

A STUDY ON PERFORMANCE MEASUREMENT AT THE UNIVERSITY OF NAIROBI

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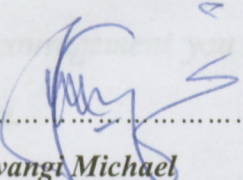
Dept of Management Science

A Research Project Submitted In Partial Fulfilment Of The Requirements Of
The Award Of Master Of Business And Administration (MBA) Degree,
School Of Business, University Of Nairobi.

2006

DECLARATION

I hereby declare that the work contained in this project is my original work, and has not previously in its entirety or in part been presented at any other university for a degree. All the references cited in the text have been duly acknowledged.



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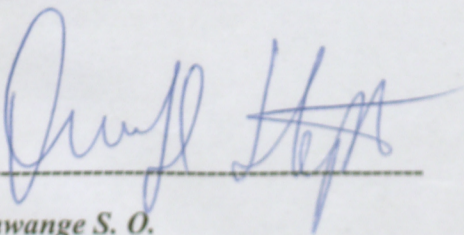
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On behalf of my siblings, I dedicate this work to our loving Mama, Margaret Waithira Gicharu, for the love, care, guidance, support and continuous encouragement you have always given us. We are because of you, we are proud of you.

Special recognition to Francis Ndegwa, Silas Wanjichi, Gerald Mwal, Braziro Gichohi, Linda, Madlin, Grace and Sarah

There are special people without whom the MBA programme would have been an uphill task. Mechara Iranga, "you are God sent, be blessed". Dr Nguku, "you know very well what we have gone through, my heart felt appreciation for the encouragement and support you provided". Joseph, "you defined the bond of friendship, you are truly a brother". And to the many brothers who have been there for me in many different situation and ways, however insignificant it might seem, I appreciate.

Finally, but not the least, to entire teaching and non-teaching staff, and the entire students body of the School of Business, University of Nairobi. Your welcome and hospitality shall remain engrained in my heart.

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ABSTRACT

This study explored the practises of Performance Measurement at the University of Nairobi. Focus was on three research questions: Why performance measurement? What measures? and forces impeding the design, implementation and use of performance measurement.

Primary data was collected by the use of questionnaires distributed amongst 116 heads of departments and sections. Data collected was analysed using both descriptive and inferential statistics. SPSS (11.5) and Microsoft excel software packages were used to conduct the analysis. Results indicate that most units have appreciated the need for performance measurement, but are in the initial stages of implementation. It emerged that the traditional purposes for performance measurement (control, planning and accountability) dominate the institutions intent. Forty-two measures were subjected to the study with respect to their importance to the institutions, and results indicate that the categorization of measures is far from definite, hence the need for more rigorous research. With respect to critical factors in the design, implementation and use of performance measurement at the university, results indicated that the institution has the requisite capacity to manage the process and evaluation, whereas lack of requisite support, management structures and systems, and culture greatly hinder meaningful progress in the evolution of performance measurement.

Current study, though with some limitations in term of response and scope of study has served the purpose of initiating researching on performance measurement in an academic setup, which can be used as a basis for further study and benefit to the management of academic institutions.

Key words:

Performance measurement, Performance measurement systems, Performance measures.

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CHAPTER ONE: INTRODUCTION

1.1 Background

In recent years, the need for a renewed focus on higher education has been felt. Universities seek more effective systems to address the increasing dissatisfaction with the performance of higher education systems. In response to the necessity for reforming higher education system in line with the needs and expectations of the community and business sector, new approaches and practices in management and industry have appealed to the decision makers of higher education (Mizikaci, 2006). To achieve the expected roles necessitates for universities to have a strategic plan supported by a mechanism for monitoring, controlling, and adjusting the plans. An essential component of the mechanism is a set of performance measures that are used to assess the organization performance and its ability to achieve set targets (Al-Turki and Duffuaa, 2003). However, the introduction of performance management in the public sector domain (inclusive of the Kenyan public universities) has been particularly controversial, not least because the very concept of performance management is so alien to the traditional cultures of these particular organizations (Brown, 2005).

Similarly, Higher education worldwide has catapulted the world into the Information Age, a world in which the only enduring asset of any society is knowledge. Knowledge has become an agent for societal advancement and with a capacity toward societal annihilation. At the macro level, the importance of higher education can be inferred from the close relationship among the gross national products (GNPs), participation rates in higher education, and expenditures on higher education. The economic importance of higher education can also be deciphered on a micro level by examining the relative earning power of citizens based on educational attainment. Currently, most economies are operating under a knowledge economy with knowledge serving as the main engine and the catalyst of economic development. Under this condition, higher education becomes a precious asset to everyone who possesses it (Michael, 2004).

While these challenges are many and certainly daunting, management of institutions of higher education need not grope in the dark. Part of the benefit of globalisation is the free flow of information and there are plenty of successful and failed reforms around the world that these

institutions can learn from. Successful institutions are rather products of insightful, progressive, thoughtful, informed managements' unfaltering efforts. Great institutions are the reward of a society that understands the role of higher education in its civilization, management that is wise to devote resources that will enable its higher education system rank among the best in the world, and a society that is courageous enough not to meddle unwittingly in the affairs of its higher education (Michael, 2004).

Institutions of higher learning are currently faced with a number of challenges. These include escalating and diverse expectations and demands from the various stakeholders, while at the same time experiencing serious economic shortfalls. Public universities have also been under pressure to provide greater access to their programmes without compromising the academic standards. Further, the country's economic performance for the last two decades has resulted in high levels of unemployed graduates and as a consequence, the society questions the relevance of the education offered at the universities. Similarly, the rapid technological changes and advances require increasingly adaptive mechanisms (UoN Strategic Plan, 2005-2010).

The University of Nairobi has responded to the various challenges in a number of ways, and has aspired to move into realms of greater accountability, and display more sensitivity to the needs of the stakeholders. Some of the notable changes in the management of the university include, amongst others, development of strategic plans, decentralization of management and other activities, such as graduation calendar, establishment of income generating activities and programmes such as module II programmes, University Press, dairy farms, various collaborations with government, non-governmental organizations as well as other academic and research institutions. Decisively, the university has identified the need for adopting and supporting active rather than passive approaches, as earmarked in its current strategic plan (UoN Strategic Plan, 2005-2010). The success of planned actions and structural measures being put in place greatly depends on the institutions' ability in development and use of an effective set of performance measures and measurement systems.

On the basis of the foregoing, current study sought to explore the concept of Performance Measurement at the University of Nairobi.

1.2 Statement of the problem

Well-rehearsed axioms such as “what gets measured gets done”, “you get what you measure”, “if you cannot reward success, you are probably rewarding failure”, and “if you cannot recognize success, you may not be able to sustain it” are salient in literature supporting the introduction of performance measurement as a promising way to improve organizational performance (Halachmi, 2005). The various slogans connote the need and purpose for performance measurement in any organization. Numerous performance measurement frameworks and prescriptive literature are widely available, emphasizing the “control” aspect of performance (Simmons, 2002). However, Duffuaa et al (1999) notes that there are few papers in the literature on developing performance measures for educational institutions, and further state that measuring the quality and quantity of outputs from academic institutions is not an easy task.

(iii) Which factors are critical in performance measurement in institutions of higher learning?

Crowther (1996) acknowledges that any consideration of measures suitable for evaluation needs to consider the whole purpose for which evaluation takes place to avoid the problem of meeting one need at the expense of others. Measurement theory states that measurement is a comparative process, and comparison provides the purpose for measurement (Churchman, 1967). It is further argued that appropriate measures cannot be selected until the purpose of the evaluation has been determined (Crowther, 1996). This argument demonstrates that the foundation of performance measurement is the identification of the reasons for the evaluation. Various reasons for which organizations measure performance have been identified (Crowther, 1996; Parker, 2000). In light of this, it is important to establish reasons for measuring performance with respect to institutions of higher learning.

In addition, the “human element” has received considerable attention in the performance measurement literature. Simons (2000) observes that performance measurement systems cannot be designed without taking into account human behaviour. Holloway et al. (1995) argues that successful implementation of performance measurement depends above all on understanding and accommodating the human element. Despite the increase in experience gained with the various performance measurement systems, there is still a lot to be learned about the factors that influence effective design, implementation and use of performance measurement systems and performance measures in organizations. Several factors as perceived by those charged with the

responsibility of selecting, designing, and implementing the performance measurement and measures have been identified as critical in the successful development, implementation and use of performance measurements in various contexts (Kennerly and Neely, 2002, 2003; de Waal, 2003, 2004; McAdam, Hazlett and Casey, 2005).

In line with foregoing discussion, and with the understanding that all organizations measure performance (Parker, 2000), this study sought to explore answers to the following questions;

- (i) What is the purpose of embarking on performance measurement in institutions of higher learning?
- (ii) What measures are appropriate for evaluating performance in institutions of higher learning?
- (iii) Which factors are critical in performance measurement at institutions of higher learning?

1.3 Objectives of the study

The primary objectives of this study, with respect to institutions of higher learning were:

- i. Establish the purpose underlying measurement of performance.
- ii. Establish appropriate performance indicators for the institutions.
- iii. Establish the critical factors in the design, implementation and use of performance measurement systems and performance measures.

1.4 Importance of the study

The proposed study has wide implications to various individuals and institutions, including the University of Nairobi, other public universities, academia and practitioners in the industry. The specific benefits to the various parties outlined include:

(i) University of Nairobi

The University is in the process of implementing its first strategic plan. Findings of the current study greatly contribute to the process, as they have highlighted key focus areas in the ensuing monitoring and evaluation of the progress made. The study has also outlined various aspects that are deemed critical for the successful measurement of performance.

(ii) **Academia**

As noted, performance management has remained a critical area in research. Al-Turki and Duffuaa (2003) observe that little research has focused on establishing performance measures for academic institutions. The current study goes along way in addressing this gap. Findings go along way in providing an ample base for further research in similar institutions.

(iii) **Industry/Practitioners**

Public organizations in Kenya are gradually adopting performance lead management; hence the findings of the current study will boost the understanding of various aspects as to the design, implementation and use of performance measurement systems and performance measures. Particularly, other institutions of higher education stand to greatly benefit from the study findings.

1.5 Study Justification

Current study focused on Performance Management at the university of Nairobi. University of Nairobi is the oldest and largest university in the country. Secondly, due to her size, the University draws heavily on public resources; hence need to understand how such resources are utilized. Further, the University being a pioneer institution in the country is expected to have a fairly advantageous lead over other similar institutions. More recently, a ranking of world universities put the University of Nairobi on lead in the country. On the basis of the foregoing, current study was timely formulated to explore Performance Measurement in academic institutions.

CHAPTER TWO: LITERATURE REVIEW

2.1 Defining Performance Measurement

Neely et al. (1995) described performance measurement as the process of quantifying action, where measurement is the process of quantification and action correlates with performance. They further proposed that performance should be defined as the efficiency and effectiveness of action. From these preposition, Tangen (2004; 2003) defines performance measurement as the process of quantifying the efficiency and effectiveness of action; performance measure as a metric used to quantify the efficiency and/or effectiveness of an action; and performance measurement system as the set of metrics used to quantify the effectiveness and efficiency of an action. Performance measurement system has also been defined as a complete set of performance measures and indicators derived in a consistent manner according to a forward set of rules (Tangen, 2004). Fry (1995) describes measures as a means of tracking performance. For purposes of this study, Performance measurement shall be defined as the process of quantification and evaluation of actions, using fairly objective approach. In the current study, Tangen's (2004) definition of Performance Measurement System shall be adopted. Performance measures shall be defined as various means in which performance perspectives are captured at the university.

Performance measurement systems vary a great deal from one organization to another. This is attributed to measurement systems being directly related to organizational strategies, with strategies generally being unique to each individual organization (Medori and Steeple, 2000). Parker (2000) highlights that measuring performance is something that all organizations do, which might be done systematically and thoroughly, or on adhoc basis and superficially. He (parker) further argues that external agents and organizations (such as stakeholders, banks, regulators) also measure performance, thus performance measurement is an important aid to making judgments and decisions.

Despite the high level of academic and industrial interest in performance measurement, no one seems to adequately address the question as to what well-designed performance measures constitute (Neely, et. al., 1997). Globerson (1985) asserts that lack of well-defined performance

criteria, through which performance of individuals and the organization may be evaluated, make it hard to plan and control. Manoochehri (1999) affirms that defining a set of effective performance measures is the most challenging obstacle in performance measurement. Nonetheless, various performance measures have been widely discussed in literature, and have been argued to play a significant role in the evolution of the various performance measurement systems/frameworks. For instance, measures developed from cost and accounting systems have been widely criticized, and attempts to overcome these criticisms have yielded numerous “balanced” performance measurement systems/frameworks (Bourne, et. al., 2000). With the identification of better-integrated performance measurement systems (Johnson and Kaplan, 1987; McNair and Masconi, 1987; Kaplan, 1990; Druker, 1990; Russell, 1992), numerous publications have emphasized the need for more relevant, integrated, balanced, strategic and improvement-oriented performance measurement systems and performance measures (Bititci et al., 2005).

Although it has been long recognized that performance measurement has an important role to play in the efficient and effective management of organizations, it remains a critical and much debated issue. Measurement of performance and productivity has garnered significant interest amongst both academicians and practitioners, with much progress made on establishing performance measurement systems (Kennerly and Neely, 2002; Tangen, 2004; Radnor and McGuire, 2004; Najmi, Rigas and Fan, 2005). It is often argued that the use of performance measures is an effective way to increase the competitiveness and profitability of an organization. Appropriate measures can ensure that managers adopt a long-term perspective and allocate an organization’s resources to the most effective improvement activities (Tangen, 2004).

Traditionally, researchers have undertaken a mechanistic approach, with key focus on the technicalities of implementing a performance management system. Consequently, focus has been on the early stages of the development of the performance measurement system, the conceptual frameworks and processes for designing the performance measures, with few longitudinal studies of the implementation and continuous updating of performance measurement systems. Results of such efforts include many frameworks, amongst them balanced scorecard (Kaplan and Norton, 1992), performance prism (Kennerly and Neely, 2000), performance measurement matrix

(Keegan et al., 1989), and SMART pyramid (Lynch and Cross, 1991). A wide criterion has also been developed, indicating the attributes of effective performance measures and measurement systems, including the need for measures to relate directly on the organizations mission and objectives, reflect the organizations external competitive environment, customer requirements and internal objectives, and the need for the strategies, actions and measures to be consistent (Globerson, 1985; Wisner and Pawcett, 1991; Maskell, 1989; Kaplan and Norton, 1993; Lynch and Cross, 1991; and Dixon et al., 1990). Similarly, at the heart of the above frameworks and processes and criterion, is the premise that the measures and measurement systems must reflect on the context to which they are applied (Neely, 1999).

