:8 & 268) meta-analysis identified help-seeking as the key determinant of academic performance. This study also found that help-seeking through informal student-faculty interactions is associated with better socialisation in higher education. Student-faculty contact and the utilisation of student support services and intervention programmes have a positive impact on academic performance.

Research by Petersen et al. (2017:104), reflect help-seeking as a mediating behaviour in academic performance. A link was found between help-seeking and students' academic performance. This positive association significantly indicates that students who experienced difficulties and sought help in relation to the problems they faced during the course of the year, showed a higher level of self-determined academic motivation. The results also reflect that students prefer instant contact with facilitators and that students require more assistance, advice and encouragement in managing their time. The respondents also indicated that they found it beneficial to work in a group. These views are shared by Lowis and Casley (2017:334). Factor 6 explains 5.3% of the variance.

Factor 7: Selectivity, expenditure and retention

Factor 7 deals with selectivity, expenditure and retention. Research which focuses on the impact of university experiences on students tend to ignore organisational behaviour as a source of influence (Berger, 2014:181). Minimal research has examined how an organisations financial strategy such as resource allocation may provide insight into improving retention and graduation rates. A crucial element that affects the relationship between resource allocation and retention and graduation rates is institutional selectivity. Institutional selectivity is a measure of admissions competitiveness. Selectivity scores provide information on the general academic qualities needed for admittance into a specific institution. Institutions with high selectivity ratings enrol students with higher standardised scores, high grade point averages and higher school rank than institutions with lower selectivity ratings and as a result, may have higher retention and graduation rates regardless of how they allocate their resources.

Regarding student retention, South African students who previously attended historical educational disadvantaged high schools have high recorded drop-out rates because of the inequalities in their schooling (Sikhwari, 2017:524). Academic performance is therefore also related to the quality of previous education. Remedial education interventions by educational institutions are therefore key in student retention. Factor 7 explains 4.9% of the variance.

Factor 8: Economic factors

Factor 8 deals with economic factors that affect academic performance. Inevitable socio-economic divisions between social classes, familial poverty and educationally disadvantaged students are included in this factor. Economic circumstances are therefore a major interference with academic performance. This is in agreement with a study by Sikhwari (2017:525) which found that poverty is a substantial stressor in South African university students. Students who were from economically disadvantaged backgrounds showed the highest reported dropout rate. Academic performance is thus influenced by economic factors. Factor 8 explains 4.2% of the variance.

Factor 9: Student maturity and success

Student maturity and success includes academic resourcefulness, effort, organisation, enthusiasm, and discipline as contributors to academic performance. Student maturity and success is, therefore, a key factor in the achievement of students. Maturity and success are viewed as a mental and neural state of readiness, organised through experience, which then exerts a directive or dynamic influence upon the individual's response to all objects and situations which are related. Factor 9 explains 3.1% of the variance.

Factor 10: Self concept

Factor 10 is the last factor and focuses on the personal resources required for positive psychological adjustment to stressful transitions. In this regard, Petersen et al. (2017:104) found that students with high levels of self-concept perceive themselves to possess the

ability to complete tasks adequately, and hence employ coping strategies and manage their resources in completing those tasks. Self-concept is significantly related to adjustment and academic performance. This positive association would indicate that students who reflect high levels of self-esteem are able to adjust to the university and perform very well academically (Petersen et al., 2017:104). Factor 10 explains 1.9% of the variance.

Factor correlations and multiple regression analysis

Regarding the inter-factor correlations, this study employed Pearson correlation coefficients. The correlation matrix showed that all the factors, expectedly, have high inter-factor correlations ($p \leq 0.1$; $0.83 > r > 0.49$). In this case, Pallant (2013:185) states that when inter-factor correlations are high ($p \leq 0.1$; $r \geq 0.30$), the correlations should be further investigated. In this case, authors such as Basilevsky (1981), Carvalho (2008), Field (2009) and Arayesh (2015) suggest that multiple regression could be used as statistical tool to determine if the other factors (Factors 2-10) have predictive properties towards the most important factor (Factor 1), and if so, to what extent and are these properties statistically significant? Factor 1 would, therefore, serve as the dependent variable, predicted by with Factors 2 to 10 as the independent factors. The results of the multiple regression model appear in Table 6.

Table 6: Multiple regression model

Model Summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	.904[a]	.818	.809	.34675

a. Predictors: (Constant), Factor10, Factor8, Factor9, Factor5, Factor7, Factor4, Factor6, Factor3, Factor2

Coefficients[a]

Model		*Unstandardised Coefficients* *B*	*Std. Error*	*Standardised Coefficients Beta*	*t*	*Sig.*
1	(Constant)	-.066	.167		-.398	.691
	Factor2	.204	.060	.227	3.420	**.001***
	Factor3	.118	.071	.108	1.658	**.099****
	Factor4	.243	.064	.254	3.800	**.000***
	Factor5	.157	.046	.178	3.414	**.001***
	Factor6	.119	.066	.114	1.817	**.071****
	Factor7	-.138	.052	-.129	-2.649	**.009***
	Factor8	.113	.044	.114	2.573	**.011***
	Factor9	.152	.045	.142	3.362	**.001***
	Factor10	.022	.041	.025	.535	.594

a. Dependent Variable: Factor1; * p≤0.05; ** p≤0.10

The regression results show a favourable variance explained by the predictive model (R^2=.818; Adjusted R^2=.809). Some 80.9% of the variance in Factor 1 can be explained by eight of the factors. They are Factors 2, 3, 4, 5, 6, 7, 8 and 9. Factors 2, 4, 5, 7, 8 and 9 do so at the 95% confidence level (statistically at p≤0.05), while Factors 3 and 6 do so at the 90% confidence level (they are statistical significance at p≤0.10). These factors contribute as per standardised beta coefficients (regression weights) to the variance of Factor 1. Factor 4 has the highest regression weight (.254) and therefore has the most influence on the variance explained in the model on Factor 1. Noteworthy is Factor 7 with a negative regression weight (-178); this means that this factor has a negatively influence on Factor 1. Management should, therefore, attempt to minimise this factor when they manage to achieve Factor 1. Factor 10 is not significant at the 90% confidence interval (p≤0.10).

