A SURVEY ON THE USE OF "NEW'' PERFORMANCE MEASURES: A CASE OF FIRMS LISTED AT THE NAIROBI STOCK EXCHANGE

BY:

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2007

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A Research Project Presented in Partial Fulfillment of The Requirement of the Degree of Master of Business Administration, School of Business, University of Nairobi

2007

DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the University of Nairobi for academic credit.

Signed: _____ **Date:** _____

JULIUS OKOTH OTIENO D61 /7643/2004

This project has been presented for examination with my approval as the appointed supervisor.

Signed: _____ **Date:** _____

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ABSTRACT

This study investigates the extent to which firms listed at the Nairobi Stock Exchange use 'new' performance measures to deal with the perceived inadequacies of traditional accounting performance measures. In addition, the determinants of the use of these 'new' performance measures are documented. Using survey data from Kenyan firms listed at the Nairobi Stock Exchange, I find that non-financial measures appear to be used most often in addition to more traditional performance measures; economic value measures and subjective measures appear to be used to a lesser extent. Second, the results indicate that size is positively related to the use of economic value measures. Growth mission, task culture and size are all positively associated with the use of non-financial measures. Finally the relative use of subjective performance measures is negatively related to size.

ACKNOWLEDGEMENT

This Project was researched and written over a period during which, many developments took place. Maintaining a sense of these developments has involved extensive reading and ongoing dialogue with several key people whom I thank for their professional generosity and input.

Firstly, I wish to acknowledge and thank my supervisor, Luther Otieno, whose incisive reading and constructive critiques of the project in progress have been invaluable. Luther has been remarkably patient, considering the time this research project has taken to come to fruition, providing consistent guidance, constructive feedback and helpful advice during the successive stages of this work.

To family and friends who have given me both intellectual and emotional support I offer my up most gratitude. Three members of my family; my mother Francesca Awuor, my wife Mary and daughter Joy have been particularly supportive and I wish to acknowledge them formally and thank them for their continuous support and encouragement. I have drawn strength from their interest in the project and their belief in me to complete it.

I am deeply indebted to Magutu Obara whose generous and indomitable spirit made this project possible. To the Companies listed at the Nairobi stock exchange (especially, the Finance Managers and Chief Accountants) and all those other people who graciously gave their time to be interviewed/fill the research instrument. Zachary Odhiambo and Perris Mwaniki, I also offer my thanks and appreciation for their support and encouragement.

DEDICATION

To My wife Mary,

Thank You for Your Love.

My daughter Joy

You are a wonderful gift

TABLE OF CONTENTS **PAGE**

PART ONE: INTRODUCTION

1.1General Background

It is widely recognized that performance measurement systems are tools for achieving organizational objectives. The traditional management accounting literature advocates the use of financial performance measures in evaluating managerial performance. Many writers argue that financial performance measures communicate financial objectives, provide an overall summary of performance, do not require top management involvement in operating decisions taken at business units, can play a diagnostic role in deciding whether or not to continue with the current strategies and do not require additional costs in order to prepare them since they are already available for external financial reporting purposes (Anthony, 1965; Merchant, 1998).

Although the traditional management accounting literature advocates the use of financial performance measures, many writers attribute many problems to the use of financial performance measures. Ridgway (1956) presents many examples where a manager's performance is maximized in the light of selected performance targets. However, such high performance does not contribute to the company's overall objectives. In addition, financial performance measures are frequently criticized on the grounds that they can lead to many behavioural problems including behavioural displacement, myopia (focusing on achieving results on the short term) and dysfunctional behaviour in terms of budgetary slack and data manipulation (Merchant, 1990; 1998).

In addition, Eccles and Pyburn (1992) argued that financial performance measures are 'lagging indicators' since they determine the outcomes of management's actions after a time period. Therefore, it is difficult to establish a relationship between managers' actions and the reported financial results hence the need for new performance measures. The new performance measures take some In addition; the new performance measures give a lot of guidance to future performance since they do include measures relating to customers' satisfaction and organizational learning.

1.1.1 The Concept of Performance Measurement

Performance Measurement is a structured process for developing measurable indicators that can be systematically tracked to assess progress in achieving goals, as well as to provide feedback and insight to management and leadership. Performance measures, implemented properly, drive greater accountability, visibility, and transparency. Not only do measures provide managers and executives with a tool to gauge organizational progress, but when well crafted and implemented, they can also inspire and motivate all employees, set direction for the organization, and encourage alignment from top to bottom (Malina & Selto, 2004, 2001).

Performance measurement is the quantification of a company's or segment's efficiency or effectiveness in conducting business operations for the accounting period. Some possible measures of performance are revenue center, cost center, profit center, and investment center. In the revenue center approach, a comparison is made between actual revenue and expected revenue. With the cost center method, actual cost is compared to budgeted cost. The profit center is accountable for costs and revenues in deriving net income. It is even better to use an investment center method of performance evaluation because responsibility is placed not only for revenue and costs but also for the investment employed. Two investment center measurements are Return on Investment and Residual Income (Malina & Selto, 2001; Simons, 2000).

Previous literature suggests that performance measurement systems should be tied to the goals and strategies of the organization (Chenhall, 2003; Said et al, 2003; Ittner & Larcker, 2001; Hogque & James, 2000; Otley, 1999; Ittner et al, 1997; Govindarajan & Gupta, 1985; Miller & Friesen, 1982; Gordon & Miller, 1976), as well as matched on other contingency factors (such as environment, culture and size; see Chenhall, 2003; Chapman, 1997; Otley, 1980; and Gordon & Miller, 1976). In addition, performance measures should be effective (i.e., accurate, objective and measurable) and reflect managerial effort (Merchant & Van der Stede, 2003). In this research project, the focus is on the first issue; i.e., I investigate the relation between strategic and contextual characteristics of the organization and the use and effectiveness of the specific performance measures.

1.1.2 Companies Quoted in the Nairobi Stock Exchange

The Nairobi Stock Exchange (NSE) began in 1954 as an overseas stock exchange while Kenya was still a British colony with permission of the London Stock Exchange. Because under the colonial regime Africans and Asians were restricted from trading, it was difficult to convince native Kenyans of the importance of the exchange after independence. Nairobi Stock Exchange is Africa's 4th largest stock exchange in terms of trading volumes, and 5th in terms of Market Capitalization as a percentage of GDP (NSE, 2006).

In 1951, an Estate Agent by the name of Francis Drummond established the first professional Stock broking firm. He also approached the then finance minister of Kenya Sir Ernest Vasey and impressed upon him the idea of setting up a stock exchange in East Africa. The two approached London Stock Exchange officials in July of 1953 and the London officials accepted to recognise the setting up of the Nairobi Stock Exchange as an overseas stock exchange. The Nairobi Stock Exchange was constituted as a voluntary association of stockbrokers registered under the Societies Act. The business of dealing in shares was then confined to the resident European community since Africans and Asians were not permitted to trade in securities until after the attainment of independence in 1963. At the dawn of independence, stock market activity slumped due to uncertainty about the future of independent Kenya. In the first three years of independence marked by steady economic growth, confidence in the market was once again rekindled and the exchange handled a number of highly oversubscribed public issues. A 35% capital gains tax was introduced in 1975 (suspended since 1985), inflicting further losses to the exchange which at the same time lost its regional character following the nationalisations, exchange controls and other inter-territorial restrictions introduced in neighboring Tanzania and Uganda(NSE, 2006).

A Central Bank of Kenya study, "Development of Money and Capital Markets in Kenya" became a blueprint for structural reforms in the financial markets which culminated in the formation of a regulatory body 'The Capital Markets Authority' (CMA) in 1989, to assist in the creation of a conducive environment for growth and development of the country's capital markets. The first privatization through the NSE is successful with the government selling

20% stake in Kenya Commercial Bank. The Kenyan Government relaxed exchange in locally controlled companies subject to an aggregate limit of 20% and an individual 2.5%. These were doubled to 40% and 5% respectively in June 1995 budget to help encourage foreign portfolio investments. The entire Exchange Control Act was repealed in December 1995. Seven more stockbrokers are licensed, bringing the number to twenty from the original six (one which still survives) at its inception in 1954. Commission rates, which were once among the highest, were reduced considerably from 2.5% to between 2% and 1% on a sliding scale for equities and 0.05% for all fixed interest securities for every shilling(NSE, 2006).