2.2 The Performance Measurement Revolution

According to Ghalayini and Noble (1996), literature concerning performance measurement has evolved through two phases, with the first phase starting in the late 1880s, and the second phase in the late 1980s. The first phase was characterized by firm cost accounting orientation, aimed at aiding managers in evaluating the relevant costs of operating their organizations. This approach was later modified in an attempt to incorporate some financial measures such as profit and return on investment (Carlos, et. al., 2004). However, even with some financial focus, the approach received considerable criticisms, amongst them, about focusing solely on financial measures. Critics argue that focusing solely on financial measures tends to encourage short-term thinking, and fails to measure and integrate all the factors critical to business success (Banks and Wheelwright, 1979; Hayes and Garvin, 1982; Kaplan, 1983, 1984). By the mid-1980s, there were many vocal and well-respected critics of the approach and associated "traditional" measures. Such works are numerous and well documented (Neely, 1999)

The works of the various critics marked the beginning of the second phase. A phase associated with the growth of global business activities and the changes brought about by such growth. The various critics underscored the need for better-integrated performance measurement, for example; McNair and Mosconi (1987) called for the development of better-integrated performance measurement systems, emphasizing the need for the alignment of financial and non-financial measures in accordance with business strategy. Santori and Anderson (1987) stressed the importance of non-financial measures in monitoring and motivating the progress of the

human factor of the organization. Some researchers went further and outlined key attributes and features to be considered in developing measures of performance for the organization. Thus in the late 1980s, some frameworks, which attempted to present a broader view of performance measurement started to appear (Cross and Lynch, 1988-1989; Khadem, 1988; Johnson and Kaplan, 1987).

In a review of progress made on performance management systems and performance management, Eccles (1991) proposed that within a period of five years, most organizations were expected to have redesigned how they measured business performance. Neely (1999) points out that given the current levels of activity in the field of performance measurement, it appears that Eccles (1991) assertion was fair, though his time scale appeared compressed. As a result of the outlined trend, Neely (1999) argues that questions arising include: "Why the changes? What is it about managers in the late 1980s and early 1990s that has made them so receptive to the message that their performance measurement systems were fast becoming obsolete? What challenges prompted the obsolescence of then existing performance measurement systems? Why have these challenges captured management's attention to date? What sparked the performance measurement revolution? What has been the impact of this revolution? Where and when will it end" (pp 207)?

2.3 Reasons for the changes and interests to Performance Measurement

In an attempt to respond to the above questions, Neely (1999) attributes the sudden change and interest in performance measurement to seven main reasons, namely: the changing nature of work, increasing competition, specific improvement initiatives, national and international awards, changing organizational roles, changing external demands, and the power of information technology. These reasons are briefly discussed below.

2.3.1 The changing nature of work

By the 1980s, it was realised that application of traditional cost accounting systems, which allocated overheads on the basis of direct labour resulted in wildly erroneous decisions (Kaplan, 1983; Schmenner, 1988). These arguments were widely and vocally publicised, resulting in the development of alternative methods of product costing – most notably activity-based costing and

throughput accounting. Given today's operating environment, the assumptions underpinning the traditional methods of cost accounting are fundamentally flawed (Neely, 1999).

2.3.2 Increasing competition

By the mid 1980's most organizations were faced by a high level of competition, hence the continual pressure to reduce costs and enhance customer value. As a result, organizations sought to actively differentiate themselves from their competitors in terms of quality of service, flexibility, customisation, innovation and rapid response. Competing on the basis of non-financial factors necessitated the need for information on how well they were performing across a broad spectrum of dimensions, a capability that the traditional measures did not provide for (Neely et al., 1994; Neely, 1999).

2.3.3 Specific improvement initiatives

In response to increased competition, numerous organizations embarked upon specific improvement initiatives; amongst others total quality management (TQM), lean production, world-class manufacturing, benchmarking, and reengineering. Few organizations had measurement systems that accommodated such approaches, hence had to re-engineer their measurement systems (Neely, 1999).

2.3.4 National and international quality awards

The spread of quality and excellence awards marked the introduction of organizational self-assessment, which in essence was another form of business performance measurement. Such awards are based on amongst others, information on organizations' policies, organization, information, standardization, human resources management, quality assurance and improvements, future plans (Neely, 1999).

2.3.5 Changing organisational roles

The 1980s and 1990s have seen subtle changes in organizational roles. Most organizations and professional bodies have encouraged their members to take a more active and proactive role in the development of balanced measurement systems. Several organizations have used performance measurement on the grounds that performance measurement helps to clarify

performance expectations, which in turn allow more discretion to be given to individuals as the boundaries within which they have to work become more obvious (Neely, 1999).

2.3.6 Changing external demands

Organizations today are subject to a wide variety of external demands, each of which has implications for business performance measurement. These include legally constituted bodies, such as regulators, consumer magazines, public opinion, customers, strategic supplier chain schemes, and the investment community, amongst others. In particular, customers today not only expect high levels of service, but also expect organizations to operate in specific ways.

In terms of business performance measurement, the impact of these changes is twofold: first, the demand by the various stakeholders could result in organizations introducing new measures of performance so that the necessary data can be collected, and second, the scrutiny of the various stakeholders forces organizations to take certain measures very seriously, thereby ensuring a strong emphasis on business performance measurement in the organization (Neely, 1999).

2.3.7 The power of information technology

Rapid growth of information technology has not only made the capture and analysis of data far easier, but it has also opened up new opportunities for data review and subsequent action. Information Technology plays a role not only in data capture, but also in data analysis and presentation. There has been a rapid growth in demand for management information systems and executive information systems in recent years, and many vendors of these software packages have proactively linked their product offerings to balanced measurement frameworks, such as Kaplan and Norton's balanced scorecard (Neely, 1999).

Based on the changing Kenyan context, other forces deemed to raise interest in performance measurement include changing work culture, modernization and globalization of the economy, declining resources as well as pressure to conform to developed world economies and policies. Further, foreign education and management practises have long proliferated in our economy. Upon evaluating the forces behind performance measurement revolution, it is necessary to evaluate the various rationale of evaluating performance.

2.4 Reasons for the evaluation of performance

Measurement theory states that measurement is essentially a comparative process, and comparison provides the purpose for measurement (Churchman, 1967). Crowther (1996) notes that measurement of performance is central to any consideration of performance evaluation, adding that this resolves into two areas for consideration: why measure and what to measure. Performance measurement in business has been broadly defined as serving the purposes of monitoring performance, identifying the areas that need attention, enhancing motivation, improving communications and strengthening accountability (Waggoner et al., 1999).

In response to why organizations measure performance, Crowther (1996) argues that while various considerations of the need for performance evaluation may seem disparate and incompatible, it is only through the realization that performance exists in multiple dimensions and for multiple purposes that the need for an organization for its measurement and reporting of performance can be addressed. He further suggests three dimensions, each presenting a multi-dimensional matrix of performance evaluation, namely: focus, purpose, and perspective dimensions.

2.4.1 The “focus” dimension

Crowther (1996) argues that there are three different aspects to the focus dimension: two temporal and one organizational. Temporal aspects include concern with: the past, present and future performance; and the short term and the long term, and hence has a future orientation of an organization. Accordingly, performance may be evaluated differently according to these two criteria, depending on the purpose of the evaluation. The third aspect of the focus dimension is that of the internal and external views of the organization, and these views can vary according to purpose and perspective. Thus for a control purpose the internal view predominates while for an accountability purpose the external view is paramount. Similarly, an employee perspective is primarily internal while an environmental perspective is primarily external.

2.4.2 The “purpose” dimension

There is inevitably a purpose to the evaluation of performance. The informational needs of each purpose may be different, causing either different measures to be used or different evaluations to be made. Crowther (1996) suggests the following purposes contained in Table 2.1 below.

Table 2.1: The “purpose” dimension of performance measurement

Purpose	Concept
Strategy formulation	Plan the future of the business and develop strategy
Strategy implementation	Reflects the translation of the strategy formulation into planning and the allocation of resources needed to proceed
Control	Ensuring that what is happening in the organization conforms to plan together with taking action to correct deviations
Accountability.	Ensuring that the business satisfies the needs of the stakeholders by reporting on past performance and future plans. This inevitably includes a concern with corporate governance.
Valuation	Various stakeholders are interested in a valuation of the organization, including current and prospective owners and investors who wish to be able to value the organization according to the criteria relevant to their needs, e.g. asset valuation, going concern
Legal.	Satisfying of legal constraints regarding operating, reporting and accounting requirements
Informative: public relations.	To raise awareness of the organization generally in terms of its existence, operational sphere and general economic and environmental stance
Informative: prospective customers.	Concerned with advertising, but is particularly concerned with increasing awareness of the performance of the organization and future plans and capabilities.
Defensive	An awareness of threats from the external environment (e.g. of acquisition, legislative changes) and preparation for contingencies

Source: Adopted from Crowther (1996).

2.4.3 The “perspective” dimension

The Perspective dimension is based on an analysis of the wide stakeholder community. The dimension seeks to recognize that stakeholders may have more than one perspective, and that different stakeholder groups may have the same perspective, and so the perspectives do not translate directly from the stakeholder analysis (Crowther, 1996). The perspectives suggested are contained in Table 2.2 below.

Table 2.2: The “perspective” dimension of performance measurement

Focus	Concepts of concern
<i>Stewardship.</i>	Concerned with asset conservation, with the managers acting on behalf of the owners.
<i>Ownership.</i>	Reflects one business owners concerns, thus shareholder value.
<i>Stakeholders</i>	Concerned with power and accountability amongst the different interest groups in an organization
<i>Employee</i>	Concerned with the motivation of employees and the relationship between performance and rewards
<i>Environmental</i>	Concerned with the sustainability and impact of the organization on the environment, such as pollution and sustainability
<i>Social</i>	Concerned with the organization as a member of the community, thus the extent of disclosure at a societal level
<i>Managerial.</i>	The managers of a business have interests in the business, which are separate from any other interests arising from the responsibility to manage organizations’ future performance and conserve it’s assets.
<i>Resource allocation</i>	Need for planning, budgeting and capital investment of an organization has limited resources
<i>Worldview</i>	Holistic view of an organization - as an entity in its own right and continuing to exist within its environment

Source: Adopted from Crowther (1996)

Similarly, various reasons as to why organizations measure performance have been fronted in literature. Ellinami (1995) in a study of divisionalized firms in Kenya reports purposes of measuring performance as including control, planning and strategy formulation. Parker (2000) notes that the reasons vary from organization to organization and include, amongst others: identify success, determine whether they are meeting customer requirements, understand organizational processes, identify weaknesses (where problems bottlenecks, waste, etc., exist and where improvements are necessary), ensure decisions are based on fact (as opposed to supposition, emotion, faith or intuition), and show if improvements planned actually happened. Parker (2000) further notes that although performance measures are useful, they also attract much cynicism and scepticism over why, how and when they are used. Thus there are issues of measuring the right things, of comparing like with like, and of comparing yesterday with today. McNamara (www.mapnp.org as at 12/06/2006) fronts several contributions for performance measurement in an organization, as provided in the Table 2.3 below:

Table 2.3: Role of performance measurement in an organization

- i. Helps you think about what results you really want, hence you are forced to be accountable.
- ii. Depersonalises issues, supervisors' focus is on the results and behaviour, as opposed to personalities.
- iii. Validates expectations – having measurable results can verify whether grand visions are realistic or not.
- iv. Optimises operations in the organization because goals and results are more aligned.
- v. Cultivate a change in perspective from activities to results
- vi. Performance reviews are focused on contributions to the organizational goals, e.g. forms include the question "what organizational goals were contributed to and how?"
- vii. Supports ongoing communication, feedback and dialogue about organizational goals, as well as supporting communication between employees and supervisors.
- viii. Performance is seen as an ongoing, rather than a one time, snapshot event.
- ix. Provokes focus on the needs of customers, whether internal or external.
- x. Cultivates a systems approach, i.e. focuses on the communication between subsystems, e.g. departments, processes, teams, thus a focus on patterns and themes as opposed to specific events.
- xi. Continuous focus and analyses of results on results helps to correct several myths, e.g. "learning means results", "job satisfaction produces productivity"
- xii. Produces specificity to resources and commitment
- xiii. Produces specificity for comparisons, direction and planning.
- xiv. Redirects attention from bottom up approach to top down approach.

Source: Adopted from McNamara (n.d).

Halachmi (2005) asserts that McNamara's approach to performance measurement leans towards behavioural point of view, consistent with Lawler's (2003) assertion that virtually all organizations have a performance management system that is expected to accomplish a number of important objectives with respect to human capital management.

2.5 Performance Measures and Measurement Systems

From the literature, the design of performance measures can be subdivided into identifying the key objectives to be measured and designing the measures themselves. There is a strong consensus amongst authors that measures should be derived from strategy (Globerson, 1985; Sink, 1986; Fortuin, 1988; Keegan et al., 1989; Dixon et al., 1990; Lynch and Cross, 1991; Maskell, 1989; Kaplan and Norton, 1992). The first aspect is dominated by processes that attempt to answer the question "what should we measure?" The importance of designing measures in a way that encourages behaviour, which will support the strategy, is absent from all

but two processes (Neely et al., 1996) but the benefits of this approach are well documented (Neely et al., 1997).

Borne et al, (2000) assert that the use of performance measures is split into two main subdivisions. First, as the measures are derived from strategy, the initial use to which they should be put is that of measuring the success of the implementation of that strategy. Second, the information and feedback from the measures should be used to challenge the assumptions and test the validity of the strategy. In fact, authors have argued that they should be used for both purposes (Grady, 1991; Feurer and Chaharbaghi, 1995; Kaplan and Norton 1996). Therefore, "assessing the implementation of strategy" and "challenging the strategic assumptions" are the two main subdivisions of the use of the performance measures. Bourne et al (2000) further note that the process of selecting, designing, and use of performance measures is not a simple linear progression from system design to the use of performance measures for challenging strategy. Rather, the performance measurement system requires developing and reviewing at a number of different levels as the situation changes.

Numerous authors have echoed these sentiments, including: performance measurement system should include an effective mechanism for reviewing and revising targets and standards (Ghalayini and Noble, 1996), performance measurement system should include a process for developing individual measures as performance and circumstances change (Maskell, 1989; Dixon et al., 1990; McMann and Nanni, 1994), performance measurement system should include a process for periodically reviewing and revising the complete set of measures in use. This should be done to coincide with changes in either the competitive environment or strategic direction, (Wisner and Fawcett, 1991; Dixon et al., 1990; Lingle and Schiemann, 1996), and performance measurement system should be used to challenge the strategic assumptions.

2.6 Performance Measures in organizations

Traditionally performance measures have been seen as a means of quantifying the efficiency and effectiveness of action (Neely et al, 1995). Flapper *et al.* (1996), for example, state that performance indicators are important for everyone inside an organization, as they tell what has to be measured and what are the control limits the actual performance should be within. Fry (1995)

describes measures as a means of tracking performance. Globerson (1985) asserts that lack of well-defined performance criteria, through which performance of individuals and the organization may be evaluated, make it hard to plan and control.