The regression function then is:

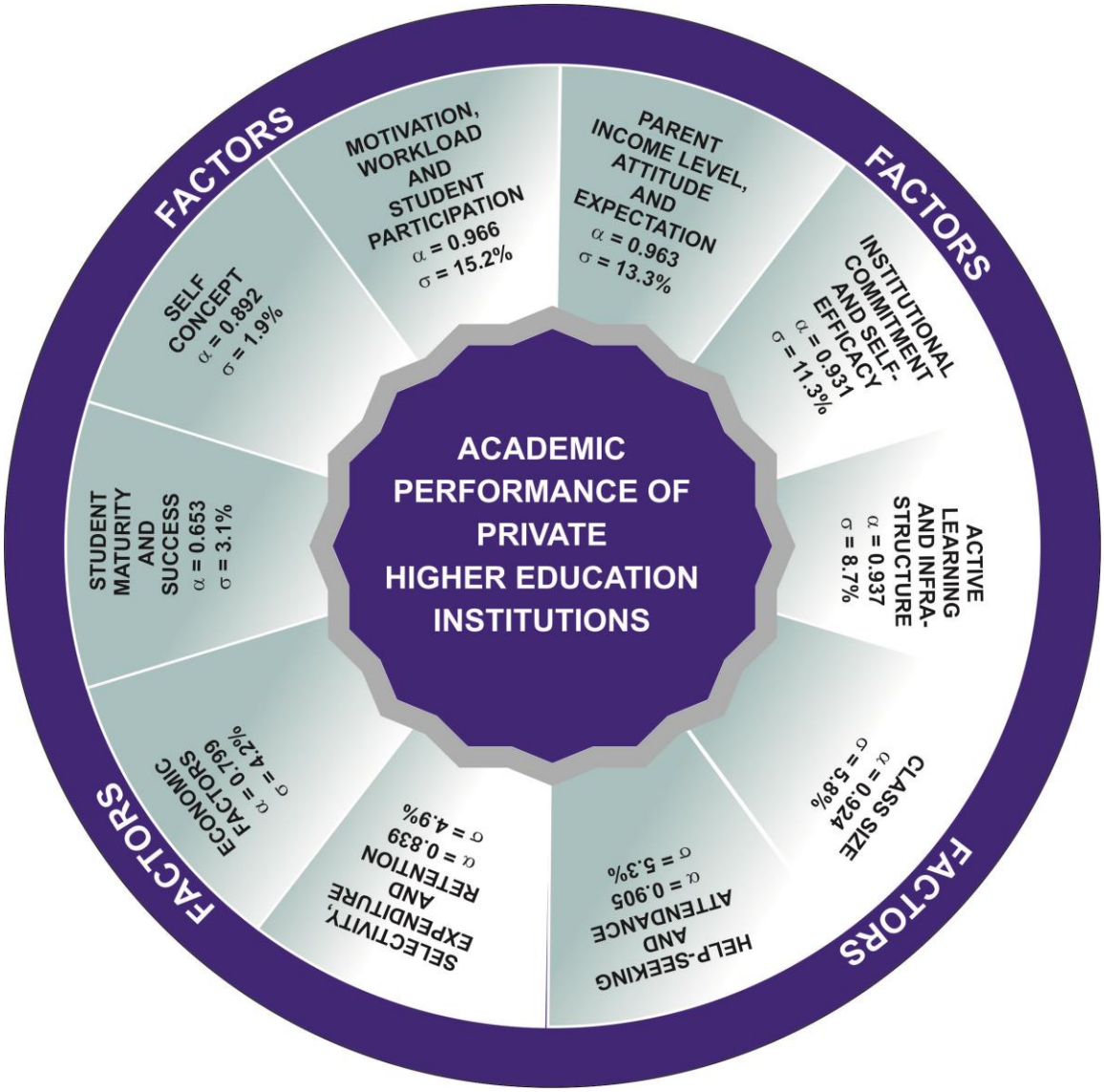
> ***Motivation, workload and student participation*** *(**Y**) = (0.227 x Parent income level, attitudes and expectation) + (0.108 x Institutional commitment and self-efficacy) + (0.254 x Active learning and infrastructure) + (0.178 x Class size) – (0.129 x Selectivity, expenditure and retention) + (0.114 x Economic factors) + (0.142 x Student maturity and success)*

In practice, this means that *Parent income level, attitudes and expectations* is the biggest predictor of *Motivation, workload and student participation*, followed by *Institutional commitment and self-efficacy*, while *Student maturity and success* has the lowest predicable influence. Therefore, an improvement in *Parent income level, attitudes and expectations* will benefit and improve *Motivation, workload and student participation* more than any other predictors and should be dealt with first as this approach will yield a better return on managerial interventions. Therefore, interventions to improve the most important factor *Motivation, workload and student participation*, should also include interventions to improve *Parent income level, attitudes and expectations* at the same time.

A MODEL TO MEASURE THE ACADEMIC PERFORMANCE OF PHEIS

The model consists of ten factors that explain a cumulative variance of 70.6%. These factors were identified from 18 antecedents measured by 86 measuring criteria. In total, the statistical analysis omitted 26 criteria from the initial theoretical and qualitative model of 86 measuring criteria because of their low- or dual factor loadings (≤0.4). All ten factors have excellent reliability that exceeds the minimum alpha coefficient of 0.70 with ease (six factors have alpha coefficients in excess of 0.90). The empirical model to measure the academic performance of PHEIs is shown in Figure 2 below.

Figure 2: Factors to measure academic performance in PHEIs



Source: Compiled from empirical results

Figure 2 shows the ten factors. Noteworthy is that the factor structure does not possess any sub-factors within any of the ten identified factors. This means that each factor, in essence, is pure in nature and does represent academic performance factors *per se* (Shaikh, 2017). The figure also shows the respective variance explained by each factor (as indicators of each factor's relative importance), their reliability and the factors as they were labelled.