In 2001, there was a fundamental reorganization of Kenya's capital markets into four independent market segments: the Main Investments Market Segment (MIMS), the Alternative Investments Market Segment (AIMS), the Fixed Income Securities Market Segment (FISMS) and at a later stage a Futures and Options Market Segment (FOMS). To encourage more listings on the Nairobi Stock Exchange, newly listed companies approved under the Capital Markets Act will be taxed at reduced corporation tax rate of 27% as compared to the standard rate of 30%. This will be for of three years following the date of listing. However, such companies should offer at least 20% of their share capital to the public; and The companies that apply and are listed shall get a tax amnesty on their past omitted profits subject to them making a full disclosure of their incomes and assets and liabilities during the year commencing at the date of listing and undertaking to, henceforth, pay their due taxes in full. As of November 2006, reduced corporate tax is 25% as compared to 30% standard rate. This is for 5 years following the date of listing. Such companies should offer 25% or more of their share capital to the public. The CMA has announced the approval of the new NSE trading and settlement rules with amendments: Block Trades: Revised upwards from Ksh. 3 million to Ksh. 50 - 200 million. The block trade rules now apply to trade values of above Ksh. 50 million but less than Ksh. 200 million. A liberalized commissions regime. New Foreign Investor Regulations: There is a 25% minimum reserve of the issued share capital for locals while the balance of the 75% becomes a free float for all classes of investors. The 25% minimum reserve also applies during initial public offerings (IPOs) and Government of Kenya privatisations. The list of companies listed in the nairobi Stock Exchange is in Appendix 3 (NSE, 2006).

1.2 Statement of the Problem

In the intervening years, the call for a broader set of performance measures has been continuing to deal with the perceived inequality of traditional measures. For instance, Kaplan (1983) called for improving performance measurement through the use of non-financial performance measures, such as measures for productivity, quality, inventory costs, product leadership, manufacturing flexibility and delivery performance. Similarly, McNair *et al.* (1990) argued that non-financial performance measures are necessary for operational control purposes. In addition, it has been argued that the intensity of competition leads to the use of sophisticated control and performance evaluation systems (Khandawalla, 1972). More specifically, Gordon and Miller (1976) argued that the high environmental uncertainty leads to the use of broad scope information in terms of financial and non-financial. Furthermore, many writers provided similar ideas (Eccles, 1991; Otley, 1994; Kaplan and Norton, 1996; Fisher, 1995; Brancato, 1995; Neely, 1999).

In the recent past decade, several 'new' performance measures such as economic value measures, non-financial measures and subjective measures) have been introduced to deal with the perceived inadequacies in traditional accounting-based performance measures, such as earnings or return on investment (Hoque & James, 2000; Ittner & Larcker, 2001, 1998). Cooper and Kaplan (1991) and Kaplan (1983) argued that the development of advanced management techniques, such as total quality management and lean production, creates the need for non-financial performance measures.

This study intends to survey on the use of "New" performance measures by firms Listed at the Nairobi stock exchange.

A number of researches have gone to the area of performance measures and "New" performance measures; Eccles and Pyburn (1992) in his study claimed that financial performance measures are oriented internally rather than externally. A performance measurement and evaluation system involves comparing actual performance with targeted performance in terms of budgets or the past period's performance. Both of them (target and measures) are developed internally and do not consider the performance of the competitors in the same industry or the average performance within the industry. According to Johnson and Kaplan (1987), companies tend to rely on accounting-based information that is appropriate

for external financial reporting but is questionable for internal performance measurement and evaluation.

In criticism and summary, the traditional financial measures do not provide a complete picture relating to managerial performance. Management accounting literature also advocates the use of non-financial performance measures as a tool in order to overcome the deficiencies attributed to financial measures. Solomons (1965) argued that non-financial performance measures are used, besides traditional financial performance measures (residual income and return-on investment), in order to identify the forces that determine financial performance. These measures may include measures for productivity, market effectiveness, product leadership, personnel development, employees' attitudes and public responsibility. Similarly, Parker (1979) suggested that traditional financial performance measures should be supplemented by non-financial performance measures, such as measures for productivity, market share, social responsibility, and product development and employee turnover.

Although a number of studies have investigated the use of contemporary accounting practices in organizations (Ferreira & Otlely, 2004; Chenhall & Langfield-Smith, 1998b), there is relatively little empirical evidence available on the relation between strategic and contextual characteristics, the use of 'new' performance measures and performance (Ittner et al, 2003b; Ittner & Larcker, 2001, 1998; Langfield-Smith, 1997; Chapman, 1997). This study extends previous research on the 'diffusion rate' of contemporary performance measures by documenting the state of "New" performance measures in companies listed in the Nairobi Stock Exchange. Second, and more important, this study will provide evidence on the determinants of the use of specific contemporary performance measures. These last two issues (determinants of the use of 'new' performance measures and impact on financial performance) have received surprisingly little attention in the research literature (see Chenhall, 2003; Ittner et al, 2003b) more so in Kenyan organizations.

1.3 Objective of the Study

i. To determine the extent to which firms listed at Nairobi stock exchange use "New" performance measures to deal with the perceived inadequacies of traditional accounting performance measure.
ii. To determine the determinants of the use of 'New' performance measures.

1.4 Significance of the Study

The findings of this study will be useful to various stakeholders including:

a) Companies Listed in Nairobi Stock Exchange

The findings will assist the Companies Listed in Nairobi Stock Exchange to justify why organizations may prefer the use of new performance measures as opposed to the traditional accounting performance measures. It will also give an insight into the benefits of using new performance measures as opposed to the traditional accounting performance measures.

b) Academics / Researchers

Findings from this research will assist academicians in broadening of the syllabus with respect to this study hence providing a deeper understanding of the "New" performance measures. The findings may as well attract other researchers to venture into other factors affecting the use of "New" performance measures in most organizations in Kenya. The available literature is full of case studies from the west, which as pointed out by Aosa (1993), cannot be replicated without amendments for organizations operating in Africa. This study will therefore shed some light on issues, which are relatively unexplained in previous literature.

c). Government

The government can use the findings for their research to assist in policy formulation and development of a framework for the use of new performance measures as opposed to the traditional accounting performance measures in its ministries; this study might also help in pointing out areas in which state corporations especially the trade and industry can develop competencies and capabilities leading to superior performance. It is also hoped that this study will help in recognizing local economic constraints in the companies listed in the Nairobi Stock Exchange..

PART TWO: LITERATURE REVIEW

2.1Performance Measurement

A performance measurement system can be defined as the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities (Simons, 2000). One of the characteristics of an effective performance measurement system, which is capable of promoting desired organizations outcomes, is that it should be tied to the organizational goals and strategies (Ittner & Larcker, 2001; Otley, 1999) as well as other organizational characteristics (Chenhall, 2003). A performance measurement system should provide a comprehensive yet parsimonious set of measures, linked with the goals and strategies of the organization; in addition, the performance measures should be effective (i.e. accurate, objective and verifiable; Malina & Selto, 2001). A second characteristic of an effective performance measurement system is that the performance measures should reflect managerial effort, should have appropriate (challenging, yet attainable) targets and should be related to meaningful rewards (Merchant & Van der Sede, 2003; Malina & Selto, 2004, 2001; Simons, 2000). In this paper, the focus is on the first issue (i.e., the relation between the strategic and contextual characteristics of the firm and the use and effectiveness of specific performance measures).

Firms have traditionally relied almost exclusively on financial measures such as budgets, profits or accounting returns to measure performance (PricewaterhaouseCoopers, 2004; Said et al, 2003; AICPA, 2001; Otley, 1999; Ittner et al, 1997; Bushman et al, 1996). In the last decade, these 'traditional' accounting performance measures have been increasingly perceived as not meeting the requirements of an effective performance measurement system (Isttner & Larcker, 2001, 1998; Hoque & James, 2000). These perceived inadequacies have motivated several academics and practitioners to suggest a variety of performance measurement innovations, ranging from 'improved' financial metrics such as economic value measures (Stern et al, 1995), to (balanced) scorecards that integrate financial and non-financial measures (Kaplan & Norton, 2001, 1992) and personal or subjective measures (Gibbs et al, 2004; Ittner et al, 2003a). The main characteristics of both the 'traditional' and 'contemporary' performance measures will be discussed shortly in the following sections.

2.2 Traditional Performance Measures

Accounting-based performance measures have many characteristics that help explain their prominent role in performance evaluation and compensation (Indjejikian, 1999): they are subject to a variety of internal controls that enhance their reliability and they are easy to understand. In addition, they integrate the results of all organizational activities into a single coherent measure (Otley, 1999). A drawback of accounting-based measures is that they provide gaming opportunities (such as earnings management activities)[2]. In addition, they are considered backward-looking and short-term focused (i.e., they are 'lagging variables'); that is, they do not provide any information on the creation of value (Stewart, 2002) or the realization of strategic goals (Kaplan & Norton, 2001). Common accounting performance measures include budgeted versus actual results and return on investment measures (see AICPA, 2001; Hoque & James, 2000; Otley, 1999).

2.3 New Performance Measures

2.3.1 Economic Value Measures

One line of performance measurement innovations has focused on improving the financial measures ('new financial measures' or 'economic value measures'). Proponents of economic value measures argue that performance measurement systems should be aligned with the firm's ultimate organizational objective: improved economic performance (Ittner et al, 2003b). The foundations for these 'economic value measures' are residual income, internal rate of return and cash-flow concepts. For example, the EVA©[3] -measure developed by Stern Stewart is defined as adjusted operating income minus a capital charge; the basic assumption underlying EVA© is that managers only add value to their organizations when the resulting profits exceed the cost of capital (Stewart, 2002). In addition, EVA(C) improves on residual income by adjusting for 'distortions' in the accounting model of

[2] It should be noticed that not only financial measures can be manipulated; see, for example, Smith (2002) for an exploration of this issue.
[3] EVA is a trademark of the Stern Stewart Corporation.

performance measurement[4] (Stewart, 2002; Biddle et al, 1997). EVA(C) is claimed to be the best surrogate for or the predictor of future share price performance; an increase in EVA(C) should therefore result in an increase in future cash flows (Stewart, 2002; Stern et al, 1995). However, Otley (1999) argues that it needs to be recognized that EVA(C) remains an historic income measure and does not anticipate the future earnings, despite the existence of predictions based on stock market valuations.