As is evidenced by these observations, the traditional view is that performance measures are an integral element of the planning and control cycle. It is assumed that measurement provides a means of capturing performance data, which can be used to inform decision-making. This somewhat mechanistic view is complemented by the widespread recognition that performance measures also have a behavioural impact (Neely et al, 1997). Systems, especially systems involving humans, respond to performance measures. People modify their behaviours in an attempt to ensure a positive performance outcome even if this means pursuing inappropriate courses of action (Hopwood, 1984).

For instance, Fry and Cox (1989) describe a plant where the performance of various employees was evaluated on different stand alone measures: The performance of the plant manager was assessed on the basis of return on investment, the performance of the product group managers was assessed on the basis of whether or not product was delivered on time and the performance of the shop floor supervisors and operators was assessed on the basis of production output versus standard. The behaviours that these measures induced, while not startling, were certainly dysfunctional. The shop floor supervisors and operators responded to the measure of production output versus standard; hence they sought to ensure that output at least matched, and preferably exceeded target. The shop floor supervisors and operators decided to try and reduce unproductive time by decreasing the amount of time spent on set-ups. These resulted in increased batch sizes, thus more product than required was manufactured. As the extra product was not called for on the production schedule the shop floor supervisors and operators decided to hide the excess products until it was called for on a later schedule. The net effect of this was that a proportion of the factory's output spent far longer in the system than was necessary. The company had paid its suppliers and had added some value to the raw material, but had received no return on its investment. As a result of overproduction, the product group managers found themselves without the necessary product to fulfil particular orders. They responded by sanctioning overtime and Saturday working, which once again adversely affected return on investment.

When the scenario is described as starkly as it is here, it is easy to believe that the root cause of the problem is that the performance measure that the shop floor supervisors and employees were subject to was inappropriate. Indeed, the three measures that existed could have resulted in harmonious behaviour had the workforce understood the value of small batches and been encouraged to identify ways in which the actual set-up times could be reduced. Had they exchanged ideas, the shop floor supervisors and operators could have achieved their efficiency targets and followed the schedule. The product group managers would then have had no need to sanction overtime and the production manager's return on investment figures would have improved. Conclusively, the problem in this business was not that the measures were wrong *per se*, but that the behaviours they were likely to induce in this particular setting had not been considered (Neely et al, 1997). From the above illustration, the key issue in designing measures of performance is that they have to be matched to the organizational context. The question that this raises is what advice is given in the literature with regard to matching measures to organizational context?

Various authors have discussed the design of performance measures. Amongst others Lea and Parker (1989), House and Price, (1991), Crawford and Cox (1990) suggest that measures of performance should be transparent, simple to understand, have visual impact, focus on improvement rather than variance, and be visible to all. Lynch and Cross (1991) take a slightly different stance and emphasize the link between strategies, action and measures, a theme which is echoed in the work of Dixon *et al.* (1990), Kaplan and Norton (1992; 1996), Beischel and Smith, (1991), Neely et al., (1996).

Globerson (1985) adopts yet another approach, choosing to explore the issue of the formula – the way the measure is calculated, as well as the way it is used. He recommends that measures should be derived from strategy; provide timely and accurate feedback; relate to specific, stretching, but achievable goals (targets); be based on quantities that can be influenced, or controlled, by the user alone or the user in co-operation with others; be clearly defined; be part of a closed management loop; have an explicit purpose; be based on an explicitly defined formula and source of data; employ ratios rather than absolute numbers; and use data which are automatically collected as part of a process whenever possible.

Ellinami (1995) supports the need for clear objectives in measuring performance, urging that clear objectives ensure positive reforms. He also noted that most firms blended both financial and non-financial measures. Neely et al (1997) reviewed various recommendations as to the design of performance measures. They assert that the recommendations relate as to the process of designing measures – i.e. prescribing who should be involved; the process of reviewing measures, i.e. ensuring that the measures are modified as circumstances change; process of capturing data; and the process of reporting performance. Their recommendations are summarized in the Table (2.4) below:

Table 2.4: Recommendations with regard to the design of performance measures

<i>Recommendations on the design of performance measures</i>	
i.	Should be derived from strategy
ii.	Should be simple to understand
iii.	Should provide timely and accurate feedback
iv.	Should be based on quantities that can be influenced, or controlled, by the user alone or in co-operation with others
v.	Should reflect the “business process” – i.e. both the supplier and customer should be involved in the definition of the measure
vi.	Should relate to specific goals (targets)
vii.	Should be relevant
viii.	Should be part of a closed management loop
ix.	Should be clearly defined
x.	Should have visual impact
xi.	Should focus on improvement
xii.	Should be consistent (in that they maintain their significance as time goes by)
xiii.	Should provide fast feedback
xiv.	Should have an explicit purpose
xv.	Should be based on an explicitly defined formula and source of data
xvi.	Should employ ratios rather than absolute numbers
xvii.	Should use data which are automatically collected as part of a process whenever possible
xviii.	Should be reported in a simple consistent format
xix.	Should be based on trends rather than snapshots
xx.	Performance measures should provide information
xxi.	Should be precise – be exact about what is being measured
xxii.	Should be objective – not based on opinion

Source: Neely et al, 1997.

Fortuin (1988) adopts a similar stance as Neely et al, (1997), but also suggests that measures should provide fast feedback, information, be precise (exact about what is being measured), and

objective (not based on opinion). Parker (2000) proposes various fundamental issues pertaining to performance measures, namely: performance measures need to be aligned with the organization's strategy, sub-unit measures must aggregate into organization-wide measures, there must be commitment to the measurement regime, measurement must have an effect on performance, and measures must be reliable.

Tangen (2002) argues that performance measures should adhere to some basic criteria if they are to be effective. He proposes that measures must be derived from strategic objectives to ensure that employee behaviours are consistent with corporate goals; must provide timely, relevant and accurate feedback, from both a long term and short term perspective; measurement should be undertaken in ways that are easily understood by those whose performance is evaluated; and measurement should be accomplished with by a limited number of performance measures. Tangen (2003) offers that the choice of suitable measurement techniques depends on a number of factors including: purpose of the measurement, level of detail required, time available for the measurement, existence of available predetermined data, and cost of measurement. Despite above findings, Ngene (2002 pp 37) underscores the need for "suitable measures against which to measure organizational performance", adding that there seems to be awareness of formality with performance measurement in portfolio management.

2.7 Performance Measures in institutions of Higher Learning

With respect to academic institutions, Al-Turki and Duffuaa (2003) highlight typical institutional objectives as including: prepare highly qualified graduates in the disciplines of their departments; prepare graduates for life long learning experience; prepare graduates who can communicate effectively and function well within a teamwork experience; prepare graduates who can conduct research at the frontier of their discipline; extend the knowledge base of their disciplines to meet society needs; and provide continuous professional development for their graduate through continuous education, workshops and seminars.

Al-Turki and Duffuaa, (2003) further state that adequate performance measures of performance are required to assess whether the academic institutions meet set objectives, in order to initiate improvements. They note that in the past, measuring the performance of academic institutions

has received little attention compared to other industries. Possible reasons for the little attention include; the functions of academic institutions have complex relationships with other organizations/stakeholders, and the outputs of the academic institutions are hard to measure. In their view (Al-Turki and Duffuaa, 2003), performance measures should be based on a clear purpose linked to the goals and objectives of the institutions, the purpose of measurement should be to stimulate internal quality improvements and to benchmark performance with leading academic institutions, measures should be clearly defined qualitatively and quantitatively, and should be communicated to all concerned.

Based on the expectations of performance measurements in academic institutions, they argue that the desired characteristics of performance measures as relevance (include data that are essential to provide basis for understanding the accomplishment of goals and objectives of the organization), interpretability (communication in a readily understandable manner that is concise, yet comprehensible), timeliness (reports in a timely manner so that it is available to users before it loses its value in making decisions), reliability (reports should be consistent from period to period), and validity (the measures should measure the intended indicator).

2.8 Performance Measures for institutions of Higher Learning

Al-Turki and Duffuaa, (2003) categorize performance measures for institutions of higher learning into three broad categories; outcome, process, and input performance measures. They argue that outcome performance measures include graduates, research and scholarships, and services to community in terms of training, consultancy and projects. Process performance measures include teaching and learning processes, research administration process, and administration process, whereas input performance measures include faculty utilization, course offering and laboratory utilization, quality of incoming students, quality of research assistants, and support staff capabilities.

In order to seek a re-definition and to develop a set of criteria for quality in higher education, Harvey and Green (1993) developed a methodology for assessing quality. Focusing on the identification of certain criteria to assess the quality of teaching and learning rather than administrative matters, they aimed at redefining the policy on quality. The groups of

stakeholders that they addressed are students, teaching staff, non-teaching staff, employers, accrediting agencies, quality assurers, quality assessors and the government. Through a set of multiple data collection procedures involving survey, in-depth interviews and discussion seminars, they found out that the majority of the groups agree on the following criteria: adequacy of physical resources, human resources; clarity of the aims and objectives to all participants; relevance of subjects and their content to programme's aims and objectives; active student participation in all levels; relevance of the programme content to the award given; objectivity in assessment; consistency between assessment and course objectives; getting useful feedback from assessment; and providing students with transferable knowledge and skills.

Similarly, evaluation framework have been developed advocating for systems approach to education in which decisions are made about inputs, processes, and outputs (Mizikaci, 2006). She argues this frameworks are meant to serve managers and administrators facing four different kinds of educational decisions, namely Context evaluation, to serve the planning decisions, hence determining what needs are to be addressed in an educational program; Input evaluation, to serve the structuring decisions, thus determining what resources are available, what alternative strategies for the program should be considered, and what plan seems to have the best potential for meeting needs facilitates design of program procedures; Process evaluation, to serve the implementation decisions. How well is the plan being implemented? What barriers threaten its success? What revisions are needed?; and Product evaluation, to serve recycling decisions, such as what results were obtained? How well were needs deduced? What should be done with the program after it has run its course?

Mizikaci (2006) concludes that evaluation in higher education is a site-specific issue, although there are some common standards and procedures. The culture of organizations, values, politics of states and institutions, educational applications, external stakeholders, educational philosophies adopted are the factors influencing evaluative approaches and practices. These aspects need to be improved by research and practice.

2.9 Critical factors in the evolution of Performance Measurement

Waggoner et al., (1999) discern that although many organizations have undertaken projects to design and implement better performance measures, little attention seems to have been given to the way in which these measures evolve following their implementation. Likewise, it has been argued that in order to ensure performance measures remain relevant, hence reflecting on important issues in business, organizations need a process in place to ensure that the measures are reviewed and modified as the organizations circumstances change (Dixon, et al., 1990). Ineffective management of the evolution of performance measurement systems has been argued to cause a new measurement crisis with organizations implementing new measures without to reflect new priorities but failing to discard measures relating to old priorities, resulting in uncorrelated and inconsistent measures (Meyer and Gupta, 1994). Following such observation, Kennerly and Neely (2002) suggest that few organizations appear to have a systematic processes in place for managing the evolution of their measurement systems, nor have researchers explored forces that shape the evolution of an organizations measurement system.

Proposing that the trend raises a crucial question, 'why do performance measures fail to change as organizations change, rendering them irrelevant?' Kennerly and Neely (2002, pp1225) caution that this is an important question which answers should be sought, if history is not to repeat itself and organizations are to avoid the expense of another extensive overhaul of their measurement systems.

Gabris (1986) identifies four categories of barriers to effective change in organizational measures, namely; process burden, lack of internal capacity, credibility anxiety, and 'Georgia giant syndrome', where management techniques work only under rigorous and closely supervised control conditions. Kotter (1996) identifies willingness or the urgency of change throughout the organization as a critical factor. Greiner (1996) categorizes inhibiting factors as institutional, pragmatic, technical or financial. Scott (1995), Pettigrew and whip (1991) also note that the role of political nature of organizations requires further consideration.

Drawing from such findings, Kennerly and Neely (2002) investigated ways in which performance measures evolved, using twenty-five managers from a range of management

functions, from seven different organizations (transport infrastructure, IT services, stationery supplies, courier services, energy generation and supplies, food packaging, and printing machinery supplies). Identified barriers to the evolution of performance measures are summarized in the Table 2.5 below.

Table 2.5: Barriers to evolution of performance measures

Barriers to effective evolution of performance measures in an organization.	
i.	Lack of support from senior management (senior management inertia)
ii.	Use of off-shelf systems that are largely inflexible
iii.	Use of inappropriate communication media to communicate, generate feedback, and involve all employees
iv.	Failure to integrate measurement with strategy development and review
v.	Inconsistent approach to measurement
vi.	Incompatibility of measures
vii.	Nonalignment of measures with rewards
viii.	Nonalignment of actions with measures
ix.	Mismatch between responsibility and authority
x.	Lack of a common understanding of measurement objectives and the need for improvement
xi.	Lack of user involvement in measurement
xii.	Non-involvement of external bodies
xiii.	Lack of proactive review (of measurement) process
xiv.	Inadequate discussions (forums) on appropriateness of measures
xv.	Lack of common performance definitions/metrics
xvi.	Undermining the need for measures to evolve
xvii.	Lack of skills/succession planning
xviii.	Lack of enthusiasm in championing of measurement
xix.	Inflexible IT/financial systems
xx.	Individual inertia/resistance to measurement
xxi.	Too much time wasted producing reports
xxii.	Inability to quantify performance
xxiii.	Measures lacking credibility
xxiv.	Inappropriate work culture
xxv.	Inflexible legacy systems (bureaucratic management structures)
xxvi.	Covert discussions of performance
xxvii.	Measurement not used to manage organizations (need for new mind set)
xxviii.	Too many measures / lack of focus
xxix.	Lack of adequate resource mobilisation to facilitate the use of measures
xxx.	Lack of adequate resources to ensure action is taken.
xxxi.	Lack of appropriate capacity/skills to identify appropriate measures
xxxii.	Lack of appropriate skills to collect accurate data
xxxiii.	Lack of appropriate skills to analyse data
xxxiv.	High staff turnover
xxxv.	Lack of management time (work overload at managerial level).

Source: Adopted from Kennerly and Neely (2002)

Conclusively, Keenerly and Neely, (2002) posit that the various factors are relevant to the growing literature on performance measurement, and also offers organizations with a practical tool to help them establish an effective performance system. They further propose that measures to facilitate evolution of performance measures as an important research area if another measurement crisis and revolution is to be avoided. These conclusion seems much in line with various research findings, for example; Senge (1992) argues that in modern business context, organizations must learn how to cope with continuous change in order to be successful, similarly, Eccles (1991) argued that it will become increasingly necessary for all major businesses to evaluate and modify their performance measures in order to adapt to the rapidly changing and highly competitive business environment.