The findings of the model are partially supported (and in some cases also contradicted) by other researchers. In a study by Petersen et al. (2017), three factors are directly supported by their findings. They are Factor 7 (Selectivity, expenditure and retention), Factor 8 (Economic factors) and Factor 2 (Parent income level, attitudes and expectations). Their study also identified the most important factor as Motivation, workload and student participation (Factor 1), while Institutional commitment and self-efficacy (Factor 3) were also factors that Peterson et al. (2017) identified as important academic performance factors. Research by Fenollar et al. (2017) on factors that affect the academic performance also renders support to the findings in this study. In this case, Fenollar et al. (2017), also identified: Help-seeking and success (Factor 6), Student maturity and success (Factor 9), Active learning and infrastructure (Factor 4) and Self-concept (Factor 10) as significant factors affecting academic performance.

Factors identified by other studies that were not identified by this study include a well-experienced leadership team (The Advanced Institute of Management Research (2006:10), the need for achievement and optimism, leadership of the higher education institution and the importance of technology (Soriano, 2010:468). The Advanced Institute of Management Research (2006:10) also reasons that academic performance is dependent on three key interrelated factors that have a significant influence on the current and future success of students in the United Kingdom. They are reputation, funding and faculty. It is interesting to note that these three factors and their descriptions embed and support most of the factors identified in this study.

CONCLUSIONS

From the analysis, the following conclusions can be drawn.

Conclusions 1 and 2:

This article identified academic performance antecedents and its related measuring criteria. Strongly literature orientated, the study identified 18 business performance antecedents, measured in total by 70 criteria. The study scientifically reduced the 18

antecedents to a more manageable 10 factors, measured by 61 criteria (thereby reducing the measuring criteria by nine).

- It is hence concluded that the study succeeded in significantly simplifying the model to measure academic performance in private higher education institutions.
- Based on the conclusion above, it is also concluded that the simplification of the model now enables an easier operationalisation of the model in the industry, thereby placing academic research to use in practice.

Conclusions 3 and 4:

The successful outcome of simplifying the model as well as achieving reliability and validity is attributed to high sampling adequacy as measured by Kaiser-Meyer-Olkin (KMO). (This study had a KMO value of .989). Additionally, sphericity (as measured by Bartlett) measures whether the data is suitable for factor analysis. The statistics showed that the chi-square was estimated at 319.885 at 10 degrees of freedom. Bartlett's test shows that sphericity was significant with a value well below the 0.05 significance level. The cumulative variance, as explained by the five factors, is also satisfactory at 73.70%. It is therefore concluded that to successfully develop or simplify a model:

- An adequate sample was obtained; and
- Sphericity was tested to verify the data's suitability to be subjected to further analysis. Without these gatekeeper statistics, the attempts to develop a model would be risky. However, the statistics show that the employment of factor analysis to develop the conceptual model was a low-risk venture.

Conclusion 5:

Motivation, workload and student participation is the most important factor. In this case, the model shows that PHEIs should focus on affective factors in the private higher education sector. This constitutes a competitive advantage because the barriers to enter higher education are high and complex, keeping new entrants effectively out of the market. In addition, existing PHEIs cannot compromise on this most important factor.

Conclusion 6:

In addition to the conclusion above, leaders of private higher education institutions should also focus on: Parent income level, attitudes and expectations, Institutional commitment and self-efficacy, Active learning and infrastructure, Class size, Help-seeking and attendance, Selectivity, expenditure and retention, Economic factors, Student maturity and success and Self-concept to successfully negotiate the complex challenges to manage academic performance at PHEIs. The high correlations between the factors clearly indicated that the factors all influence one another; therefore, a positive managerial change in one factor will also positively influence the other factors. This facilitates a better return on managerial inputs because it stimulates positive synergetic forces between the factors.

SUMMARY

The latent variables or factors to measure academic performance in private higher education institutions have been identified. Furthermore, in simplifying the original set of measuring criteria, the theoretical model was also subjected to reliability and validity confirmation. The data is reliable and the factors also returned satisfactory reliability coefficients. Regarding the validity, the factors can be regarded as pure factors because they do not contain sub-factors with the factor structure. As a result, the article presents a usable validated factor structure that identified the underlying factors that can be used to manage the academic performance of PHEIs. The factors, therefore, present a managerial tool for executives in PHEIs to employ if they want to measure the factors of their institutions and improve their academic performance. The results also provide a theoretical basis for future researchers and academia of academic performance in higher education or in related research.

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CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This is the final chapter of the doctoral thesis. The thesis consists of six chapters, four of the chapters (Chapters 2, 3, 4 and 5) present stand-alone articles and presents a summary of the thesis.

The chapter, firstly, makes conclusions from the study and, secondly, provides recommendations about the findings of this study. Because the article format was used in this thesis, article-specific conclusions and recommendations were made in each of the articles. These conclusions and recommendations apply to the manner in which the specific issues were dealt with that stemmed from the results in each article. As a result, comprehensive conclusions and recommendations already made in each article are, consequently, not repeated here in this final chapter. The conclusions and recommendations presented in this chapter concerns the wider study. The conclusions determined and recommendations made are presented pairwise. This means that a recommendation about an explicit conclusion is made to address that conclusion exactly; the numbering of the conclusions and recommendations are, therefore, related.

Further, the chapter also identifies possible areas for future research and investigation that could result from this study. The chapter ends with a final summary of the study.

6.2 OVERVIEW OF THE STUDY

The primary objective of this study was to develop a conceptual model to measure the academic performance of a private higher education institution in South Africa. To develop the theoretical model to measure academic performance, the antecedents had to be identified. The review of the literature allowed for the antecedents and measuring criteria, to be identified. Various factors were looked at during this study to identify and scientifically determine the academic performance antecedents. The next step was to detailed analyses

of each antecedent which resulted in identifying the measuring criteria. This resulted in development of the theoretical model which was then empirically validated through the use of appropriate statistical criteria. Finally, this study presents a validated functional model to measure the academic performance at a private higher education institution in South Africa. The summary and contribution made by each of the articles follow.

6.2.1 Chapter 2: Article 1

The primary objective of this paper was to analyse the environment which private higher education institutions operate in. Further, the secondary objectives were to provide an overview of both the public higher education and private higher education sectors in South Africa; and identify and discuss the relevant role-players in PHEIs.