2.3.2 Non-Financial Performance Measures

Another line of performance measurement innovations has focused on the use of non-financial performance measures[5]; examples include the balanced scorecard concept (Kaplan & Norton, 2001, 1992) and the EFQM-model (EFQM, 2004). Non-financial performance measures are defined as measures that provide performance information in non-monetary terms; examples include customer response time, productivity, market share, Customer satisfaction, innovation/new product development and employee turnover (PricewaterhouseCoopers, 2004; AICPA, 2001). Proponents of BSC and EFQM-model contend that many of these variables are leading indicators of future profitability (see Ittner et al, 2003a; Said Et al, 2003; Hendricks & Singhal, 2001, 1997; Kaplan & Norton, 2001; Ittner & Larcker, 2001, 1998). However, previous research has provided mixed evidence on the appropriateness of the balanced scorecard (and, more general, non-financial measures) for translating strategy into performance measures (Banker et al, 2004, 2000; Ittner et al, 2003a; Malina & Selto, 2001; Lipe & Salterio, 2000).

2.3.3 Subjective Performance Measures

Finally, theory suggests that subjective measures may be appropriate performance measures if it is difficult to define objective performance targets or when it is difficult to measure results (Prendergastt, 2000; Bushman et al, 1996). Subjective performance measures

[4] One essential adjustment for accounting distortions is the amortization of investments in soft assets or intangibles. Stewart (2002) argues that investments in intangibles ought to be capitalized like any other asset and depreciated over estimates of their economic lives. As a result, current operating profit (or NOPAT, in EVA-terms) would not be distorted by investments in soft assets that are expected to pay off in the near future.
[5] It should be noticed that the balanced scorecard and the EFQM model represent as an integrated set of measures (i.e., linking non-financial and financial measures) rather than solely non-financial measures (EFQM,

(sometimes defined as 'individual performance evaluation'; see Bushman et al, 1996) can be defined as measures that are based on factors other than the worker's performance (see Prendergast, 2002a). Subjectivity can be introduced in several ways, which are often used in combination (Gibbs et al, 2004; Ittner et al, 2003a); (1) the use of qualitative, subjective performance measures, (2) flexibility in weighting quantitative performance measures when evaluating performance, and (3) the discretion to use other performance measures than the performance measures previously specified. In this research project, the focus is on the first option, i.e., the use of qualitative subjective measures such as, for example, managerial intuition[6] (Andersen, 2000) and competence management (Wright & Snell, 1991). Subjective performance measures are able to take 'difficult to measure' strategic aspects (such as employee skills and attitudes, intangible capital) into account. However, previous research (Gibbs et al, 2004; Ittner et al, 2003a; Prendergast & Topel, 1996) suggest that subjective performance measures can have negative effects (favoritism in bonus awards, high influence costs) if the evaluation is unfair or biased.

2.4 Contingency Theory and Performance Measurement

2.4.1 Contingency Theory

Contingency-based research has a long history in the study of management control systems (Chenhall, 2003). Contingency theory states that the design and use of control systems is dependent upon the context of the organizational setting (Fisher, 1998; Otley, 1980). Previous research has identified a number of variables that affect the effectiveness of a management control system, including strategy, the nature of the enviroronment, (national) cutlture, size, and industry (see Chenhall, 2003; Fusger, 1998; Chapman, 1997; Langfiled-Smith, 10997; Otley, 1980; Gordon & Miller, 1976). Most contingency studeis have focused on the use of budgets in organizations (see Hartmann, 2000 for a review); there is very little contingency research on the use of 'new' performance measurement instruments (Chenhall,

2004; Kaplan & Norton, 2001; 1992). However, both concepts supplement financial measures with non-financial measures; as such, the non-financial measures are considered as key in this aspect.

[6] Although it may be argued that managerial intuition may also include the second and third option, i.e., flexibility in weighing performance measures or including other performance measures than those specified previously.

2003). This study extends previous research in management accounting to include more 'contemporary' performance measures (as well as "traditional' performance measures).

2.4.2 Goals and Strategies

A central contingent variable is the objectives and strategies that an organization decides to pursue (Otley, 1999). Contingency theory generally starts with the notion that the organizational objectives should be stated, and that strategies to achieve those goals should be adopted and implemented (Ittner & Larcker, 2001; Fisher, 1998). For the purposes of this paper, I distinguish among the overarching goal(s) of the organization, corporate strategy and business unit strategy. This distinction is important since the literature (Ittner & Larcker, 2001) suggests that ignoring higher-level strategic choices made by the firm may result in a misspecification of the relation between lower-level strategies and the design of the accounting system.

Goals: Organizational objectives are likely to affect the mechanisms that have been put in place to measure and monitor goal attainment (Otley, 1999). Since the mid-1990s, the literature on management control systems has emphasized on the creation of firm value through the identification, measurement and management of the drivers of customer value, organizational innovation, and shareholder returns (Ittner & Larcker, 2001). Most economic value measures have been marketed as focusing (lower-level) managers' minds on the delivery of shareholder value (Otley, 1999); as such, economic value measures serve as surrogates for the (nonexistent) stock price (Garvey & Milbourn, 2000).

Consulting firms claim that their proprietary economic value measure correlates more closely with stock returns than either traditional accounting measures or the measures of rival firms do (Myers, 1996). For example, Stern Stewart claims that EVA(C) accounts for nearly 50% of the changes in market value added (Stern et al, 1995). However, empirical research in this area is contradictory: for example, Biddle et al (1997) find that earnings appear to be more closely related to stock price performance than economic value measures. On the other hand, research by Wallace (1997) indicates that the stock market reacts favorably to the introduction of economic value compensation systems.

While the avowed goal of the economic value measures is to increase shareholder wealth, the relation between goals and non-financial or subjective performance measures is somewhat more diffuse. Firms may use non-financial value drivers to identify and manage value drivers in order to increase shareholder value (Banker et al, 2000).

Similarly, subjective measures may be used to complement perceived weaknesses in quantitative performance measures (Gibbs et al, 2004); as such, both non-financial and subjective measures may be related to shareholder value. On the other hand, non-financial and subjective measures may also be related to 'stakeholder value goals' (rather than solely shareholder value). For example, Kaplan (2001) indicates that the balanced scorecard can be a useful tool in non-profit organizations since it provides the opportunity to measure multiple aspects of performance.

Research by Cavalluzo & Ittner (2004) indicates that objective performance measures are less useful in non-profit organizations when goals are difficult to quantify, measure and interpret (for example, due to the fact that there are multiple stakeholders). Summarizing, non-financial and subjective performance measures are less likely to be explicitly linked to shareholder value in comparison to economic value measures.

Strategies: Strategies has been described as a pattern of decisions about the organization's future (Mintzberg, 1978), which take on meaning when implemented through the organization's structure and processes (Miles & Snow, 1978). An organization's strategy can also be defined as the match between the organization's resources and skills, and the environmental opportunities and uncertainties it faces (Hofer & Schendel, 1978). For the purposes of this research project, I distinguish between corporate strategy and business unit strategy (or strategic mission).

Corporate strategy is primarily concerned with answering the question: what set of businesses should we be in (including what businesses to acquire or divest), and how should we structure and finance the company? Organizations can be classified into one of three

categories[7] with regard to their corporate strategy (Mintzberg & Quinn, 1996; Hofer & Schendel, 1978).

A 'single business' organization operates in one line of business; in its most extreme form, the organization may be totally committed to one industry. A 'related diversified' organization operates in several industries; it possesses core competencies that benefit many of its business units and accomplishes diversification by relating new businesses to old. These organizations set out to exploit operating synergies across businesses. Related diversified organizations typically grow through internal research and development. Finally, an 'unrelated diversified' organization (or conglomerate) operates in a number of businesses and industries that are unrelated to one another. The headquarters of an unrelated diversified organization function as a holding company, lending money to business units that are expected to have high financial returns.

Textbooks in strategy and accounting suggest that corporate management at unrelated diversified firms has its background mainly in finance, and that it has little familiarity with the different industries a diversified firm is operating in (Anthony & Govindarjan, 2004; Mintzberg & Quinn, 1996, p. 714). As a result, they may not be able to interpret the non-financial and subjective performance measures of individual business units (due to information asymmetry). Consistent with this notion is that previous experimental research (Banker et al, 2004; Lipe & Salterio, 2000) suggests that "unique' performance measures may be ignored (i.e., used to a little extent) when evaluating performance. For example, Lipe & Salterio (2000) found that only 'common' measures (i.e. measures common to multiple and diverse units, such as financial performance) are included in superiors' evaluations of business unit's performance; 'unique' measures (i.e., measures that are unique to a particular unit, such as non-financial or subjective performance) do not appear to affect superior's evaluations.