Ellinami (1995) used a sample of thirty-one divisionalized organizations in Kenya to assess the purposes and draws backs to performance measurement. He argues that performance measurement is not a problem free exercise. Major drawbacks identified include high costs of performance measurement and differences in defining and measuring parts of units. He further suggested that case study research designs could result in better units of analysis. Similarly, Franco and Bourne (2003), in a study of factors that differentiated organizations that were able to manage through measures and those that were not able to identified nine factors as playing a role in managing with performance. These are: organizational culture, management leadership and commitment, compensation link to performance measurement systems, education and understanding, communication and reporting, review and update of the measurement systems, data processes and information technology support, strategic performance measurement framework, and business and industry. The study was conducted with a sample drawn from consultancy firms (senior consultants) and performance measurement managers from the private and public sector. In conclusion, they advocate for further research into, first, the influence of culture on performance measurement; second, the link between compensation and performance measurement in influencing individual behaviour; and thirdly, a thorough understanding of reasons why some managers are able to ensure that action for improvement follows performance measurement. They argue that research in this direction will help organizations to improve their selection practises, both of individuals and performance measures.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

Arising from research observation that little work has been done on performance measurement in institutions of higher learning (Al-Turki and Duffuuaa, 2003), this study was an exploratory study on key issues in performance measurement in institutions of higher learning (public universities) in the Kenyan context.

3.2 Population of the Study

This being an exploratory study, a case design approach with reference to University of Nairobi was adopted. The study population was drawn from various officers in responsible positions and engaged in providing the strategic direction of the University. These included the University Management Board, Central Administration, College/School/Institute Management Boards, as well as other sections/divisions of the University such as Estates, Health Services, Students Welfare Authority, University Of Nairobi Enterprises and Services Limited (UNES) and University of Nairobi Press, amongst others as outlined in the sampling frame (see appendix 2). In total, the sampling frame constituted of 117 officers. These are outlined in table 3.1 below.

Sample size affects confidence interval, thus one could, in principle, select the sample size to yield any degree of confidence (Doodley, 1995). Formulae exist for computing the required sample size as a function of the desired confidence level, the desired precision or width of the confidence interval, and the population variance as estimated by the sample (Williams, 1978). However, the use of formulae has been criticized for several reasons, namely: formulae require information not usually known until after the survey, such as estimated sampling variability, formulae are based on the assumption of normality of the sampling distribution. Problems may arise as surveys may measure different variables with different measurement precisions. Further, even when researchers know the ideal sample size, they may have to work with smaller budgets because of budget limitations and other constraints (Dooley, 1995). Nonetheless, high confidence level is associated with large sample sizes.

With reference to the foregoing observation, the size of the survey population, and taking into consideration low response rates and other hurdles (e.g. technical, financial, time) reported in research, this study targeted all the identified offices in the University of Nairobi as shown in table 3.1 below.

Table 3.1: Study population by composition

Strata	Strata Size
Vice Chancellor and Deputy Vice Chancellors	3
Principals	6
Central Administration (Registrars)	3
Finance Officer, Internal auditor	2
Sectional heads (CMO, Estates, UNES, University Press, Library)	4
Deans	15
School/Institute Directors	16
Departmental chairpersons	67
TOTAL	116

3.3 Data Collection

The study relied heavily on primary data, collected through the use of questionnaires. The data was highly qualitative in nature, thus appropriate measurement concepts were applied.

The research instrument was divided into four parts. Part A was designed to collect the respondents' general information. Part B, C and D were designed to collect data on the three study objectives. Specifically, part B was intended to collect data on the purpose of performance measurement, hence outlined the various purposes for which the institution can measure performance. Part C outlined various performance indicators for institutions of higher education whereas part D listed various factors that have been deemed to affect the design, implementation and use of performance measurement in an institution/organization.

The first study objective sought to establish reasons for which the university evaluates performance, thus various reasons identified from literature were listed for the respondents to select appropriately. Since the purposes are not mutually exclusive, respondents were required to use a likert scale to rank the various purposes. The second objective sought to establish appropriate performance measures for the institutions of higher learning. Various performance

indicators were listed, and the respondents were required to indicate their (performance indicators) importance on a likert scale. Finally, the third objective sought to establish critical factors in the design, implementation and use of performance measurement in institutions of higher learning. Various factors identified in other organizations were listed and respondents rated their influence on a likert scale.

To facilitate data collection drop-and-pick later method was largely employed, and where possible, personal interviews were used. In total, thirty-four questionnaires were collected and subjected to data cleaning and analysis.

3.4 Data Analysis

Data was analyzed through a combination of both descriptive and inferential statistics. Descriptive statistics provide an overview of respondents' perception of the various aspects of performance measurement under study in the University of Nairobi. With respect to the purpose for performance measurement, and types of measures for the institution, a measure of central tendency (mean) and dispersion (standard deviation) were used. Further, frequency distribution tables were used to show how various respondents ranked the various aspects under exploration. Similarly observed distribution on purposes and measures were subjected to appropriate tests including T-tests (difference of means), and data reduction techniques (factor analysis). T-tests were conducted to determine if significant differences exist as to the identified purposes for which performance is measured. With respect to critical factors in the design, implementation and use of performance measures, Factor Analysis has been used to identify and rank the various aspects of performance measurement concept in the University of Nairobi. Microsoft Excel and Statistical Package for Social Sciences (SPSS 11.5) were utilized to perform the various statistical analyses.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter discusses the study findings as to the use of performance management at the University of Nairobi. From the initial target population of one hundred and sixteen, only thirty-four valid questionnaires were collected back. This represented a response rate of twenty-nine (29%) percentage.

4.2 Embracing of performance measurement at the university

The respondents were asked to state whether their respective units had adopted performance measurement concept and if they had, they were expected to state their satisfaction with the system and further to make a brief comment.

From the responses obtained, 58.8 % (twenty out of thirty four respondents) said their various units have embraced the performance measurement concept, 29.4 % said they had not embraced while 11.8 % did not respond. Table 4.1.1 below shows the actual numbers and percentages obtained from the study.

Table 4.1.1: Embracing of Performance Measurement at the University

Responses		Frequency	Percent	Valid Percent
Valid	No	10	29.4	33.3
	Yes	20	58.8	66.7
	Missing	4	11.8	
Total		34	100.0	

Source: Research Data

Further, on the postulation that most units had embraced management by performance measurement, respondents were asked to state their satisfaction levels with the performance measurement in place. Of the thirty-four valid questionnaires, only 20 (58.8%) responded to the question, with 12 (35.5%) of them saying they were satisfied with the performance measures in place. The responses are well depicted in Table 4.1.2 below.

Table 4.1.2: Satisfaction with Performance Measures

		Frequency	Percent	Valid Percent
Valid	Unsatisfied	8	23.5	40.0
	Satisfied	12	35.3	60.0
	Total	20	58.8	100.0
	Missing	14	41.2	
Total		34	100.0	

Source: Research Data

The respondents were also expected to make a brief comment on their ranking as to the satisfaction levels with the performance measurement initiative. A cross-section of comments indicates the “newness” of the concept to the University units. A summary of the comments is provided in table 4.1.3 below.

Table 4.1.3: Respondents comments satisfaction levels with performance measures

1.	The units have just started using performance contracts
2.	Measures seem imbalanced and narrow, ignoring non crucial non-academic and environmental aspects
3.	Performance measurement is slowly picking on well.
4.	Performance is not clearly defined.
5.	Some measures are not objective enough.
6.	Some measures are not tailor made to institution

Source: Research Data.

The above findings are consistent with research findings elsewhere. For example, Globerson (1985) asserts that lack of well defined performance criteria through which the performance of individuals and organizations may be evaluated make it difficult to satisfactorily adopt management by performance measurement. Manoochchri (1999) argues that defining a suitable set of performance measures remains a challenging obstacle in performance measurement. The high non-response to commenting on satisfaction levels (41.2%) could be explained by Brown’s (2005) observation that the introduction of performance management in the public sector domain remains a controversial area, and particularly cites the culture of such organizations as the major impediment to successful implementation. Comments on embracing performance measurement conform with Mizikaci (2006) observation that new practices in management and industry have appealed to the decision makers of higher education.

4.3 Purpose underlying measurement of performance

Various reasons and purposes have been documented as to why organizations measure performance (Churchman, 1967; Crowther, 1996; Waggoner et al., 1999; Parker, 2000; Halachmi, 2005). Current study being an exploratory study on performance measurement in academic institutions, Crowther's (1996) "purpose dimension" was explored. Crowther identified ten purposes for which organizations can measure its performance. The purposes are not mutually exclusive, nor collectively exhaustive, hence respondents were asked to rank various purposes for which organizations measure performance on a likert scale, as well as state other purposes for which the University measured its performance.

None of the respondents indicated any other purpose for which the University can measure its performance. The respondents ranking was analyzed by computing mean scores and standard deviation for the ten purposes listed. Measurement for the purpose of control (ensuring organizational actions conform to plans) had the highest mean score of 3.76, followed by accountability (ensuring the institution satisfies the needs of the stakeholders) and strategic formulation (planning for the future) with mean scores of 3.71 and 3.53 respectively. Performance measurement for defense mechanisms (preparation for contingencies – mean score of 2.94) and establishing threats from the external environment (mean score 2.76) were least scored. Table 4.2.1 summarizes the scoring obtained for the ten purposes identified.

Table 4.2.1: Purposes for performance measuring

Purpose for measuring performance	Mean	Std. Deviation
Control	3.76	1.13
Accountability	3.71	1.338
Strategic formulation	3.53	0.992
Legal Requirement	3.35	1.668
Strategic implementation	3.18	1.114
Valuation	3.18	1.218
Public relations	3.06	1.324
Advertising/Marketing	3	1.348
Defence mechanism	2.94	1.413
Establish threats	2.76	1.415

Source: Research Data

The findings conform to earlier findings by various scholars in various fields. Barnard (1962) argued that performance measurement has been an integral part of organization planning and control since the establishment of the first organization. Tangen (2004) notes that the use of performance measurement facilitates adoption of long-term perspective (strategic formulation) and ensures effective allocation of organizational resources (Accountability). Parker (2000) further notes that performance management is an important aid to making judgments and decisions in an organization (control).

Further analysis was conducted to evaluate if there exists any significant statistical difference amongst the scoring of the various purposes. T-test for difference in means was conducted, on the basis that if no statistical difference existed (thus mean score for all the purposes expected to be the same (~ 3.0). Results showed significant differences existed for various purposes. Significant statistical difference was found for control (t value = 3.947, p value = .000), accountability (t value = 3.077, p value = .004) and strategic formulation purposes (t value = 3.112, p value = .004). Table 4.2.2 shows the T-test results for the various purposes.

Table 4.2.2: T-test results for the identified purposes for measuring performance

Purpose for measuring performance	Test Value = 3					
	T value	Degrees of freedom	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Control	3.947	33	.000	.76	.37	1.16
Accountability	3.077	33	.004	.71	.24	1.17
Strategic formulation	3.112	33	.004	.53	.18	.88
Legal Requirement	1.234	33	.226	.35	-.23	.93
Strategic implementation	.924	33	.362	.18	-.21	.57
Valuation	.845	33	.404	.18	-.25	.60
Public relations	.259	33	.797	.06	-.40	.52
Advertising/Marketing	.000	33	1.000	.00	-.47	.47
Defense mechanism	-.243	33	.810	-.06	-.55	.43
Establish threats	-.969	33	.339	-.24	-.73	.26

Source: Research Data

Individual (paired difference tests) were conducted (see appendix 4), no statistical difference were found between control purpose and accountability purpose (t value, 0.421; p value, 0.676); strategic formulation purpose (t value, -1.113; p value, 0.274); and legal requirement purpose (t value, 1.218; p value, 0.232). However, statistical difference was reported between control purpose and strategic implementation (t value, -2.628; p value, 0.013); valuation (t value, 2.963; p value, 0.006); public relations (t value, 3.783; p value, 0.001); advertisement/marketing (t value, 4.667; p value, 0.000); establishing threats (t value, 4.476; p value, 0.000); and defence mechanism (t value, 2.993; p value, 0.005). Further, no statistical difference were found between Accountability purpose and strategic formulation (t value, -.577; p value 0.568); legal requirement (t value, -.882; p value 0.384); strategic implementation (t value, -1.929; p value 0.062) and public relations (t value, 2.490; p value 0.018). However, significant difference was reported between accountability purpose and valuation purpose (t value, 2.936; p value 0.006); advertisement/marketing (t value, 3.187; p value 0.003); defense mechanism (t value, 3.150; p value 0.003); and establishing of threats (t value, 3.524; p value 0.003) purposes (see Appendix IV Table Obj 1 i, ii, iii, and iv)

Similarly, statistical difference was reported between strategic formulation and establishment of threats (t value, 3.482; p value, 0.001). No statistical significant difference was reported between strategic formulation purpose and legal requirement, strategic implementation, valuation, public relations, advertising/marketing, and defense mechanisms (all the cases reported t value less than 2.5). Further, no statistical difference was reported in the mean scores of strategic implementation, valuation, public relations, advertising/marketing, defense mechanism, and establishing threats purposes.

4.4 Performance indicators for academic institutions

Performance indicators have been perceived as integral ingredients of the organizational planning and control cycle and the lack of well-defined measures make the task difficult (Globerson, 1985; Neely, et al., 1997). For a long period of time, debate has been extensive on the design of performance measures (Lea and Parker, 1989; House and Price, 1991; Crawford and Cox, 1990; Lynch and Cross, 1991; Dixon et al., 1990; Kaplan and Norton, 1992, 1996; Beischel and Smith, 1991; Neely et al., 1996; Parker, 2000; Tangen 2003). Such studies have

outlined various aspects of performance measures for organizations, including the fundamental concepts, selection criterion and characteristics of measures, amongst others.

Adequate performance measures are important in assessing the extent with which academic institutions meet their objectives (Al-Turki and Duffuaa, 2003). In line with the observations that research on performance measures in education is lacking, current study sought to identify various appropriate indicators of performance for academic institutions in Kenya, with a specific reference to the University of Nairobi.

To achieve this objective, various performance indicators were listed and respondents asked to rank them in terms of their importance to the University. In total, forty-two performance indicators were subjected to the ranking. A likert scale was used, with the most important measure scoring 5 points, whereas those not important at all scored 1 point. The mean, standard deviation and variance score for the various measures were computed. Table 4.3.1 provide measures obtained.

