

The impact of changes in contextual factors on performance management systems in South African universities: a case study



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A research report

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DECLARATION

I, Daniel Gozo, declare that this dissertation is my own work except as indicated in the references and acknowledgements. The dissertation is submitted in partial fulfilment of the requirements for the degree of Master of Commerce in Accountancy at the University of the Witwatersrand, Johannesburg. It has not been previously submitted for any degree or examination at this or any other university.

Daniel Gozo

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ABSTRACT

The study examines the causal effect of changes in the contextual factors on performance management systems, using a case study with an exploratory and informative approach. In-depth interviews were corroborated by analysis of annual reports over a period of ten years. Unique performance management systems in use within the university provide a counter-point to the private sector orientation of conventional research in performance management systems and management accounting practices conducted largely in developed economies which has paid insufficient attention to the complexities of the environments within which change occurs. The findings indicate that portability of performance management practices from the private sector to public institutions is questionable when the background of organisations is not being taken into account. Backgrounds of organisations in emerging economies and the external variables and changes thereof need to be considered in understanding management accounting changes. Strong staff unions were found to impact the interplay with external forces of globalisation, competitive forces of declining funding, university ranking league tables, technology, and regulatory changes which affected performance management practices, putting organisational effectiveness at risk. Unique practices such as quinquennial reviews and financial models which derive faculty bottom lines were impacted by change during the decade and should not be ignored or underestimated in considering the bouquet of management control practices essential for meeting organisational objectives. The study also suggests directions which future research in the area of change in management accounting practices could take.

Key words: Complexities, contextual factors, performance management systems.

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Acronyms

PMS: Performance management systems

MA: Management accounting

MCS: Management control systems

MAS: Management accounting systems

BSC: Balanced scorecard

IT: Information technology

ICT: Information and communication technology

ERP: Enterprise wide resource planning system

CESM: Classification of education and subject matter

VC: Vice Chancellor

DVC: Deputy Vice Chancellor

HOS: Head of School

HOD: Head of Department

HE Act: Higher Education Act 1997

Elite100: The name of the actual university in the case study has not been used to preserve confidentiality. The university is referred to in this study as Elite100

Chapter 1: Introduction

1.1 Background of the research problem:

A wide range of environmental variables, internal and external, have changed in South Africa's higher education sector since the elections in 1994 (Merisotis & Gilleland, 2000; Barnes, 2006). These variables include funding requirements, student demographics, student needs, transformation imperatives, the pressure to be ranked internationally and an increased focus on research (Merisotis & Gilleland, 2000; Bawa, 2012; Damian, 2006).

The question of transformation imperatives and redress is well illustrated through a description of the background of the South African higher education sector which provides an understanding of how the institutions evolved. The Apartheid government is known to have been very successful in achieving a system of institutionalised differentiation. In that process some institutions were advantaged by being comprehensively supported in providing a full range of educational services which contributed to the systematic entrenchment of white privilege in South Africa. These came to be generally known as the historically advantaged institutions (HAIs). Universities such as Cape Town, Witwatersrand, Stellenbosch, Rhodes, Natal and Pretoria and technikons such as Port Elizabeth, Witwatersrand and Pretoria belonged to that category (Barnes, 2006; Jansen, 2003).

On the other hand, some institutions were disadvantaged by restrictions which forced them to provide low quality education or 'gutter education', as the People's Education Movement scornfully dubbed it in the 1980's (Barnes, 2006). These were the 17 institutions (universities and technikons) restricted to the enrolment of black (African, Coloured, Indian) students and categorised as the historically disadvantaged institutions (HDIs). It has been argued, however, that the different levels of funding are not the only reason which caused historical inequities in and across the higher education landscape. This is because the Apartheid system 'was more sophisticated than a simple dispatch of smaller checks to the HDIs' (Barnes, 2006). The method employed in the allocation of funds had the effect of stunting the development of systems of accountability, as well as the administrative capacity in the HDIs.

In addition to HAIs receiving block grants and other funds from government according to a formula which took enrolments and fields into account, they were given considerable internal autonomy in deciding how funds should be used. HAIs were allowed to invest any surpluses, and most of them developed substantial capacity and networks essential for raising research funds by means of donations from alumni and the private sector (Barnes, 2006; Jansen, 2003). Higher education institutions had to transition from this differentiated background after the end of Apartheid. The changing background from that era coincided with the challenges of integrating into the global sphere in the information age, a new millennium characterised by rapid technological changes.

Simultaneously, the higher education sector has had to adapt new strategies, structures and controls under a growing burden of regulation, changes in organisation culture, rapid developments in information technology, constrained funding levels and political pressure (Bawa, 2012; De Villiers & Steyn, 2007; Ntshoe, 2004; Turner, 2005; Lawrie, et al., 2004; Chen, et al., 2006).

The South African higher education sector displays characteristics of both private and public organisations similar to trends globally resulting in students having to pay more for the costs of their higher education (De Villiers & Steyn, 2007). State funding of higher education decreased between the years 1986 and 2006 from 0.86% of gross domestic product to only 0.66%, with the result that student tuition fees had to be increased by the higher education institutions so as to compensate for this loss in income: in addition to this, institutions kept academic staff numbers relatively constant while student numbers increased considerably (De Villiers & Steyn, 2007).

While South African universities were dealing with the inevitable transition during the decade, they also had to contend with the effects of global increases in the demand for tertiary education. Higher education systems expanded in many countries from elite systems to universal access. Changes to the nature of higher education financing escalated. In many countries developed or developing, tuition fees or other charges (where it had been previously free) were introduced. During the decade there was a substantial increase in tuition fees (where fees previously did exist) and student aid systems moved away from grants towards student loans, replacing or supplementing grants. Controversy and debate surrounding these issues became

the order of the day. Political considerations, legal issues, social policy issues and economic reasoning underpinned policy directions which institutions had to cope with (De Villiers, 2010). The changing organisation of management and governance structures towards managerialism is highlighted as one of the most important changes in universities which came from within and without the institutions (Jansen, 2003).

Business practices and private sector ideas and values have increasingly influenced public higher education institutions worldwide - South Africa post-Apartheid did not escape these influences characterised by growing dominance of managerialism, global privatisation and quasi marketization of the higher education sector (Ntshoe, 2004). Reactions to the external changes and demands have varied, depending on local conditions and institutional types (Ntshoe, 2004). The case study research of the University of Pretoria, (Ntshoe, 2004) found that the university was an example of the extent to which universities were becoming entrepreneurial while the internal practices and policies had to be tempered by redress and equity imperatives.

Globalisation and internationalisation have been argued to be factors which have had considerable impact on universities. Altbach & Knight, (2007) argued that internationalization should not be confused with globalization. They define globalization as the economic, political, and societal forces pushing 21st century higher education toward greater international involvement. In their view, global capital has, for the first time, heavily invested in knowledge industries worldwide, including higher education and advanced training. This has resulted in the interesting emergence of the “knowledge society,” the rise of the service sector. Societies and countries are now dependent on knowledge products and highly educated personnel for economic growth. The integration of research, the growing use of English language for scientific communication, the growing international labour market for scholars and scientists, the growth of communications firms and of multinational and technology publishing, and the use of information technology (IT) are important results of globalisation. IT is an enabler. IT facilitates communication, permits efficient storage, selection, fast dissemination of knowledge, and has been harnessed by providers to offer academic programs through e-learning and similar applications (Altbach & Knight, 2007). As a result, universities have been operating in a fluid environment to which they are expected to adapt.

In respect of the growing rate of internationalisation Altbach & Knight, (2007) identified several uncertainties associated with it. Amongst the uncertainties are the following:

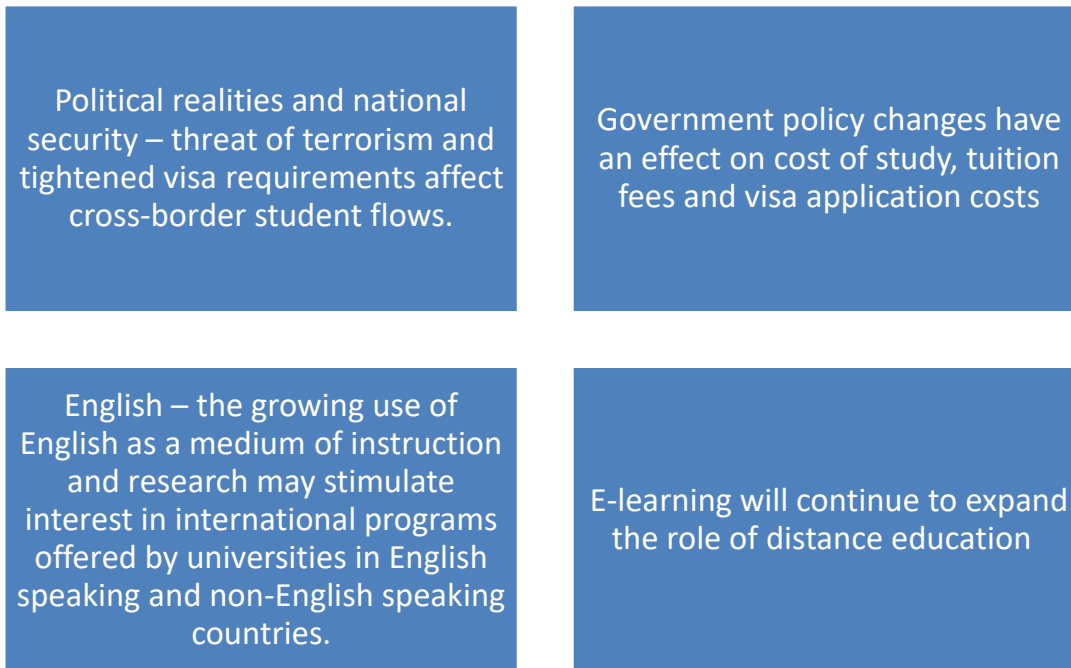


Figure 1: Uncertainties from internationalisation

Adaptation to continuous changes in the environment is essential for universities' missions to remain relevant and challenges cannot be avoided. The way in which universities have coped with the changes during the decade is a phenomenon which generates interest and calls for in-depth study. The manner in which performance management systems have been impacted by the complex web of changes warrants study.

Events which reflected the challenges faced by universities in adapting to changes from without and within are catalysts for this research. The placing by the Minister of Higher Education, South Africa, of four Universities under administration in 2011 and 2012 due to failure in governance and financial management systems illustrates the severe pressures confronting the controls of higher sector institutions in South Africa (Department of Higher Education and Training, 2011; Department of Higher education and Training, 2011; Department of Higher Education and Training, 2012; Department of Higher Education and Training, 2012). In this regard, strong performance management systems are an essential control to ensure the viability of

an institution (Yawson, et al., 2006; Weinstein & Bukovinsky, 2009; Chen, et al., 2006).

This research seeks to obtain an understanding of the relationships between higher education sector PMS and their contextual variables (Chenhall, 2003; Otley, 1980; Henri, 2006). Adaptability of management accounting practices to changes in external circumstances and to internal factors is important for performance management systems to retain relevance (Haldma & Laats, 2002).

Organisations are open systems because they receive input from their external environments and send output back to the environment; effectiveness of an organisation in achieving its objectives is dependent on the maintenance of a consistent relationship with the environment (Otley, 1980; Waweru, et al., 2004). Changes in circumstances have been argued to cause changes in organisations which, in turn, cause changes in management accounting practices and procedures (Scapens, 2006; Reid & Smith, 2000; Waweru, et al., 2004).

Literature on changes in management accounting practices indicates that most such research is conducted in developed countries: for portability of practices to be successful, the political, economic, social and cultural environment interfacing with an organisation needs to be considered (Waweru, et al., 2004; Bromwich & Bhimani, 2005). The major sources of influence on management accounting education in South African tertiary and accounting institutes and accepted neo-classical economics as bases for management accounting syllabi and syllabi of professional accounting bodies tended to relax the assumptions of neo-classical economics (Shotter, 2000). Management accounting is based on assumptions of rationality, and tends to propose simplistic deterministic solutions in a world which is complex; relevance of the teaching of the course is, therefore, questioned and it is suggested that authors should clarify its limiting assumptions (Shotter, 2000). Students and practitioners are encouraged to investigate alternate perspectives of management accounting. A wide gap between practice and what is taught in management accounting practices at higher education levels exists (Shotter, 2000; Waweru, et al., 2004).

Changes in management accounting practices have been reported in developing countries in recent years with some studies suggesting that 'the change is in the way

management accounting is used and not necessarily in the introduction of new systems or techniques' (Waweru, et al., 2004). Emerging themes in management accounting research were identified in Berry, et al., (2009). The emerging themes and gaps identified, as well as detailed literature review, serve as support for this research. The themes are summarised in the table below.

Key emerging themes	Meaning and concluding thoughts
Decision making for strategic control	Literature reveals a shift from capital budgeting control to strategic control and enterprise risk management control.
Performance management for strategic control,	Strategy and performance management are key components but integrative nature is also important
Control models for performance management and measurement	There is importance in incorporating in-depth approaches and longitudinal field studies
Management control and forms of organisation,	There is gap between practice and theory and a lack of understanding of hybrid organisational forms and their control by management accountants. The gap warrants further research
Control and risk	In the real world, success depends more on deploying content-specific knowledge
Practice and theory	There is an important interdependence between abstract knowledge and mutual engagement for the improvement of practice
Table 1: Management control emerging themes summary. (Berry et al., 2009)	

Berry, et al., (2009) conducted an analytical review of a wide range of literature and argued that there are limitations of overarching frameworks – the paper encourages

more research which will focus on the relationship of control practices and theory. Similar findings were made in Ferreira & Otley, (2009). It was argued that issues in the area of performance management are typically complex and connected and that while simplification makes the work easier to do, the result is increased ambiguity and conflicting findings from different studies. In that light an alternate framework for describing the structure and operation of performance management systems holistically was proposed – the framework was developed from practical observations, experiences and published literature (Ferreira & Otley, 2009).

The question remains what is the degree to which South African institutions in the higher education sector have been affected by contextual factors. This case study research in South Africa is informed by the need to investigate performance management practices and how they have evolved in reaction to changes in the educational environment.

The introduction concludes by clarifying the purpose and stating the research questions, outlining the significance/contribution of the study and the limitations and assumptions made in conducting the research.

1.2 Purpose and research questions:

This study seeks to investigate the impact of changes in contextual factors on the performance management systems of South African Universities. In this regard, the study will evaluate the following research questions:

- a. How have changes in the external environment influenced performance management systems of South African universities?
- b. How have changes in the internal environment influenced performance management systems of South African universities?

1.3. Significance and contribution

This study can contribute towards a better understanding of the complexity of management control systems in the higher education sector. Complex issues in the sector arise due to the presence of multiple outputs and inputs, as well as the need

to meet the demands of multiple stakeholders (Turner, 2005; Chen, et al., 2006). This study can provide more guidance to management accounting control system designers and practitioners in the sector leading to implementation of systems which fit the organisations better and, more importantly, increase organisational effectiveness (Otley, 1980; Gordon & Narayanan, 1984; Kaplan & Norton, 1992; Scapens, 2006; Henri, 2006; Neely, et al., 2005; Beard, 2009).

Very few studies have been published, internationally and in South Africa which investigate performance evaluation in higher education institutions from a management accounting and control perspective. Most of these studies have been conducted in commercial and manufacturing industries (Cuganesan, et al., 2012). The literature on performance management systems is dominated by research in developed countries (Waweru, et al., 2004). This presents an opportunity to add to the limited body of studies in emerging economies and in service and knowledge industries.

The study is expected to bridge the gap between theory and practice of management accounting control systems which Berry, et al., (2009) identified. There is immediate relevance considering the background of the university sector and the transformation experienced in the decade. It is expected to provide essential insight for policy formulation and implementation of practices relevant to and cognisant of the context in which organisations operate. Executives and management should take into account internal and external variables when considering and implementing performance management systems as this is likely to determine success and effectiveness of organisations or their failure.

The failure in governance and financial management which led to some universities being placed under administration in 2011 and 2012, the research questions for this study should go a long way in producing a better understanding of the sector and organisations in general when faced with material changes in the environment. Performance management systems should evolve so they remain relevant in a dynamic environment. The study hopes to demonstrate the interplay between variables and the complexity involved – it should not be concluded that only one variable is important in achieving successful outcomes, for example, funding levels alone may not result in desired results. How, why and what performance measures

to be used are important considerations. What may be effective in manufacturing and industrial environments is not necessarily guaranteed to work in a service sector without modification of approach. Management control practices used in specific sectors and unique to the environment should not be underestimated and need to be studied and taken into account. This is the cornerstone of contingency theory. The study should benefit those inside organisations as well as policy makers responsible for stewardship.

1.4. Limitations

The study has been performed in the higher education sector of South Africa. The study is limited to performance management systems, a subset of management control systems. The case selected belongs to the group of universities profiled as previously advantaged, research intensive and not involved in a large merger. A single case is used in the research. In its home page of the internet, the institution describes itself as a 'remarkable university that is internationally distinguished for its excellent research, high academic standards and commitment to social justice.' In order to protect the identity of the institution, the case is referred to as **Elite100 University** to acknowledge its standing and aspirations.

In using a single case, it may be argued that the findings cannot be generalised to other organisations. However, the volume of data generated is heavy and the phenomenon studied is complex due to the multiple variables at play. The use of a single case is preferred as it makes the analysis manageable. Rigour for the study is achieved by following frameworks for case studies as outlined by Yin, (2009) and Eisenhardt, (1989) amongst others. Single case studies are commonly used and well documented in the literature.