[7] Some authors recognize four corporate strategies: single business, by-product, related diversified and pure diversified firms (Mintzberg, 1996, p. 710; Vancil, 1980). The 'by-product forms" is an intermediate form between the single business and the related diversified firm.

Previous empirical research in a major financial services firm (Ittner et al, 2003b) indicates that it is almost impossible to adequately weigh performance subjectively on multiple dimensions. In addition, balanced scorecards appear to be dominated by financial and corporate or division-wide performance measures rather than non-financial and /or subsidiary performance measures (Ittner & Larcker, 1998). As such, non-financial and subjective measures are less likely to be useful for business unit evaluation in diversified firms, since it is difficult to compare the multiple performance dimensions across units. On the other hand, economic value measures may provide one common measure to compare the performance of different business units.

Strategic missions deal with how to create and maintain a competitive advantage in each of the businesses in which an organization participates (Hofer & Schendel, 1978). At the business level, strategy focuses on how to compete in a particular industry or product/market segment. Strategic mission is concerned with product/market segmentation choices and with the stage of product/market evolution (Hofer & Schendel, 1978, p. 29).

Different strategic mission typologies and variables have been used in research on the relation between management accounting systems and strategy (Langfield-Smith, 1997). For example, Miles & Snow (1978) focus on the rate of change in products of markets and use three successful organizational types: defenders, prospectors and analyzers. Miller & Friesen (1982) categorize firms as conservative or entrepreneurial, using the extent of product innovation.

Porter (1985) describes three generic strategies: cost leadership, differentiation and focus. Finally, the classification of build, hold, harvest and divest focuses on variations in strategic missions (Langfield-Smith, 1997; Fisher & Govindarajan, 1993; Govindarajan & Gupta, 1985); this classification is considered most relevant for this research project. The choice of strategic mission signifies the organization's intended trade-off between market share growth and maximizing short-term earnings and cash flow. The critical success factors associated with a build strategy, such as new product development, innovation and research & development, are difficult to quantify (Langfield-Smith, 1997) and will materialize in the

long term. As a result, build firms (i.e., firms oriented towards growth) are more likely to rely on non-financial and subjective performance measures.

Previous analytical (Dutta & Reichelstein, 2003; Datar et al, 2001) as well as empirical research in this are (Said et al, 2003; Ittner et al, 1997; Govindarajan, 1988; Gupta, 1987; Govindarajan and Gupta 1985) is consistent with this notion: a build mission is associated with the use of non-financial and subjective performance measurement systems. The use of financial measures (accounting performance measures as well as economic value measures) is likely to remain the same across strategic missions: financial measures may be used to control 'innovative excess', to facilitate organizational learning or to have a 'common denominator' (Dent, 1990; Simons, 1987).

2.4.3 Culture

Culture can be defined as a set of cognitions (such as fundamental assumptions, values, behavioral norms and expectations) shared by members of a social unit (O' Reilly et al, 1991). Culture is hypothesized to be one of the main determinants of the use of performance measures (Nahm et al, 2004; Bititci et al, 2004; Baird et al, 2004). Several authors in organizational literature (Quinn & Cameron, 1999, 1983; Quinn & Rohrbaugh, 1983; Miller & Friesen, 1983; Ouchi, 1979) suggest that organizational culture may be related to the design, use and success of administrative mechanisms.

Several organizational cultures have been recognized in literature (see Cartwright & Cooper, 1993; Deshpande & Parasuraman, 1986; Smiricich, 1983); a rather well-known distinction is that among power, role, task/achievement and person cultures (Harrison, 1972). A power culture refers to a culture where power is centralized; they tend to function on implicit rather than explicit rules (i.e., social/clan controls; Merchant & Van der Stede, 2003; Ouchi, 1979). In addition, individual members are motivated by a sense of personal loyalty to the 'boss' (patriarchal power) or fear of punishment (autocratic power). Role cultures refer to bureaucratic, hierarchical cultures that emphasize rules.

Procedures and regulations concerning the way work is conducted (i.e., behavioral controls; Merchant & Van der Stede, 2003; Ouchi, 1979). In addition role requirement and boundaries of authority are clearly defined. Task/achievement cultures are characterized by an emphasis on the achievement of goals; the organization's structure, functions and activities are all evaluated in terms of their contribution to the goal of the organization (i.e., results controls; Merchant & Van der Stede, 2003; Ouchi, 1979). Task cultures are characterized by high levels of worker autonomy; the way work is organized is determined by the task requirements (for example, MBO-programs). Thus, 'task culture organizations' are hypothesized to use financial and non-financial performance measures, while 'power and role cultures' are expected to rely to a larger extent on subjective performance measures' or other controls (behavior, clan controls). This results in the following hypothesis:

2.4.4 Environmental Uncertainty

Environmental uncertainty refers to top managers' perceived inability to predict an organization's external environment accurately (Tymon et al, 1998; Milliken, 1987). Generally, environmental uncertainty relates to the unpredictability of actions by suppliers, competitors, customers, financial markets, government and labor unions (Tymon et al, 1998; Miles & Snow, 1978). The relation between environmental uncertainty and economic value measures may go two ways. On one hand, if economic value measures are just 'recalculated' accounting measures, they will not provide additional insight in the performance of managers; in that case, uncertainty will not be related to the use of economic value measure.

On the other hand, economic value measures include a capital charge which is based on the (risk-adjusted) cost of capital, which requires managers to make a trade-off between risk and return. In that case, economic value measure may provide additional information to traditional accounting performance measures and may be used to a larger extent when uncertainty increases. Previous literature also indicates that environmental uncertainty typically results in the use of additional information processing (i.e., the use of non-financial and subjective performance measures; Chenhall, 2003; Gordon & Miller, 1976). In addition, external uncertainty adds observation error to accounting-based performance evaluation (Prendergast, 2002b).

As a result, principals may introduce non-financial and subjective measures to obtain additional information on the effort of managers (Prendergast, 2002a). Previous empirical research has indicated that an increase in environmental uncertainty is positively related to the use of non-financial and subjective performance measures (Said et al, 2003; Ittner et al, 1997; Chenhall & Morris, 1986; Govindarajan & Gupta, 1985; Goeindarajan, 184; Gordon & Narayanan, 1984) while the relation with economic value measures is unknown. This results in the following hypothesis:

2.4.5 Size

Previous research has indicated that large organizations are associated with more formal procedures and sophisticated performance evaluation systems (Chenhall, 2003) and tend to introduce economic value measures (Bouwens & Van Lent, 2003) as well as non-financial measures (Said et al, 2003; Hoque & James, 2000). In addition, it not likely that subjective measures are used in large organizations due to the large costs of influence activities (Ittner et al, 2003a; Prendergast & Tope, 1996).

2.4.6 Industry

Finally, the potential impact of industry is taken in account since previous research suggests that manufacturing companies may use economic value measures (Garvey & Milbourn, 2000) and non-financial performance measures to support specific manufacturing strategies (see, for example, Chenhall & Langfield-Smith, 1998a; Perera et al 19997; Abernethy & Lillis (1995). Other research suggests that non-manufacturing firms also use non-financial performance measures (Ittner et al, 2003b). Finally, some authors (Gibbs et al, 2004) suggest that an increase in long-term investments in non-tangible assets (which is more likely to be present in the services industry) results in an increase in the use of subjective performance measures.

2.5 Impact on Performance

In addition to evaluating the impact of strategy on performance, I also investigate whether an alignment of strategy and performance measurement systems results in an increase in performance. Previous research has generally indicated that users are generally more

satisfied with the 'new financial' and non-financial measure (Ittner et al, 2003b; Ittner & Larcker, 1998; Chenhall & Langfiled-Smith, 1998b); also, non-financial measures appear to result in the achievement of executives' goals in case of build strategies (Govindarajan & Gupta, 1985).

However, there has been relatively little research on the relation between the use of the 'new' performance measures and financial performance (exceptions are Davis & Albright, 2004; Ittner et al, 2003b; Hendricks & Singhal, 2001, 1997; Buddle et al, 1997; Wallace, 1997). Ittner et al, (2003b) indicate that this is rather surprising, considering that most advocates of the 'improved' performance measures indicate that the ultimate objective is to increase economic performance. In this study, I investigate whether an alignment of the performance measurement system to the strategic and contextual characteristics of the firm results in an increased performance compared to 'non-aligned firms'.

PART THREE: RESEARCH METHODOLOGY

3.1 Research design

This was a survey on the use of 'new performance measures': a case of firms listed at the Nairobi stock exchange

3.1.1 Target Population

The study targeted 52 companies listed in the Nairobi Stock Exchange as shown in Appendix 3 (NSE, 2006). Their information was sought from the Nairobi Stock Exchange.