Table 4.3.1: Ranking of performance indicators in terms of their importance

<i>Measure</i>	<i>Mean</i>	<i>Std Deviation</i>
1) Appropriateness of course offering to market demands	4.71	0.580
2) Amount and availability of computing facilities	4.71	0.580
3) Journal publication index (No. of refereed papers per year)	4.59	0.500
4) Average time to process a promotion case	4.53	0.710
5) Amount and availability of library facilities	4.41	0.780
6) Mode of lecture delivery	4.41	0.930
7) Research grants /per year	4.29	0.840
8) Percentage teaching staff members awarded excellence in teaching	4.24	0.650
9) Percentage of yearly goals achieved within planning horizon	4.18	1.060
10) Percentage university members engaging in industrial consultancy	4.12	0.770
11) Interest of students advisors in students progress	4.12	0.980
12) Willingness of the university to take students opinion	4.12	1.040
13) Percentage of employers who agree that the graduates perform given objectives well	4.06	1.216
14) Conference publication index (No. of papers published for conferences)	4.00	0.850
15) Ability of students advisors to help students develop their course plan	4.00	0.850
16) Number of new courses/Programmes/units per year	3.81	1.030

<i>Measure</i>	<i>Mean</i>	<i>Std Deviation</i>
17) Percentage university members participating in short courses per year	3.76	0.890
18) Course offering index (percent course offered from planned offering)	3.76	1.180
19) Average mean grade of students joining university (Degree/ Masters /PhD programmes)	3.76	1.080
20) Average time to complete a course (degree/masters/PhD)	3.76	1.080
21) Availability of students advisors (e.g. career advisors, role models)	3.76	1.180
22) Amount and availability of sports and recreational facilities	3.76	1.580
23) Degree programme - students ratio	3.71	1.140
24) Cleanliness of most facilities within university premises	3.71	1.510
25) Number of graduating students per year	3.65	1.593
26) Average grade points for graduating students	3.63	1.289
27) Number of industry-sponsored projects per year	3.59	0.990
28) Number of committees per year	3.59	1.050
29) Minimum graduate record score for graduate students/research assistants	3.59	1.100
30) Social events provided for the university fraternity	3.59	1.160
31) Highest grade points for graduating students	3.53	1.161
32) Average students credit hours per course	3.41	1.210
33) Activities and clubs available to university fraternity	3.35	1.100
34) Average time to approve research proposals in months	3.24	1.330
35) Support staff satisfaction index	3.24	1.020
36) Percentage of active alumni members	3.12	1.343
37) Number of consultancy jobs per year	3.12	1.200
38) Attrition rate of students leaving university due to failure or other reasons	3.12	1.200
39) Number of short courses offered to the general public per year	3.00	1.350
40) Job satisfaction levels of staff members	3.00	1.240
41) PhD / Masters thesis publication index (number of papers published in revered journals)	2.88	1.340
42) Number of support staff	2.88	1.340

Source: Research Data

Of the forty-two measures used, only four measures (10%) were scored at "most important" (had a mean score greater than 4.5), twenty-seven indicators (64%) were scored as "important" (mean score between 4.5 and 3.5), and eleven indicators (26%) ranked as "neither important nor less important" (mean score between 3.5 and 2.5). none of the indicators was ranked at "not important at all".

“Appropriateness of the course offering to the market”, and “amount and availability of computing facility” were ranked highest scored indicators (mean score of 4.71). “Journal publication index” and “average time to process promotion case” were ranked third and fourth (mean score of 4.59 and 4.53 respectively), with “Amount and availability of library facility” and “mode of lecture delivery” following (each having a mean score of 4.41). Least ranked six indicators were “number of consultancy jobs per year”, “attrition rate of students”, “number of short courses offered in a year”, “job satisfaction levels for staff members”, PhD/Masters thesis publication index” and “number of support staff”, with mean scores of 3.12, 3.12, 3.0, 3.0, 2.88 and 2.88 respectively.

The results obtained indicate various aspects of the University in terms of its operations and future direction. For example, high ranking of “appropriateness of course offering” and “journal publication index” indicates the University’s sensitivity and focus to the market needs, and its response to the need to adopt and support active rather than passive approaches and well as realization of its major purpose of existence in terms of research work (UoN strategic plan, 2005-2010). Similarly, the ranking of “amount and availability of computing facility” shows a positive change towards technological changes and advances. In particular, a higher ranking in computing facility compared to library facility further illustrates embracing of the “digital age” across the University fraternity. Similarly, low ranking on consultancy jobs and job satisfaction levels for staff members send a different signals, as scholars have asserted that education is an instrument for helping people improve their conduct, contribute to the betterment of the society (Fang, 1994; Shi, 1994), as well as providing intellectual pleasures and career tools (Bloom, 1987).

Further analysis was conducted to classify the various performance indicators into respective classes. To achieve this objective, factor analysis (data reduction technique) was carried out (using SPSS version 11.5). Ten broad categories of measures were identified after twenty-nine (29) iterations, with a total component loading of 96.42%). Table 4.3.2 shows the ten (10) classes and the respective measures in each class (For component matrix, total variance explained table, scree plot and rotated component matrix tables, see appendix IV: Table Obj 2 i, ii, and iii).

Table 4.3.2: Classification of the various performance indicators

Category 1:	Factor loading
1. Percentage of active alumni members	0.934
2. Number of committees per year	0.849
3. Activities and clubs available to university fraternity	0.832
4. Number of support staff	0.758
5. Social events provided for the university fraternity	0.755
6. Average time to process a promotion case	0.743
7. Number of graduating students per year	0.73
8. Amount and availability of sports and recreational facilities	0.629
9. Cleanliness of most facilities within university premises	.611
10. Average time to complete a course (degree/masters/PhD)	0.576
Category 2:	
1. Availability of students advisors (e.g. career advisors, role models)	0.897
2. Number of short courses offered to the general public per year	0.896
3. Attrition rate of students leaving university due to failure or other reasons	0.864
4. Percentage university members participating in short courses per year	0.847
5. Support staff satisfaction index	0.68
6. Minimum graduate record score for graduate students/research assistants	0.525
Category 3:	
1. Amount and availability of library facilities	0.897
2. PhD / Masters thesis publication index (average number of papers published in revered journals)	0.792
3. Percentage teaching staff members awarded excellence in teaching	0.791
4. Research grants /per year	0.704
5. Percentage of yearly goals achieved within planning horizon	0.68
6. Number of new courses/Programmes/units per year	0.672
Category 4	
1. Job satisfaction levels of staff members	0.923
2. Interest of students advisors in students progress	0.744
3. Ability of students advisors to help students develop their course plan	0.73
4. Number of industry-sponsored projects per year	0.514
Category 5	
1. Highest grade points for graduating students	0.876
2. Average grade points for graduating students	0.845
3. Average mean grade of students joining university (Degree/ Masters /PhD programmes)	0.84
4. Percentage of employers who agree that the graduates perform given tasks well	0.539
5. Course offering index (percent course offered from planned offering)	0.519
Category 6	
1. Number of consultancy jobs per year	0.839
2. Average time to approve research proposals in months	0.775
3. Degree programme - students ratio	0.761

4. Percentage University members engaging in industrial consultancy	0.695
Category 7	
1. Appropriateness of course offering to market demands	.956
2. Willingness of the university to take students opinion	.663
3. Amount and availability of computing facilities	.518
Category 8	
1. Journal publication index (No. of refereed papers per year)	.893
2. Conference publication index (No. of papers published for conferences)	.820
Category 9	
1. Mode of lecture delivery	.702
Category 10	
1. Average students credit hours per course	-.567

Source: Research Data

The above factor clustering represents various aspects of managing academic institutions. Micikaci (2006) argued that performance measures could be categorized into four broad classes: process, product, context and input. Al-Turki and Duffuaa (2003) uses three categories: outcome (graduates, research and scholarship, services to the community), process (teaching and learning processes, research administration, and general programme administration) and input (facility utilization, course offering, quality of incoming students, support staff capabilities) measures. However, findings of the current study shows that the categorization is far from definite, as some measures seem to fall in more than one category.

4.5 Factors affecting evolution, design and use of performance measures

Kennerly and Neely (2002) argues that few organizations appear to have systematic processes in place for managing the evolution of their performance management systems, and further argues that noir have researchers explored forces that shape the evolution of an organizations measurement system. Current study sought to identify critical factors inhibiting the evolution and use of performance measures in academic institutions, using identified barriers to the evolution and use of from different fields (transport infrastructure, IT services, stationary supplies, courier services, energy generation and supplies, food packaging, and printing and machinery supplies). In total, thirty-seven factors were used.

Respondents were asked to rank the impact of the various barriers on the design, implementation and use of performance measures/measurement at the University. A likert scale was used, with

the factor with the highest impact scoring five (Strongly agree), and the least scoring one (Strongly disagree). The mean score, standard deviation and variance for each factor were computed and are summarized in Table 4.4.1 below. The various factors have been ranked using the mean score.

Table 4.4.1: Factors impacting on the design, implementation and use of performance measures

Factor impacting on the evolution of performance measures/measurement at the University of Nairobi.	Mean	Standard deviation
Lack of support from senior management (senior management inertia)	4.650	0.485
Lack of a common understanding of measurement objectives	4.530	0.507
Use of off-shelf systems that are largely inflexible	4.470	0.615
Use of inappropriate communication media to communicate, generate feedback, and involve all employees	4.380	0.492
Inflexible IT/financial systems	4.35	0.597
Inflexible legacy systems (bureaucratic management structures)	4.25	0.672
Mismatch between responsibility and authority	4.180	0.936
Lack of user involvement in measurement	4.18	1.058
Nonalignment of measures with rewards	4.130	0.942
Failure to integrate measurement with strategy development	4.120	0.844
Inability to quantify performance	4.12	0.913
Individual inertia/resistance to measurement	4.06	0.649
Failure to integrate measurement with review of strategy	4.000	1.044
Lack of common performance definitions/metrics	4	1.101
Lack of enthusiasm in championing of measurement	4	1.255
Measurement not used to manage organizations (need for new mind set)	4	0.921
Incompatibility of measures	3.940	1.127
Inadequate discussions (forums) on appropriateness of measures	3.94	1.013
Inconsistent approach to measurement	3.880	1.038
Lack of a common understanding of the need for improvement	3.88	0.977
Too much time wasted producing reports	3.88	1.149
Nonalignment of actions with measures	3.820	0.936
Inappropriate work culture	3.76	1.13
Lack of proactive review (of measurement) process	3.65	1.39
Too many measures / lack of focus	3.65	0.917
Lack of adequate resource mobilization to facilitate the use of measures	3.65	0.981
Undermining the need for measures to evolve	3.59	0.857
Lack of skills/succession planning	3.59	0.988
Covert discussions of performance	3.53	0.861
Lack of adequate resources to ensure action is taken.	3.53	1.308
Non-involvement of external bodies	3.47	1.308
Measures lacking credibility	3.47	1.212

Factor impacting on the evolution of performance measures/measurement at the University of Nairobi.	Mean	Standard deviation
Lack of management time (work overload at managerial level).	3.06	1.369
Lack of appropriate capacity/skills to identify appropriate measures	3	1.477
Lack of appropriate skills to analyse data	2.94	1.536
Lack of appropriate skills to collect accurate data	2.88	1.387
High staff turnover	2.59	1.209

Source: Research Data

From the analysis above, most significant barriers to the design, implementation and use of performance measures at the University of Nairobi are senior management inertia and lack of common understanding of measurement objectives (mean score of 4.65 and 4.53 respectively). There is therefore the need for University management to support the initiative, as well as to seek a common understanding throughout the various units and management levels. These are closely followed by use of off shelf systems (4.47), use of inappropriate communication media (4.38), inflexible financial and IT systems (4.35) and inflexible legacy systems (4.25). As such, managerial issues and systems seem to have a high weighting in contributing to the failure of performance measurement systems.

Similarly, respondents least rated measures credibility (3.47), work overload at managerial level (3.06), lack of capacity/skills to identify appropriate measures (3), lack of appropriate skills to collect accurate data (2.88), analyze data (2.94) and high staff turn over (2.59). This implies that the University has the requisite skills to handle data collection and analysis, time is available at managerial levels to handle performance measurement and most respondents felt that measures have credibility. These resources can be utilized to better improve performance through use of performance measurement.

Factor analysis (Data reduction technique) was conducted to classify the various barriers into fewer classes. Seven factors were identified with a total factor loading of 94.366. Some of the barriers fell in more than one category (Rotated Factor Matrix value higher than .5). Results are shown in Table 4.4.2 below. (See appendix iv: Table Obj 3 i, ii, and iii for other analytical results - total variance, scree plots and rotated component matrix).

Table 4.4.2: Classification of factors affecting design, implementation and use of performance measurement

Performance Management barrier	Factor loading	Sum of squares factor loading
Factor 1: Management of measures		
Lack of data analysis skills	0.981	9.325
Lack of measures identification capability	0.919	
Lack of data collection skills	0.919	
High staff turnover	0.916	
Covert discussions on performance	0.873	
Nonalignment of actions with measures	0.823	
Measures lacking credibility	0.814	
Work overload at managerial level	0.66	
Lack of support from senior management	-0.622	
Lack of common understanding on need for improvement	0.609	
Lack of focus (too many measures)	0.551	
Undermining need for measures to evolve	0.516	
Factor 2: Organizational Management issues		
Lack of common understanding of measurement objectives	0.881	7.045
Measurement not integrated with strategy review	0.88	
Non involvement of external bodies	0.806	
Individual inertia/resistance	0.766	
Incompatibility of measures	0.731	
Inflexible IT/Financial systems	0.706	
Lack of succession planning	0.658	
Work overload at managerial level	0.618	
Measurement not integrated with strategy development	0.616	
Bureaucratic management structures	0.578	
Time wasting on reports	0.564	
Inappropriate work culture	0.529	
Factor 3: Implementation approach		
Lack of user involvement	0.934	5.685
Measurement not used in management (mindset)	0.807	
Inconsistent approach	0.786	
Responsibility & Authority mismatch	0.768	
Lack of enthusiasm in championing measurement	0.766	
Lack of proactive review process	0.63	
Inappropriate work culture	0.592	
Factor 4: Contextual issues		
Nonalignment of measures with rewards	0.914	5.352
Use of off shelf systems	0.886	
Inadequate resource mobilization	0.868	

Performance Management barrier	Factor loading	Sum of squares factor loading
Inadequacy of resources	0.824	4.464
Individual inertia/resistance	0.564	
Time wasting on reports	0.519	
Factor 5: Human aspects		
Lack of common definitions	0.802	4.464
Inadequate discussions on appropriateness of measures	0.771	
Inappropriate communication media	0.753	
Undermining need for measures to evolve	0.665	
Lack of succession planning	0.553	
Factor 6: Need and basis for improvement		
Lack of common understanding on need for improvement	-0.575	1.762
Inflexible IT/Financial systems	0.551	
Factor 7: Quantifying results		
Inability to quantify results	0.622	1.283

Source: Research Data

Above analysis shows the distribution of the various barriers to performance measurement at the University of Nairobi. From the analysis, measures related barriers had the highest total factor loading (9.325), followed by managerial issues (7.045), performance measures implementation approach (5.685) contextual issues (5.352) and human related barriers (4.464). least loadings were reported on the need and basis for organizational improvement (1.762) and quantification of results (1.283).