1.5 Assumptions

It is assumed that the semi-structured questionnaires are appropriate to the respondents whose responsibility includes financial administration in their organisations and, therefore, have sufficient validity and measure the desired constructs. The study relies on a purposive sample of experts – individuals who are or have been employed at senior and executive levels of the organisation: it is assumed that they understand the questions and depth of knowledge of the

operations of the institution and contextual factors. It is assumed that respondents will provide truthful responses without material bias.

Questions used in the interviews require respondents to recall past events as far back as ten years. The study relies on their memory of past events and interpretation of the interplay between variables and performance systems in the organisation. It is assumed that owing to their qualifications, exposure and senior levels of responsibilities in management, their memory and understanding of issues can be considered reliable. Where they may not have found the questions clear enough, they were expected to be assertive enough to demand clarification so as to provide appropriate responses. Assurances were given about confidentiality of all responses and that the information received from the interviewees would not be treated in a way which might cause their identity to be exposed. Respondents gave the impression that they were eager to respond to all questions.

A minimum of one hour was allocated for each interview. The time allocation was assumed to be sufficient for the individuals to respond adequately to all questions. All interviews were conducted in English. Interviewees were comfortable with this as English is the official language used within the university. The number of respondents is fifteen. Analysis of evidence gathered indicated that this was adequate saturation to deal with the research questions.

In deciding on other sources of evidence to use for triangulation purposes, it was assumed that annual reports would be a reliable source of corroborative evidence and longitudinal analysis given the thoroughness with which official audited annual reports of South African higher education institutions are prepared. Content of annual reports was assumed to provide sufficient detail and structure for that purpose. Availability of annual reports for a period of ten years was critical – university archival records helped in that regard. The use of annual reports as corroboration only for the in-depth interview approach was deemed adequate – it was decided to make use of an objective source of evidence. The incorporation of additional sources of evidence may have made analysis unwieldy and difficult to manage.

The rest of the report is structured as follows: chapter 2, analysis of the extant literature from which the theoretical framework for the research is derived; chapter 3,

outline of the case methodology; chapter 4, reporting of the case study results; chapter 5, discussion of the results and chapter 6, concluding remarks combined with outline of limitations of the study and suggestions for future research.

Chapter 2: Literature review

Literature on changes in performance management systems, management accounting practices, contingency factors and institutional theories have been drawn from a wide range of sources including academic journals, textbooks, webpages, government publications and gazettes. The literature covers several decades but, in view of the importance of drawing from contemporary studies, the majority of the articles were drawn from a period of two decades. Concerted effort was made to include articles within the decade under study. In order to ensure that adequate literature was covered, use was made of papers which surveyed analysed previous literature on the subject for comparison purposes – examples of which are Chenhall, (2003) and Neely, et al., (2005).

This section provides some definitions of terminology used, before demonstrating how a range of contingent variables influence performance measurement systems. A theoretical framework is then developed to guide the analysis. The rest of the chapter is dealt with under the following sub headings: definitions, contingency variables, performance management systems, theoretical framework and conclusion of the literature review.

2.1 Definitions

Some of the key words in this study are management accounting (MA); management accounting systems (MAS); management control systems (MCS); performance management systems (PMS).

From Scapens, (2006); Neely, (2005); Kaplan & Norton, (2001); Anderson & Lanen, (1999) a common description of management accounting emerges. MA refers to a collection of practices such as budgeting and costing. MA involves the analysis and interpretation of financial information, incorporating both monetary and non-monetary aspects. It has an internal focus and is voluntary in nature. MA is concerned with the assessment of activities of various units or departments, prepared as frequently as required for decision making. It makes use of different analyses such as ratio analysis and trend analysis.

MAS refers to systematic use of MA to achieve goals (Scapens, 2006). MCS is much broader as it includes MAS, PMS and other forms of control (Chenhall, 2003).

PMS are used as feedback mechanisms to communicate with stakeholders, monitor, facilitate decision making, send signals or justify actions and decisions (Henri, 2006). PMS have grown over the years to include broad scope non-financial information (Chenhall, 2003; Kaplan & Norton, 2001).

Characteristics of PMS are scope, timeliness, aggregation and integration of information (Chenhall & Morris, 1986). The following definitions have been adapted from Chenhall & Morris, (1986) and Gordon & Narayanan, (1984). Broad scope relates to the inclusion of external, non-financial and future oriented information in the PMS over and above traditional financial information based on historical data. The balanced score card (BSC) advocated by Kaplan & Norton, (2001) makes use of broad scope indicators and is effective in linking strategy and operations. Timeliness relates to frequency and speed of reporting. Aggregation refers to aggregation of performance information by time period and by faculty, school and functional area or at individual level.

The definitions from the literature review indicate that terms are often used interchangeably. All terms are covered in studies involving management accounting practices, the common theme being that they refer to a system for management control. The term performance management systems (PMS) is used in this study in a manner which broadly incorporates management accounting practices – performance measures in monetary and non-monetary forms, models, systems of incentivising performance of staff. The study aims to discover the nature of such PMS in the case and how, if at all, they have evolved through the interplay with the contextual changes experienced. Literature involving these phenomena has been reviewed so as to produce a theoretical framework which has guided the research.

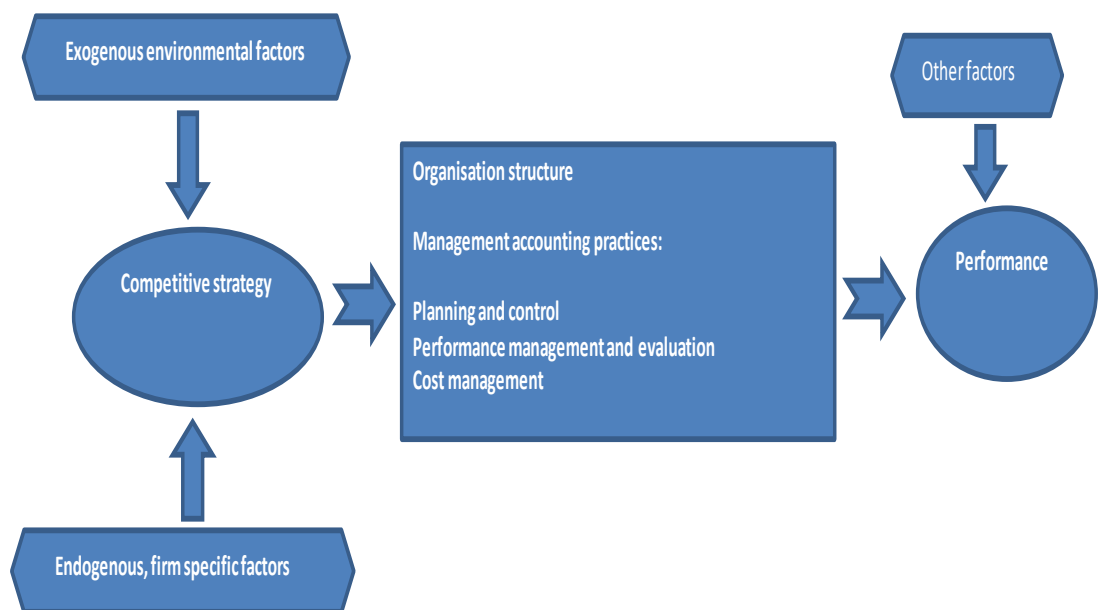
2.2 Contingency theory and contextual variables

Following the demise of Apartheid in 1994, South African universities were exposed to globalisation and concomitant competitive forces (Damian, 2006). Pressure to be ranked internationally grew and, with it, an increased focus on research, transformation requirements and the need for redress, shifts in demographics amongst students and, with these the need to deal with effects of poor teacher training. All of these variables interplay with rapid technological developments and

funding needs which did not match the burgeoning needs (Barnes, 2006; Bawa, 2012; Damian, 2006; De Villiers & Steyn, 2007; Jansen, 2003).

The economic, social and political transition in South Africa which brought about the above changes in environment is similar to what happened in India in 1991. In 1991, the Indian economy and markets were liberalised. Anderson & Lanen, (1999) conducted case study research with Indian firms and studied the impact of economic transition and liberalisation on the evolution of management accounting practices.

Within accounting literature, contingency theorists hypothesise that a competitive and dynamic environment determines the form which management accounting practices take, as well as the manner in which they are used – intensity of use, aggregation, timeliness, scope and form (Anderson & Lanen, 1999). A basic framework to illustrate contingency theory at work was produced by Anderson & Lanen, (1999) and is shown in the figure below.



A basic contingency framework, adapted from Anderson & Lanen, (1999)

Figure 2: A basic contingency framework

The results from Anderson & Lanen, (1999) are consistent with contingency theory changes consistent with reforms in emerging economies in line with which several management accounting practices changed. In that study which involved fourteen firms, changes were discovered which reflected the importance of marketing, sales

and human resource management in businesses which had previously had little need for such functions. As a result, due to increased competition, customer data gained prominence in planning, control and organisation performance management. Changes in organisation strategy and structure were also among the findings including those elements represented by management accounting practices.

Studies of management accounting practices in public sector organisations are limited in number as private sector orientation has been dominant to date (Cuganesan, et al., 2012). Cuganesan, et al., (2012) carried out a study within a law enforcement public sector agency. The case study investigated the interface between strategy and management accounting, focusing on what the researchers termed strategic management accounting. The motivations for the study were, firstly, that the predominant focus of strategic management accounting research has been on the examination of use of management accounting techniques in organisations and their antecedents with less attention being given to practices through which strategies are produced. Secondly, the importance of management accounting practices in public sector institutions and how they interface with strategy has not received the necessary attention. The specific context of public sector organisations indicates that techniques developed for private firms cannot simply be transplanted in their form – some techniques such as customer or competitor accounting may not be relevant or can be viewed as peripheral because of absence of the profit imperative. The latter motivation has particular resonance with the significance of this research study. The pressures and reforms ‘variously described as new public management’ has created a growing importance for strategy in the public sector in recent years (Cuganesan, et al., 2012). Cuganesan, et al., (2012) found in the case study that management accounting plays a role in strategizing which extends beyond the traditionally ascribed functions of decision facilitation.

Contingency theory explains why management accounting practices amongst organisations operating in different environments vary (Fisher, 1996; Burns & Stalker, 1961; Waweru, et al., 2004). In Otley, (1980) the theory is dealt with in detail – in summary, the contingency theory of management accounting is based on the premise that there is no universally appropriate accounting system applicable to all organisations in all circumstances.

With this in mind, the link between environmental factors and performance management systems which underpins contingency theory the suggestion by Moon & Fitzgerald, (1996) is particularly illustrative. Moon & Fitzgerald, (1996) have suggested that in acknowledgement of emergence of the global organisation, the rapidity of technological advancement, concomitant hostility of competition, traditional financial yardsticks, such as return on investment or residual income, are no longer sufficient as organisational performance measures, if indeed they ever were. Instead it has become more important for organisations to develop systems of performance measurement which reflect this growing complexity of the business environment and which can be relied upon to enable the strategic responses by role players of organisations. This suggestion has found agreement amongst academics judging by the steady increase in research studies that involve changes in management accounting practices.

From the foregoing, contingency theory attempts to identify peculiar aspects of performance management systems associated with defined circumstances and to demonstrate appropriate matching (Waweru, et al., 2004). It was important to review literature from a South African setting so as obtain context. In their case study research on management accounting changes in South Africa which was carried out in the retail sector using a multiple case approach Waweru, et al., (2004) identified the following as contingent factors which might have an influence on changes in management accounting systems: economic constraints, deregulation, global competition, technological advancement and size and type of organisations.

Brignall & Ballantine, (1996) explain that the interplay between interacting contingent variables should inform performance management system design. External environment of an organisation includes variables such as the state of macro economy, extent of government regulation. In addition, the ground breaking and famous Porter's five forces published by Michael Porter in 1979 have had considerable impact in shaping the competitive strategies of firms. The five forces are: threat of new entrants, bargaining power of suppliers, bargaining power of customers, threat of substitute products and the jockeying for industry position by market players. The more volatile, uncertain and competitive a service business's external environment, the more likely that management will need an interactive (rather than by-exception) information system to facilitate a sufficiently frequent

dialogue between corporate and senior SBU managers on strategic threats and uncertainties (Brignall & Ballantine, 1996). In the information age in which business operates, the five forces are particularly relevant - this has been referred to as the why of performance management (Brignall & Ballantine, 1996).

In the university sector, the surge in international ranking league tables should be placed in the context of the influence of Porter's five forces. The chosen strategy by an organisation informs what is measured, the what of performance management (Brignall & Ballantine, 1996). In a research study on performance measures in Bangladeshi firms Khan, et al., (2011) concluded that factors which would encourage firms to develop multiple performance measurement techniques were the presence of intense competition and volatile environmental uncertainty – this led to adoption of non-financial measures, in addition to traditional financial performance measures.

The internal environment is another contingent variable. An organisation's internal environment is made up of factors such as the role of powerful groups and individuals, organisations' process type, formal and informal organisation culture and history: while external environment and strategy may determine why and what is measured, the internal environment determines how performance can be measured with the required degree of success (Brignall & Ballantine, 1996).

The following (external, internal, strategy, organisation structure) are the most studied contingencies. These are reviewed in more detail.

2.2.1 External environment impacting PMS

The external environment has been used to explain why organisations use information in different ways in this way becoming the most influential contextual variable underpinning contingency based research (Otley, 1980; Reid & Smith, 2000; Haldma & Laats, 2002; Hartmann & Maas, 2011; Abdel-Kader & Luther, 2008). New Institutional Sociology and New Institutional Economics explain how external pressures impact on organisations resulting in changes to management practices through isomorphism and transactional economics (Scapens, 2006). The environmental aspect which has attracted most interest in contingency based research is uncertainty – construed as turbulence (risky, unpredictable, and fluctuating), hostility (stressful, restrictive), diversity (variety in products, inputs,

customers) and complexity (rapid changes in technology), (Khandwalla, 1972; Khandwalla, 1977; Hartmann & Maas, 2011).

Empirical studies have used perceived environmental uncertainty (PEU) as a construct, instead of attempting to measure uncertainty directly. This is because it has been argued that each business unit manager in an organisation tends to view and interpret the environment differently (Gordon & Narayanan, 1984; Ezzamel, 1990; Chenhall & Morris, 1986; Gul & Chia, 1994; Fisher, 1996; Hoque, 2004; Sharma, 2002; Alam, 1997).

The following indicates empirical findings relating to environmental uncertainty and MCS: Broad scope MAS was found to be used more in uncertain environments (Chenhall & Morris, 1986; Gordon & Narayanan, 1984; Gul & Chia, 1994). The balanced score card (BSC) has been adopted successfully in some universities, research institutes and not for profit organisations when the institutions were dealing with threats from the external environment and funding issues (Yawson, et al., 2006; Weinstein & Bukovinsky, 2009; Chen, et al., 2006; Beard, 2009). One example of the use such a performance management system was at a food research institute in Ghana, reported in the case study by Yawson, et al., (2006).

Timely information has been related to uncertainty (Chenhall & Morris, 1986). Uncertainty was found to be associated with more use of budgets for evaluation and required explanation of variances and high participation and superior-subordinate interaction (Ezzamel, 1990). Ezzamel, (1990) also found that external environment variables had more impact on design of budget characteristics than corporate context (internal) variables. Case studies involving two large state owned agro industrial (sugar and jute) firms in Bangladesh (Alam, 1997) found that, although the two firms shared the same institutional environment characterised by bureaucratic control, their contextual environment was different and the focus of their PMS was also different. Intensity of market competition has been found to result in increased use of PMS which, in turn, had a positive impact on business unit performance (Mia & Clarke, 1999).

2.2.2 Organisation structure impacting PMS

Organisation structure has been defined as formal specifications of different roles for staff and tasks to groups in order to execute the activities of the organisation effectively and efficiently (Chenhall, 2003; Anderson & Lanen, 1999). The measurement of structure has been performed in empirical studies on the basis of extent of decentralisation of authority; the construct has been developed largely from the Aston school studies (Chenhall, 2003). Lawrence & Lorsch, (1967) referred to structure as the manner in which an organisation is differentiated and integrated. Links between structure and uncertain environment and strategies have been found in empirical studies (Lawrence & Lorsch, 1967; Donaldson, 1987). Organic structures are best served by broad scope and future oriented PMS (Gordon & Narayanan, 1984). The larger the organisation, the more the sophistication and the larger the diversity and level of decentralisation, the more it is expected to find formal and traditional PMS and more sophisticated controls and high levels of budget participation (Chenhall, 2003; Khandwalla, 1977). Decentralisation has been found to be associated with aggregation and integration of PMS too (Chenhall & Morris, 1986; Ezzamel, 1990). Ezzamel, (1990) found that manager autonomy was negatively correlated with interactions between superiors and subordinates. Managerial autonomy has had a marginal impact on the design of corporate budgeting systems (Gordon & Narayanan, 1984; Ezzamel, 1990). Organisation structure has been found to have significant influence on budget system characteristics in the hotel service sector (Sharma, 2002).

In conclusion, literature indicates that organisation structure has an effect on how PMS are used and is an important variable in the study of changes in management accounting practices over time.

2.2.3 Other contingency variables (internal environment) impacting PMS

The following factors are internal to organisations, in addition to organisation structure, and are dealt with separately.

Strategy e.g. defender, cost leadership, competitor focussed and product differentiation: conservative strategies such as defender and cost leadership have been associated with traditional PMS. On the other hand, competitor focused, product differentiation prospector type strategies are associated with broad scope

PMS, aggregated and timely PMS for planning and operational decisions (Govindarajan, 1984; Chenhall & Morris, 1986; Reid & Smith, 2000; Henri, 2006).