3.1.2 Sample and Sampling Procedures

A sample of 52 medium-sized and large organizations operating in Kenya and listed at the Nairobi Stock exchange is used for this research project. After contacting the companies it has become clear that 2 companies have suspended trading at the Nairobi Stock Exchange and therefore this resulted in a target population of 50 companies.

Since previous research indicates that the Finance department is generally involved in performance measurement (see AICPA, 2001; Chenhall & Langfield-Smith, 1998; Hendricks et al, 1996), the survey has been sent the Finance Manager or the controller of the selected organizations.

Respondents included Finance Managers or Chief Accountants (60%), Controllers (30%) and other respondents (10%). On average the respondents were working for 4 years in their current function.

The data collection process resulted in 38 useable responses from the 50 organizations in the target group (a response rate of 76%). Telephone reminders indicated that reasons for non-participation included lack of time and lack of a formal performance measurement system.

Table 3.1 represents a profile of the responding organizations.

Table 3.1: Profile of Responding Companies

Sector/No. Of Employees	0-100	100-500	500-1000	1000-10,0000	10,000 or more	Total in Sample
Agricultural	-	-	1	2	-	3
Commercial and services		2		7		9
Industrial and Allied	1	1	2	9	-	13
Finance and Investment	2	3		5		10
Alternative Investment Segment	-	-	1	2	-	3
TOTAL	**3**	**6**	**4**	**25**		**38**

3.2 Measurement Of Variables

In this section, the measurement and validation process is discussed. The survey questions that were used are presented in Appendix 2. Specific information on the survey instruments is provided below.

3.2.1 Corporate Strategy

Corporate strategy has been measured by using answers to a question adopted from Christie et al (2003) and Vancil (1979). Respondents were asked to classify their firm as being a single business, related diversified or unrelated diversified firm.Compared to Christie et al (2003) unrelated diversified firms appear to be underrepresented in my sample. For the purpose of this research project, a dummy variable (SINGLEBUS) is created that distinguishes between single business firms (coded 1) and diversified firms (coded 0). This measure is validated by correlating the SINGLEBUS measure to other organizational variables, which, according to strategic management literature should be related to corporate strategy (see Quinn & Cameron, 1983; Miller & Friesen, 1983).

3.2.2 Strategic Mission

The measure for strategic mission is derived from Bovindarajan & Gupta (1985). Similar to their research, this study views alternative strategic missions as spanning a continuous spectrum. Respondents have been asked to indicate the percentages for each of the relevant mission descriptions provided to them (see Appendix A). The strategic mission measure was derived as follows: a value of +1 was attached to a build strategy, a 0 to a hold strategy, a-1 to a harvest strategy and a-2 to a divest strategy. The percentage breakdown provided by the respondent was used to arrive at a weighted average strategy index for the firms. A high score represents a focus on a growth strategy, while a low score on this measure represents a focus on a hold and/or divest strategy.

3.2.3 Culture

The measure for culture is based on the distinction among power, role, task/achievement and person/support cultures (Cartwright & Cooper, 1993; Harrison, 1972). Respondents were asked to select the description that best describes the culture in their organization. We distinguish between task culture (TASKCULT) and other cultures; the score for TASKCULT is 1 if respondents have indicated that the dominant culture of their organization is a task culture, and 0 for other cultures.

3.2.4 Uncertainty

The measure for environmental uncertainty (labeled UNCRTTY) was based on an instrument first developed by Miles & Snow (1978) and used by, among other, Kren & Kerr (1993) and Govindarajan (1984). Respondents were asked to indicate the predictability of the environment on a scale from 1 (=never) to 5 (=always). Relevant items from the environment include suppliers, competitors, customers, financial markets, government and labour unions. Confirmatory Factor Analysis (CFA) was applied to verify that all survey questions on uncertainty load on one factor. The UNCRITY measure was used by summarizing the reversed scores on the instrument, such that a high score on this variable

represents a relatively uncertain environment, while a low score represents a relatively stable environment.

3.2.5 Size

The measure for size (labeled SIZE) is based on the number of full time equivalents (fte's) employed in the organization. For validation purposes, two additional measures for size have been included in the survey: sales (in Millions of Ksh) and total assets (in Millions of Ksh)

3.2.6 Industry

For the purposes of this study, it is possible to distinguish between primary and manufacturing industry and other industries by using a dummy variable (labelled PRIMMFTG). The dummy variable PRIMMFTG is coded 1 if the company is operating in the primary or manufacturing industry, and coded 0 other wise. As such, this variable distinguishes among companies with tangible and intangible assets.

3.2.7 Use of Performance Measures

The measure for the use of specific performance measures was purposefully designed for this research project. Based on a review of literature (see section 2), a number of performance measures have been selected. Respondents have been asked to indicate to what extent they use a number of performance measures, such as traditional accounting measures (budgets, return on equity), economic value measures (e.g. EVA(C), Shareholder Value Analysis), non-financial measures (e.g. customer satisfaction, quality) or subjective performance measures (e.g. competence management, managerial intuition). Similar to Hoque & Kjames (2000) and Chenhall & Langfield-Smith (1998b), I measure the use of non-financial indictors rather than the use of the BSC- or the EFQM-model. Similar to Bushman et al (1996), managerial intuition and competence measures (i.e., individual or personal measures) are considered subjective measures. Again, I use CFA to verify whether the performance measures mentioned in the survey load on the four hypothesized variables (i.e., accounting-based, economic value, non-financial and subjective performance measures.

Performance:

Finally, the alignment hypothesis tested by using one perceptual measure of performance (labelled PERFRMNC) and two accounting performance variables: sales growth (labelled SALESGR) and return on capital employed (labelled ROCE). The measure for perceptual performance is based on the instrument used by Govindarajn & Gupta (1985). Respondents have been asked to indicate how their organization performs in a number of areas (including sales growth, cost management, profitability, return, shareholder value, cash flows, customer orientation, innovation, quality, and personnel development.

3.3 Data Collection Methods

The main instrument for data collection was the questionnaire (See appendix II) and document analysis. The questionnaire was preferred in this study because those who were taking part in the study were literate and quite able to answer items asked adequately. The questionnaire items of the instruments had some overlapping elements. The questionnaire is concise and has a multiple of choices on a liker scale for the respondents to choose from. This type of questionnaire requires filling in blank spaces, and ticking the applicable answers. The use of multiple questionnaires not only affords greater depth and breadth of data, but also overcomes the problems of unreliability associated with the use of single respondents (Bowman and Ambrosini, 1997). The questioning is based on the theoretical framework developed from the literature, to focus and bound the work (Miles and Huberman, 1994).

Secondary data was gathered from library material, journals and reports, media publications and various Internet search engines covering the business process management implications of e-commerce in Kenya.

3.4 Research Procedures

Data was collected from the sampled respondents or managers in the firms. A brief introduction was made to the respondents before administering the questionnaires with the aim of explaining the questionnaires as to the nature and importance of the study to the respondents. Confidentiality was assured to the respondents through the letters of transmittal that accompanied the questionnaires. Questionnaires were administered through personal

visits and emails to facilitate quicker response. Reminder was done through telephone calls and a research assistant who assisted in administering of the questionnaires. Once the filled in questionnaires were collected they were prepared for analysis before being run through the SPSS package to provide an analysis of the findings.

3.5 Data Analysis Methods

The process of data analysis involved several stages. Completed questionnaires were edited for completeness and consistency. The data was then be coded and checked for any errors and omissions (Kothari, 1990). Data analysis was based on the research questions designed at the beginning of the research. Frequency tables, percentages and means were used to present the findings. Responses in the questionnaires were tabulated, coded and processed by use of a computer Statistical Package for Social Science (SPSS) programme to analyze the data.

The responses from the open-ended questions were listed to obtain proportions appropriately; the response was then reported by descriptive narrative. Descriptive analysis that is, the descriptive mean and standard deviation was used for likert-scale responses; Descriptive statistics (mean, mode and standard deviation) and inferential statistics was used in the analysis. The main justification is that it enables the researcher to describe the findings in terms of their means, median, and mode across the firms, which will give the study data a better presentation format. Inferential statistics involved drawing information from sampled observations of the population and making conclusions about the population. The result of the study was then compared with literature review to establish the determinants of the use of 'new' performance measures and the extent of their usage.

PART FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter covers data analysis and findings of the research. The data is summarized and presented in the form of proportions, means and tables. Data was collected from 38 Companies listed at the Nairobi Stock Exchange. The collected data has been analyzed interpreted in line with the aims of the study namely, to determine the extent to which firms listed at the Nairobi Stock exchange use 'new' performance measures to deal with the perceived inadequacies of traditional accounting performance measures and to determine the determinants of the use of 'New' performance measures. Out of the 50 companies to whom the questionnaires were administered, only 38 responded. This gave a response rate of 76% percent.

4.2 Descriptive statistics

Table 4.1 and 4.2 present descriptive statistics and correlations for all dependent and independent variables in the estimation model described in the next sections.