Economic growth, development and advancement are achieved by investing in higher education by any country. Higher education is further a driver of innovation and change. Africa has a growing youth population and many governments have difficulty in meeting the demand for higher education. Private higher education institutions in South Africa (and around the world) play an important role to meet educational demand. This article scrutinised the South African private higher education institutions' environment. The article highlighted that there is an increase in demand for higher education and with this increased demand government cannot fulfil this demand and this creates a business opportunity for private higher education institutions to take advantage of. However, the barriers to entry are high to enter this education market and requires that private higher education providers should understand this highly controlled academic environment and its role-players.

Private higher education has to comply with the rules and regulations and accreditation standards of government due to the education laws, standards and other government compliance factors in place in the higher education sector to be successful. The various role-players that impact on private higher education includes the Department of Higher Education and Training, Council for Higher Education, South African Quality Authority, students and public and private education providers as competitors. Macro-environmental factors also play a role and these include private investors, the local and global economy, online learning platforms and infrastructure, professional bodies and the demand for higher education.

The article provides higher education institutions with an understanding of the higher education environment in South Africa and further the opportunities that exist in the education market. This article attempts to provide the essential elements that managers and owners of private higher education are required to be aware of and further to develop a framework to deal with these challenges and opportunities that the higher education landscaper has to offer; ultimately to make a difference in the South African economy.

6.2.2 Chapter 3: Article 2

The primary objective of this study was to develop a theoretical model to measure academic performance of PHEIs. In order to achieve this a literature review was conducted to identify the relevant academic performance antecedents, determine the measuring criteria which are relevant to the antecedents in the higher education institution environment and thereafter empirically determine the relevance of the antecedents and their measuring criteria; and finally, theoretically confirm the relevance of each of the selected antecedents.

Private higher education institutions are impacted by various factors which include lack of trust from the public, complying with rules and regulations, competition from other providers, government and the growth of state-funded public institutions even though there is demand for higher education in the South African market. For the successful academic performance of private higher education institutions, the article looks at identifying and measuring the key academic performance indicators. The study identified these antecedents and measuring criteria to measure the academic performance of private higher education institutions successfully; after that developing a model for private higher education institutions to use to better manage their academic performance. The measuring criteria developed for these factors resulted in creating a usable model to measure academic performance of private higher education institutions, which should improve efficiency and effectiveness and finally result in providing a competitive edge in South African higher education. The article identified 18 important antecedents as well as the measuring criteria. The article concludes with the criteria which can now be structured into a questionnaire to measure the academic performance of a PHEI in South Africa.

6.2.3 Chapter 4: Article 3

This article focused on a model to measure the academic performance of a private higher education institution in South Africa. In this regard, a theoretical study on academic performance antecedents was conducted; after that to statistically validate the respective theoretical measuring criteria about the academic performance antecedents. Further, a demographic profile of the respondents was compiled; the next step was to measure the academic performance antecedents; after that the identification of significant correlations that may exist between the antecedents and finally the article presented a model to measure academic performance in private higher education in South Africa. This article also aims to determine if the demographic variables influence the academic performance of a private higher education institution in South Africa. The final model has a total of seventeen academic performance antecedents. These are Economic factors, Selectivity, expenditure and retention, Parent income level, attitudes and expectations, Motivation, Workload, External forces, Self-efficacy, Help-seeking, Attendance, Affective factors, Self-concept, Self-esteem, Stress, Active learning, Extracurricular activities, Adjustment, Class size and General measures of academic performance. The results of this study are valuable to business leaders and academics involved in private higher education, as well as investors in private higher education to determine the academic performance antecedents that are necessary to achieve a successful private higher education institution. Researchers and scholars will find this paper valuable if they intend to explore academic performance models further.

6.2.4 Chapter 5: Article 4

In this article, the latent variables are identified and embedded within the model to measure the academic performance of private higher education institutions. Through the quantitative research design, a total of 248 questionnaires were administered successfully to private higher education supervisors and managers, and data was collected on a five-point Likert scale. The data were analysed professionally by the NWU's Statistical Consultation Services using IBM's Statistical Programme for Social Sciences. Using exploratory factor analysis, ten latent variables (or factors) were identified explaining a cumulative variance of 73.70%. These factors are Motivation, workload and student participation, Parent income level, attitudes and expectations, Institutional commitment and self-efficacy, Active learning and infrastructure,

Class size, Help-seeking and attendance, Selectivity, expenditure and retention, Economic factors, Student maturity and success and Self-concept. The study also succeeded to simplify measuring performance by eliminating 17 questions with low factor loadings (<0.40) or those with strong dual-loadings from the questionnaire while retaining satisfactory reliability (Cronbach alpha 0.989), sample adequacy (0.946) and variance explained.

The article, therefore, presents a usable validated model to measure academic performance in private higher education institutions in South Africa. This model also has a strong theoretical foundation for academia involved in future academic performance measures research projects. The model, therefore, is appropriate to measure academic performance in private higher education in South Africa. This model can be used as is by private higher education institutions managers and investors to determine whether the desired academic performance has been achieved or not. Researchers and academia could also benefit from the contribution of the study; either to build on academic performance of private higher education institutions or in adopting the methodology employed in this study.

6.3 AN INTEGRATED MODEL TO MEASURE ACADEMIC PERFORMANCE IN A PRIVATE HIGHER EDUCATION INSTITUTION

The model to measure academic performance for PHEIs was developed in four stages. They are:

Stage 1: A literature study identified potential antecedents to measure the academic performance. A total of 24 antecedents were identified. These antecedents were then reduced to 18 antecedents by further literature scrutiny. This stage then consituted the theoretical model consisting of 18 antecedents.

Stage 2: Developing relevant measuring criteria to measure the antecedents of the theoretical model followed. This was done based on theory and evidence of measuring criteria that were documented in applied research models. A questionnaire was constructed to collect primary data to validate the empirical model, and to ensure the measuring criteria indeed measure the respective antecedent as suggested by the literature study. These criteria were therefore empirically validated to ensure that they are valid measures for each specific antecedent.