Culture is defined by Henri, (2006) as 'notions of shared beliefs, values and assumptions'. Cultural types, close control, autocratic or flexible form, influence how PMS are used in organisations (Henri, 2006; Reid & Smith, 2000; Kennerley & Neely, 2003).

In addition to strategy and culture, the internal environment includes processes, people and systems as variables that can affect PMS. Process, people and systems: In case study research involving seven firms which had significant experience in using performance measures (Kennerley & Neely, 2003) identified process, people, systems and culture as factors affecting the evolution of performance systems as enablers, obstacles or barriers. In that research study, process was defined as 'existence of a process for reviewing, modifying and deploying measures'. People was explained as 'the availability of the required skills to use, reflect on, modify and deploy measures' and systems was described as the 'availability of flexible systems that enable the collection, analysis and reporting of appropriate data.' According to Kennerley & Neely, (2003) the existence of these factors in various forms was suggested to affect the evolution of performance measures. The phases in the cycle of evolution were, reflection (on current practices as to appropriateness or in need of enhancement), modification and deployment of modified performance measurement systems summarised in a framework of factors where external and internal 'triggers' impacted ultimately on the use of measures.

Haldma & Laats, (2002) identified what they referred to as new possible internal factors, such as legal accounting environment and the shortage of properly qualified accountants in their research study on Estonian manufacturing companies, examining management accounting practices within a contingency theory framework. The background of Estonia has similarities with South Africa as that country regained independence in 1991 and has undergone significant political and structural changes which affected operations of companies. The effectiveness of the design of accounting systems depends on the flexibility of the systems to adapt to changes in external circumstances, as well as internal factors (Haldma & Laats, 2002).

In conclusion, the internal variables, strategy, culture, processes, people and systems add complexity to the dynamics in the organisation and are important in understanding the changes in PMS over time.

2.3 Performance management systems

When an organisation implements an appropriate performance management system, it is more likely to get action aligned with strategies (Kennerley & Neely, 2003).

Research evidence is increasingly showing that firms managed using integrated performance management systems outperform those which are not measures managed (Kennerley & Neely, 2003). This makes it interesting to study performance management systems in organisations and how they adapt to the environment.

It is useful to discuss the difference between private and public not for profit institutions when studying PMS. Not for profit organisations differ from private firms in respect of their objective: while the objective of a private firm is to maximise shareholder interest, the not for profit organisation pursues a social mission which produces multiple outputs which do not necessarily lead to a healthy bottom line (Kaplan & Norton, 2001; Chen, et al., 2006; Weinstein & Bukovinsky, 2009; Turner, 2005; Lawrie, et al., 2004). This difference introduces complexity in the use of PMS in public organisations. In response to criticism that the balanced score card is only suited to profit making organisations, it has been shown that the BSC can be successfully adapted to a wider stakeholder context in non-profit making organisations (Kaplan & Norton, 2001). It is, therefore, not surprising that the BSC has been proposed as an appropriate performance management system for not for profit as it enforces the use of measures which address a wide range of strategic objectives (Neely, 2005; Weinstein & Bukovinsky, 2009; Beard, 2009). The use of the BSC by universities and other not for profit organisations has been associated with threats from the external environment brought about by changes in external variables such as funding, competition, technology, political pressure, growth in student enrolment, and the concomitant changes in strategy (Chen, et al., 2006; Yawson, et al., 2006).

Although literature on performance management systems emphasises the importance of the maintenance of measures which are relevant and which reflect issues with growing influence to organisations, insufficient effort is made by

organisations to manage the evolution of their systems to match the context (Kennerley & Neely, 2003). Similar to the concept of the balance score card, Kennerley & Neely, (2003) emphasise that organisations need to spend considerable time implementing 'balanced performance management systems'. Research which investigates factors affecting the evolution of organisational performance management systems is surprisingly small in number (Kennerley & Neely, 2003).

Increased focus on international ranking has resulted in more pressure on research productivity by academics and has increased the use of benchmarking (Turner, 2005).

Since the human resource component of the not for profit organisation cost structure is much higher than industrial firms', the performance of staff is of paramount importance: individual performance measures in such institutions are expected to be well developed (Macpherson, 2001). In not for profit organisations, human talent costs may account for up to 75% of the total cost structure and so organisational output is primarily dependent on human resources – this underlines the importance of performance management systems in such environments (Macpherson, 2001). Linking performance (citations and publications) to funding led to academics working harder and led to changes in academics' attitudes to risk with regard to selection of projects with uncertain outcome and impact on reputation (Liefner, 2003). The manner in which performance measures are used has repercussions – fear emerges as a major barrier because of the common apprehension that by developing indicators, ordinary employees on the coal face provide whomever they account to (managers, taxpayers, the so called hierarchy') with information to be used against them (Macpherson, 2001). This introduces the principal-agent problem (Fama, 1980) which will be discussed in more detail under the theoretical framework section.

The adoption of non-financial measures incorporated together with financial measures has been increasingly called for in both for profit and not for profit organisations (Kloot & Martin, 2000). Given that objectives in the not for profit sectors are often stated in non-financial terms as indicated in the preamble of the higher education act (Higher Education Act, 1997), non-financial performance measures are necessary because conventional financial reporting does not capture performance adequately (Kloot & Martin, 2000). Kloot & Martin, (2000) argue in their

study of local government that it is necessary to understand the manner in which performance systems are linked with strategic choices in order to improve operations. When the linking of strategic choices and performance measures is holistic across the organisation, the conclusion is that a performance management system is in place.

The existence and nature of PMS and link with strategy indicated by Kloot & Martin, (2000) is echoed by Kennerley & Neely, (2003) who suggested tests for relevance and appropriateness of performance measures. These tests aptly sum up the section. The tests and their meaning have been tabulated in table 2.

PMS test	Meaning
The truth test	Does it measure definitely what it is meant to measure?
The focus test	Does it measure only what it is meant to measure?
The consistency test	Is it dependent on who measures?
The access test	Can the data be readily communicated or understood?
The clarity test	Is there a possibility of ambiguity in interpretation?
The so what test	Can the data be acted upon?
The timeliness test	Can the data be analysed quick enough for action to be taken?
The cost test	Is it worth the cost of collecting and analysing?
The gaming test	Does the measure encourage unintended undesirable behaviour?

Table 2: Relevance & appropriateness test, (Kennerley & Neely, 2003)

In summary, the message from the history of performance management practices and measures suggests that measurement systems should reflect context and objectives of the organisation so as to avoid crises in future (Kennerley & Neely, 2003). Context is the theme which appears to be emphasised throughout the reviewed literature. The next section consolidates the literature review through the formulation of a theoretical framework which will guide the case study. In addition to contingency theory, other theories will be included so as provide robustness – this approach differentiates this research from the papers reviewed.

2.4 Theoretical framework

Contingency theory suggests that management accounting systems (MAS) are dependent on a range of variables at play in the external and internal environment interacting of organisation (Chenhall, 2003). MAS evolve over time, so it is necessary they reflect the effect of external variables like uncertainty, competition, historical legacies, as well as internal variables like embedded routines and organization culture (Waweru, et al., 2004; Scapens, 2006).

Other theories are just as important in understanding management accounting practices so they will be considered here. One such theory is agency theory which has relevance due to the use of performance measurement systems in not for profit organisations. In his paper about agency problems and the theory of the firm Fama, (1980) hypothesised that competition from other firms causes discipline in institutions. Discipline, in turn, forces the evolution of divides for efficiently monitoring the performance of the entire team and of its individual members. Individual participants in the firm and, in particular its managers, face both the discipline and opportunities provided by the markets for services within and outside the firm.

Agency theory deals with the relationship between the principal who delegates work to another party, the agent, by attempting to resolve two problems arising in that relationship, i.e. conflicting desires and goals of agent and principal (Jensen & Meckling, 1976; Eisenhardt, 1989).

In the context of universities, the state takes the role of principal acting on behalf of tax payers while management (council) takes the role of agent. Within the university itself, the agency relationship replicates and executive management becomes the agent while councils are the principal. Executive management can also themselves be considered as principals and employees with relatively lower levels of responsibility, taking the role of agents. Each one has responsibilities through job descriptions prepared for their positions. The job descriptions and conditions of service and remuneration are meant to clarify what each one is expected to do, in this way, minimising misunderstandings in delivering outcomes expected of them – this it is hoped should resolve the agency problem. The overall aim from the organisation standpoint is to dispatch the missions given to it under the (Higher Education Act, 1997). The agency problem manifests itself in barriers to the

development of performance indicators and their application. Individuals may fear that when performance missed the targets it invites comment and criticism, there may also be a perceived loss of control over how performance is conveyed since when there is an indicator everyone can see, there will be a variety of opinions about what it means (Macpherson, 2001). In risk averse public-sector organisations, the desire to develop the perfect indicator the first time may generate prevarication and challenges in implementation of an acceptable system of performance measurement (Macpherson, 2001). The foregoing has a role to play as there is an overarching relationship between agency and contingency theory – this is because the manner in which management relate with employees through their powerful representatives forms part of the internal contextual factors in the university. How the internal relationships interface with management accounting practices and performance management systems makes an interesting case study.

It is essential to obtain a theoretical understanding of the principal-agent problem. Agency theory assumes that the principal and agent are both motivated by self-interest which dooms the relationship to inevitable conflict as agents are likely to pursue objectives and actions which deviate from the goals of the principal, instead of acting in the sole interest of the principal, resulting in agency loss (Fama, 1980). Agency loss is the difference between the best preferred outcome for the principal and consequences of the actions of the agent (Jensen & Meckling, 1976; Eisenhardt, 1989). The potential for differences between interests of principal and those of agents exists and agency loss underpins agency theory, even though it may not be assumed that agents are universally selfish (Baiman, 1990).

Agency loss is minimised when, firstly, the principal and agent share common interests and desire the same outcomes and, secondly, if the principal is knowledgeable about the consequences of the agent's actions or activities (Baiman, 1990). Research on managerial accounting practices based on principal-agent model has been found to focus on studying the role played by managerial accounting procedures and processes and demands placed on them – such procedures include monitoring systems, budgeting systems, variance investigation systems and cost allocation systems (Baiman, 1990). This makes it important to combine agency theory with contingency theory in the framework for this case study.

The principal-agent model provides a vital contribution to managerial accounting research through a coherent framework within which one can view managerial accounting procedures and pose relevant questions. Based on the principal-agent model it would be expected that certain managerial accounting procedures should be prevalent only in contexts in which individuals would benefit from their use and in that way motivational issues generated by self-interested individuals should be mitigated (Baiman, 1990). Baiman, (1990) argues that previous research in managerial accounting has tended to overlook views informed by such a framework, i.e. mitigation of motivational issues through the role of specific types of managerial procedures in an explicit way.

The Higher Education Act, (1997), attempts to clarify how the relationship between universities and the state should be managed, the state acting as principal and the university as agent in this instance.

The Higher Education Act, (1997) clarifies the expectations from universities expressly and publicly. In the statute, the state makes it clear that its aim is to establish a single co-ordinated higher education system so as to promote co-operative governance and provide programme-based higher education. Its intentions are to restructure and transform educational programmes and institutions in a bid to respond better to the human resource, economic and development needs of the country. The imperative for redress in respect of past discrimination and promotion of diversity of representation and equal access to higher education is highlighted. The state sees redress being achieved through the provision of optimal opportunities for learning and the creation of knowledge; promotion of values which underlie an open and democratic society based on human dignity, equality and freedom; embedding in institutions of higher learning the respect for freedom of religion, belief and opinion, democracy, academic freedom, freedom of speech and expression, creativity, scholarship and research. The objective of excellence, seen through the full realisation of the potential of every student and employee, tolerance of ideas and appreciation of diversity indicates the expectation of specific outputs from universities in measurable ways. Other expectations are more intangible and inform what the literature review argues as making outputs of not for profit organisations complex – the state expects universities to contribute to the needs of the country and of the communities served by the institutions; contribute to the advancement of all

forms of knowledge and scholarship, in keeping with international standards of academic quality. It is the aim of the State for higher education institutions to enjoy freedom and autonomy but still observe to their relationship with the State in respect of public accountability while delivering the national need for advanced skills and scientific knowledge. This sounds beautiful but is not easy to quantify.

The Higher Education Act, (1997) covers the governance of universities in detail, covering amongst the requirements for constitution of specific institutional governance structures which should be put in place such as councils, senate, institutional forums and appointment of principals of public higher education institutions. Annual audit and annual report requirements are dealt with in detail, as well as circumstances which may cause the Minister to intervene in the running of the institutions. The Higher Education Act deals with the funding of universities, requirements for accountability and consequences of non-compliance and explains in detail the allocation of funds by the Minister.

The theoretical underpinning of expectations from the State as summarised appears to be derived from agency theory which describes the potential for conflicts of interest arising from the separation of ownership and control in organizations (Hillman & Dalziel, 2003; Eisenhardt, 1989; Jensen & Meckling, 1976). This is so because agency theorists see the primary function of boards as monitoring the actions of "agents"- i.e. managers - to protect the interests of "principals"- i.e. owners (Hillman & Dalziel, 2003). Hillman & Dalziel, (2003) introduce an additional dimension in their study (integrating directors and company performance through agency), a concept they refer to as board capital which they define as resources provided to the firm. Such resources are in the form of legitimacy, advice and counsel, links to other organizations, etc. This capital consists of both human talent (experience, expertise, reputation) and relational capital (network of ties to other firms and external contingencies).

In this case study it is assumed that the additional concept of board capital serves to clarify the agency-principal relationship further and so the agency theory remains the primary element in the a priori construct. The concept of board capital, however, makes it simpler to understand the role played by government through the Higher Education Act, (1997).

Agency theory is concerned with the use of PMS in achieving purposeful outcomes through incentive schemes, (Chenhall, 2003) in this way reducing agency loss. Universities are labour intensive institutions: it is expected that PMS play an important role in organisation control in a complex environment and much more so in an environment experiencing dynamic changes (Macpherson, 2001; Liefner, 2003). The international ranking of universities has increased the importance of research output, making PMS critical at individual levels (Turner, 2005). In her paper Eisenhardt, (1989) poses the argument that in the case of unobservable behaviour resulting from moral hazard or adverse selection, the principal has an option to discover the agent's behaviour by investing in information systems, reporting procedures, structural changes achieved through additional layers of management or boards of directors – such investments reveal the agent's behaviour to the principal, reverting to the case of complete information, which attempts to resolve one of the problems identified in the principal-agent relationship.

Agency theory and its principal-agent model are not without criticism. The criticisms emanate from the assumptions underpinning the model, as well as its emphasis on internal consistency and optimal solutions (Baiman, 1990). Baiman, (1990) argues that the assumption that courts will enforce at no cost and accurately is unrealistic; secondly, the principal-agent model takes the restricted view that the environment in which firms operate can be criticised as too narrow because it leaves no room for trust and fairness. Such characteristics can be claimed to have an effect on behaviour. Nevertheless, the criticisms can be viewed as less compelling when one takes the principal-agent model as a useful framework for analysing issues in real life set ups and highlighting problems observed and a helpful framework which should be considered in applying managerial accounting procedures and performance management systems (Baiman, 1990; Eisenhardt, 1989). Agency theory contributes to organisational thinking in the treatment of information, information is regarded as a commodity which has a cost and can be bought so it gives formal information systems an important role with the implication that organisations can invest in information systems so as to control agent opportunism (Eisenhardt, 1989). Compensation (reward based performance) should be contingent on several factors including information systems; the agency theory perspective would suggest that

richer information systems should control managerial opportunism (Eisenhardt, 1989).

Three additional theories provide further basis for understanding relationships between contingent variables and management accounting practices (Scapens, 2006): the first of these theories, New Institutional Economics, assumes bounded rationality and opportunism which forms the basis of how organisations are structured in certain ways and how management accounting practices come into being. It uses transaction costs economics reasoning. It deals with self-interest issues. The second theory discussed is New Institutional Sociology which attempts to explain why certain organisations in the same sectors are similar. New institutional theory is largely grounded in research within not for profit and public organisations and so has immediate meaning for this research. Three types of isomorphism are used to explain the apparent conformance amongst organisations in the same industry. Coercive isomorphism is caused by regulation and political influence. Mimetic isomorphism is a result of organisations tending to copy practices of other institutions viewed as more successful in their field – globalisation may increase such tendencies. Normative isomorphism arises when organisations follow societal norms and practices in a bid to gain legitimacy in the eyes of their constituencies and stakeholders. Both the new economic and new institutional sociology theories relate to pressures applied from sources external to the organisation impacting on structures and management accounting practices. The third theory, Old Institutional Economics deals with pressures that arise internally in organisations, helping to shape changes in management accounting practices; these internal forces relate to habits, rules and routines which evolve over time. The institutional theories indicate that external pressures have an impact on how organisations structure themselves and how they are governed – in so doing, they affect performance management systems. Although the three theories may be packaged differently, when examined in more detail it becomes clear that they are similar to contingency theory but due to the approach make it even easier to understand the complexities involved in change dynamics. These theories have been applied in investigating the changing interplay between new management accounting practices, power and politics in a research and development division of a chemical manufacturer in the UK (Burns, 2000). The

theories shed light on the influences of power over resources and decision making in the implementation of management accounting changes.

The theories discussed above are all complementary in explaining the cause-effect processes. The framework is represented in the diagram, Figure 3. This diagram provides the framework for analysis in this study. The framework is the a priori construct used as part of the suggested procedure for conducting a case study (Corbin & Strauss, 1990; Eisenhardt, 1989; Yin, 2009). The framework derived has significant rigour when compared with the framework in Kennerley & Neely, (2003) and Anderson & Lanen, (1999). This is achieved through the inclusion of agency theory, institutional economics and institutional sociology theories.