Table 4.1: Descriptive Statistics for Dependent and Independent Variables

	N	Minimum	Maximum	Mean	Std Deviation
Independent Variables:					
SINGLEBUS	38	0	1.00	0.26	0.44
BUILDSTR	37	-140.00	100.00	13.83	45.63
TASKCULT	38	0	1	0.70	0.46
UNCTTY	38	7.00	27.00	11.29	3.59
SIZE	35	2.08	10.92	6.90	1.89
PRIMMFTG	38	0	1.00	0.43	0.50
Dependent variables:					
ACCTGPM	38	5.00	20.00	12.29	3.50
VBMPMS	38	0.00	10.00	4.05	2.77
NFINPMS	38	5.00	25.00	16.50	5.79
SUBJPMS	38	0.00	10.00	4.34	2.51

SINGLEBUS = Corporate strategy (single business firm = 1, rest =0);

BUILDSTR = Strategic Mission;

TASKCULT = Task Culture dummy variable (i.e., 1= task culture; 0=other culture);

UNCRTTY = Uncertainity;

SIZE = Size (log of the number of fte's);

PRIMMFTG = Industry dummy (i.e., 1=primary and manufacturing industry, 0=other industries);

ACCTGPMS = Accounting Performance measures;

EVMPMS = Economic Value Measures;

SUBJPMS = Subjective measures.

Table 4.2: Pearson Correlations between variables

		1	2	3	4	5	6	7	8	9
1	SINGLEBUS									
2	BUILDSTR	0.153								
3	TASKCULT	0.141	-0.054							
4	UNCETTY	-0.049	-0.015	-0.118						
5	SIZE	-0.006	0.033	0.025	-0.278*					
6	PRIMMFTG	-0.062	0.105	0.049	-0.295*	-0.014				
7	ACCTGPM	-0.05	0.125	0.054	-0.065	-0.037	0.203			
8	VBMPMS	0.062	0.13	0.099	-0.19	0.263	0.227	0.265		
9	NFINPMS	-0.061	0.29*	0.191	-0.172	0.371**	0.039	0.34*	0.274*	
10	SUBJPMS	0.047	-0.017	0.043	-34	-0.025	0.076	0.055	0.098	0.307*

*, ** Correlation is significant at the 0.05 level respectively 0.01 level (2-tailed)

SINGLEBUS = Corporate strategy (single business firm = 1, rest =0);

BUILDSTR = Strategic Mission;

TASKCULT = Task Culture dummy variable (i.e., 1= task culture; 0=other culture);

UNCRTTY = Uncertainity;

SIZE = Size (log of the number of fte's);

PRIMMFTG = Industry dummy (i.e., 1=primary and manufacturing industry, 0=other industries);

ACCTGPMS = Accounting Performance measures;

EVMPMS = Economic Value Measures;

SUBJPMS = Subjective measures.

The correlation results indicate that the independent variables appear to be unrelated, except for the fact that uncertainty is significantly and negatively related to size and to the primary and manufacturing industry ($p<0.05$). However, the correlation coefficient is such that all independent measures can be included in the regression analysis (see Hair et al, 1998). In addition to that, the use of non-financial measures is related to strategic mission, size, and to other performance measures (accounting performance measures, economic value measures and subjective measures).

4.3 Extent of use of 'new' performance measures

Table 4.1 presents information on the use of several performance measures (both 'traditional' as well as 'contemporary') in companies listed at the Nairobi Stock Exchange.

Table 4.3

	Mean	**Standard Deviation**	**%Using Measure Often or Always**
Aspects of Performance			
(a) No explicit performance	2.44	1.85	NA
Budgets:			
(b) Comparison of budget to actual results	4.76	0.43	92.9%
Rates-of-return/return on investment (ROI):			
(c) return on equity (ROE)	3.78	1.38	39.2%
(d) return on capital employed (ROCE)	3.67	1.39	41.0%
(e) return on total capital (ROTC)	3.35	1.40	14.3%
Other rates of return……			
Risk adjusted rates of return:			
(f) risk adjusted return on capital (RAROC)	2.80	1.45	5.4%
(g) return on risk adjusted capital (RORAC)	2.97	1.50	5.4%
Other risk adjusted rate of return……..			

Value based management measures:

(h) Economic value added (EVA)	2.89	1.22	28.6%
(i) Cash flow return on investment (CFROI)	3.00	1.41	30.4%
(j) Shareholder value added (SVA)	3.29	1.37	16.4%
Other Value Based Management measures……			

Non-financial measures:

(k) process measures (eg time to market, no of process improvements)	3.16	1.42	56.4%
(l) Customer measures (eg customer satisfaction, customer loyalty)	3.92	1.34	57.1%
(m) Employee measures (eg employee satisfaction, sickness rates)	3.74	1.20	51.8%
(n) Innovation measures (eg: education budget, number of innovations)	3.37	1.34	27.3%
(o) Quality measures (eg.Quality scores, number of defects)	3.66	1.30	55.4%
(p) Risk measures (eg. Operational risk, credit risk)	3.50	1.25	41.8%
Other Non Financial measures……..			

Subjective measures:

(q) Competence management	3.15	1.28	19.7%
(r) Intuition higher management	3.22	1.31	17.8%
Other subjective measures……			

Table 4.3 indicates that budgeting is still used most often for performance evaluation: 93% of the respondents indicate that the comparison of budgets to actual results is still the most important performance measure. This result is consistent with other studies in this area (see Ferreira & Otley, 2004; Chenhall & Langfield-Smith, 1998b). Other 'traditional' accounting measures, such as return on equity and return on capital employed, appear to be used less

extensively (approximately 40% of the respondents indicates that it uses these measures often or always to evaluate performance). Adoption of risk-adjusted rates of return (RAROC, RORAC) is low (approximately 5%) in Companies Listed at the Nairobi Stock Exchange. About 30% of the organizations use Economic Value Added (EVA, CFROI) while approximately 16% use Shareholder Value Added measure. The adoption of economic value measures in the Companies Listed at the Nairobi Stock Exchange is fairly similar to adoption rates in other countries (see Ferreira & Otley, 2004; Ittner et al, 2003b; Ittner & Larcker, 1998). About 50% to 60% of the firms in the Nairobi Stock Exchange appear to use non-financial measures on an extensive scale. This adoption rate is similar to some research projects from Australia (see Hoque & James, 2000), yet higher than in other countries (compare Ferreira & Otley, 2004 in Portugal; and Ittner et al, 2003b in the financial services sector in the USA). Similar to other research projects (Hoque & James, 2000; Ittner & Larcker, 1998: Chenhall & Langfield-Smith, 1998b) is also that the innovation performance measures are used to a (much) lesser extent than other non-financial performance measures. Finally, the subjective measures (competence management, intuition higher management) are used by about 15% - 20% of the firms on a regular basis. The results from this study are consistent with the findings by Chenhall & Langfield-Smith (1998b) that financial measures remain important issues in management control, yet that they are being supplemented with a variety of non-financial and, to a lesser extent, economic value and subjective performance measures.

4.3 Determinants of the use of performances measures

4.4 Empirical testing of the hypotheses derived earlier involved assessing the impact of the strategic and contextual factors on the use of several performance measures and subjective measures).

To estimate the impact of the contextual factors, the following empirical model is defined:

PERFMEASij = xj + b2j*SINGLEBUSi + b3j*BUILDSTRi +B4j*TASKCULTi + B5j*UNCRITTYi + B6j*SIZEi + B7j*PRIMMFTGi + ei

Where:

PERFMEASij = Use of performance measure type j (i.e., accounting performance measure; 'economic value performance measure; non-financial performance measure; or subjective performance measure) by firm i;

SINGLEBUSi= Corporate strategy (single business firm-1, rest=0) of firm i;

BUUILDSTRi = Strategic mission of firm;

TASKCULTi = Task culture dummy variable (i.e., 1=task culture; 0=other culture) for firm i;

UNCRTTYi = Uncertainty for firm i;

SIZEi = Size (log of the number of fte's) of firm i;

PRIMMFTGi = Industry dummy (i.e., 1=primary and manufacturing industry, 0=other industries) for firm i;

ei = Error term of firm i.

Table 4.4 presents the results of the analysis.

Table 4.4: The Impact of Contextual factors on the use of Corporate Performance Measurement Systems

Dependent:	ACCTG PMS		EVM PMS		NONFIN PMS		SUBJ PMS	
	Stand.b	t	Stand.b	t	Stand.b	t	Stand.b	t
(Constant)	-	-1.214	-***	-2.852	-	-2.298	-	-1.047
SINGLEBUS	-0.056	-0.37	0.131	0.976	-0.145	-1.132	0.127	0.816
BUILDSTR	0.156	1.047	0.108	0.812	0.353***	2.787	-0.038	-0.246
TASKCULT	0.134	0.911	0.212	1.613	0.323**	2.615	0.061	0.404
UNCERTTY	0.035	0.233	0.07	0.509	0.149	1.129	0.002	0.015
SIZE	-0.06	-0.403	0.253*	1.906	0.298**	2.339	0.02	-0.13
PRIMMFTG	0.116	0.758	0.185	1.356	-0.029	-0.224	0.106	0.672
R^2	0.1		0.29		0.38		0.04	
Adj R^2	-0.05		0.18		0.28		-0.11	
F-Value	0.66		2.55		3.77		0.26	
Significance	0.71		0.03		0.01		0.97	
N	38		37		36		38	

*, **, *** Significant at the 0.10, 0.05 and 0.01 level respectively (2-tailed).