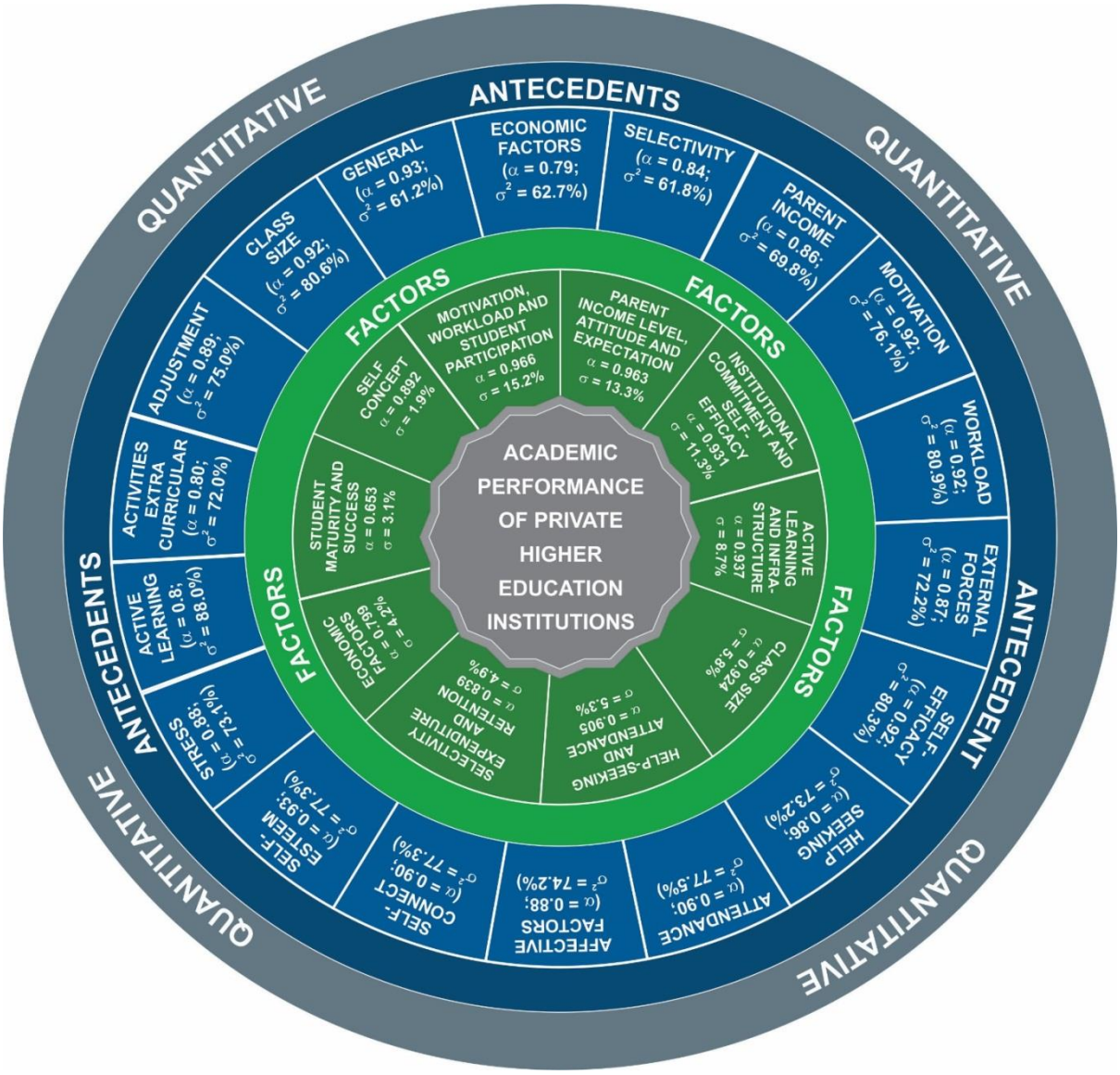
Stage 3: Measuring the antecedents empirically to determine their relative importance in the model. This measurement also included reliability scrutiny using Cronbach alpha. All of the antecedents possess satisfactory reliability coefficients ($\alpha \geq 0.7$).

Stage 4: Identifying underlying intelligence embedded in the antecedents. A total of ten factors were identified and labelled. These factors (or latent variables of academic performance) explain a satisfactory variance of 73.6% and also possess satisfactory reliability coefficients ($\alpha \geq 0.7$). The relationships between these factors were also measure and using correlational and regression analyses.

The theoretical model was empirically validated and applied to measure the academic performance of a PHEI. The results were satisfactory (see Articles 3 and 4). In practice, this means that the model can be applied in similar application settings to measure academic performance of PHEIs. The satisfactory reliability coefficients supports this observation because it means that the factors and antecedents have a high probability to present themselves in repetitive studies of a similar nature; this indicates that the model is suitable for measuring academic performance of other private higher education institutions.

These stages documented in the four articles (as summarised above), resulted in the final model to measure academic performance of a private higher education institution in South Africa. The model, its antecedents and its factors are shown in Figure 6.1 below.

Figure 6. 1: An integrated model to measure academic performance in a private higher education institution



The model shows how the academic performance of a private higher education institution in South Africa can be measured. The model highlights that *Motivation, workload and student participations* is the most important factor (exceeding 15% of the variance explained) to manage academic performance of a private higher education institution in South Africa. *Parent income level, attitude and expectation* is considered as the next most important factor (exceeding the 13% of importance) while *Institutional commitment and self-efficacy* are considered important (exceeding the 11% of importance). Of note is

that *Active learning and infrastructure* is less important (just over the 8% level of importance). *Class size* is a factor (exceeding 5% of importance). *Help-seeking and attendance* as a factor exceeds 5% of importance while *Selectivity, expenditure and retention* as factors exceed 4% of importance. *Student maturity and success* as a factor exceeds 3% of importance. The least most important was *Self-concept* (exceeding 1% of importance).

This model constitutes a practical tool for directors, managers and investors in private higher education to apply if they need to measure the academic performance in private higher education institutions. Thereby they can remain competitive and relevant in the 21st century's business environment and face the various complexities, challenges and opportunities in private business education.