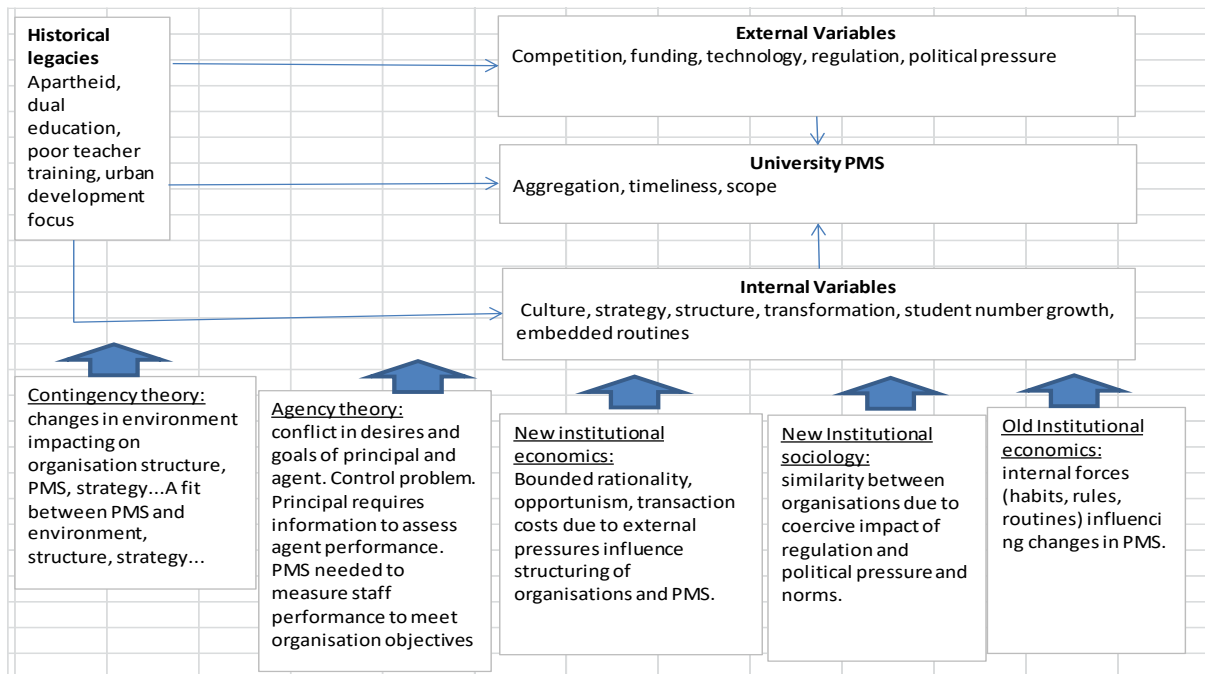


Figure 3: Theoretical framework

2.5 Conclusion of literature review

It is clear that many studies have been carried out in PMS contingency based research. In recent years more theories have been used in attempting to gain better understanding of management accounting and control systems and changes in addition to contingency theory, namely, new institutional economics and new institutional sociology and old organisational economics, agency theory. Studies have not generated sufficient critical mass to confirm findings. In certain instances studies have produced contradictory findings. The fact that variable factors selected

for study have been different from author to author has detracted from the achievement of much needed critical numbers and confirmation of earlier findings (Chenhall, 2003).

There are calls from researchers for more research in contemporary settings and variables and more replication studies to enhance validity and reliability as this will foster more confidence in earlier findings and add to the critical mass in PMS contingency based research. Due to growth in relative importance of service and not for profit organisations more calls have been made for research in these sectors (Chenhall, 2003; Brignall, 1997; Sharma, 2002). In particular, there are very few studies which have focused on Universities' PMS, for example, BSC adoption (Chen, et al., 2006; Beard, 2009), benchmarking (Turner 2005). However studies on the university sector based upon contingency theory and other theories and investigating performance management systems are very few and more are needed so as to confirm results from other studies carried out in manufacturing. This is a strong motivation to conduct a study within the higher education sector in South Africa.

In conclusion, the hypothesis derived from the literature review and pursued in this study is that three contextual variables (external environment, organisation structure, internal factors) influence the extent and manner of use of PMS, i.e. range of performance measures used, scope of measures (balanced score card type of PMS), aggregation and timeliness of PMS.

Chapter 3: Research method

In-depth structured interviews are used and corroborated with analysis of publicly available annual reports of the selected organisation in order to test the two research questions below:

- a. How have changes in the external environment influenced performance management systems in South African universities?
- b. How have changes in the internal environment influenced performance management systems in South African universities?

The choice of case method is informed by the nature of the research questions being investigated – if the questions are of the form “how and why”, there is great variety of variables in the study, there is a need to obtain in-depth understanding of the complex phenomena in a real life context with a contemporary focus, a case study methodology is most appropriate (Yin, 2009; Eisenhardt, 1989) . The research questions in this study meet all the criteria indicated by Yin, (2009). The strength of the case study method is the variety of evidence from interviews and published documents (annual reports) about the case. Some previous studies in contingency research have used a survey methodology but, due to the complexity regarding the phenomena under study and the context of these, the researchers had to limit the number of variables under study (Chenhall, 2003; Yin, 2009).

In Scapens, (1990) the use of case studies for management accounting practices is strongly encouraged. The finding from that paper indicates that the use of case method in management accounting practice research has grown significantly in recent years.

Through the case study approach it was possible to do in-depth enquiry in a real life setting without limiting the study to a few variables observing actual practices; the case method makes it possible to answer the questions of why, what and how with relatively full understanding of the nature and complexity of the phenomena under study, a case study also provides opportunity for early, exploratory investigations where variables and phenomena are still not yet fully understood (Voss, et al., 2002) – as explained below this flexibility was used in deciding whether the originally planned questionnaire was, in fact, of use once the responses had been received.

A case study approach has been used for a similar study on performance – a joint venture where the factors studied were bargaining power, management control and performance, (Yan & Gray, 1994). The study by Yan & Gray, (1994) provided sufficient guide in developing the approach for this study. Kennerley & Neely, (2003) used a case study approach to investigate evolution of performance management systems in a changing business environment: the case involved a company in the electrical sector in the UK. Burns, (2000) explored accounting change in the department of product development within a small chemical manufacturing firm operating in the UK – the case study used the institutional framework of accounting; the results demonstrated barriers to change caused by power exercised over resources, conflict and decision making. Burns, (2000) argued that by focusing on processes of change in accounting practices in a specific setting, the case study was a powerful way in which aspects of the change process could be illuminated and that the case method has an advantage over conventional static approaches. Conventional approaches to research tend to ignore critical aspects of change at play in a complex environment. In a contextual environment more similar to this case study, Waweru, et al., (2004) investigated management accounting changes in the retail sector in South Africa using case study research. The latter study is a compelling motivation to add to studies using that approach in a South African context. The above papers provided useful insight and bolstered confidence in using the case study approach for this research.

The research was qualitative in nature supported by quantitative data where available. The type of research was a mixture of exploratory and informative.

The rest of this section will be presented as follows: in 3.1 the population and sample will be specified, 3.2 the instruments used to collect data will be described, and procedures adopted will be outlined. The analysis plan (3.3), its validity, reliability and the limitations of research study method will be covered (3.4).

3.1. Population and sample

The study was conducted in the higher education sector of South Africa which comprises of 23 universities of varying sizes. Case studies can involve multiple cases or a single case and have been used in such studies as the Cuban Missile Crisis and decision making at a British retailer, by different researchers, (Eisenhardt,

1989). A multiple case study approach was used to study retail services in the study of management accounting change in South Africa using a contingency theory framework, (Waweru, et al., 2004).

A single case is used for this research. Out of the population of twenty three, the case selected is a research intensive well known and established university based in the Johannesburg metropolis; details of the population and how the universities are classified into categories were obtained from Bunting & Cloete, (2010). The table in the annexure (appendix A) was adapted from that study. The subject of this case study, Elite100, is classified on the basis of input indicators as a contact medium size university and in terms of the South African education policy framework where there are eleven universities, six universities of technology and six comprehensive universities it falls under the university category, (Bunting & Cloete, 2010). Bunting & Cloete, (2010) describe 'universities' as institutional types which offer basic formative degrees such as BA, BSc, professional degrees such as BSC Eng or MBChB at undergraduate level as well as a range of postgraduate level degrees at Honours, Masters and Doctoral levels. The university selected for the study is of medium size in terms of enrolment, according to the table in the annexures, but when other indicators are taken into account, such as private income as a percentage of total income, its classification changes. It is more appropriately referred to as a research intensive university, a category of universities which have proportions of Masters and Doctoral degrees above the averages of the higher education system, (Bunting & Cloete, 2010). In the paper, Bunting & Cloete, (2010) suggest that the indicator of private income reflects external reputation, financial well-being and ability to deliver research contracts.

The advantage of a single case is derived from a greater depth of evidence and ease of gaining insights, (Voss, et al., 2002). The Department of Higher education and Technology classifies the sector into three categories, namely, research intensive, comprehensive and the technology universities; it also classifies the sector into two broad categories – previously disadvantaged and previously advantaged universities. There are also universities that have merged with others (Bawa, 2012). The university selected is one of the few universities sharing similar profiles which include previously advantaged, research intensive and it has not been involved in a large merger with others. Selection was purposive and convenience based - the

researcher is an employee in the university and was confident of finding the data needed to complete the study due to ease of searching archives of annual reports over a period of ten years and securing interviews with a variety of respondents from senior management to executive levels and across different functional responsibilities.

3.2. Data collection

Data was collected in respect of: demographic profile of respondents of survey, industry profile of the university and the theoretical themes in respect of variables under investigation in the research questions. Data collection was done through a triangulation approach: analysis of annual reports over the past decade, and semi-structured in-depth interviews. Data collection was guided by the following approach: a case study database was created so as to enhance reliability – notes on interviews and document analysis were typed in Microsoft word; documents were copied and electronically filed; a chain of evidence was maintained through citation of documents, interviews, time and place of interviews.

The research is qualitative in approach, however, wherever available quantitative evidence was collected for a synergistic combination and was used so as to prompt salient relationships which may not be immediately apparent and assist in corroborating findings by revealing additional understanding of the qualitative analysis, (Eisenhardt, 1989).

3.2.1 Semi-structured in-depth interview

Semi-structured interviews normally revolve around a few central questions (Leedy & Ormrod, 2005). Kennerley & Neely, (2003) used semi-structured interview approach in the case study research to investigate the evolution of performance measurement systems in changing business environment in companies – the data was collected by interviewing managers involved in performance management.

In this research the questions were structured so as to extract useful information regarding central themes regarding the variables under study and links of cause and effect. The themes in respect of each variable are informed by the literature review. The discussion outline is as follows:

Interview schedule

The first few minutes were spent explaining to the interviewee the purpose of the study and completing the introduction to obtain the professional profile of the respondent. The definitions of key terms were explained.

The interview was structured around ten questions. The interview schedule is included in the annexures in appendix B.

A total of 15 people were interviewed. The respondents are university staff at different levels of hierarchy and consist of senior managers and academics, very experienced and knowledgeable as they have on average over ten years' service in positions of seniority. It was a purposive sample of managers driven by the research questions. The majority of respondents were white males which could be a source of bias, however, the relative seniority and sector knowledge was important for the study - this consideration outweighed potential bias.

The issue of **saturation** is seriously considered. Saturation is the point at which incremental learning is minimal since the researcher is observing phenomena already witnessed before (Eisenhardt, 1989). In planning for the interviews, the aim was to interview twelve people only. The number was informed by the need to manage resources in respect of time while ensuring that a broad spectrum of individuals was included across the diverse functional areas of university operations. Eisenhardt, (1989) suggests that in practice theoretical saturation combines with pragmatic considerations which include time and money. The number of interviewees was gradually increased to fifteen. As the numbers grew, the responses observed were found to be relatively similar, echoing those from the previous group with minimal new emerging data. The fact that the process of recording responses was thorough enabled cross checking of responses – taking notes and recording on tape and immediately transcribing the responses into Word format. At that stage it was considered safe to assume that the fifteen people interviewed were representative of the population. Additional interviewees would have had minimal influence on the results. This conclusion is also supported by a study by Guest, et al., (2006) which aimed to determine a yardstick for saturation for non-probabilistic samples for in-depth interviews. Guest, et al., (2006) found that saturation occurred

within the first twelve interviews. This provided further comfort for this study as the number interviewed was fifteen.

The prospective interviewees were contacted telephonically and the purpose of the study and methodology explained. A formal interview was requested and set up with the individual at a time and date convenient to him/her in his/her offices. The interviews were with permission of the interviewee recorded on tape. In line with ethics requirements at the university, consent forms were signed and each respondent was advised of his/her rights before the start of the interview, including the right to terminate the interview at any point. All respondents were willing to be involved in the research and cooperated. Notes were taken during the course of the interview and the interviews were also recorded. The responses were transcribed and recorded on Microsoft Word shortly after each interview.

Although a questionnaire survey was considered as another source of information, it was feared that the response rate and question completion quality could be compromised by the wide range of variables in the study – so the survey approach was not used. It was considered that the semi-structured interviews produced a large amount of data already. In addition for triangulation purposes, the documentary evidence from published annual reports was detailed and deemed adequate for the study. This decision was guided by Eisenhardt, (1989) who provides a detailed description of the case study method where it is noted that researchers must be wary of voluminous data characterised by the case study method and be prepared to make well considered changes during data collection.

3.2.2 Documentary evidence

Additional data was collected through the examination of published annual reports of the university over a period of ten years. This was a longitudinal approach to corroborate results of the semi-structured interviews. The annual reports are publicly available and no permission from the management of the institution was needed. Documentary evidence was limited to the annual reports which, being published and for public use, were deemed to be objective sources of data.

The annual reports are official and reliable sources of information as they are prepared so as to meet the requirements of the Manual for Annual Reporting of

Higher Education Institutions (Higher Education Act, 1997). The contents of annual reports of the university is standard and was found to have sufficient material from which data could be found.

It was expected that valuable data obtained in this way from such a reliable and detailed and structured source would serve as validation and triangulation for the responses received from the interviews. This method is similar to that used by Yan & Gray, (1994) in their study and advocated by Yin, (2009) as well as Eisenhardt, (1989), Voss, et al., (2002) and Corbin & Strauss, (1990).

3.3 Data analysis

A case study method is used to analyse the data. The strategy is guided by Yin, (2009) but modified for this study through other tactics outlined as appropriate by other authors and is as follows: analysis relies on theoretical propositions, development of case descriptions, use of both qualitative and quantitative data and examining rival explanations. All evidence collected has been analysed, the most significant aspects of the case study have been addressed and prior knowledge acquired through literature review has been applied. Transcripts from the interviews and notes from document analysis have been content analysed. Responses were coded according to the themes developed from the literature review, grouped, analysed and assessed for patterns, trends, data was displayed in tabular formats and graphs for some quantitative data. Frequency of themes was tabulated and categorised. The combination of techniques used for analysing the notes from the interviews and notes on the document analysis are: time series analysis, pattern matching logic, chronological analysis and logic models. Figure 4 outlines the analytical approach.