The analysis indicates that, consistent with expectations, the use of accounting based performance measure is not influenced by any of the contingency factors. These results are consistent with expectations; previous research has indicated that accounting performance measures are used differently rather than that they are abandoned (Hartmann, 2000; Abernethy & Brownell, 1999; Simons, 1987).

The other strategic variables (corporate strategy, strategic mission) do not have an impact on the application of economic value measures. Part of the effect of corporate strategy may be picked up by size; larger companies appear to use economic value measures to a larger extent ($p<0.10$). Another reason for the impact of size may be that larger organizations tend to introduce new accounting instruments faster than smaller organizations (Chenhall & Langfield-Smith, 1998b; Rogers, 1995). Task culture ($p<0.15$) and industry ($p<0.19$) appear

to be marginally significant, while uncertainty is not associated with the use of 'economic value measures'.

Contrary to expectations is that a single business strategy is negatively, yet not significantly related to the use of non-financial measures. Consistent with my hypothesis is that a strategic build mission ($p<0.01$), task culture ($p<0.10$) and size ($p<0.05$) are positively associated with the use of non-financial measures. The results for a build mission are consistent with previous research (Chenhall, 2003; Govindarajan & Gupta, 1985). The results for culture suggest that some organizational cultures (task culture) appear to reinforce the implementation of strategy through performance measurement, while other cultures (power culture, role culture) may not rely on performance measures to implement strategy. Also consistent with other research (Chenhall, 2003; Hoque & James, 2003; Miller & Friesen, 1983) is that larger firms appear to rely on sophisticated, formal control systems that also provide information on customer satisfaction, quality, and employees. The other variables (uncertainty, industry) are not significantly related to the use of non-financial performance measures.

Finally, contrary to my expectation is that the use of subjective measures is not related to either one of the contingency variables. One explanation may be that firms interpret objective performance measures subjectively and include other measures other than those previously specified, rather than use subjective performance measures (see Gibbs et al, 2004; Ittner et al, 2003a).

PART FIVE: SUMMARY, CONLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings and makes conclusions on this study on a Survey on the Use of 'New' Performance Measures: A Case of firms Listed at the Nairobi Stock Exchange. It also includes the study recommendations for improvement and for further research.

5.2 Summary

Using data from a survey amongst firms listed at the Nairobi Stock Exchange, I investigated the use and effectiveness of several 'new' performance measures (including economic value measures, non-financial measures and subjective measures).

A sample of 52 medium-sized and large organizations operating in Kenya and listed at the Nairobi Stock exchange was used for this research project. After contacting the companies it has become clear that 2 companies have suspended trading at the Nairobi Stock Exchange and therefore this resulted in a target population of 50 companies.

Respondents included Finance Managers or Chief Accountants (60%), Controllers (30%) and other respondents (10%). On average the respondents were working for 4 years in their current function.

The data collection process resulted in 38 useable responses from the 50 organizations in the target group (a response rate of 76%).

5.2.1 Extent of use of 'New' Performance Measures.

The results indicate that non-financial measures appear to be used most often to deal with the allegedly negative effects of traditional accounting performance measures; economic value measures and subjective measures are used to a much lesser extent. Consistent with previous research is that accounting performance measures (budgets, return on investment) are equally important to all organizations (Hartmann, 2000; Simons, 1987; Govindarajan & Gupta, 1985). Economic value measures (EVA, SVA) appear to be used most often in large firms

(and, relatively, in the primary or manufacturing industry and in firms with task cultures). As such, the use of economic value measures appears to be used to align managerial decisions to shareholder interests.

5.2.2 The Determinants of the use of Performance Measures.

Non-financial performance measures are used mainly in large firms that focus on shareholder value and growth (i.e., have build missions) and have task cultures. An increase in size appears to be negatively associated with the relative use of subjective performance measures (probably to reduce influence costs; Ittner et al, 2003a; Prendergast & Toper, 1996). Finally, a closer match between strategic and other contextual factors and the performance measurement system of a company does not increase performance.

5.3 Limitations of The Study

Like all research projects, this study has several limitations. In addition to endogeneity problems mentioned previously, some variables that might have been relevant for this research project (for example, the allocation of decision rights, Abernethy, Bouwens & Van Lent, 2004; Nagar, 2002; Prendergast, 2002b; and the diagnostic or interactive use of performance measures, Simons, 2000) have not been included in this research project. However, the additional statistical tests indicate that the exclusion of these measures does not appear to affect the results. A second limitation is that 'improper' subjective performance measures may have been used. Although based on a literature review, the subjective performance measures (competence management, managerial intuition) listed in this research project may not be the performance measures, which are considered relevant to managers. The subjective use of several variables may result in different results (see Gibbs et al, 2004; Ittner et al, 2003a). Third, several dummy variables have been used in this research project

(corporate strategy, culture and industry are all proxied by dummies). Although these measures are validated as much as possible, they remain crude measures. Additional research along these lines provides some fruitful areas for future research and may help to resolve some of the issues, which are relevant in performance measurement literature.

5.4 Recommendations

The findings of the study indicate that there are a number of issues to be addressed and suggestions for further research.

5.4.1 Recommendations for improvement

Despite the previous listed limitations, this research project sheds some light on issues, which are relatively unexplored in previous literature. First of all, there appears to be a relation between task culture and the use of non-financial and, to a lesser extent, economic value performance measures. However, previous literature generally assumes that culture (cultural controls) replaces rather than augments performance measurement (result controls; see Merchant & Van der Stede, 2003; Ouchi, 1979; an exception is Quinn & Cameron, 1999). There may be several reasons for this finding. First of all, task culture is associated with decentralized decision making, flexible assignment of resources and short communications channels (for example, project teams). Internal integration and coordination of effort is moderate; task culture organizations may be integrated by common goals, but flexible, shifting structures may make coordination difficult (Harrison, 1972). Considering these flexible, shifting structures (and, associated with that, a high rotation of managers), non-financial performance measures may be used to communicate the goals of the organization (Malina & Selto, 2001) or to mitigate the short-term orientation of task culture organizations (Dutta & Reichelstein, 2003). Also, previous literature suggests that the use of performance measures should be matched to the delegation of decision rights (Abernethy, Beouwens & Van Lent, 2004; Nagar, 2002). As a result, it may be that task culture organizations are more decentralized and use a larger variety of performance measures to evaluate the decisions made by lower-level managers. Finally, it may be that task culture is a proxy for industry effects. Task culture is significantly related to two specific industries: financial services and

non-financial services ($p=0.22$ respectively $p=0.23$, $p<0.10$). Firms in the financial services industries may, to a larger extent than in other industries, use non-financial measures while firms in the non-financial services industry may use them to a lesser extent.

5.4.2 Recommendations for further Research

An examination of the relation between organizational cultures, the use of specific performance measures and the effects on performance appears to be a first fruitful area for future research.

One reason may be that it is hard to find an impact of specific factors as well as a performance effect at the same time (see Luft & Shields, 2003; Ittner & Larcker, 2001). Another reason may be that the measures used in this survey (managerial intuition, competence management) are not considered useful measures by the firms in this sample. A third reason may be that the non-financial measures (for example, market share; R & D output; quality), which are used in case of a build strategy, appear to be able to reduce the riskiness of the manager to an acceptable level (Baker, 2002). Finally, managers may use objective performance measures in a subjective way or take the discretion to evaluate performance on factors other than the measures specified preciously rather than that they use qualitative performance measures (Gibbs et al, 2004; Ittner et al, 2003). An investigation of the relation between strategy, the use of subjective measures and performance may provide interesting findings.

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APPENDICES

APPENDIX 1: LETTER OF INTRODUCTION

Dear Sir/Madam, ----------

RE: A SURVEY ON THE USE OF 'NEW PERFORMANCE MEASURES': A CASE OF FIRMS LISTED AT THE NAIROBI STOCK EXCHANGE

I am a postgraduate Candidate in the Department of Accounting, School of Business, University of Nairobi I am in my research year of my postgraduate studies focusing on "**A Survey On The Use of 'New Performance Measures': A Case Of Firms Listed At The Nairobi Stock Exchange**". The specific objective of the survey component of the research is to investigate the extend to which firms listed at Nairobi stock exchange use "New" performance measures to deal with the perceived inadequacies of traditional accounting performance measure.

If you are interested in the results from this study you are welcome to request a copy of the final report by supplying your name and email address. Any queries regarding the questionnaire or the overall study can be directed to the undersigned. Please be assured that this information is sought for research purposes only and your responses will be strictly confidential. No individual's responses will be identified as such and the identity of persons responding will not be published or released to anyone. All information will be used for academic purposes only.