The resulting factor classification shows similarities as well as differences with research findings on barriers to effective design, implementation and use of performance measurement. For example, Gabris (1986) had identified four categories: process burden, internal capacity, credibility, and 'Georgia giant syndrome'. Capacity barriers as identified by Gabris fit well with current study "management of measures" factor. Kotter (1996) identified willingness or agency of change throughout the organization as a critical factor, whereas Greiner (1996) categories barriers into institutional, pragmatic, technical and financial. Very close to current study findings are Franco and Bourne (2003) classification of barriers into nine factors namely: organizational culture, organizational management, compensation link to performance measurement, education and understanding, communication and reporting, review and updating of the systems, data

processes and IT support, strategic performance management framework, and business and industry. Their study was based on consultancy firms both in the public and private sector.

Arising differences could be explained by the very nature of academic institutions, in terms of their purpose, processes, management as well as their interaction with the various stakeholders. Mizikaci (2006) argues that evaluation of higher education is a site-specific issue, and the culture of organizations, values, politics of states and institutions, educational applications, external stakeholders, educational philosophies adopted are critical factors that influence evaluative approaches and practices.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of study findings, conclusions and recommendations arising. The chapter concludes with limitations to the study, and suggestions for further study.

5.2 Summary of study findings

Current study was based on an exploratory study design and sought to explore answers to three questions; what is the purpose of embarking on performance measurement in institutions of higher learning? What measures are appropriate for evaluating performance in institutions of higher learning? Which factors are critical in the design, implementation and use of performance measurement at institutions of higher learning? To achieve the study objectives, University of Nairobi was used as the study unit.

Findings show that the University lays great weight on the use of performance measures and measurement mostly for control and accountability purposes, followed by strategic planning and fulfillment of legal requirements. Conversely, the university does not measure performance for advertisement/marketing, as a way of discerning threats in the environment and preparing for contingencies. Further analysis showed that significant statistical differences existed between the ranking of the various purposes for which the university can measure performance, and more specifically with respect to control, accountability and strategic formulation purposes.

Various measures were ranked in terms of their importance to academic institutions. Most measures used were ranked as either most important, fairly important or neither important nor unimportant. Appropriateness of course offering to market demands, amount and availability of computing facility, and journal publication indexes were amongst the highly ranked measures. Unfortunately, job satisfaction levels amongst the staff members; PhD/Masters publication index and number of support staff were ranked least important (were either scored as "neither important nor unimportant", or "not so important"). Further analysis divided the measures into ten classifications.

Barriers to effective development, implementation and use of performance measurement identified in various industries from the public and private sector were subjected to evaluation with respect to academic institutions. Amongst the highest ranked barriers included senior management inertia, lack of common understanding of measurement objectives and the use of off-shelf systems that are largely inflexible. However, the issue of organizational capacity (management time, capacity to identify appropriate measures, skills to collect and analyze data as well as staff turnover) were least ranked, hence the institutions has the requisite capacity to effectively management evolution and sustenance of performance measurement culture. Further analysis grouped the various barriers into seven distinct factors.

5.3 Conclusions and recommendations

Research findings suggest that the University largely subscribes to the traditional purpose of measuring organizational performance, thus control, planning and accountability. In light of current economic and contextual developments, there is need for such institutions to re-evaluate various purposes and adopt various purposes so as to gain meaningful competitive advantage. In line with Crowthers' (1996) suggestions, proper determination of purposes of embarking on measuring performance will greatly assist in identifying appropriate measures to be used. Arising from the availability of numerous measures that can be adopted, a biased selection of measures with respect to the intent (purposes) is essential for the development of effective performance measurement systems.

Similarly, since the university has the required capacity in terms of skills and manpower to implement and sustain the management/use of performance measurement, appropriate initiatives address the identified barriers should be put in place. This would greatly benefit the institutions in terms of improved management but also as a custodians and pillars of research in the society. The concept of performance measurement has continuously dominated research work and discussion across the public and private sector domain. Proactive initiatives in this direction will be of critical importance.

5.4 Study limitations

Like similar studies, current study is not without limitations. These include low response rate (29%). The findings could differ significantly if a more representative sample was used. The findings could also be biased if used as representation of institutions of higher learning since only one institution was used. Arising from the low response rate reported and fact that only one institution was used, it will be beneficial to repeat the study which a focus to using a higher response rate, as well as use of various institutions of higher learning.

5.5 Suggestions for further study

Current study has served the purpose of initiating researching the need for measuring performance, performance measures and barriers to the evolution and use of performance measurement in an academic setup. Similar research should be conducted in other academic institutions and organizations, both in the public and private domain. Findings from such studies will greatly contribute to performance measurement literature, as well as management practice across the various sectors. Detailed study should also be conducted to determine the relationship between performance measurement and other organizational aspects, amongst others: management structures, culture, and organizational performance.

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Appendix I: Questionnaire

Dear Respondent,

This questionnaire is designed to collect data from various designated Officers in the University of Nairobi. These include the Vice-Chancellor, Deputy Vice-Chancellors, College Principals, Faculty/School/Institute Deans and Directors, and Chairpersons/heads respectively constituent departments, Finance Officers, and selected sectional officer. Collected data shall be used for academic purposes only, and thus shall be treated with strict confidence.

Current study seeks to explore the concept of performance measurement in academic institutions, and in particular, the university of Nairobi. Your participation in facilitating the study is highly appreciated.

PART A: GENERAL INFORMATION.

1. Respondent's Designation _____
2. College/Section _____ Faculty/School/Institute _____
Department _____
3. For how long have you served in the current position? _____ Years
4. What other positions have you held within the University? (Kindly state)
i. _____
ii. _____
iii. _____
iv. _____
5. Has your department/school/faculty/institute/college embraced management by performance measurement?
Yes [] No []

If yes, to what extent are you satisfied with the various performance measures used?

Highly satisfied	[]
Satisfied	[]
Unsatisfied	[]
Highly unsatisfied	[]

Briefly explain your ranking above

If your answer is no (Question 5), please comment

Appendix i: Questionnaire

Dear Respondent,

This questionnaire is designed to collect data from various designated Officers in the University of Nairobi. These include the Vice Chancellor, Deputy Vice-Chancellors, College Principals, Faculty/School/Institute Deans and Directors, and Chairpersons from respective constituent departments, Finance Officers, and selected sectional officer. Collected data shall be used for academic purposes only, and thus shall be treated with strict confidence.

Current study seeks to explore the concept of performance measurement in academic institutions, and in particular, the university of Nairobi. Your participation in facilitating the study is highly appreciated

PART A: GENERAL INFORMATION.

1. Respondent's Designation _____
2. College/Section: _____ Faculty/School/Institute _____
Department: _____
3. For how long have you served in the current position? _____ Years
4. What other positions have you held within the University? (Kindly state)
 - i. _____
 - ii. _____
 - iii. _____
 - iv. _____
5. Has your department/school/faculty/institute/college embraced management by performance measurement?
Yes [] No []
If yes, to what extent are you satisfied with the various performance measures used?
Highly satisfied []
Satisfied []
Unsatisfied []
Highly unsatisfied []

Briefly explain your ranking above.

If your answer is no (Question 5), please comment.

PART B: PURPOSE OF PERFORMANCE MEASUREMENT.

6. Kindly indicate to what level the University measures performance for the given purposes, by ticking (✓) appropriately in the space provided below.

Purpose for which the University measures performance						
Measure	Aspect /purpose of measurement	Very High	High	Neutral	Low	Very low
6.1	Planning the future (strategy formulation)	[]	[]	[]	[]	[]
6.2	Translating strategy into action plans (Strategy implementation)	[]	[]	[]	[]	[]
6.3	Ensuring organizational actions conforms to plan (Control)	[]	[]	[]	[]	[]
6.4	Ensuring the institution satisfies the needs of the stakeholders (Accountability).	[]	[]	[]	[]	[]
6.5	Establish value of institution to present/prospective stakeholders (Valuation)	[]	[]	[]	[]	[]
6.6	Satisfying legal requirement regarding operating, reporting and accounting for resources.	[]	[]	[]	[]	[]
6.7	Raising awareness of the institution in terms of its existence, operational sphere, general economic and environmental stance (Public relations)	[]	[]	[]	[]	[]
6.8	Increasing awareness of the organization for advertising/marketing purposes.	[]	[]	[]	[]	[]
6.9	Establishing threats from the external environment	[]	[]	[]	[]	[]
6.10	Preparation for contingencies (defensive mechanism)	[]	[]	[]	[]	[]
6.11	Other purpose(s): (kindly state)	[]	[]	[]	[]	[]
•		[]	[]	[]	[]	[]
•		[]	[]	[]	[]	[]
7.15	Percentage teaching staff members awarded excellence in teaching	[]	[]	[]	[]	[]
7.16	Number of new courses/Programmes added per year	[]	[]	[]	[]	[]
7.17	Average time to approve research proposals in months	[]	[]	[]	[]	[]
7.18	Average ratio to process a submitted case	[]	[]	[]	[]	[]
7.19	Percentage of yearly goals achieved within planning horizon	[]	[]	[]	[]	[]

PART C: PERFORMANCE INDICATORS FOR THE UNIVERSITY

7. How important are the following measures in the evaluation of performance at the University? Kindly tick (✓) your choices in the spaces provided.

<i>Suitability of performance measures to the University</i>					
<i>Measure</i>	<i>Very important</i>	<i>Fairly important</i>	<i>Neutral</i>	<i>Not so important</i>	<i>Not at all important</i>
7.1 Number of graduating students per year	[]	[]	[]	[]	[]
7.2 Percentage of employers who agree that the graduates perform given tasks well	[]	[]	[]	[]	[]
7.3 Percentage of active alumni members	[]	[]	[]	[]	[]
7.4 Highest grade points for graduating students	[]	[]	[]	[]	[]
7.5 Average grade points for graduating students	[]	[]	[]	[]	[]
7.6 Journal publication index (No. of refereed papers per year)	[]	[]	[]	[]	[]
7.7 Conference publication index (No. of papers published for conferences)	[]	[]	[]	[]	[]
7.8 Research grants /per year	[]	[]	[]	[]	[]
7.9 PhD / Masters thesis publication index (average number of papers published in revered journals)	[]	[]	[]	[]	[]
7.10 Number of short courses offered to the general public per year	[]	[]	[]	[]	[]
7.11 Percentage university members participating in short courses per year	[]	[]	[]	[]	[]
7.12 Number of industry-sponsored projects per year	[]	[]	[]	[]	[]
7.13 Number of consultancy jobs per year	[]	[]	[]	[]	[]
7.14 Percentage university members engaging in industrial consultancy	[]	[]	[]	[]	[]
7.15 Percentage teaching staff members awarded excellence in teaching	[]	[]	[]	[]	[]
7.16 Number of new courses/Programmes/units per year	[]	[]	[]	[]	[]
7.17 Average time to approve research proposals in months	[]	[]	[]	[]	[]
7.18 Average time to process a promotion case	[]	[]	[]	[]	[]
7.19 Percentage of yearly goals achieved within planning horizon	[]	[]	[]	[]	[]

Suitability of performance measures to the University

<i>Measure</i>	<i>Very important</i>	<i>Fairly important</i>	<i>Neutral</i>	<i>Not so important</i>	<i>Not at all important</i>
7.20 Job satisfaction levels of staff members	[]	[]	[]	[]	[]
7.21 Number of committees per year	[]	[]	[]	[]	[]
7.22 Average students credit hours per course	[]	[]	[]	[]	[]
7.23 Degree programme - students ratio	[]	[]	[]	[]	[]
7.24 Course offering index (percent course offered from planned offering)	[]	[]	[]	[]	[]
7.25 Average mean grade of students joining university (Degree/ Masters /PhD programmes)	[]	[]	[]	[]	[]
7.26 Average time to complete a course (degree/masters/PhD)	[]	[]	[]	[]	[]
7.27 Attrition rate of students leaving university due to failure or other reasons	[]	[]	[]	[]	[]
7.28 Minimum graduate record score for graduate students/research assistants	[]	[]	[]	[]	[]
7.29 Number of support staff	[]	[]	[]	[]	[]
7.30 Support staff satisfaction index	[]	[]	[]	[]	[]
7.31 Appropriateness of course offering to market demands	[]	[]	[]	[]	[]
7.32 Availability of students advisors (e.g. career advisors, role models)	[]	[]	[]	[]	[]
7.33 Interest of students advisors in students progress	[]	[]	[]	[]	[]
7.34 Ability of students advisors to help students develop their course plan	[]	[]	[]	[]	[]
7.35 Willingness of the university to take students opinion	[]	[]	[]	[]	[]
7.36 Amount and availability of library facilities	[]	[]	[]	[]	[]
7.37 Cleanliness of most facilities within university premises	[]	[]	[]	[]	[]
7.38 Amount and availability of computing facilities	[]	[]	[]	[]	[]
7.39 Amount and availability of sports and recreational facilities	[]	[]	[]	[]	[]
7.40 Mode of lecture delivery	[]	[]	[]	[]	[]
7.41 Activities and clubs available to university fraternity	[]	[]	[]	[]	[]
7.42 Social events provided for the university fraternity	[]	[]	[]	[]	[]

PART D: CRITICAL FACTORS IN THE DESIGN, IMPLEMENTATION AND USE OF PERFORMANCE MEASURES/ MEASUREMENT.

8. Kindly tick (✓) appropriately how each of listed aspects impacts on the design, implementation and use of performance measures/measurement at the University.

Critical factors affecting the design, implementation and use of performance measures/measurement at the University.

Aspects of the University in relation to performance measurement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
8.1 Lack of support from senior management (senior management inertia)	☐	☐	☐	☐	☐
8.2 Use of off-shelf systems that are largely inflexible	☐	☐	☐	☐	☐
8.3 Use of inappropriate communication media to communicate, generate feedback, and involve all employees	☐	☐	☐	☐	☐
8.4 Failure to integrate measurement with strategy development	☐	☐	☐	☐	☐
8.5 Failure to integrate measurement with review of strategy	☐	☐	☐	☐	☐
8.6 Inconsistent approach to measurement	☐	☐	☐	☐	☐
8.7 Incompatibility of measures	☐	☐	☐	☐	☐
8.8 Nonalignment of measures with rewards	☐	☐	☐	☐	☐
8.9 Nonalignment of actions with measures	☐	☐	☐	☐	☐
8.10 Mismatch between responsibility and authority	☐	☐	☐	☐	☐
8.11 Lack of a common understanding of measurement objectives	☐	☐	☐	☐	☐
8.12 Lack of a common understanding of the need for improvement	☐	☐	☐	☐	☐
8.13 Lack of user involvement in measurement	☐	☐	☐	☐	☐
8.14 Non-involvement of external bodies	☐	☐	☐	☐	☐
8.15 Lack of proactive review (of measurement) process	☐	☐	☐	☐	☐
8.16 Inadequate discussions (forums) on appropriateness of measures	☐	☐	☐	☐	☐
8.17 Lack of common performance definitions/metrics	☐	☐	☐	☐	☐
8.18 Undermining the need for measures to evolve	☐	☐	☐	☐	☐
8.19 Lack of skills/succession planning	☐	☐	☐	☐	☐

Critical factors affecting the design, implementation and use of performance measures/measurement at the University.