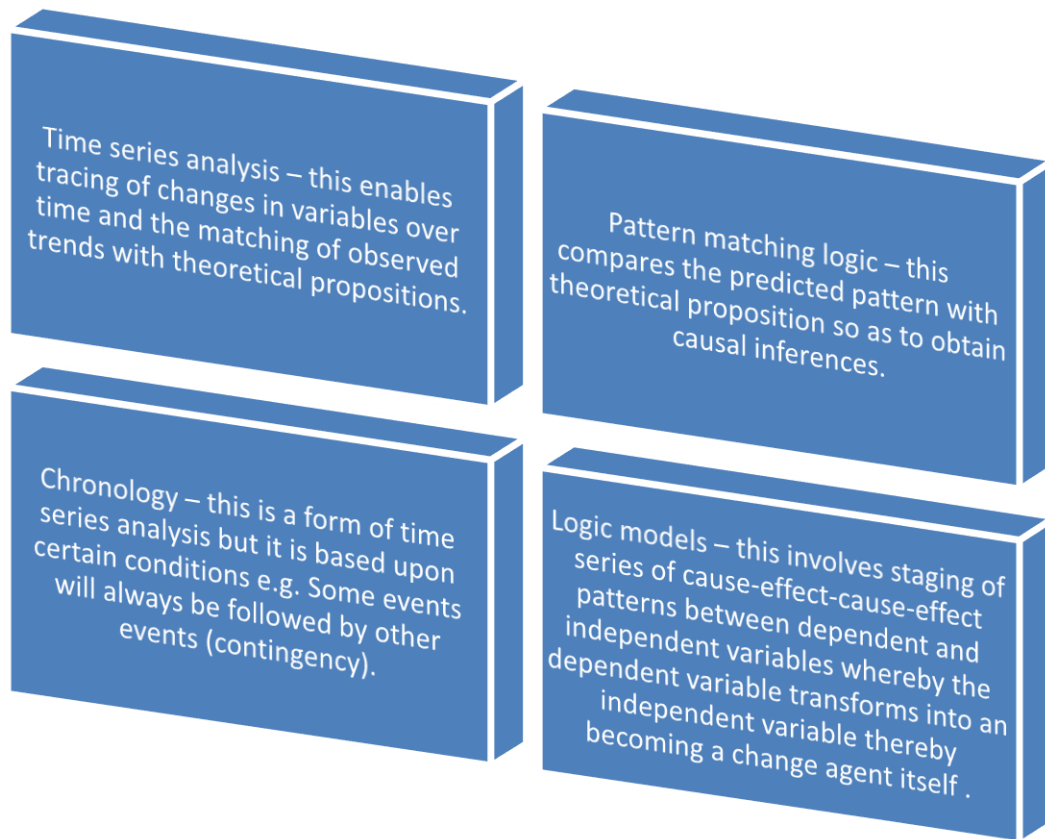


Figure 4: Analytical approach

Above analysis was further combined with the following analytical tactics to produce a modified approach considered useful for the case study:

The ‘a priori specification of constructs’ is common amongst the authors in case studies and was built through the literature review section: this guided both collection instruments and analysis of the evidence, (Corbin & Strauss, 1990; Eisenhardt, 1989; Yin, 2009) . The construct is built from literature as per table below:

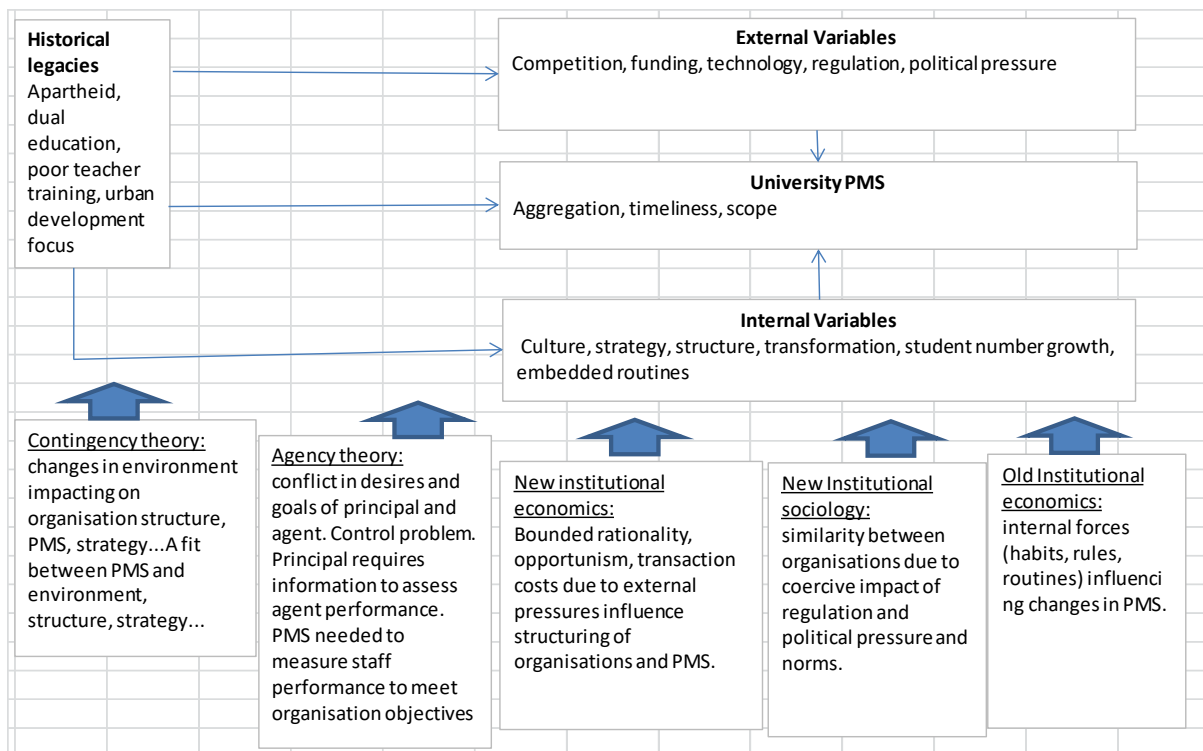


Figure 5: Theoretical framework

The approach used involves within case analysis. One of the realities of case study research is a staggering volume of data. Within case analysis involves write ups of the observation in descriptive terms making it possible to cope with the evidence and generate insights of the case, (Eisenhardt, 1989).

In line with the framework in figure 5, analysis of findings was conducted and interpreted using contingency theory, agency theory, new institutional economics, new institutional sociology and old institutional economics and comparing findings with previous empirical studies in the literature review. The approach used is described as analytical induction, similar to the method used by Yan & Gray, (1994) in their case study. Analytical induction differs from the method used in quantitative research where statistical rules are relied on; analytical induction involves the extension and refining of 'existing theories by constantly comparing them with crucial instances or typical cases', the analysis revolves around the a priori theoretical framework, (Yan & Gray, 1994).

In order to extend the conclusions of the study, the data collected has been analysed as follows – responses were put in tabular formats using Excel worksheets for each variable being investigated by question. Emerging themes were categorised, as well

as causal inferences from the data and comparison with an a priori construct. Causal inferences between dependent and independent variables were derived through the analysis of the themes by comparing these against theoretical propositions. The triangulation between findings from the in depth interviews and analysis of annual reports improves the rigour of the case study approach. Triangulation between data sources was used in Yan & Gray, (1994).

In summary, the process of building theory from the research involves stating the research question so as to focus research efforts, producing an a priori construct from the literature review so as to find strong grounding for measures, selecting the case after specifying and describing the population so as to sharpen validity, crafting instruments and protocols in a multiple collection approach. Following the preparation, entry into the field is much easier and a process of data collection was combined with analysis in a flexible approach so as to reveal helpful adjustments to data collection where necessary. In order to improve internal validity and raise theoretical levels, comparison with literature both similar and conflicting was applied. Thereafter saturation was achieved leading to the end of the process. This is the approach adapted from Eisenhardt, (1989).

Pattern matching logic, time series analysis, chronology, logic models, within-case analysis and triangulation have been combined by the researcher into the method of analysis now termed analytical induction which has been used in the case study by Yan & Gray, (1994) and in this study.

3.4 Validity and reliability

Validity refers to effectiveness of the measuring instrument (Leedy & Ormrod, 2005). It is concerned with whether the instrument is measuring what it is intended to measure. On the other hand, reliability refers to consistency and accuracy of the measuring instrument which is important in that a different researcher should draw similar conclusions using the same instrument in similar studies.

Validity:

The study used in-depth interviews. In order to enhance construct validity the schedule of questions for the interviews were tested by getting opinions of a variety of people so as to obtain their input on whether the questions had adequate clarity.

This was done before starting the field work. Input received was used to improve the structure of the questions. Internal validity was improved by interviewing managers and executives from multiple levels in the institution as this helped to draw a wide range of perspectives – some of the respondents had a strong academic background while others were professional administrators.

Examination of annual reports over a period of ten years further increased the external validity through corroboration and longitudinal analysis. A typical example of this was the insight of the Vice Chancellor. Perspectives of the VC were obtained from the annual report as section 5 of the annual report included the VC's report. Since the VC is the chief executive of the institution, his written report proved to be a valuable source not only of information but also perception of cause and effect insights of internal dynamics and external variables on performance.

3.4.2 Reliability

The use of triangulation to data collection and analysis – interviews, document analysis, provided a means of verifying and cross-checking the data collected through the recorded in-depth interviews, (Yan & Gray, 1994). The pilot test of the schedule of questions as outlined above was useful in refining the questions and preparing for the interviews. A flexible but structured approach recommended by Eisenhardt, (1989) greatly improved reliability as it made use of continuous learning and adaptation of data collection combined with analysis and consistent references to literature. A similar approach was used in Cuganesan, et al., (2012) and Waweru, et al., (2004) where a case study method was used. In this way reliability of the collection methods used was enhanced. This is supported by literature where it is acknowledged that data collection and analysis are interrelated, (Corbin & Strauss, 1990). Face-to-face contact with expert role players in the organisation during the interviews offered insight into the interplay between variables and performance systems made easier as the researcher was familiar with the environment. Reliability was bolstered by the analysis of annual reports in which written accounts from such executives as the Vice Chancellor proved to be useful sources of information about causal influences. In studying complex changes in contextual factors and performance management systems, the case study method has been found to be an approach gathering the respect it deserves in recent years (Scapens, 1990).

Chapter 4: Case study results

Elite100 University case:

Interview methodology:

The respondents selected for the study comprised of senior managers and executives with both administrative and academic experience spanning ten years on average and with institutional knowledge of more than ten years on average. The interview schedule is as reported under the methods section. A total of fifteen university employees were interviewed. The list includes a deputy vice chancellor, former deputy vice chancellors, former deans, former heads of school, heads of divisions, business and financial manager and chief financial officer. Six of the people interviewed are professors. The respondents have considerable knowledge of the university because of their responsibilities as they deal with administrative matters, sector collaborations and the academic community and so they can be regarded as experts. Appointments were set up with respondents in advance and all of the interviews were carried out in the offices of the respondents with the exception of one. Interviews lasted at least one hour.

The interviews were based on ten structured questions dealing with external and internal environmental changes and how they affected the university over the decade. The schedule of questions is in annexure B.

In order to satisfy ethical requirements, the respondents were presented with an information sheet which explained the purpose of the study and meanings of key words and phrases used in the study. The information sheet (see annexure C) was verbally discussed with the respondents at the beginning of the interview.

Respondents were asked to complete and sign consent forms (see annexure D) in which confidentiality of identity and responses was promised. Interviews were all recorded on audio tapes and transcribed in Microsoft Word documents. The transcripts are kept in the evidence file.

Below are the profiles of the respondents:

Respondents' profiles				
	Field & responsibility area	Number of years at university	Level of management	Demographic profile
1	Chartered Accountant, Chief Financial Officer	7 years	Senior Executive	White, male
2	Professor, Former Deputy Vice Chancellor for Research, Former Head of School in faculty of Humanities, Director of New Twenty First Century Institutes	Over 10 years in senior management	Senior Executive	White, female
3	Professor, Medical Doctor, Former Head of School – Anatomical Sciences, Assistant Dean, Acting Dean	Over 10 years in senior management	Senior Executive	White, male
4	Faculty Financial Manager	12 years	Senior manager	White, male
5	Civil Engineer, Head of Infrastructure Capital planning and development	13 years	Senior manager	White, male
6	Marketing communications Head	Over 10 years	Senior manager	White, female
7	University Librarian	Over 10 years	Executive	Black African, male
8	Research Office Head	Over 10 years	Senior manager	White, male
9	Professor, Honorary professor school of architecture, Founder of centre for part time studies, Acting Dean of Commerce, Law and Management	Over 10 years	Senior Executive	White, female
10	Head of Business Intelligence services, IT background	Over 10 years	Senior manager	White, male
11	Professor, School of Social Sciences, Assistant Dean, Chair of research committee, Member of University Strategic Planning and Resources Allocation Committee and Finance sub-committee	Over 10 years	Executive	White, male

12	Professor, former Head of School, former Dean of Commerce, Law and Management, former Deputy Vice Chancellor for Finance and Operations, Academic	Over 10 years	Senior Executive	White, male
13	Head of Alumni affairs	Over 10 years	Senior manager	White, male
14	Head of Campus control and security services	Over 10 years	Senior manager	White, male
15	Professor, former Head of School -media studies, former Dean of Humanities, Deputy Vice Chancellor for Finance and Operations	Over 10 years	Senior Executive	Black African, male

Table 3: Respondent profiles

Analysis of the transcripts was carried out using the within-case analysis method and analytical induction: the results are as follows:

External environment

Respondents experienced many changes which affected Elite100 University. Transformation in demographics was one key change, particularly in student population from predominantly white to predominantly black (70%). Political pressure from previously disadvantaged groups to increase access was experienced during the ten years. There was a phenomenal increase in student numbers. Although there was pressure for transformation, there was consensus that change was successful amongst the student population but transformation of staff body much slower (25% black). Staff transformation has been achieved largely through recruitment of blacks from the rest of Africa due to a shortage of qualified South African blacks – qualification requirements for recruitment at Elite100 university have remained high. Transformation has not impacted quality of education at the university and the change in white to black proportions has been more a result of reflecting national population than of white flight ‘which is important because there is a tendency for the public to have a perception of standards coming down if there is white flight’.

Financial aid offered to financially needy students by NSFAS has increased considerably over the decade.

Globalisation brought in new ways of doing things.

Elite100 University experienced the effects of capital flight in the previous decade as a result of perception of crime in the metropolis where it is located and has had to improve its campus security considerably. New occupational health and safety regulations have meant that compliance gaps are significant – this applies to both staff and students and residences owned by the university and privately owned.

The government funding formulas changed during the decade although CESM categories haven't changed much. There has been pressure from government to increase students in science, technology, engineering and accounting – this creates tension with the university's own aspirations such as a strong interest in the Humanities while it still takes into account national requirements. Government offered funding targeted towards infrastructure for science, engineering and technology. Respondents cited financial constraints as Elite100 University had to deal with an increasing student population while maintaining standards – the risk of student activism against high fee increases and fear of bad press and campus instability was an important consideration when making financial decisions. Electricity tariffs have escalated in recent years and this has affected university budgets. There is pressure to find other avenues of funding but 'the culture of donations to universities is not strong in South Africa'. The global economic collapse in recent years is filtering to subsidy allocations as there are less funds available for government to distribute to universities.

The university has embraced information technology and benefited from the TENET, a university consortium focussed on growing internet bandwidth; management information systems were modernised at high cost. New IT implementation has been a challenge due to a lack of competences within the university as management were of academic background. The university must keep up with continuous changes in IT, smartphones, I-pads, as students want to be reached wherever they are. Respondents felt that there is more power to users as users have remote access to information instead of approaching a central department for reports. Students entering university have become more sophisticated and more IT savvy and

universities struggle to accommodate their needs. Technology has meant a move away from print to electronic resources which have become cheaper as vendors aggregate resources to platforms.

Respondents agreed that Elite100 University has lost some staff to neighbouring universities which have been aggressive in their recruitment but there is an impression that it has kept its attrition rates at amongst the lowest in the country. Elite100 University does not feel much competition for quality students because of its high profile in the country and has not been aggressive in its recruitment for students and staff.

Ranking of universities has emerged in the decade as an important competitive factor and is now recognised as a consideration by students when applying for places. International ranking is now more publicly discussed amongst staff in many forums than earlier in the decade.

Regulation has extended to non-medical ethics which used to be more stringent in medical research – this has placed new requirements on ethics committees which have to have more meetings and longer agendas. Intellectual Property Act of 2008 had impact on funders and researchers in respect of ownership and management of intellectual property. In general, regulation has made the university risk driven in its approach to processes. After independence the new government showed a willingness to control universities more than the previous government did - 'due to its legitimacy managed to make big changes to the Higher Education Act and introduce more controls and measurements', this was the view of one of the university executives interviewed.

Effect of external variables

Respondents felt that the causal effects are difficult to separate. However, it was possible to pick up causal relationships as below:

Structure:

Although organisation structure at Elite100 university remained stable following a major restructure just before the decade, certain targeted changes were made which could be related to pressure from external variables. During the decade, the

Financial Resource Allocation Committee was restructured into the Strategic Planning Allocation and Resource Committee. The advancement portfolio was restructured in the way American fundraising offices are structured, a result of influence from global trends but made more imperative due to the recognition that the university needed to look externally to raise funds to make up for low funding from government. Elite100 University introduced a new executive portfolio of DVC Knowledge Information Management in recognition of the need to elevate importance of technology and become IT savvy. Funding for infrastructure development necessitated a change in estate management with the creation of a new department for capital development and planning.

Strategy and PMS

'Universities prior to 1990's never had strategies; strategies were a new thing, it was a phenomenon of catching up with global trends and nature of capitalism in the West'. Fund raising is a major element of university strategy. International ranking of universities has become a key issue with the Elite100 university aspiring in its strategy to be ranked top 100 in the world. Ranking is discussed positively as a reference point and embraced by all academics and staff unions. The focus on ranking has demanded that the university strategy aims to be research intensive and to increase post graduates at the expense of undergraduates which is in conflict with national requirements. The negativity of academics against managerialism has reduced markedly as everyone concerned has grown to recognise the external pressures and regulatory changes. There has been growing 'internalisation' of more 'business like' ways of doing things with a growing view that this is inevitable and, in fact, desirable in facilitating the traditional role of universities. Pass rates, quality of students, number of PHD staff are traditional university metrics but they are now more monitored and discussed more than before. However at Elite100 university individual performance management of staff is 'embryonic' and faces resistance from unionised academic staff. The government's funding formula rewards outputs and throughputs, however, the culture at Elite100 university is to focus on quality and not quantity, i.e. relating publishing with earning research output subsidy was not an issue but publishing in international accredited reputable journals is much more accepted – there is a culture of suspicion of quantitative targets.

Internal environment

During the decade Elite100 university has had a stable management with only one Vice Chancellor. Management style has become more business-like with adaptation of new strategies and business plans. There are more key performance indicators in the strategies but there is lack of follow-through regardless of the amount of information available. Budget committees were introduced in faculties. There have been no dramatic changes in conditions of employment. Budget process has seen more engagement with departments and a move away from incremental practices. The attempt to implement a staff performance management system has not been successful as it met with resistance from unions. Relations between staff unions and management are very poor. It is not clear whether restructure of the advancement portfolio has brought in the expected results as targets are not made public. Elite100 University talks of a culture of excellence but this is not matched by a staff PMS to enforce that. The age group of researchers has moved above 45 years which is a worrying trend as the young are not filling the gap.

Strategy changes

University strategy has changed from coping with transformation to international global positioning, in this way, elevating importance of research output and takes a longer term view than before, 'a totally new approach'. The change affects promotion of staff as it has a strong research focus, creating tensions amongst staff.

Quinquennial reviews are new performance management systems which are more numbers driven and put much more pressure on schools. There is more awareness of strategy than before and the development of groups and committees and hiring of consultants to evaluate strategies and receive advice. There are much more financial and non-financial metrics than before, but what is lacking is action. Budget allocations required have been seen by academics as inadequate to fund the ambitious strategy. 'Interpretation of metrics is often disregarded due to intra faculty differences and fear of consequence management'. There is much more knowledge of the link between research output and earnings. Financial performance has been monitored closely. Staff PMS has, however, lagged behind.