Please assist me in gathering enough information to present a representative finding on the current status of the "New Performance Measures", by completing the attached questionnaire. Your participation is entirely voluntary and the questionnaire is completely anonymous. Thank you very much for helping with this important study.

Sincerely,

Julius Okoth Otieno Mobile: +254-721-970535

APPENDIX 2: QUESTIONNAIRE

Characteristics of the organization

A number of relevant data of your organizations is gathered in this part of the survey. Please indicate the most relevant alternative, or provide the requested information. If the provided alternatives do not provide an adequate description of the current situation within your organization, you can provide some alternatives. Please respond to all questions for your current function, i.e. for the organization (firm, division) for which you are responsible as a manager or that is your responsibility as a financial expert.

1. To what extent are the actions of the following actors in your external environment predictable

   (*0=irrelevant, 1=never, 2=hardly, 3=sometimes, 4=most of the time, 5=always*)

External Environment Predictability	**Extent**
(a) Suppliers (e.g. price or quality changes, new materials)	**[0] [1] [2] [3] [4] [5]**
(b) Competitors (e.g. price or quality changes, new products)	**[0] [1] [2] [3] [4] [5]**
(c) Customers (e.g. demand for existing or new products)	**[0] [1] [2] [3] [4] [5]**
Financial/capital markets (e.g. changes in interest rates, availability of credit)	**[0] [1] [2] [3] [4] [5]**
Government regulatory agencies (e.g. changes in regulations on prices or product standards)	**[0] [1] [2] [3] [4] [5]**
(f) Labor unions (e.g. changes in wages, working conditions)	**[0] [1] [2] [3] [4] [5]**

2. How would you characterize the corporate strategy of your organization?

• Single business firm	
• Related diversified firm	
• Unrelated diversified	

3. How would you characterize the strategic mission of your organization (*Please indicate below what percentage of your sales is accounted for by each of the four alternatives. You answers should total 100%*)

(a) Build strategy: an increase in market share is more important than short-term profits and short-term cash flows of your organization	
(b) Hold strategy: protection of market share and competitive position is most important to you organization	
(c) Harvest strategy: maximizing profitability and short-term cash flows is more important than market share to you organization	
(d) Divest strategy: your organization is preparing for sale or liquidation	

4. What was the size of your organization at the end of the previous year?

The Size Of:	**Please Indicate**
(a) Number of employees (in full time equivalents fte)	
(b) Sales (Millions of Ksh)	
(c) Total assets (Millions of Ksh)	

5. What is the focus of the culture of your organization?

Focus of the Culture of Your Organization	**Please tick (v)**
• Centralizing power, use of power in positions (power culture)	
• Formal roles: emphasis on procedures, rules and regulations (role culture)	
• Task requirements determine the way work is organized (task culture)	
• Others(please specify)…….	

6. How satisfied are you with performance of your organization on the following aspects?

(*0=irrelevant, 1=extremely dissatisfied, 2=dissatisfied, 3=neutral, 4=satisfied, =extremely satisfied*)

Aspects of Performance	**Extent**
(a) Sales growth	**[0] [1] [2] [3] [4] [5]**
(b) cost control, cost reduction	**[0] [1] [2] [3] [4] [5]**
(c) Profit, profit margin	**[0] [1] [2] [3] [4] [5]**
(d) Return on investment	**[0] [1] [2] [3] [4] [5]**
(e) Shareholder value, share price, dividends	**[0] [1] [2] [3] [4] [5]**
(f) Operational cash flows	**[0] [1] [2] [3] [4] [5]**
(g) Market orientation, customer orientation	**[0] [1] [2] [3] [4] [5]**
(h) Innovation, R & D	**[0] [1] [2] [3] [4] [5]**
(i) Quality of the organization, products and services	**[0] [1] [2] [3] [4] [5]**
(j) Personnel development, human capital	**[0] [1] [2] [3] [4] [5]**

7. A performance measure is defined as the indicator or criterion that is used to measure the performance of managers, employees and departments within your organization. The performance measurement system is defined as the whole sum of performance measures that are used in your organization. The questions refer to the current situation in your organization.

Please indicate to what extent your organization uses the following performance measures. (0=measure unknown, 1=never, 2=hardly, 3=sometimes, 4=often, 5=always)

Aspects of Performance	**Extent**
(a) No explicit performance	**[0] [1] [2] [3] [4] [5]**
Budgets:	**[0] [1] [2] [3] [4] [5]**
(b) Comparison of budget to actual results	**[0] [1] [2] [3] [4] [5]**
Rates-of-return/return on investment (ROI):	**[0] [1] [2] [3] [4] [5]**
(c) return on equity (ROE)	**[0] [1] [2] [3] [4] [5]**
(d) return on capital employed	**[0] [1] [2] [3] [4] [5]**
(e) return on total capital (ROTC	**[0] [1] [2] [3] [4] [5]**
Other rates of return……	**[0] [1] [2] [3] [4] [5]**
Risk adjusted rates of return:	**[0] [1] [2] [3] [4] [5]**
(f) risk adjusted return on capital (RAROC)	**[0] [1] [2] [3] [4] [5]**

(g) return on risk adjusted capital (RORAC)	**[0] [1] [2] [3] [4] [5]**
Other risk adjusted rate of return……..	**[0] [1] [2] [3] [4] [5]**
Value based management measures	**[0] [1] [2] [3] [4] [5]**
(h) economic value added(EVA)	**[0] [1] [2] [3] [4] [5]**
(i) cash flow return on investment (CFROI)	**[0] [1] [2] [3] [4] [5]**
(j) Shareholder value added (SVA)	**[0] [1] [2] [3] [4] [5]**
Other Value Based Management measures……	**[0] [1] [2] [3] [4] [5]**
Non-financial measures	**[0] [1] [2] [3] [4] [5]**
(k) process measures (eg time to market, no of process improvements)	**[0] [1] [2] [3] [4] [5]**
(l) Customer measures (eg customer satisfaction, customer loyalty)	**[0] [1] [2] [3] [4] [5]**
(m) Employee measures (eg employee satisfaction, sickness rates)	**[0] [1] [2] [3] [4] [5]**
(n) Innovation measures (eg: education budget, number of innovations)	**[0] [1] [2] [3] [4] [5]**
(o) Quality measures (eg.Quality scores, number of defects)	**[0] [1] [2] [3] [4] [5]**
(p) Risk measures (eg. Operational risk, credit risk)	**[0] [1] [2] [3] [4] [5]**
Other Non-financial measures……..	**[0] [1] [2] [3] [4] [5]**
Subjective measures:	**[0] [1] [2] [3] [4] [5]**
(q) Competence managementr	**[0] [1] [2] [3] [4] [5]**
(r) Intuition higher management	**[0] [1] [2] [3] [4] [5]**
Other subjective measures……	**[0] [1] [2] [3] [4] [5]**

APPENDIX 3: NAIROBI STOCK MARKET LISTINGS

Symbol	Company	Notes
Agricultural		
	Kakuzi Limited	*Coffee, tea, passionfruit, avocados, citrus, pineapple, etc.*
RVP	Rea Vipingo	*Sisal plantations*
STC	Sasini Tea & Coffee	
	Unilever Tea	
Commercial and Services		
	Car & General Kenya	
KAL	Kenya Airways	
	TPS Serena	
CMC	CMC Holdings	
	Scangroup Kenya	
USL	Uchumi Supermarkets	
	Marshalls EA	
	Nation Media Group	
	Tourism Promotion Services	
HBL	Hutchings Biemer Limited	
Industrial and Allied		
BAT	British American Tobacco Kenya	
	British Oxygen Kenya	
KBL	East African Breweries	
	Olympia Capital Holdings	
ARM	Athi River Mining	*Cement, fertilizers, minerals*
BCC	Bamburi Cement	
CBL	Crown-Berger Kenya	
ECL	EA Cables	
CIL	Carbacid Investments	
	Sameer Group	*High tech, agribusiness, manufacturing, transport, etc.*
UGL	Unga Group	*Flour milling*
EPC	EA Portland Cement	
MSC	Mumias Sugar	
KOC	Kenya Oil	
TKL	Total Kenya	
BOC	BOC Kenya	
	Kengen	*Kenya Electricity Generating Company*
	Eveready East Africa	

Finance & Investment		
BAR	Barclays Bank of Kenya	
KCB	Kenya Commercial Bank	
NIC	National Industrial Credit Bank	
PAI	Pan Africa Insurance	
HFC	Housing Finance Company	
CFC	CFC Bank	
SCB	Standard Chartered Bank	
DTB	Diamond Trust Bank of Kenya	
IIC	ICDC Investment	
JIC	Jubilee Insurance	
NBK	National Bank of Kenya	
	Equity Bank	
Alternative Investment Market		
ABC	A Baumann	
CTL	City Trust	
	Standard Group	
EAL	Eaagads	
EXP	Express Kenya	
GWK	Williamson Tea Kenya	
KTC	Kapchorua Tea	
LTC	Limuru Tea	

Source: NSE 2006; Nairobi Stock Exchange- 4th largest Exchange in Africa. millenniumit.com. October 16,. and December 2006