6.4 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations below are discussed and recommendations follow after each conclusion numerically. This means that *Recommendation 1* would follow *Conclusion 1*. No article-specific conclusions and recommendations are listed in this section because these conclusions and recommendations have already been presented in each of the articles in this study. They are, therefore, not repeated in this chapter. This chapter thus presents general conclusions and recommendations relevant to the overall study which were not addressed specifically in the articles. The conclusions and recommendations are also presented according to topical matters. Therefore, conclusions and recommendations are made, firstly, based on the research methodology, secondly on the results in general, and thirdly, on future research.

6.4.1 Research Methodology

The conclusions and recommendations emanating from the research methodology and the statistical analysis used are as follows:

Conclusion 1:

A rigorous solid literature study which is current and relevant affords a results concrete foundation for the development and delivery of the rest of the study. The solid literature reviews this study allowed for a better understanding of the research problem and provided a solid theoretical outline for the empirical study to measure the academic performance in a private higher education institution in South Africa. The literature review brought in the latest factors and theories as well as concepts on academic performance in private higher education and business in general due to the highly complex and dynamic 21st century business environment that exists. It can be concluded that this sound theoretical foundation resulted in the required quality and rigour, for the study.

Recommendation 1:

The recommendation is that future researchers use this methodology to have a solid literature foundation and theoretical framework. This recommendation extends to other fields of study and is not limited to academic performance in private higher education institutions in South Africa.

Conclusion 2:

Further to Conclusion 1, the solid literature study was essential and valuable to construct the measuring instrument by identifying the academic performance factors and identifying the respective measuring criteria for academic performance. The conclusion is that a strong literature review in this study resulted in the development of a comprehensive and valid questionnaire for empirical research.

Recommendation 2:

A solid and sound theoretical framework is recommended to form the base to develop the measuring instrument. This is particularly valuable when no existing research instruments are available for a researcher to use or when researchers are required to develop specific questionnaires. The strong theoretical framework used to constitute the theoretical model underpins a successful empirical validation. The recommendation is then that other researchers should in their model development, strongly consider to also scrutinise previous research comprehensively, methodically and rigorously.

Conclusion 3:

The statistical analyses engaged in this study served the objectives of this study well. In consultation with a statistical specialist at North-West University and the use of the statistical analysis programme (IBM SPSS Version 25) ensured the integrity of the empirical results and sound interpretation of the results. The various statistical techniques and methodology employed resulted in the study to simplify the model to measure academic performance in a private higher education institution in South Africa.

From the statistical analyses it is concluded that:

1. The Kaiser-Meyer-Olkin (KMO) measure of sample adequacy indicated that the data collected from the sample in this study were sufficient and also suitable for advanced statistical techniques such as the multivariate statistic exploratory factor analysis. The KMO values (≥0.70) indicate that satisfactory sample adequacy has been achieved.
2. Bartlett's test of sphericity, renders a verdict on the suitability of the data to be subjected to exploratory factor analysis. Bartlett's sphericity values are below the required value of 0.05. This means that acceptable low inter-correlations between the variables exist and that the data are suitable to perform exploratory factor analysis.
3. The Cronbach Alpha coefficients were calculated for each of the antecedents and factors to determine reliability. The results showed that a high degree of reliability exists in the data that were collected by the measuring instrument.
4. Exploratory Factor Analysis was used to validate the measuring criteria of each of the academic performance antecedents in two private higher education institutions in South Africa.
5. Pearson Correlation Coefficients indicated high correlation coefficients between all the individual factors.

From the empirical analysis in this study, it can be concluded that the:

1. Questionnaire developed and used to collect the data was valid;

2. Data were highly reliable. As a result, the antecedents and factors are both reliable variables to use in performance measurement;
3. Sample drawn was proven statistically adequate to use for analysis;
4. Data have low sphericity coefficients and this allows for multivariate analysis; and that the
5. Factors are related and deal with one core issue, which is that of academic performance.

Recommendation 3:

Further to the empirical results and in support of Conclusion 3, it is recommended that other researchers:

1. Employ a professional statistician who would be able to guide them towards selecting appropriate statistical techniques to achieve their research goals set;
2. Use professional statistical support to correctly analyse, interpret and apply the results to address the research objectives;
3. Use a specialised statistical software package (such as IBM SPSS) to analyse the data correctly; and
4. Ensure that the statistician checks the final document and confirms that the results are correctly recorded and applied.

Finally, the recommendation is that the methodology used in this study could be replicated in other studies of a similar nature. To do this compliance with the three preceding recommendations above should be accounted.

6.4.2 Results

The conclusions and recommendations about the results of this study are addressed below.

Conclusion 4 (Article 1):

The conclusion of this article indicates that the higher education and education sector in general in South Africa (and Africa) is not able to meet the needs of the citizens. Various factors have been identified which include budgetary constraints, political factors and both micro and macro factors make it difficult for governments to provide sufficient public

education facilities. The result is that a market opportunity exists for private higher education institutions to enter the higher education space and contribute positively to South Africa's and Africa's educational needs and economic growth.

To enter the private higher education sector which is highly regulated and has stringent quality control measures requires that private higher education institutions register with the necessary authorities as well as comply with accreditation requirements for the programmes being offered. Positively, the DHET and its mechanisms ensure that South African institutions, private or public, do offer qualifications of quality, ensures standards and control are in place to offer the best higher education programmes.

Recommendation 4 (Article 1):

It was recommended that a further literature review be undertaken to understand better the higher education environment and competitors in South Africa after the fees-must-fall campaign and the free higher education being made availabe, as well as to obtain a view of the higher education environment in other African countries. This assisted in compiling the questionnaire and their mesuring criteria, particularly concerning the higher education landscape.

Conclusion 5 (Article 2):

This article through the literature review, interviews and the group session concluded that there were 17 important antecedents. The measuring criteria for the antecedents have also been determined. These criteria can now be structured into a questionnaire to measure the academic performance of a PHEI in South Africa. This theoretical model combines both theory and managerial experience. Various theoretical studies further supported the managerial views identified by the qualitative research. At this stage, the model is a theoretical model and this model is to be applied empirically to collect the data, validate the model, remove or omit non-significant criteria and finally to develop a purified model to measure academic performance of PHEIs. It is therefore concluded that this model of seventeen antecedents can serve as the empirical structure of a measuring instrument or questionnaire that is to be used to measure academic performance of PHEIs in South Africa.