Organisation structure changes and PMS:

There are five faculties and schools in each faculty. Each school is headed by a Head of School, each Faculty headed by a Dean with the Dean reporting to the Vice Chancellor. Both Dean and Head of School are executive. Deans have functional responsibilities over registration, human resources, finance and are seen as very powerful. Deputy Vice Chancellors (DVCs) have responsibilities over specific portfolios which are run by Heads of departments. Various committees provide overview on key decision making over different areas of the university business. There has been no big change in this structure over the decade except for the establishment of the DVC for knowledge and information management and restructuring of the advancement function. There is an impression that resource allocation has remained historical and that performance management systems have not adapted enough with re-allocation of resources particularly in linking of performance with resources allocation but there has been a growth in consciousness over resource allocation. There was during the decade creation of specialist offices such as Strategic Planning, Academic Planning, Management Information Unit and a much larger Computer Network Division emerged but this has led to the gripe by academic staff about the growth of support areas faster than the needed growth in academic staff which has caused animosity between staff unions and management. Devolvement has depended on increased trust and this has been felt to result in unevenness of unit performance leading some to ask, 'Did devolution go too far?' Some respondents said that there has been a growth in use of management information systems 'with the need to relate to changing dynamics'. Staff PMS did not change over the decade.

How much autonomy do the Dean, Head of School (HOS), Head of Department (HOD) have in hiring staff, setting budgets, workloads? This construct gives insight into the internal environment and the links between structure, autonomy and performance through perceived control.

Management has autonomy as there is 'self-management' but budgets are within available resources and limitations imposed by capping of university student numbers in consultation with government. Deans are very powerful. Heads of Schools 'do not see themselves as having power and end up as advocates of staff'. The responses showed that in faculties, although Deans were powerful, they have to consult extensively with HOS's and academics and this keeps their power in check –

decisions are only made following consultations with HOS's through committees and according to rules such as senate guidelines. Policies and procedures are seen as limiting autonomy. The view of was that there was no change in autonomy over the decade. Autonomy in decision making was felt to be more prevalent amongst managers in non-academic divisions.

Most used PMS

Statistics, budget versus actual financial reports, deadlines for key outputs like annual financial statements and budgets, measurement of supplier performance for outsourced services. A new ERP, Oracle was implemented over the decade which facilitated reporting. Tracking of media reports and social media was mentioned. However, there is nothing on assessing staff performance. In faculties most used are promotions, awards, a very elaborate system of prizes, teaching awards, publicising of research ratings, allocation of funds on basis of research output, awards for young researchers, graduation rates, number of rated scientists, external examiners 'add rigour', teaching assessments, probation, school quinquennial reviews, citations – these are also used as criteria in considering applications by academics for promotions and sabbatical leave by the staffing and promotions committee. Academic respondents felt that promotions as a performance measure amongst academics did not affect all academics but only those who are ambitious enough to be interested in seeking promotion which limited its effectiveness. There has been tightening and sophistication of measures of research output and graduation rates but driven more by government than by the university. Some key indicators are in conflict with government such as postgraduates versus undergraduates and the tension is not specifically managed. Although there is more awareness of metrics there is no consequence management for individual staff. The changes in the environment resulted in more metrics but there remained the question of how to use them in a way that would enhance organisational effectiveness.

Frequency of PMS

Financial reports are available on ad hoc basis and also reported on a monthly basis. Frequency has increased in the decade with more serious attention given by management – budget committees meet regularly, in some faculties six times a year but there was no effort to link results to individual staff performance. Reporting has

become more formal resulting in stronger financial control. Quinquennial reviews are done every five years with a concomitant progress report done thereafter three or four times a year. There is no regular PMS for staff. Graduation rates and research output are produced annually which appeared to be in response to regulatory requirements.

Nature and scope of information

Financial information in regular use is budget versus actual results, forecasts. Although some metrics are added to financial information, they generate more criticism about their accuracy. More non-financial metrics (academic output statistics, enrolment planning models were mentioned) are used but not enough time is spent in interpreting them to decide what needs to be done to improve performance.

Ease in finding information

There is a great deal of information but it tends to be overlooked. 'Universities are complex organisations - it is not easy to find 100% suitable systems' commented one respondent. 'Oracle ERP has not made it any easier and this may be a result of strategic decisions of how data is captured'. There is a lot of data available but dashboard data is not clean, it is not accurate, you need to know whom to ask to get good data. Information such as costs per student, workload management is not easy to find. For resource planning the information is available. Financial information is much more reliable and easily available. The changes in the environment brought about better tools to produce information but it was apparent that there was frustration about how to improve its quality and make it available for role players to use for the benefit of the organisation.

Documentary evidence: Annual reports of Elite100 University – 2002 to 2011:

The research methodology includes the analysis of annual reports in order to find data to address the research questions and corroborate findings from in-depth interviews. Annual reports for Elite100 University for the decade have been analysed, starting from 2002 up to 2011. Data was analysed according to the themes which pertain to external environment (technological changes in IT, regulatory requirements, competition, ranking, funding levels, political pressure, and transformation) and internal environment (strategy changes, student numbers and demographics, organisation structure changes) and performance management systems. Findings are as follows:

External environment:

Regulation

The decade has been characterised by changes in regulation and implementation of the changes. The format of the annual report itself changed during the decade – from an annual report which appeared to provide minimal information about the Elite100 university (in 40 pages in 2002) to a report which appeared to be in response to the HE Act 1997's demands for extensive structured disclosure (in 302 pages in 2011). The report for 2003 was the first one prepared according to the significant amendments to statutory requirements for annual reporting gazetted in August 2003 – the number of pages increased from 40 in 2002 to 107. The university reported that it had to establish a working group to deal with the requirements of the amendments, one of which was 'self-assessment of achievements of Council in attaining objectives'. Council was also required to deal with the statutory amendment of size of Council reducing to a maximum of 30. The Labour Relations Employment Act, Occupational Health and Safety Act requirements also saw sections being included in the annual report dealing with compliance issues. The annual reports also reported on controls on enrolment planning by government, maximum numbers government would subsidise, 'through a process of negotiation'. The university Council expressed support and embraced the principles of the King 1 and King 2 codes of governance in its 2002 annual report. In its 2011 report, the university reported that it 'acknowledges the growing emphasis on the need for integrated reporting as recommended in the King 3 report'.

A graphical illustration of the effects of regulation was done by plotting the growth in length of the annual report measured through the number of pages over the years in the study, an indication of the significant increase of data and level of information and analysis demanded by the changes shown in figure 6 below. The growth may be viewed as better transparency but it can be argued that the longer report caused information overload.

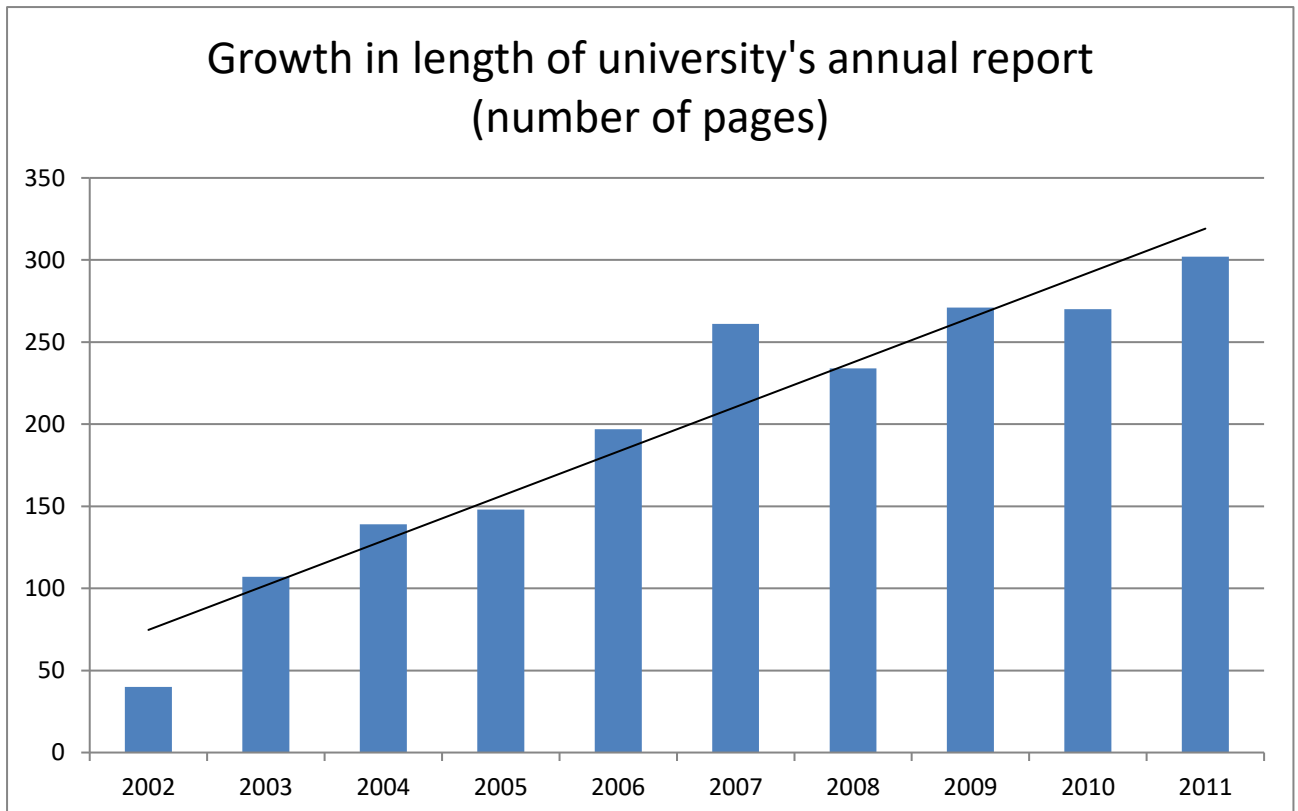


Figure 6: Growth in size of annual report over the decade

Competition and ranking

There was no specific mention of competition in the annual reports in early years of the decade: the closest expression of competition was in the 2002 annual report in respect of successful marketing efforts to attract students between 2000 and 2002 and targeted towards improving the institution's profile. This weak show of competitive threat to the university was also reflected in the responses of respondents during interviews. There was no direct mention of the university's position in world ranking tables in the annual reports between 2002 and 2006. This changed in the 2007 annual report in which the university's strategy was explained in much greater detail. In the 2007 annual report the university articulated its vision to

be in the top 100 of world universities by 2022 through expansion of research reputation, attracting top academic leaders and growing third stream income. In the 2007 report, the ranking of the university was given a full paragraph in the Vice Chancellor's report with the university's position reported as having improved from 322 to 282 on the Times Higher Education Supplement rankings, and its business school being ranked 45 globally by UK financial times. Traditions and strengths were highlighted in bullish fashion for the first time during the decade in 2007. 2007 marked a change in reporting which consistently placed more emphasis on rankings, university league tables, strategic plans, benchmarking arrangements with top universities, development of the university's brand internationally, strategic partnerships, increasing international staff and students which are all key indicators which ranking tables use in determining university positions in league tables.

Technology

Technological changes were given considerable coverage in dedicated sections in all reports over the decade. The reports covered digitisation of theses, eLearning adoption, implementation of online mentoring system, web based career and curriculum choice software, computer centres for disabled students, multi media conference rooms, wireless technology acquisitions, customer relationship systems, research information management systems and, huge increase in student computer labs. The reports showed that massive amounts were invested in administrative ERP systems for financial, student and human resources. The reports showed that considerable investment was made towards internet bandwidth with university sector collaborations, changes to email configurations for both staff and students and hardware. Challenges reported were changes in Enterprise architecture, a deep dissatisfaction over ICT governance structures to deal with data quality and ownership and decisions regarding software acquisition e.g. open source versus proprietary, need to increase internet connectivity, requests to ban access to popular social medial sites such as Facebook and YouTube. The technological advances thus introduced internal dynamics which needed to be managed in order for the university to benefit from new technologies.

Funding levels

The annual reports mentioned financial pressure experienced by the university. In 2003, the university posted a significant consolidated deficit of R128m, resulting in substantial depletion of reserves and use of overdraft facilities as bridging finance in the first three months of the year before receipt of grants in April. 'Abnormally' high capital expenditure to upgrade infrastructure between 2001 and 2003 which had deteriorated, together with the strategic decision to bring salaries in line with competition, contributed to the depletion of reserves. In 2004 the university posted a consolidated deficit again but it was much less than in the previous year, R16m. The commentary in the 2004 report referred to a marked diminishing in capital budgets in real terms due to a decline in state subsidy, necessitating the prioritisation of external fund raising. The deficit trend continued in 2005 although the results showed some improvement with a reduced deficit of R6m. In 2005 the university contemplated the development or disposal of part or all of a large property which it owned through a private company and it had to sell 49% of its ownership in a loss-making subsidiary to a public listed company. Although financial results improved in 2006, with a consolidated surplus of R56m, funds allocated towards infrastructure maintenance were low as it was necessary to fund improvement of ICT systems. State funding was not coming forth for improvement of residence accommodation so private players were increasingly involved. Management explained that other sources over and above traditional income streams of government subsidies and fees would be needed to fund its strategic initiatives and fulfil its vision. Much more improvement in financial results was achieved in years from 2007 as student intakes increased and government began to provide funding for infrastructure expansion.

Internal environment

Strategy

Analysis of the annual reports shows a shift from the 2002 annual report when there was no outright mention of the word 'strategy' to formulation of strategies and reviews and implementation of specific strategies. In the 2002 report there was no mention of strategy but rather 'the way forward': the university expressed the generic aspiration 'to sustain and enhance position as leading university....through sustained excellence in learning, teaching and research. Transformation to address historical imbalances... Actively foster growth in third stream income'. In the following year the

word strategy featured: management was finalising an exhaustive financial turnaround strategy, clearly stating goals to be achieved and processes required to make it happen and the strategic plan by the new Vice Chancellor was named 'shaping the future 2002-05'.

The annual report confirms that a Director of Strategic Planning was appointed in 2003 which signalled a strong shift. In 2004 the annual report continued to place a strong emphasis on strategy indicating that the 2002-05 strategy was being reviewed and would be renamed 'a university to call our own'. Renaming of the strategy was indicative of efforts to unite university stakeholders towards a common purpose – staff and executives.

Analysis showed that changes in strategy continued in the decade. In the following year a new strategy was in place and was referred to as the 2010 strategy in which, for example, the university would grow post graduates from 30% to 50% by 2015 (the Vice Chancellor reported that in 2005 the trend was not in line with the strategy as undergraduates were growing faster than post graduates). In the Vice Chancellor's report for 2005 it was reported that the university was to make changes to its committee structures so as to combine its strategic planning with resource allocation which indicated that the strategy was expected to influence performance – a joint committee of senate and council was formed to ensure alignment of strategy and resource allocation, the university embarked on a strategic procurement project in 2006. This finding indicated the effect of external factors on strategy and in turn a link with performance management.

In 2006 the university's 2010 strategy was in operation but the university hired a team of consultants to review its fund raising function. This development indicated the effect of funding needs on strategy. The conclusion of the consultants was that fund raising capacity was not adequate to meet the goals of the 2010 strategic plan and recommended the restructure of the advancement division into a single integrated division. Lack of capacity is a measure of performance which links with strategy.

Findings from the interviews in respect of changes in strategy were confirmed through information in the annual reports. The 2007, 2008 annual reports included a much higher and bold articulation of the university 2010 strategy than in previous

reports and the university's aspiration to be in the top 100 of world universities by 2022 and optimising management of its commercial entities. The university strategy was articulated in 2009 annual report in the overview section in more detail than in the previous years and it was reported that a new DVC position had been created for knowledge and information management so as to create a 21st century approach to IT and a more IT savvy university which was a new strategic thrust. In the 2009 to 2011 reports it was clear that strategy was being linked to increased research performance, transformation and general standing of the university similar to findings from interviews.

Useful details supporting the changes in strategy and links with performance were evident from the annual reports. Specific funding allocation of R10m was made for strategic projects to make the university more innovative. A framework for benchmarking was adopted in the quest to achieve the top 100 ranking and the ranking performance indicators used by the Times Higher Education league tables were identified (increase international staff and students, improve research output, appointing researchers with h-index profiles, marketing the university brand internationally – these would be incorporated into the university's strategic planning process. The Vice Chancellor reported in 2011 report that threats to the strategy were resources for research equipment plan, resourcing the 2022 strategic framework, pass rate, research and service excellence leadership, resistance to necessary change 'reflected in the lack of trust amongst certain members of the university community'. Throughout the ten annual reports there was no mention of staff performance management processes to enforce the strategic direction and required outputs – the frustration of the Vice Chancellor indicated underlying difficulties in strategy implementation as a result. These findings echoed the interview responses.

Structure

The university has thirty four schools under five faculties offering more than three thousand courses. The faculty structure comprises of schools, research entities and centres and is headed by an executive Dean. Deans report to the Vice Chancellor. The Vice Chancellor has a team of Deputy Vice Chancellors (DVC's) reporting to him; the DVC's have functional responsibilities over operational support divisions. As

required by the Higher Education Act 1997, there are several committees through which decisions are made, such as the Council, Senate, and Financial Committee of Council. Annual reports for the ten year period show that the structure has remained the same. Changes reported were influenced by strategic imperatives such as the restructuring within the advancement division and additions to the Vice Chancellor's deputies, such as the knowledge and information management and relatively small changes to divisions or renaming of schools and centres. It is clear, however, from the 2002 and 2003 annual reports that the new structure in place was established during the 2000-01 review which was a major change, judging from comments made by all executives in their annual reports in 2002. By 2002 and 2003 the effects of the restructuring were still being felt – further expenditures were reportedly incurred in 2003 in respect of faculty restructuring and the process of realigning the administration to accommodate the devolved structures was carried out. The common theme in the annual reports was the shift from a central structure to a devolved one and the formation of campus companies meant to manage increased income generating opportunities presented by intellectual property of the university and its staff. At the beginning of the ten year period a new Vice Chancellor was appointed to serve a ten year term.