Aspects of the University in relation to performance measurement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
8.20 Lack of enthusiasm in championing of measurement	☐	☐	☐	☐	☐
8.21 Inflexible IT/financial systems	☐	☐	☐	☐	☐
8.22 Individual inertia/resistance to measurement	☐	☐	☐	☐	☐
8.23 Too much time wasted producing reports	☐	☐	☐	☐	☐
8.24 Inability to quantify performance	☐	☐	☐	☐	☐
8.25 Measures lacking credibility	☐	☐	☐	☐	☐
8.26 Inappropriate work culture	☐	☐	☐	☐	☐
8.27 Inflexible legacy systems (bureaucratic management structures)	☐	☐	☐	☐	☐
8.28 Covert discussions of performance	☐	☐	☐	☐	☐
8.29 Measurement not used to manage organizations (need for new mind set)	☐	☐	☐	☐	☐
8.30 Too many measures / lack of focus	☐	☐	☐	☐	☐
8.31 Lack of adequate resource mobilization to facilitate the use of measures	☐	☐	☐	☐	☐
8.32 Lack of adequate resources to ensure action is taken.	☐	☐	☐	☐	☐
8.33 Lack of appropriate capacity/skills to identify appropriate measures	☐	☐	☐	☐	☐
8.34 Lack of appropriate skills to collect accurate data	☐	☐	☐	☐	☐
8.35 Lack of appropriate skills to analyze data	☐	☐	☐	☐	☐
8.36 High staff turnover	☐	☐	☐	☐	☐
8.37 Lack of management time (work overload at managerial level).	☐	☐	☐	☐	☐
8.38 Others					
•	☐	☐	☐	☐	☐
•	☐	☐	☐	☐	☐
•	☐	☐	☐	☐	☐

Thank you for your participation and contributions

Appendix ii: Sampling Frame

VC & DEPUTY VC'S

1. The Vice-Chancellor
2. Deputy Vice-Chancellor (Administration and Finance)
3. Deputy Vice-Chancellor (Academic Affairs)

PRINCIPALS

4. College of Agriculture and Veterinary Sciences (CAVS)
5. College of Architecture and Engineering (CAE)
6. College of Biological and Physical Sciences (CBPS)
7. College of Education and External Studies (CEES)
8. College of Health Sciences (CHS)
9. College of Humanities and Social Sciences (CHSS)

CENTRAL ADMINISTRATION

10. Registrar - Administration,
11. Registrar - Academic,
12. Registrar - Planning Divisions

OFFICERS

13. Finance - Finance Officer
14. Audit - Chief Internal Auditor
15. Estates - Estates Manager
16. University Health Services - Chief Medical Officer
17. The University of Nairobi Enterprises and Services Limited (UNES) - Managing Director
18. University librarian
19. University of Nairobi Press
20. Students' Welfare Authority
21. Special Students Advisor

DEANS

22. Dean of Students
23. Faculty of Agriculture
24. Faculty of Architecture, Design and Development
25. Faculty of Arts
26. Faculty of Education
27. Faculty of Engineering
28. Faculty of External Studies
29. Faculty of Law
30. Faculty of Medicine
31. Faculty of Pharmacy
32. Faculty of Dental Surgery
33. Faculty of Science
34. Faculty of Social Sciences
35. Faculty of Veterinary Medicine
36. School of Business

DIRECTORS (INSTITUTES, SCHOOLS & BOARDS)

37. Institute of African Studies
38. School of Computing and Informatics
39. Institute of Development Studies
40. Institute of Diplomacy and International Studies
41. Institute of Nuclear Science
42. Housing and Building Research Institute
43. Institute of Dryland Research, Development on Utilization
44. Institute of Tropical and Infectious Diseases
45. Population Studies & Research Institute
46. School of Journalism
47. Information Communication and Technology Centre
48. Centre for International Programmes and Links
49. Board of Postgraduate Studies
50. Board of Common Undergraduate Courses

DEPARTMENTS

College of Agriculture and Veterinary Services

51. Department of Food Technology and Nutrition
52. Department of Range Management
53. Department of Veterinary Anatomy
54. Department of Animal Production
55. Department of Public Health, Pharmacology and Toxicology
56. Department of Clinical Studies
57. Department of Animal Physiology

College of Architecture & Engineering

58. Department of Architecture
59. Department of Building Economics and Management
60. Department of Design
61. Department of Land Development
62. Department of Urban and Regional Planning
63. Department of Environmental and Biosystems Engineering
64. Department of Civil Engineering
65. Department of Electrical and Electronics Engineering
66. Department of Mechanical Engineering
67. Department of Surveying

College of Biological and Physical Sciences (CBPS)

68. Department of Biochemistry
69. Department of Botany
70. Department of Chemistry
71. Department of Geology
72. Department of Mathematics
73. Department of Meteorology
74. Department of Physics
75. Department of Zoology

College of Education and External Studies

76. Department of Education Foundations
77. Department of Educational Administration and Planning
78. Department of Educational Communication and Technology
79. Department of Studies and Economics
80. Department of Geography
81. Department of History and Government
82. Department of Kiswahili
83. Department of Linguistics and Literature
84. Department of Philosophy and Religious Studies
85. Department of Social education and Ethics
86. Department of Psychology
87. Department of mathematics
88. Department of Distance Studies

College of Health Sciences

89. Department of Community Health
90. Department of Diagnostics Radiology
91. Department of Human Anatomy
92. Department of Medical Physiology
93. Department of Human Pathology
94. Department of Medical Microbiology
95. Department of Medicine
96. Department of Obstetrics and gynaecology
97. Department of Orthopaedic surgery
98. Department of Paediatrics
99. Department of Surgery
100. Department of Nursing Sciences
101. Department of Psychiatry

College of Humanities and Social Sciences

- 102. Department of Economics
- 103. Department of Geography
- 104. Department of political science and Public Administration
- 105. Department of History
- 106. Department of Linguistics and African Languages
- 107. Department of Literature
- 108. Department of Philosophy
- 109. Department of Religious Studies
- 110. Department of Sociology
- 111. Department of Accounting
- 112. Department of Management Science
- 113. Department of Business Administration
- 114. Department of Private Law
- 115. Department of Commercial Law
- 116. Department of Public Law

DATE 03/08/2006

TO WHOM IT MAY CONCERN

The bearer of this letter M W ANGI MICHAEL

Registration No. DC/3498/2004

is a Master of Business Administration (MBA) student of the University of Nairobi.

He/she is required to submit as part of his/her coursework assignment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you

J. T. KARIUKI
CO-ORDINATOR, MBA PROGRAM

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA OFFICE
P.O. Box 30197
NAIROBI

Appendix iii: Introductory Letter



UNIVERSITY OF NAIROBI

SCHOOL OF BUSINESS

MBA PROGRAM - LOWER KABETE CAMPUS

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P.O. Box 30197
Nairobi, Kenya

DATE 03/08/2006

TO WHOM IT MAY CONCERN

The bearer of this letter MWANGI MICHAEL

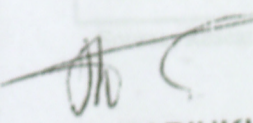
Registration No: AGC/8498/2004

is a Master of Business Administration (MBA) student of the University of Nairobi.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.


J.T. KARIUKI

CO-ORDINATOR, MBA PROGRAM

**UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA OFFICE
P. O. Box 30197
NAIROBI**

Appendix iv: Statistical results tables

Research Objective One: Purposes of embarking on performance measurement

Comparative analysis (Mean difference) amongst the various performance measurement purposes (Matched paired Mean difference- (T test)

Table Obj 1.i: Control purpose visa vis other purposes

	Paired Differences					T value	Degrees of freedom	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Control – Accountability	.06	.814	.140	-.23	.34	.421	33	.676
Control - Strategic formulation	-.24	1.232	.211	-.67	.19	-1.113	33	.274
Control - Legal Requirement	.41	1.971	.338	-.28	1.10	1.218	33	.232
Control - Strategic implementation	-.59	1.305	.224	-1.04	-.13	-2.628	33	.013
Control – Valuation	.59	1.158	.199	.18	.99	2.963	33	.006
Control - Public relations	.71	1.088	.187	.33	1.09	3.783	33	.001
Control - Advertising/Marketing	.76	.955	.164	.43	1.10	4.667	33	.000
Control - Establish threats	1.00	1.303	.223	.55	1.45	4.476	33	.000
Control - Defense mechanism	.82	1.604	.275	.26	1.38	2.993	33	.005

Source: Research Data

Table Obj 1.ii: Accountability purpose visa vis other purposes

	Paired Differences					T value	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Accountability - Strategic formulation	-.18	1.783	.306	-.80	.45	-.577	33	.568
Accountability - Legal Requirement	.35	2.334	.400	-.46	1.17	.882	33	.384
Accountability - Strategic implementation	-.53	1.600	.274	-1.09	.03	-1.929	33	.062
Accountability – Valuation	.53	1.051	.180	.16	.90	2.936	33	.006
Accountability - Public relations	.65	1.515	.260	.12	1.18	2.490	33	.018
Accountability - Advertising/Marketing	.71	1.292	.222	.26	1.16	3.187	33	.003
Accountability - Defense mechanism	.76	1.415	.243	.27	1.26	3.150	33	.003
Accountability - Establish threats	.94	1.687	.289	.35	1.53	3.254	33	.003

Source: Research Data

Table Obj 1.iii: Strategic formulation purpose visa vis other purposes

	Paired Differences					T value	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Strategic formulation – Legal Requirement	.18	1.487	.255	-.34	.70	.692	33	.494
Strategic formulation - Strategic implementation	.35	.981	.168	.01	.70	2.098	33	.044
Strategic formulation - Valuation	.35	1.631	.280	-.22	.92	1.262	33	.216
Strategic formulation - Public relations	.47	1.261	.216	.03	.91	2.176	33	.037
Strategic formulation - Advertising/Marketing	.53	1.482	.254	.01	1.05	2.083	33	.045
Strategic formulation - Defense mechanism	.59	1.877	.322	-.07	1.24	1.828	33	.077
Strategic formulation - Establish threats	.76	1.281	.220	.32	1.21	3.482	33	.001

Source: Research Data

Table Obj 1.iv: Legal requirement visa vis other purposes

	Paired Differences					T value	df	Sig. (2- tailed)
	Mean	Std. Deviat ion	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Legal Requirement – Strategic implementation	-.18	1.914	.328	-.84	.49	-.538	33	.595
Legal Requirement – Valuation	-.18	2.236	.383	-.96	.60	-.460	33	.648
Legal Requirement - Public relations	.29	1.801	.309	-.33	.92	.952	33	.348
Legal Requirement – Advertising/Marketing	.35	1.873	.321	-.30	1.01	1.099	33	.280
Legal Requirement – Defense mechanism	.41	2.148	.368	-.34	1.16	1.118	33	.272
Legal Requirement – Establish threats	.59	1.598	.274	.03	1.15	2.147	33	.039

Source: Research Data

Research Objective Two: Suitable performance measures for the University of Nairobi

Table Obj 2. i: Total Variance Explained

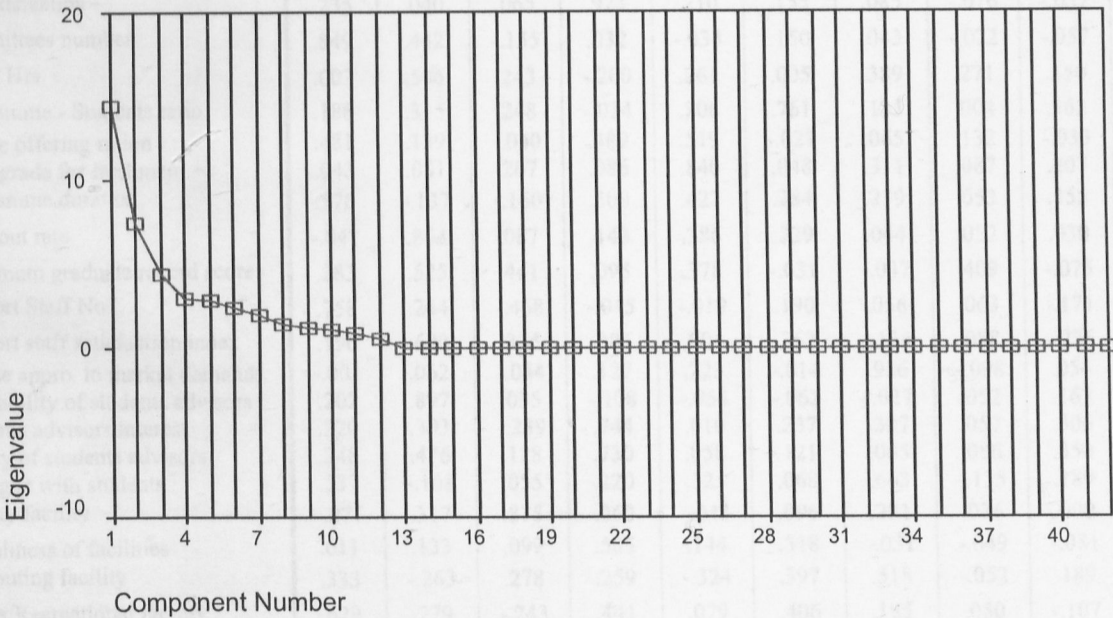
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Loadings			Loadings			Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.360	34.191	34.191	14.360	34.191	34.191	7.397	17.612	17.612
2	7.420	17.666	51.857	7.420	17.666	51.857	5.987	14.255	31.867
3	4.483	10.674	62.531	4.483	10.674	62.531	4.990	11.882	43.749
4	3.062	7.290	69.822	3.062	7.290	69.822	4.418	10.519	54.268
5	2.876	6.848	76.669	2.876	6.848	76.669	4.367	10.398	64.666
6	2.428	5.782	82.451	2.428	5.782	82.451	3.949	9.401	74.067
7	1.989	4.736	87.187	1.989	4.736	87.187	3.064	7.296	81.363
8	1.487	3.541	90.728	1.487	3.541	90.728	2.675	6.368	87.731
9	1.305	3.107	93.836	1.305	3.107	93.836	1.861	4.432	92.163
10	1.103	2.626	96.462	1.103	2.626	96.462	1.806	4.299	96.462
11	.877	2.088	98.551						
12	.609	1.449	100.000						
13	1.465E-15	3.489E-15	100.000						
14	8.513E-16	2.027E-15	100.000						
15	7.886E-16	1.878E-15	100.000						
16	7.121E-16	1.695E-15	100.000						
17	6.799E-16	1.619E-15	100.000						
18	5.579E-16	1.328E-15	100.000						
19	4.892E-16	1.165E-15	100.000						
20	4.021E-16	9.575E-16	100.000						
21	3.666E-16	8.728E-16	100.000						
22	2.846E-16	6.776E-16	100.000						
23	2.184E-16	5.199E-16	100.000						
24	1.693E-16	4.030E-16	100.000						
25	6.935E-17	1.651E-16	100.000						
26	1.093E-17	2.603E-17	100.000						
27	-6.130E-18	-1.459E-17	100.000						
28	-4.146E-17	-9.872E-17	100.000						
29	-7.864E-17	-1.872E-16	100.000						
30	-1.214E-16	-2.891E-16	100.000						
31	-1.968E-16	-4.685E-16	100.000						
32	-2.251E-16	-5.361E-16	100.000						
33	-2.801E-16	-6.668E-16	100.000						
34	-3.216E-16	-7.657E-16	100.000						
35	-4.021E-16	-9.573E-16	100.000						
36	-4.652E-16	-1.108E-15	100.000						
37	-5.302E-16	-1.262E-15	100.000						
38	-5.999E-16	-1.428E-15	100.000						
39	-6.386E-16	-1.521E-15	100.000						
40	-6.953E-16	-1.656E-15	100.000						

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
41	-7.884E-16	-1.877E-15	100.000						
42	-1.035E-15	-2.464E-15	100.000						

Extraction Method: Principal Component Analysis.

