

DECLARATION

"The Choice of Performance Measures used in Divisionalised Companies: A Survey Study among the Listed Companies".

This Management Research Project is my original work and has not been presented for a degree in any University.

By

Dated 5th November 1998

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A Management Research Project Submitted in partial Fulfillment of the Requirements of the degree of Masters of Business Administration(MBA) , Department of Accounting ,University of Nairobi.

Dated 5/11/98

Angela Kibinji(Mrs)
Lecturer, Department of Accounting

August, 1998.

DEDICATION

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This project is dedicated in all sincerity and with due respect to my parents;

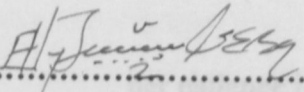
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and

Mama Lorna A. Osewe for her belief in and respect for hard work and more importantly

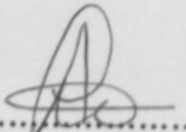
for

Signed; .....

Dated. 5th November, 1998.

Elly Obong'o Osewe.
MBA Candidate

This Management Research Project has been submitted with my approval as University supervisor.

Signed; .....

Dated. 5/11/98

Angela Kithinji(Mrs.)
Lecturer, department of Accounting

ABSTRACT

This study sets out principally to identify the factors that guide the choice of performance measures used in divisionalized companies and to establish the empirical association between the performance measures used and organizational characteristics. As a prelude, objectives of divisional performance measurement and the measures used to evaluate divisional performance were also addressed.

DEDICATION

This project is dedicated in all sincerity and with due respect to my parents;

The late Mzee Barnabas Osewe for having granted me a chance to the most valuable asset ever, a chance to go to school and acquire knowledge.

and

Mama Lorna A. Osewe for her belief in and respect for hard work and more importantly

for her patience in the long wait for a son gone out to seek knowledge.

ABSTRACT

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ere thanks also go to the University of Nairobi whose offer for scholarship
enabled me to pursue the MBA course.
A structured questionnaire addressed to corporate accounting personnel was used to collect the
data necessary for the study. A subset of the questionnaire was used to construct a set of
variables for the purpose of establishing the empirical association. It is imperative to note that
the issue addressed here is association (rather than causal relationship). To analyze the data both
descriptive and non parametric statistics were used. With the aid of a Statistical package (SPSS),
Kendall's Tau correlation coefficients were calculated for each pair of variables .

To my younger brothers Patrick "Pepe", Jeremiah and Daniel "Orondo", I am deeply indebted
The analysis found out that measures of divisional performance used were both financial and non
financial although the latter are used to a limited extent. Objectives of divisional performance
measurement were found to be for the control of divisional activities and making divisional
viability decisions. Controllability of divisional items together with considerations of long term
competitive position were identified as the main factors considered in deciding which
performance measures to use.

Empirical associations were located between measures of performance and organizational
characteristics. However, the expected associations were not uniformly located among the
variables with some sign misspecifications being observed. The association between
performance measures used and organizational characteristics cannot therefore be generalized.

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A project of this kind is without doubt beyond the effort of a single individual. In this regard, I wish to acknowledge the contribution of a number of people.

First and foremost, my utmost gratitude goes to my supervisor Mrs. Angela Kithinji for her constant guidance and encouragement without which this project would not have seen the light of the day. My sincere thanks also go to the University of Nairobi whose offer for scholarship enabled me to pursue the MBA course.

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To my younger brothers Patrick “Pepe”; Jeremiah and Daniel “Orondo”, I am deeply indebted for their understanding and patience, which made them forego a lot of things because of my desire for additional knowledge. It is a debt that I am not very sure I will repay in full, but I have the will to.

Above all great thanks to *GOD* for the strength and inspiration to weather the challenges of the MBA program and the various hardships of life that cropped up in the year 1998.

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CHAPTER ONE: PERSPECTIVE.

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Caves (1980, p. 64) on the other hand defines structure as,

"the internal allocation of tasks, decision rules and procedures for appraisal and reward selected for the best pursuit of the organizations' strategy."

According to Chandler (1962), the exact structure adopted by an organization is often a reflection of the organization size, corporate strategy, technology and environment.

It is further argued that both corporate strategy and organizational structure influences the economic performance of the firm and the market in which it sells and that a viable fit should be sought among the variables (Caves, 1980).

Several structural forms exist for organizing the activities of an organization. Decision making powers may be delegated to lower managerial levels on the basis of functional specialization, for example, production or marketing, thereby creating a functional organization structure. Alternatively, the organization may be partitioned into two or more quasi-autonomous sub-units whose activities are co-ordinated through market or administrative mechanism to create a divisionalized¹¹ structure. Such units are referred to by various names as divisions, business units, departments, branches or segments.

¹¹ A divisionalized structure is alternatively referred to as a multi-divisional firm and the two terms are interchangeably used in the body of this paper.