In the 2003 annual report it is reported that the role of preparation of staff budgets was transferred from the Human Resources Departments to the finance division. Annual reports are quite clear that according to the executive the structure is a devolved one with 'fairly autonomous' faculties each managed by an executive Dean. Responsibility and ownership for budgets (planning, budgeting and control) is given to budget holders in faculties and divisions subject to committee structures. Devolution of management appeared to have its own problems as frustration over lack of coordinated ICT governance was reported in the 2011 annual report – Deans have responsibilities for aspects of administrative and academic ICT and so 'with this milieu of governance it can be difficult to determine where a given decision should be taken'. This frustration was in respect of decisions regarding 'contested areas' of free and open source versus proprietary software and issues relating to data quality and ownership; 'some decisions require more governance, but that governance happens at an operational level such as the change advisory group'.

Student numbers and demographics

Annual reports reported on student metrics. Over the years the data reported considerably increased in detail and quantity but with less commentary. Student numbers increased substantially over the period – the head count in 2003 was 24473 and was 29326 by 2011. During this period the Matrics from the new National School Certificate pushed the enrolment significantly higher than in any other year as more students qualified for university in 2009. In 2003 the ratio of black to white students was 65:35 and had changed to 74:26 by 2011. The post-graduate to undergraduate student ratio remained at similar levels of 33:67 and this was attributed the large increase in enrolment – the Vice Chancellor noted that this did not make it possible to achieve the university’s strategy of increasing its post graduate profile. Female to male ratios increased over the period (2003 49:51) and in 2009 for the first time female students totalled more than male, reaching 54:46 in 2011. The proportion of international students increased over the period in line with strategy – (2003: 7% and by 2011: 10.49%). Over the period the government increased financial aid through NSFAS from 32m in 2002 to R160m by 2011, considerably enhancing access to university for financially needy students.

Performance management systems

The annual reports devoted several pages to achievements for the year: this increased the size of the annual report from 40 pages in 2002 to 302 pages in 2011. This appeared to be ‘box ticking’ reporting. The achievements included acknowledgements of academic achievements and awards, events, conferences and functions held, partnerships concluded, accreditation of courses, internal departmental and faculty reviews carried out, significant teaching and research achievements, external higher education quality control reviews, detailed metrics in respect of student enrolments and enrolment profiles, graduations and throughput rates, research output, staff attaining National Research Foundation rating status, listing of senior staff appointments and promotions, numbers of books authored by staff, prestigious student achievements and prizes, employment equity profiles.

Quality of information appeared to be of concern and was consistently mentioned in the Vice Chancellors report in the last half of the ten year period – this was indicative of information overload which did not benefit university strategy. Benchmarking agreement with one South African university was reported in which valuable

exchange of information was expected to inform approach to planning. The university participated in benchmarking through the Association of Commonwealth universities benchmarking program. Financial performance was reported to be monitored through budget versus actual reporting on a monthly basis accompanied by variance investigation and action plans to rectify overruns on budgets. Budget reviews were also part of the financial performance management.

There was no reference to individual staff performance and linking of performance with reward in most of the annual reports. However, in the 2004 annual report it was reported that performance management at the university had a 'chequered history' and that it had been proposed that a 'unit system' be introduced with greater accountability within teams. This would seem to indicate that there was no formal individual performance management system linking performance with reward at the university. Towards the end of the decade, concern over performance was raised in the annual reports starting from 2009. In the 2009 annual report an improvement in research output per capita and in absolute terms was reported but it was acknowledged that a lot more needed to be done to become a truly research intensive university. In the 2010 annual report the Vice Chancellor reported that 'certain things' needed improvement and these were listed as follows: academic output remained reasonable but far short of set targets, service excellence culture was not properly institutionalised across service units, student throughput had not improved as aimed at in the 2010 strategy, there was a mix of high flyers and non-performers amongst researchers, there was a need for more staff with PhD's, university income and investment in research should improve, there was a tendency to be resistant to necessary change which is reflected in the lack of trust amongst certain members of the university, academic leadership was a challenge, institutional performance needed attention and resourcing of the vision 2022 strategic framework and post graduate project needed to improve.

The Vice Chancellor repeated the same frustration with performance, listing similar issues, in the 2011 annual report. However, in the 2011 annual report the Vice Chancellors report mentioned that 'a new philosophy' of remunerations that places emphasis on recognition and reward for performance excellence was implemented with a pilot programme on senior management. Each support unit would be expected to have a service delivery charter. There was no explanation of how the new

philosophy would work in practice and this confirms that the university did not have an individual staff performance system in place to link reward with performance during the ten years.

A summary of the results showing common themes in categories is given in the table in appendix E. The table also shows a triangulation of the data sources – semi-structured in depth interviews and analysis of annual reports.

Chapter 5: Discussion of results

Contingency theory suggests that performance management systems are influenced by changes in external and internal environmental variables (Chenhall, 2003; Scapens, 2006). Results of the interviews show that the university experienced considerable changes in its external environment. Technological changes in IT brought about challenges and opportunities. Challenges arose from change and the need to keep up with it (limited funding, student needs, IT architectural changes, concerns over the quality of data and ownership of data – i.e. IT governance structures). On the other hand, changes introduced opportunities which management took advantage of - availability of more effective means of keeping in touch with students, better accessibility of information through self-service and data analysis. Respondents indicated that over the decade, performance measurement systems became more accessible from a timeliness and scope perspective although issues relating to poor data quality were prevalent, especially in respect of aggregation. Financial reporting was more regular than previously. These findings are in line with literature (Chenhall, 2003; Berry, et al., 2009). They are consistent with studies by Gul & Chia, (1994) and Gordon & Narayanan, (1984).

New regulation during the decade demanded changes in annual report formats and the nature and detail of information to be included (Damian, 2006; Bawa, 2012; De Villiers & Steyn, 2007) . This resulted in the reports growing over the years from 40 pages in 2002 to 302 pages in 2011. Large amounts of data with no narrative were progressively included in the annual reports when the changes were implemented over the years. Respondents explained that there was growth in performance measures over the decade but more as a result of government regulations than university requirement. This gave the impression of a 'box ticking' approach. It appeared more about compliance than a genuine aim to inform the public and did not give confidence that the information was being used for any other purpose within the institution. Nevertheless, regulation had an impact on reporting of performance measures.

The international ranking of universities grew in relevance during the decade. Benchmarking with other universities became an accepted means of performance measure as the university attempted to be more competitive on the league tables.

While respondents noted that performance measurement systems in use at the university remained more or less the same over the decade in content, benchmarking certainly added a new dimension to the scope of performance measures. New Institutional Economics and New Institutional Sociology theories (Beard, 2009; Scapens, 2006; Chen, et al., 2006; Kaplan & Norton, 2001; Yawson, et al., 2006) indicate the adoption of benchmarking as a performance management system to adapt to changes in the environment. For example, the study by Yawson, et al., (2006) was conducted in a food institute in Ghana and a growing use of benchmarking was associated with the dynamic changes in the external environment – this is consistent with results from this study. New Institutional Economics assume bounded rationality and opportunism which form the basis of how organisations are structured in certain ways and how management accounting practices come into being. New Institutional Economics use transaction costs economics reasoning. New Institutional Sociology attempts to explain why certain organisations in the same sectors are similar – in this respect benchmarking is a form of mimetic isomorphism arising from attempts by an organisation to copy practices of other organisations seen as more successful, leading to normative isomorphism which arises from organisations following societal norms and practices. Both the new economic and new institutional sociology theories relate to pressures applied from sources external to the organisation impacting on structures and management accounting practices. These theories provide backing to the phenomena at play in the case.

The results from both interviews and analysis of annual reports show that the decade was characterised by dynamic changes. Apart from competitive issues due to growth in importance of university ranking and rapid ICT changes, financial needs to run universities grew, student numbers increased, the student body became more diverse and regulatory changes introduced new requirements to comply with. The results show that the university introduced new strategies and reviewed its strategies constantly so as to remain relevant and deal with the new environment. Although the major organisational structure changes occurred just before the decade under study, the findings show that certain structural changes were introduced in line with the changes in strategy, such as the restructure of the advancement function, the change in the joint senate committee on strategic planning and allocation of resources and appointment of a strategic planning director as well as setting up a

new information management unit. The results resemble findings from Kennerley & Neely, (2003) following a case study involving an electrical wholesaler in the UK where strategy evolved in reaction to dynamic changes in the environment – performance management also evolved in response. Respondents also explained that financial reporting was more structured and formalised and that the criticisms of managerialism had been dissipating over the years with the acceptance of a more 'business like' approach and a much higher understanding of the government subsidy formula linking outputs with funding. Previous empirical studies relating to uncertainty and performance management systems found that broad scope PMS was found to be used more in uncertain environments, (Chenhall & Morris, 1986; Gordon & Narayanan, 1984; Gul & Chia, 1994) and timely information has been related to uncertainty, (Chenhall & Morris, 1986). Results of this study show that the findings conform with previous empirical studies in respect of broad scope and timeliness of information, increasing in use over the course of the decade.

The complexity of the environment is highlighted by both interviews and the analysis of the annual reports as it is clear that in faculties Deans could not exercise control without extensive consultation with Heads of Schools and senior academics. These complexities are similar to the findings reported in the case study by Kennerley & Neely, (2003) in which it was concluded that a complex range of factors can facilitate or obstruct evolution. Governance structures have considerable decision making power (senate, research committees and so on). ICT governance issues observed are a key indicator of how decisions appeared to be out of the control of management. In interviews some respondents indicated that devolution may have been taken too far.

Literature suggests that in large organisations with more sophistication and diversity and high levels of decentralisation, more sophisticated controls are expected, together with formal and traditional performance management systems (Chenhall, 2003; Khandwalla, 1977). In the case study, Elite100 University can be referred to as a large institution with devolved structures (according to respondents) - budget control systems were in place with high levels of participation, conforming to literature. However, no other controls such as reward based individual performance systems were in place. Although performance measures such as research output, throughput were available, it would appear that such information was largely

produced as a requirement of the Department of Higher Education and Training reporting regulations than linking it with individual performance. It may be argued that amongst the academic staff the promotion and probation system and quinquennial reviews were in operation but respondents confirmed that promotions did not affect most staff as these only impacted due to their voluntary nature on staff who considered promotion as important. Quinquennial reviews only affected schools and departments. All respondents confirmed that individual performance systems were non-existent and that previous attempts to implement have been unsuccessful. The annual report analysis confirmed that performance management had had a chequered history in the institution. In the annual reports of 2010 and 2011, the Vice Chancellor reported frustration linking the unsatisfactory institutional performance with lack of trust amongst certain members of the university, that academic leadership was a challenge and that institutional performance needed attention, together with resourcing of the vision 2022 strategic framework. This highlighted the complexity involved in managing the dynamics similar to findings reported in Kennerley & Neely, (2003).

The internal environment at the university is explained by the Old Institutional Economics theory which deals with pressures which arise internally in organisations, helping to shape changes in management accounting practices: these internal forces relate to habits, rules and routines which evolve over time. Unfortunately, in this case study the internal culture as indicated by the Vice Chancellor appears to impact negatively and make it difficult for management to implement necessary changes to the satisfaction of management. The result has been that there is no individual performance management system in place and institutional performance has suffered. In a university environment, labour forms the largest element of cost structure and, as findings show, it is a complex environment operating in a decade of dynamic changes; performance management systems are expected to play an important role (Liefner, 2003). Agency theory attempts to deal with the problem between the principal and agent relating to conflicting desires and goals (Jensen & Meckling, 1976; Eisenhardt, 1989). In agency theory performance management systems (such as individual incentive schemes) are used in achieving purposeful outcomes (Chenhall, 2003). The non-existence of performance management systems at individual levels at the university seems to have caused unsatisfactory

institutional performance. In this respect the VC mentioned that although some improvement was evident, targets that were set in the strategy were not met.

In line with contingency theory and previous studies, (Donaldson, 1987; Fisher, 1996; Govindarajan, 1984; Ezzamel, 1990; Hartmann & Maas, 2011), the external environment was instrumental in causing changes – regulatory requirements, technology, funding constraints led to implementation of strategies and greater consciousness of performance, at least at the team, departmental levels where several achievements were evident although outputs did not meet set targets. The Vice Chancellor acknowledged that there was an improvement although set targets were not achieved. It was also evident that financial performance improved during the decade from the large deficit of R128million in 2003 to significant surplus of R127million in 2011, attributed by the Vice Chancellor to better expenditure controls implemented, following adoption of the turnaround strategy, although some improvement in state funding noted in the last few years have also played a part.

The case also highlights the relevance of contingency theory, especially on the academic staff where resistance to the introduction of individual performance measurement was widely expressed, in that performance systems may be dependent on the nature of organisations – in this regard, a team focus is indicated as more appropriate and more likely to be successful, based on the continuous acceptance of school quinquennial reviews which assess performance at school levels. The academic staff performance seems to be measured with financial, quantitative, qualitative metrics used and more systematically applied over the ten year period. The weakness in such an approach, particularly in addressing unsatisfactory performance at individual levels, is highlighted through results of analysis of the annual report and consensus from interview respondents. The performance measures have not addressed staff who did not offer themselves for promotion, for example. Nevertheless, without the apparently strongly embedded academic performance systems at team and school levels, the university's overall performance would have been worse.

A high level thematic representation of the interplay among contextual factors and performance management practices in the case, together with the relevant theoretical underpinning as outlined in this section, is given in figure 7.



Figure 7: Performance management systems of Elite 100 and interplay of variables

Chapter 6: Conclusions, limitations and future research

The research questions were:

- a. How have changes in the external environment influenced performance management systems in South African universities?
- b. How have changes in the internal environment influenced performance management systems in South African universities?

This case demonstrates the influence of environmental factors on the process of changes in management practices and performance management systems. It supports the arguments put forward in literature which indicates that change in external pressures impact on management practices in various ways. The case identifies several variables in a practical real life set up and how the individuals in the organisation perceive them, reminding the researcher that institutions are made up of individuals, as they are socially constructed. The longitudinal analysis of the case through annual reports published over a period of ten years corroborates the experiential views expressed by the individuals during interviews. Triangulation of data sources enhanced reliability of the results. The case suggests that internal environmental factors may have the effect of constraining an institution's ability to institute intended changes in practices and, in turn, performance management control systems: this results in underperformance.

The preliminary theoretical framework developed through literature review provides a priori constructs which prove capable of guiding the case research and the potential to explain the results. The bases of the theoretical framework are agency theory, contingency theory, new institutional economics, old institutional economics and, all of these theories combine to explain the case phenomenon. In general, further cases need to be studied in order to corroborate or refute the findings. The case study heeds the call by Chenhall, (2003) for more studies in contemporary settings, adding to the relatively small body of research in contingency based research. There are possibilities of conducting deeper investigations using the same framework and these need not be in different organisations but in divisions or Schools in the same university. In the case study, the control problems associated with the principal and agent are evident. Contingency theory and new institutional economics explain that external pressures and transaction economics influence organisation structures.

New institutional economics deals with the coercive effect of regulations. Contingency theory indicates that technology and funding constraints had an impact. Old institutional economics explained the internal forces which have sparked systematic changes in performance systems through several changes in strategy over the decade.

The analysis supports the argument in Eisenhardt, (1989), Voss, et al., (2002) and Corbin & Strauss, (1990) that a theoretical framework is useful in case research. Such a framework is also helpful in understanding management accounting change (Otley, 1980; Scapens, 2006).

The case illustrates that understanding the internal environment is crucial in implementing necessary changes to steer institutions. In the study it is evident that, in respect of performance systems it may not be easy to implement standard reward based management systems which may be prevalent in other industries by transplanting them directly into public sector environments – team dynamics may need to be considered seriously. What is easily accepted elsewhere may face resistance and fail to work in another sector. The plethora of performance systems already in play at the university (incorporating quinquennial reviews, targeted reviews, promotions, sabbatical leave criteria etc.) need to be considered seriously with a view to strengthening them. Brignall & Ballantine, (1996) observed the internal environment, explaining it as the organisational culture, formal and informal organisational structures and the role of powerful groups and individuals which inform organisation process type leading to the proposition that the internal environment determines how performance should be measured. This observation was evident during the case analysis.

The case under study is a university. In an organisation in which personnel costs dominate the cost structure, it can be expected that reward based performance systems used in other service sectors will be in place and well developed (Macpherson, 2001). Agency theory also supports this view (Eisenhardt, 1989; Jensen & Meckling, 1976). The results of the study indicate that the performance management practices contradict this expectation: in fact, powerful groups are at loggerheads within the organisation with staff unions, especially the academic unions, resisting initiatives by management aimed at implementing reward based

performance management at individual levels. The findings are similar to those in Burns, (2000) where power conflicts were at play and acted as barriers in the implementation of much needed change in accounting practices within the product development division of a chemical manufacturer in England. Team based performance management appears to be more accepted and the Vice Chancellor suggested the reinforcement of a team approach in his written accounts found in the annual reports of the last two years of the study. Quinquennial reviews are in use and over the decade have grown to use more 'systematic' measures and as academic respondents indicated during the interviews, academics are feeling the pressure to perform. The case confirms that more focus placed on such measures as research outputs emanating from the realisation that international university ranking tables (Turner, 2005) considered such outputs seriously. In addition to this was the growing realisation that government subsidies were being directly linked with outputs. These findings are consistent with Liefner, (2003).