Source: Research Data

Table Obj 2 ii: Scree plot



Source: Research Data

Table Obj 2 iii: Rotated Component Matrix (Performance measures)

	Component									
	1	2	3	4	5	6	7	8	9	10
7.1 graduating students	.730	-.076	-.127	.109	.364	.212	.023	-.133	.462	-.004
7.2 Employers opinion	.272	-.174	-.043	.021	.539	.158	.387	-.497	.396	.112
7.3 Active alumni members	.934	-.070	.019	.261	.097	.099	-.054	.008	.105	-.128
7.4 Highest grade 4 grandaunts	.096	.159	.058	.315	.876	.152	.163	-.048	-.114	.053
7.5 Average pass mark	.198	.341	.161	-.038	.845	.145	-.107	.150	-.023	.083
7.6 Journal publication index	.067	.263	.290	-.095	.145	.058	-.006	.893	-.092	.003
7.7 Conference publication index	-.143	.205	.372	.133	.013	.191	-.103	.820	.142	-.050
7.8 Research grants	-.149	.070	.704	-.196	-.120	-.168	.482	.105	-.029	.197
7.9 Thesis publication index	.046	.062	.792	-.177	.301	.127	-.098	.232	-.276	-.098
7.10 Short Courses	.066	.896	.051	.267	.082	.046	-.055	.096	-.168	-.222
7.11 participation in short courses	.135	.847	.101	.215	.230	.148	.123	.306	-.113	-.087
7.12 Industry sponsored projects	.305	.283	-.228	.514	.122	.381	-.055	.009	.073	.470
7.13 Consultancy jobs per yr	.118	.148	-.146	.263	.143	.839	.153	.232	.057	.173
7.14 Industrial consultancy participation	.539	.103	-.179	.294	-.087	.695	.077	.133	-.027	-.140
7.15 Awarding of excellence in teaching	.067	.123	.791	.055	.358	.047	-.184	.283	.115	-.055
7.16 New courses per yr	-.214	-.321	.627	.052	.069	-.132	-.160	.044	.257	-.430
7.17 Time for research approval	.317	-.034	.234	.196	.292	.775	-.303	-.093	-.044	-.058
7.18 Promotion processing	.743	.168	-.123	.317	-.095	.459	-.063	.126	.177	-.077
7.19 Goal realization in a yr	-.028	.584	.664	.056	-.075	-.005	-.093	.320	.188	.082
7.20 Job satisfaction	.235	.040	.065	.923	.210	.155	.085	-.076	-.057	.003
7.21 Committees number	.849	.442	-.155	.032	-.033	.150	.043	-.022	-.057	.094
7.22 Credit Hrs	.003	.506	.243	-.200	.261	.005	.389	.271	.150	-.562
7.23 Programme - Students ratio	.188	.315	.248	-.034	.206	.761	.125	.004	.362	.045
7.24 Course offering ration	.481	.139	-.040	.489	.519	-.027	.065	.132	-.033	.353
7.25 mean grade for freshmen	.043	.081	.207	.086	.840	.048	.311	.087	.207	-.290
7.26 Programme duration	.576	-.137	-.160	.500	.427	.284	.239	.053	.155	.152
7.27 Drop out rate	-.047	.864	.087	.143	.386	.229	.044	.052	.030	.026
7.28 Mimimum graduate record score	.283	.525	.441	.095	.378	-.031	-.037	.409	-.075	.333
7.29 Support Staff No.	.758	.244	-.468	-.045	-.019	.190	.056	.063	-.171	-.169
7.30 Support staff satisfaction index	.196	.680	.336	.306	.004	.362	-.134	.088	-.226	.244
7.31 Course appro. to market demands	-.001	.062	-.044	.127	.223	-.014	.956	-.098	.054	.022
7.32 Availability of students advisors	.202	.897	.035	-.108	-.054	-.062	-.027	.052	.163	.209
7.33 Students advisors interest	.220	.303	-.239	.744	.010	.237	.307	.057	.306	.006
7.34 Ability of students advisors	.248	.476	.118	.730	.058	.121	.005	.086	.350	-.063
7.35 Dialogue with students	.537	-.108	.055	.220	.325	.068	.663	-.135	.189	-.141
7.36 Library facility	-.077	.317	.875	.060	-.043	.096	.281	.076	.009	-.083
7.37 Cleanliness of facilities	.611	.133	.099	.585	.144	.318	-.031	-.049	-.081	.323
7.38 Computing facility	.333	-.263	.278	.259	-.324	.397	.518	-.052	.189	-.263
7.39 Sports/Recreational facility	.629	.279	-.243	.441	.079	.406	.185	.050	-.107	-.030
7.40 Lecture Delivery	.192	-.092	.122	.371	.002	.279	.432	.040	.702	-.144
7.41 Clubs/Activities available	.832	.041	.267	.167	.157	.112	.126	.030	.119	.310
7.42 Social events	.755	.105	.347	.045	.254	-.144	.117	-.346	-.068	.247

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 29 iterations.

Source: Research Data

research Objective Three: Barriers to effective design, implementation and use of performance measures

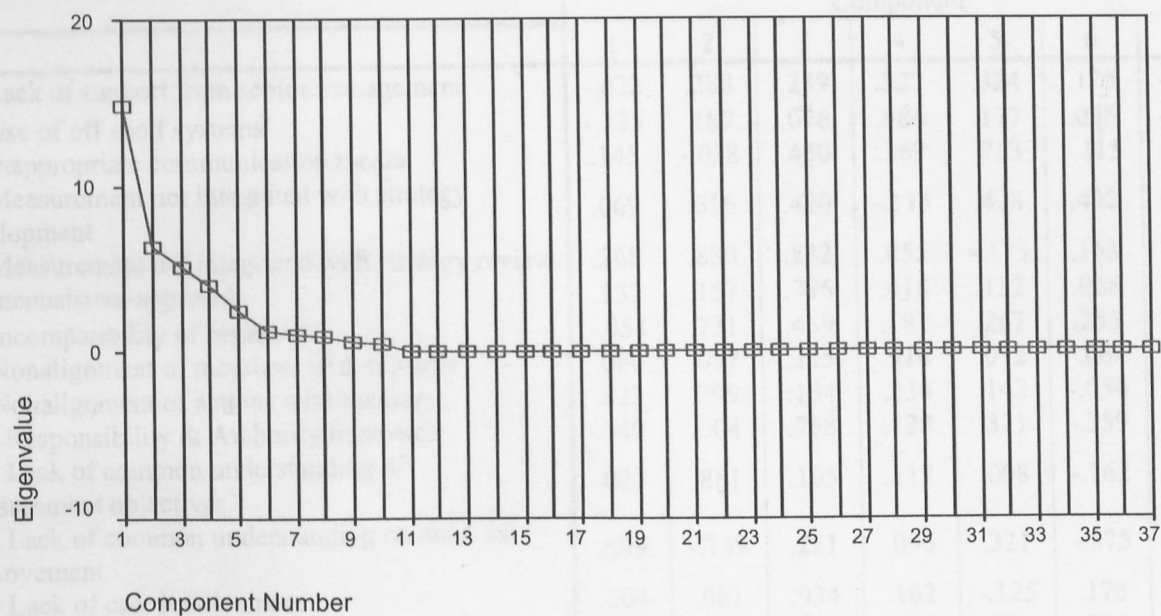
Table Obj 3 i: Total Variance Explained

Comp onent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulativ e %	Total	% of Variance	Cumulativ e %	Total	% of Variance	Cumulativ e %
1	14.768	39.914	39.914	14.768	39.914	39.914	9.325	25.203	25.203
2	6.332	17.113	57.026	6.332	17.113	57.026	7.045	19.042	44.244
3	5.120	13.837	70.863	5.120	13.837	70.863	5.685	15.364	59.608
4	3.971	10.732	81.596	3.971	10.732	81.596	5.352	14.464	74.072
5	2.422	6.546	88.141	2.422	6.546	88.141	4.464	12.064	86.136
6	1.227	3.316	91.457	1.227	3.316	91.457	1.762	4.763	90.899
7	1.076	2.909	94.366	1.076	2.909	94.366	1.283	3.467	94.366
8	.951	2.570	96.936						
9	.610	1.649	98.585						
10	.523	1.415	100.000						
11	2.383E-15	6.441E-15	100.000						
12	1.264E-15	3.417E-15	100.000						
13	8.199E-16	2.216E-15	100.000						
14	7.542E-16	2.038E-15	100.000						
15	5.438E-16	1.470E-15	100.000						
16	4.891E-16	1.322E-15	100.000						
17	4.137E-16	1.118E-15	100.000						
18	3.365E-16	9.094E-16	100.000						
19	2.749E-16	7.430E-16	100.000						
20	2.247E-16	6.072E-16	100.000						
21	1.340E-16	3.621E-16	100.000						
22	1.147E-16	3.101E-16	100.000						
23	4.922E-17	1.330E-16	100.000						
24	-4.017E-17	-1.086E-16	100.000						
25	-6.597E-17	-1.783E-16	100.000						
26	-1.097E-16	-2.966E-16	100.000						
27	-2.148E-16	-5.805E-16	100.000						
28	-2.376E-16	-6.421E-16	100.000						
29	-2.688E-16	-7.265E-16	100.000						
30	-3.825E-16	-1.034E-15	100.000						
31	-4.288E-16	-1.159E-15	100.000						
32	-4.759E-16	-1.286E-15	100.000						
33	-5.123E-16	-1.385E-15	100.000						
34	-5.678E-16	-1.535E-15	100.000						
35	-8.276E-16	-2.237E-15	100.000						
36	-9.612E-16	-2.598E-15	100.000						
37	-3.032E-15	-8.194E-15	100.000						

Extraction Method: Principal Component Analysis.

Source: Research Data

Table Obj 3 ii: Scree Plot



Source: Research Data

Table Obj 3 iii: Rotated Component Matrix (Barriers to performance measurement)

	Component						
	1	2	3	4	5	6	7
8.1 Lack of support from senior management	-.622	.288	.239	.322	.324	.125	-.402
8.2 Use of off shelf systems	-.335	.187	.076	.886	.177	.055	-.149
8.3 Inappropriate communication media	.145	-.038	.430	.369	.753	-.115	-.130
8.4 Measurement not integrated with strategy development	.069	.616	.420	-.113	.428	.432	-.103
8.5 Measurement not integrated with strategy review	.268	.880	.232	.055	-.173	.158	-.105
8.6 Inconsistent approach	.137	.157	.786	.418	.132	.066	-.311
8.7 Incompatibility of measures	-.054	.731	.459	.181	.267	.255	.162
8.8 Nonalignment of measures with rewards	.080	.097	.215	.914	.012	-.064	.275
8.9 Nonalignment of actions with measures	.823	.299	.154	.234	.142	-.054	.301
8.10 Responsibility & Authority mismatch	.340	.004	.768	.128	.321	-.359	.163
8.11 Lack of common understanding of measurement objectives	.027	.881	.105	.117	.008	-.162	.120
8.12 Lack of common understanding on need for improvement	.609	-.139	.221	.096	.321	-.575	-.109
8.13 Lack of user involvement	.104	.061	.934	.162	-.125	.178	.042
8.14 Non involvement of external bodies	.239	.806	.169	-.202	.001	.034	.016
8.15 Lack of proactive review process	.452	.407	.630	-.357	.111	-.031	-.030
8.16 Inadequate discussions on appropriateness of measures	.392	-.065	.096	.087	.771	-.371	.085
8.17 Lack of common definitions	.305	-.078	-.206	.387	.802	.073	.129
8.18 undermining need for measures to evolve	.516	.196	.370	.230	.665	.064	.072
8.19 lack of succession planning	.383	.658	.204	-.112	.553	-.095	-.070
8.20 Lack of enthusiasm in championing measurement	.192	.246	.766	-.195	.446	-.210	.135
8.21 Inflexible IT/Financial systems	-.189	.706	-.002	.167	-.169	.551	.086
8.22 Individual inertia/resistance	.193	.766	-.109	.564	-.033	.054	-.151
8.23 Time wasting on reports	-.066	.564	.209	.519	.405	-.150	.294
8.24 Inability to quantify results	.470	.124	.078	.456	.359	.089	.622
8.25 Measures lacking credibility	.814	.279	.024	.424	.089	-.166	.137
8.26 Inappropriate work culture	.261	.529	.592	.101	-.491	-.078	-.144
8.27 Bureaucratic management structures	.324	.578	.079	-.255	-.276	.452	-.156
8.28 Covert discussions on performance	.873	.076	.376	.188	.053	.100	-.015
8.29 Measurement not used in management (mindset)	.187	.318	.807	-.265	.061	-.032	.019
8.30 Lack of focus (too many measures)	.551	.486	-.352	.285	.306	.233	.271
8.31 inadequate resource mobilization	.440	-.025	-.086	.868	.201	-.012	.000
8.32 Inadequacy of resources	.458	-.158	-.179	.824	.221	-.042	.003
8.33 lack of measures identification capability	.919	.185	.205	-.047	.242	.006	-.090
8.34 Lack of data collection skills	.919	.185	.205	-.047	.242	.006	-.090
8.35 lack of data analysis skills	.981	-.018	.029	.058	.153	.037	.018
8.36 High staff turnover	.916	.166	.234	.021	.035	-.126	.076
8.37 Work overload at managerial level	.660	.618	.172	.106	.208	-.249	.011

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 9 iterations.

Source: Research Data