Recommendation 5 (Article 2):

It was recommended that:

1 Further research is undertaken to support these fifteen important antecedents as valid measures of academic performance. A new questionnaire may be developed with their respective measuring criteria; and that

2 The measuring criteria and antecedents be empirically analysed to determine if this model can be used as a managerial tool (as done in Article 3)

This model can only then be used to measure academic performance in PHEIs.

Conclusion 6 (Article 3):

This study focused on the actual measurement of academic performance antecedents in a private higher education institution in South Africa to develop the appropriate model. 86 measuring criteria were used and evaluated. A literature review was conducted on private higher education to establish a broad theoretical framework. This model was then administered and statistically analysed to determine if the selected measuring criteria actually do measure the specific academic performance antecedents which lead to the development of a model to measure academic performance in private higher education in South Africa. The study determined that there were significant correlations between the academic performance antecedents.

Recommendation 6 (Article 3):

It is recommended that the latest literature review be conducted to determine if there are any other antecedents that may have an impact on academic performance in PHEIs. Further analysis would determine if there are any correlations and any factors that may be significant or not significant.

Conclusion 7 (Article 4):

This study scientifically reduced the 18 important antecedents to a more manageable ten factors, measured by 70 criteria (thereby eliminating a total of 16 measuring criteria). It is concluded that the model to measure academic performance in a private higher education institution in South Africa could be simplified. It is also concluded that this model can be used by higher education managers, directors and even by potential investors in higher education to measure academic performance of PHEIs.

Recommendation 7:

Since this study presents a validated model that can be used to measure academic performance in a private higher education institution in South Africa, it is therefore recommended that the model be used as a:

1. Managerial tool to measure the academic performance in private higher education institutions.
2. Tool to plan, assess and monitor the academic performance factors, initiatives and activities.
3. Concrete theoretical basis by researchers and theoreticians in their future academic performance related research projects.

6.5 AREAS FOR FUTURE RESEARCH

The following broad areas for future research have been identified:

- A further in-depth analysis and investigation of any or all of the seventeen factors of the model to measure academic performance in private higher education could be worthy of further investigation.
- This study identified limited meaningful correlations between the academic performance antecedents and demographic variables. As a result, a future study could emanate to investigate if other meaningful correlations exist between an extended range of demographic variables and academic performance antecedents. Such a study could be of value to managers, researchers and academia to better understand employees' role in academic performance of PHEIs.

- A study of academic performance measures vary significantly between different genders of supervisors, directors and managers in private higher education could be interesting.
- A study of academic performance measures in comparison with a specific international private higher education institution as compared to the private higher education institutions in South Africa could afford deeper insights. This is due to the complex and rapidly changing higher education landscape throughout the world, and this could be valuable to directors, managers and investors in private higher education.

6.6 SUMMARY

The contribution of the study culminated in the development of a model to measure the academic performance measures in a private higher education institution in South Africa. This was the primary objective of the study, and consequently, the study reached its objectives.

This final chapter discussed the highlights of the four articles through a summary of each, showing the comprehensive development of the study. Further to the conclusions and recommendations presented in the individual articles, this chapter provided further generalised conclusions and the related recommendations.

As this study developed a conceptual model to measure academic performance measures in a private higher education institution in South Africa, the results and conclusions of this study can shape, inform and refine future research and investigation into studies focusing on scientifically sound academic performance models in private higher education.

Further research in this area, is required to assist higher education institutions, governments and researchers to identify academic performance measures that are required in order that private higher education and public higher education in general throughout South Africa and Africa can be better planned and delivered to meet the growing need for access, quality and affordable higher education. The ultimate result is to eradicate poverty, create hope and prosperity and finally uplift the people of Africa to contribute to the rest of the world.

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APPENDIX A: QUESTIONNAIRE

QUESTIONNAIRE TO MEASURE ACADEMIC PERFORMANCE

SECTION A: GENERAL INFORMATION

Please mark your selection with an (X)

1. Please indicate your gender

Male		1
Female		2

2. Please indicate to which age category you belong (for statistical purposes only)

Less than 20 years		1
20 – 29 years		2
30 – 39 years		3
40 – 49 years		4
50 – 59 years		5
60 years or more		6

3. For how many years have you been working at the institution?

Less than 1 year		1
1 – 5 years		2
More than 5 years		3

4. What is the name of the institution you are working for?

REGENT Business School		1
MANCOSA		2

5. How many years of management experience do you have

Less than 2 years		1
2 – 5 years		2
6 – 10 years		3
More than 10 years		4

SECTION B: COMPONENTS OF INSTITUTION

Please answer the following questions based on your perceptions. There are no right or wrong answers. Please indicate to what extent you **agree** with the following statements regarding the academic performance of the institution you work for:

Please answer all the questions

Key: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, (5) strongly agree

1. ECONOMIC FACTORS

The institution…	Disagree				Agree
1.1 Has programmes that are affordable	1	2	3	4	5
1.2 Has students from an economically disadvantaged background	1	2	3	4	5
1.3 Supports students at risk due to inequalities in schooling	1	2	3	4	5
1.4 Provides students with equity of access to higher education	1	2	3	4	5

2. SELECTIVITY, EXPENDITURE AND RETENTION

The institution.…	Disagree				Agree
2.1 Has selection criteria in addition to admission criteria	1	2	3	4	5
2.2 Has increased the number of programmes year after year	1	2	3	4	5
2.3 Has student support policies in place	1	2	3	4	5
2.4 Provides alternate routes of access to certain programmes	1	2	3	4	5
2.5 Has a high student success rate	1	2	3	4	5

3. PARENT INCOME LEVEL, ATTITUDES AND EXPECTATIONS

The institution…	Disagree				Agree
3.1 Encourages parent participation	1	2	3	4	5
3.2 Conducts background checks on students	1	2	3	4	5
3.3 Has systems in place to control and monitor students at risk	1	2	3	4	5
3.4 Is constantly reviewing strategies to be student centric	1	2	3	4	5

4. MOTIVATION

The institution…	Disagree				Agree
4.1 Has students who are motivated	1	2	3	4	5
4.2 Encourages good behaviour from its students	1	2	3	4	5
4.3 Has students who are determined	1	2	3	4	5
4.4 Inspires students to have strong beliefs	1	2	3	4	5
4.5 Has students who display good attitudes	1	2	3	4	5