It was evident that over the decade the organisation has adapted financial performance measures increasingly with the use of budget versus actual and variance analysis becoming more embedded in the structures. The institution has developed a strategic financial model as reported by respondents and the financial model has been used to analyse financial performance through the calculation of faculty bottom lines, making it possible to compare overall performance between faculties. This conclusion about wide use of financial-based measures is supported by findings from other studies such as Khan, et al., (2011).

Broad scope performance measures have grown in use at the university – technology made it possible for dashboards to be built, improving access to useful information for staff at varying levels. There is evidence of modelling growing in use at the university (enrolment planning, financial modelling to assess faculty bottom lines), increased use of benchmarking, increased timeous delivery of information: this was similar to findings from empirical studies that were carried out in universities and other environments, (Chen, et al., 2006; Yawson, et al., 2006; Beard, 2009).

In the case, the arguments made are more about quality concerns regarding data than its availability, as well as fears of data overload. This appeared to lead to structural changes to address the concerns. The analysis shows that management

created new specialist divisions to deal with information needs to meet regulation (management information unit) and appointed a senior executive at deputy vice chancellor level to deal with information and technology matters. The new institutional economics theory explains, as indicated in the theoretical framework, why such structural changes happen. The findings are in line with findings from empirical research, (Chenhall, 2003; Chenhall & Morris, 1986; Gordon & Narayanan, 1984; Hoque, 2004; Reid & Smith, 2000). The findings about broad scope information support conclusions from Khan, et al., (2011) where adoption of multi-dimensional performance management techniques were referred to as the best way to capture the influence of intense competition and environmental uncertainty.

The theory emerging from the study was built from constructs that can be readily measured and hypotheses that can be proven since it is grounded in real life observations and verified by longitudinal analysis of objectively compiled and published annual reports. The constructs have been built through the theory building process. The validity is high because the theory building process is intimately tied with the evidence and consistent with empirical observation, (Eisenhardt, 1989). This is the strength of the study.

The next section deals with limitations of the study and directions for future research. It is followed by the concluding thoughts which provide a summary.

6.1 Limitations

Several limitations in respect of the study should be acknowledged. This study was done using a case study method. The volume of data was staggering but rich. The result is detailed theory which may be referred to as lacking parsimony and simplicity but this is not surprising given the volume of data and large number of variables in the study – it may be argued that the lack of use of quantitative statistical enumeration such as regression does not provide opportunity to assess relationships that are most important from those that are peculiar to the particular case. Eisenhardt, (1989) also argues that the case study approach runs the risk of producing theories that describe ‘idiosyncratic’ phenomenon which are unable to raise the level of generalisability.

Characteristics idiosyncratic to universities in South Africa and other countries such as government influence and regulation may have affected the results – this may hinder generalisability into other sectors. However this is not viewed as a critical problem as the study can be easily replicated using similar constructs, in other universities and in organisations in different industries, (Yan & Gray, 1994).

Part of the data was sourced through semi-structured interviews and reliant on the need to recall retrospective data which could introduce bias caused by faulty memory of the interviewees. This was not viewed as problematic as the choice of respondents for the study was done carefully, limiting the selection to individuals who can be described as experts with high levels of responsibility. The study uses a longitudinal approach of triangulation by analysing annual reports published over a period of ten years – this was meant to limit the effect of retrospective sense making which characterises human memory. The high level of consistency between the data sources countered this potential weakness.

Sampling is another potential limitation. The case study selected was convenience based and purposive. Future studies on impact on performance systems of the environment, internal and external, need to be done in other universities similar to the case.

6.2 Future research directions

The objective of this study is to investigate the influence of external and internal variables on performance systems in institutions. Several suggestions for future research will extend this study and build critical mass in the research area and help overcome limitations are offered below.

Case studies of universities in South Africa sharing similar backgrounds and classified as research intensive will serve to provide a comparison of the results and either confirm the results obtained in this case study or contradict them. This will provide a means of building the theories generated.

The study can be extended to other South African universities which are classified differently by the department of higher education – comprehensive universities, previously disadvantaged institutions and technology universities. The results can then be compared, building the theories generated.

Other studies can be carried out in state owned entities where the influence of government is prevalent. In this way, government administrators may receive guidance in formulating regulations and monitoring mechanisms which are informed and grounded by theory and help improve achievement of national objectives.

Studies can be extended to universities and state owned companies in other countries.

In this study, multiple variables have been studied simultaneously. An attempt in future studies to select the impact of a specific variable can be tried. This can be done through replication of other empirical studies in contingency theory using quantitative statistical approaches.

6.3 Concluding thoughts

The case study found that changes in the environment external and internal to the organisation have an impact on management practices and how they are delivered.

Significant learning is offered by this study in respect of understanding the living relationships between ways of thinking within an institution and the changes in performance management systems interrelating with a dynamic environment. Organisations are social constructs. The study demonstrates that management control systems are uniquely tailored to the organisation in question. The diversity in responses to environment by different players within the organisation shape this phenomenon.

The external environment, particularly regulation, competition (university rankings), technology and economic constraints (lower subsidy) has a significant impact on strategy which, in turn, influences attitudes towards performance management systems: the why, what and how of measures, frequency of certain measures, multi-dimensional nature of measures seen through financial and enrolment models and delivery of information via dashboards. The findings are supported by contingency theory, agency theory, old and new institutional economics theories. Internal environment is important – the culture in the organisation seen through historical norms about quality traditions seems to have limited the effect of transformation imperatives on the quality of outputs but, on the other hand, the existence of powerful groups (academic unions) frustrates efforts by management to implement

staff reward based performance systems. The principal-agent model is found to be at play in the case study to a large extent, particularly within the internal environment where relationships between management (principal) and powerful staff groupings working through staff unions demonstrate the self-interest issues in agency theory and shaping adoption of performance management practices. Contingencies cannot be ignored as they contribute the complexity.

Analysis of annual reports using a priori constructs derived from the theoretical framework corroborates findings from the semi-structured interviews. Annual reports have proved to be a significant source of information in answering the research questions; triangulation with interviews has helped to improve the validity of the case study.

Executives tasked with bringing about changes in practice should take the reality of organisation type and internal forces into account. Unique performance measurement systems peculiar to the organisation type should not be ignored as strengthening them can, in fact, contribute to organisational effectiveness.

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Appendix A:**Population of South African contact universities (2008) and classification by input indicators – (enrolment and private income) - columns selected from table in Bunting & Cloete, (2010)**

	2008 Student headcount (thousands)	2008 Private income as % of total income
LARGE CONTACT		
UP	53	37%
TUT	52	17%
NWU	47	36%
UJ	44	24%
UKZN	37	37%
MEDIUM CONTACT		
CPUT	29	19%
UFS	26	31%
WITS	26	54%
WSU	25	5%
SU	24	48%
NMMU	23	30%
UCT	22	40%
DUT	22	14%
SMALL CONTACT		
UL	17	22%
VUT	17	13%
UWC	15	33%
Univen	11	16%
CUT	11	12%
UZ	10	39%
UFH	9	35%
MUT	9	4%
RU	6	30%

Appendix: B

Interview schedule

The first few minutes will be spent explaining to the interviewee the purpose of the study and completing the introduction to obtain the personal profile of the respondent, (position and title, years of experience in the sector, financial management experience). The definitions for key terms will be explained, namely, external environment, internal environment, performance management systems in respect of departments and individuals, structure and strategy.

The questions will be structured as follows:

1. How has the external environment changed over the past decade and how has it affected your institution? Please specify which elements of the environment have changed most.
2. Specifically how have the external variables influenced structure, strategy and performance management systems in your institution?
3. How has the internal environment changed over the past decade and specifically how has it influenced performance management systems, strategy and structure?
4. How has strategy changed in your institution over the past decade? How has strategy influenced performance management systems?
5. Please outline the organisation structure of your institution. How has the structure changed over the past decade? How have changes in structure influenced performance management systems in your institution?
6. How much autonomy do your Dean, Head of School respectively have in respect of hiring of staff, setting fees, setting of budgets, setting workload models for staff, student enrolment plan, contracting with external funders?
7. What are the most used performance management systems in your institution for departments, Schools, Faculties? What information is used to assess performance of staff? How have these changed over the past ten years?
8. How often is management provided with information on performance? Has the frequency changed over the past ten years?
9. What is the nature and scope of information in your management reports in respect of research, teaching and financial performance measurement? What aspects are reported – financial, non-financial, historical or forecasts? What are the most used financial and non-financial measures? How has the scope changed over the past ten years?
10. How easy is it to find information needed to make decisions such as workload models, enrolment planning, resource allocation? How has this changed over the past ten years?

Appendix: C

PARTICIPANT INFORMATION SHEET

Research Project: The impact of changes in contextual factors on performance management systems in South African universities. This study is in partial fulfilment of the requirements of the degree of Master of Commerce (Accounting) in the Faculty of Commerce, Law and Management, School of Accountancy, University of the Witwatersrand.

Definitions:

Contextual factors are external and internal environmental variables. In South African higher education contextual factors include student demographics, student needs, transformation imperatives, competition amongst universities for top students and staff, the pressure to be ranked internationally, an increased focus on research, new institutional strategies, organisation structures (extent of centralisation or decentralisation), regulation, changes in organisation culture, rapid developments in information technology, constrained funding levels and political pressure.

Performance management systems are a sub set of management control systems. They include: financial reports on organisational or departmental performance such as budget versus actual reports, variance reports, non-financial reports in respect of performance of **departments, schools or faculties**, benchmarking, key performance indicators – financial indicators (e.g. budget allocation to department as percentage of university total, budget versus actual variances, operating cost per student, subsidy per student, external funds raised, cash flow, surpluses or deficits, reserves, debtor collection days, amounts spent on financial aid, library, maintenance, research etc) or non-financial indicators (e.g. student/staff ratios, full time equivalents of staff or students, student drop-out rates, graduation rate, research output per academic staff, number of 'A' rated scientists in school or faculty, ratio of post graduate to undergraduate students, employment equity targets, staff absenteeism, staff turnover, number of vacancies and time to recruit, number of campus accidents, campus crime statistics, number of complaints by students or 3rd parties, response times to enquiries, number of issues raised by health and safety inspectors, network and equipment downtime etc), **individual staff performance** information and workload models.

Any information you provide will be kept strictly confidential and used only for the purposes of the research study.

If you have any queries or would like more information, please feel free to contact me at:

Telephone: (011) 717 1138, cell: 082 5513036 or via email on Daniel.Gozo@wits.ac.za

Thank you for taking the time to consider taking part in this study.

Yours faithfully

Daniel Gozo

Masters Student on the MCom (Accountancy) Programme

Appendix: D1

CONSENT TO BE INTERVIEWED

Research Project: The impact of changes in contextual factors on performance management systems in South African universities at Elite100 University, Johannesburg

I _____

Consent to be interviewed by **Daniel Gozo** for this study on the impact of changes in contextual factors on performance management systems in South African universities at your university.

I understand that:

- Participation in this interview is voluntary.
- That I may refuse to answer any questions I prefer not to answer.
- I may withdraw from the study at any time.
- No information which may identify me will be included in the research report, and my responses will remain confidential.

Signed _____

Appendix: D2

CONSENT TO BE RECORDED

Research Project: The impact of changes in contextual factors on performance management systems in South African universities at Elite100 University.

I _____

Consent to be interviewed by Daniel Gozo for this study on the impact of changes in contextual factors on performance management systems in South African universities at your university being tape-recorded.

I understand that:

- The tapes and transcripts will only be processed for the purpose of this research.
- No identifying information will be used in the transcripts or the research report.
- Direct quotes might be used to illustrate consensus or alternate points but these will not be used in a manner that would identify an individual.

Signed _____

Appendix: D3

WITHDRAWAL FORM

If at any stage you wish to withdraw from the study, please fill in the form below.

I,.....

Wish to withdraw my participation from the above-mentioned study.

Signed:

Date:

Appendix E: Summary of common themes and a triangulation of data sources

Semi-structured interview evidence	What elements of external environment changed and impact of these	External environment impact on PMS, structure, strategy	Internal variables changes impacting PMS, structure, strategy	Changes in strategy impacting PMS	Changes in organisation structure impacting PMS	Autonomy of Deans, HOD's in setting budgets, hiring, workload	Most used PMS – any changes?	Frequency of PMS and changes	Nature and scope of information in management reports	Ease of information and changes
Common themes	Many changes identified with high impact: transformation in student & staff demographics and growth in numbers, less state funding, fee increases, ranking, competitiveness, regulation, technology (IT), political pressure	Staff & student demographics transformation - no impact. Low state funding levels influenced strategy & structure. Government pressure, regulation, technology, ranking, competitiveness influenced collective PMS outputs. Auditor general and DHET regulating systematic reporting with stricter and increased monitoring and requirements - outcomes of 'predetermined objectives' now audited. Technology has made information more available to extract financial information and reports as well as academic outputs. But no effect on staff PMS	Strong academic unions bickering with management preventing staff individual PMS. Strategy has moved into departments - with more fund raising efforts. PMS used in academy more systematic than before but still traditional metrics though now more sophisticated methods of analysis	Strategy influence on academic PMS growing - collective - research outputs monitored, new research strategy launched in response to university strategy. Business plans now required during budget setting. But no effect on staff PMS	Key org changes - strong Deans, advancement restructured with more expectation in fundraising. Specialist departments (Strategic planning, academic planning) and campus companies created. More consciousness of resource allocation and new financial model to measure faculty bottomlines, productivity and outputs discussed more so PMS linked. Budget vs actual, variances reported within departments, faculty budget committee and at senior executive meetings now established - monthly reports. But no influence on individual staff PMS	Autonomous Deans with power, school Heads have autonomy but some feel less power as consultation is necessary for decisions	Most used PMS are academic - quinquennial reviews stronger and more systematic over years with more pressure on schools to perform; traditional PMS - promotion system, research outputs, sabbaticals, throughputs more systematically used with library technology (Thomson Reuters tools) for citations used in academy. But no individual staff PMS.	Financial reporting PMS monthly used budget vs actual now more frequent than before - monthly reporting. Productivity in academic outputs - research, graduation rates and throughputs annually but now discussed more systematically at faculty executive meetings than before	Historical, financial, non-financial, forecasts. Models to analyse results, enrolment planning models now more systematic than before	Technology has made information more available (datamarts, dash boards) - but questions about data overload and data quality - data capturing questioned
Cross-source agreement	High	High	Modestly high	High	Low	High	Modest	High	N/A	N/A

Annual report evidence	Strategy	Structure	Performance	Regulation	Student numbers & demographics	Transformation	Competition	Ranking	Technology	Funding levels
Common themes	Strategy evolved over the period becoming more systematic and embedded with operational planning as reaction to external factors of funding; strategy impacted org structural changes and move towards target setting for indicators of performance	Structural org changes to deal with fund raising efforts informed by consultants; campus companies created to deal with research management, specialist departments to formulate and implement strategy and due to regulation. Reporting of performance done by faculty, division - budgetary control.	Academic performance highlighted. Financial - budget vs actual monthly and strong impact. But concerns in VC report over individual performance systems that did not deal with non-performers - set targets were minimally or incompletely met	Annual report size grew from 40 to 302 pages in 10 years to deal with HE Act reporting requirements specially	High growth recorded in student numbers: 24473 in 2003 to 29326 in 2011, 20%. Improvement in demographics - female while white/black also diversified but remained stable	Academic staff transformation remains difficult but efforts consistent over period to improve black and female proportion - not meeting targets but improving	Staff skills in scarce areas	Annual reports in early years did not report ranking but ranking began to be reported and to be given special mention over the years	IT was the key technological factor given detailed focus as reports showed that university kept consistent increase investment to keep abreast with IT developments. ICT Governance seen as an issue	Deficits in earlier years but later on surpluses. Financial turnaround strategy implemented was linked with better improvements in control over expenditure and budgetary control
Cross-source agreement	High	High	High	High	High	High	Modest	High	High	Modest

Appendix: F

Ethics clearance letter

Faculty of Commerce, Law & Management

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Private Bag 3, WITS, 2050 South Africa +27 11 717 8005

FAX +27 11 717 8175

06 March 2013

Mr D Gozo

Wits University

Finance Department

Braamfontein

Senate House

2001

South Africa

Student Number: 0507906F

Dear Mr Gozo

I have pleasure in informing you that the **SOA Post Graduate Degrees Committee** has approved the following title for your Research Report:

Impact of contextual factors on performance systems of South African universities

Furthermore the committee has approved the following supervisors **Prof K Sartorius**, with whom you should maintain regular contact. Please ensure that the title on the bound copies of your research report

is the same as that approved by the Post Graduate Committee.

You will be required to submit to the Faculty Office on submission of the report:

- Two spiral bound copies of the Research Report with a signed declaration
- one copy of the abstract
- one copy of the title page
- the Supervisor's Clearance Form

The ethics number for your research report is **CACCN/1035**. It is very IMPORTANT that you ensure that this number appears on the cover page of your research report when you submit.

Please note that you need to be registered every year until your graduation.

Please note: After confirmation of the final Research Report mark, you will be required to submit

two unbound final corrected copies signed and dated, an electronic copy (in PDF format), a signed library clearance form and have completed the full ETD form.

We wish you success with your research.

Kind Regards

Ms Ntshpeng Tshabalala

Senior Faculty Officer

Faculty of Commerce, Law & Management