5. WORKLOAD

The institution …	Disagree				Agree
5.1 Has students who are able to manage their time adequately	1	2	3	4	5
5.2 Is continually improving student change management	1	2	3	4	5
5.3 Attracts students who want to integrate with other students	1	2	3	4	5
5.4 Attracts students who display high levels of energy	1	2	3	4	5

6. EXTERNAL FORCES

The institution…	Disagree				Agree
6.1 Continually develops parent participation	1	2	3	4	5
6.2 Has students who belong to ethnic minorities	1	2	3	4	5
6.3 Embraces community involvement	1	2	3	4	5
6.4 Uses alternative platforms to supplement delivery of programmes	1	2	3	4	5

7. SELF-EFFICACY

The institution …	Disagree				Agree
7.1 Provides a variety of student activities	1	2	3	4	5
7.2 Is continuously improving	1	2	3	4	5
7.3 Meets the needs and wants of students	1	2	3	4	5
7.4 Is orientated towards assisting students to cope with challenges	1	2	3	4	5

8. HELP-SEEKING

The institution …	Disagree				Agree
8.1 Has students who interact with faculty	1	2	3	4	5
8.2 Encourages students to have good values	1	2	3	4	5
8.3 Allows for staff accessibility	1	2	3	4	5
8.4 Has students who use study groups	1	2	3	4	5

9. ATTENDANCE

The institution …	Disagree				Agree
9.1 Has high student attendance	1	2	3	4	5
9.2 Encourages students to attend lectures	1	2	3	4	5
9.3 Allows for innovation in teaching and learning methods	1	2	3	4	5
9.4 Is passionate about communication with students	1	2	3	4	5

10. AFFECTIVE FACTORS

The institution…	Disagree				Agree
10.1 Monitors student attitudes	1	2	3	4	5
10.2 Is conducive to teaching and learning	1	2	3	4	5
10.3 Is target driven to achieve outcomes	1	2	3	4	5
10.4 Employs measures to enhance student self-esteem	1	2	3	4	5

11. SELF-CONCEPT

The institution …	Disagree				Agree
11.1 Is influenced by new ideas	1	2	3	4	5
11.2 Encourages new ideas	1	2	3	4	5
11.3 Has students who are innovative	1	2	3	4	5
11.4 Promotes positive attitudes amongst students	1	2	3	4	5

12. SELF-ESTEEM

The institution …	Disagree				Agree
12.1 Is positively perceived in the community	1	2	3	4	5
12.2 Has an impact on the society it serves	1	2	3	4	5
12.3 Is influenced by self-esteem needs of its students	1	2	3	4	5
12.4 Creates the next generation of African leaders and professionals	1	2	3	4	5
12.5 Aims to achieve its said outcomes and objectives	1	2	3	4	5

13. STRESS

The institution …	Disagree				Agree
13.1 Assists students in making the transition to higher education	1	2	3	4	5
13.2 Ensures that students are able to cope with the stress of studying	1	2	3	4	5
13.3 Conducts surveys to understand the experience of the students	1	2	3	4	5
13.4 Provides programmes that aim to reduce student stress levels	1	2	3	4	5

14. ACTIVE LEARNING

The institution …	Disagree				Agree
14.1 Uses social media	1	2	3	4	5
14.2 Has an effective website to assist students	1	2	3	4	5
14.4 Is conducive to student engagement	1	2	3	4	5

15. EXTRACURRICULAR ACTIVITIES

The institution …	Disagree				Agree
15.1 Promotes student involvement	1	2	3	4	5
15.2 Provides activities to enhance performance	1	2	3	4	5
15.3 Has more mature students than young students	1	2	3	4	5

16. ADJUSTMENT

The institution …	Disagree				Agree
16.1 Has students who are able to adjust to higher education	1	2	3	4	5
16.2 Considers student background when providing support	1	2	3	4	5
16.3 Is committed to achieving its student adjustment outcomes	1	2	3	4	5
16.4 Provides orientation programmes for students	1	2	3	4	5

17. CLASS SIZE

The institution …	Disagree				Agree
17.1 Considers class sizes when planning student activities	1	2	3	4	5
17.2 Encourages attentiveness	1	2	3	4	5
17.3 Attracts students who want to participate in discussions	1	2	3	4	5
17.4 Embraces class discussions	1	2	3	4	5

18. GENERAL MEASURES OF ACADEMIC PERFORMANCE

The institution …	Disagree				Agree
18.1 Has an efficient Learner Management System (LMS)	1	2	3	4	5
18.2 Has employability programmes for students	1	2	3	4	5
18.3 Aims to improve the student experience	1	2	3	4	5
18.4 Promotes student engagement in promotional campaigns	1	2	3	4	5
18.5 Strongly believes in student success	1	2	3	4	5
18.6 Has good infrastructure for higher education	1	2	3	4	5
18.7 Has staff who are professional in their interaction	1	2	3	4	5
18.8 Is perceived by students as trustworthy	1	2	3	4	5
18.9 Empowers students to succeed in achieving their objectives	1	2	3	4	5
18.10 Has students who communicate effectively	1	2	3	4	5

19. In totality, I am of the opinion that the institution I work for has students who perform well "overall".	**Yes**	**No**

20. Any specific comment(s) you would like to make regarding academic performance at your institution?

……

……

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

APPENDIX B: LETTER FROM LANGUAGE EDITOR

Dynamic Language & Translation Specialists

Antoinette Bisschoff
71 Esselen Street, Potchefstroom
Tel: 018 293 3046
Cell: 082 878 5183
Language@dlts.co.za
CC No: 1995/017794/23

Sunday, 06 October 2019

To whom it may concern,

Re: Letter of confirmation of language editing

The thesis **Developing a model to measure academic performance at private higher education institutions** by **SM Rehman** was language edited. The referencing and sources adhere to specific journal requirements and, where applicable, the NWU guidelines. Final corrections remain the responsibility of the author.

Antoinette Bisschoff

Officially approved language editor of the NWU since 1998
Member of SA Translators Institute (no. 100181)