CHAPTER ONE: PERSPECTIVE.

1.1 Background of the study.

For a planned coordination and control of activities of an organization, some structure has to be adopted. Structure is defined by Robins (1993, p.336) as,

"The relatively permanent characteristics of an organization which are represented by distribution of units and positions within the organization and their systematic relationship with each other"

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- an incentive mechanism, utilizing both pecuniary and non pecuniary rewards, which can be manipulated to align the interest of divisional managers with those of top management.
- an internal audit system which develops suitable measures of performance against which it reviews and evaluates the performance of divisional managers and of their divisions.
- an allocation system which assigns cashflows to the most profitable alternatives as evaluated by top management rather than allowing such resources to simply revert back to the divisions in which they originated.

The concept of responsibility accounting is particularly important in a divisionalized structure. Responsibility accounting aids in the delegation of authority by permitting the various levels of management within the organization to make decisions regarding these economic factors over which they have control (Daugherty et al, 1995).

McNally (1980) argues that responsibility accounting provides the basis of achieving effective control over subordinates through direction of their activities and of performance evaluation. Activities or areas over which divisions and their managers have control and therefore forming the basis of their performance evaluation are known as responsibility centers. The type of responsibility center used reflects the breadth of control on the part of the manager in charge (Louderback and Dominiak, 1978). On the basis of areas where autonomy, that is, discretion and authority to make decisions, is granted, the literature² identifies five types of responsibility centers, namely; cost center, profit center, revenue center, investment center and strategic business units (SBU).

² See for example Garrison, 1991; Horngren and Foster, 1991; Kaplan, 1988; Hirsch, 1994; Shillinglaw, 1982 and Ezzamel, 1992.

The need for a divisionalized structure is argued to be rooted in the main thesis of contingency theory, according to which a match should be sought between the organization's structure and situational variables. Organ and Bateman (1991) identifies these situational variables as size, technology, environment and corporate strategy. According to Chandler (1962), the divisionalized structure emerged in response to increased organizational complexity, which is caused not only by growth in firm size but also greater diversification into new lines of business and increased vertical integration across widely separated geographical areas. Whereas growth in size, it is argued, creates problems related to sheer volume, these can be dealt with in centralized structures through the use of standard operating rules and procedures and increased reliance on administrative and support staff. Diversity however poses more serious problems. It calls for localization of technical expertise thereby making it difficult for management to make informed decisions – thus the need for a divisionalized structure.

When the multi-divisional form is deemed the optimal structure, it is suggested that the following benefits would accrue to the organization³.

- a) Efficient allocation of resources; By monitoring economic performance through the use of performance ratings, incentives and control mechanism, resources are assigned to the most profitable alternative rather than being allowed to revert back to divisions in which they originated.

³ Conventionally, arguments elaborating the case for and against divisionalization tended to be considered paralleled to those relating to decentralization. Subsequently, however, arguments more specific to divisionalization has been developed. See Ezzamel, 1985 and Shillinglaw, 1982).

- b) Efficient information transmission; Delegation of decision -making powers to lower level managers opens up communication channels to higher level managers thereby speeding up the transmission of information.
- c) Minimizing sub-optimal behavior; Allocating responsibility for differing decisions introduces clarity in decision making and helps minimize conflicts. Further, the use of an incentive mechanism comprising of both pecuniary and non-pecuniary rewards can be manipulated to align the interest of divisional managers with those of top management.

The case for divisionalization is however not a straight forward one. Ezzamel (1992) offers two arguments that could render divisionalization a less efficient form of structure, namely;

- a) Excessive inter-dependence; This, is argued, could arise when;
 - (i) the corporate objective function (main goal) is indivisible into divisional objective functions (divisional goals) without imposing significant externalities (i.e. inter-dependencies between divisional objectives),
 - (ii) if corporate resources are complimentary, such that segmentation among various divisions impair the potential for economics of scale and scope. The cost of managing these inter-dependencies effectively can be extremely high and at the limit may exceed any benefits, which may be obtained from divisionalization.
- a) Divisionalization triggers off some costs, which might otherwise be avoided, for example diversification through divisionalization.

1.2 Implications of Multi-divisional structure for Accounting.

Pioneered by Du-Pont in 1903 and popularized by General Motors in the 1920s, this organizational form has diffused to become the most dominant especially in the business sector. The persistent dominance of the multi-divisional organizational form has given rise to numerous questions; Are multi divisional organizations more profitable than organizations employing alternative organizational form? What are the attributes so specific to the multi-divisional form? What are the best means by which corporate funds can be allocated among competing divisions? What are the optimum levels of decision-making autonomy which should be permitted to divisional managers by top management? How are divisional managers' best motivated to operate in a manner that is consistent with the overall interest of the whole organization? What type of information is needed to guide divisional managers in making day to day decisions and how can such information be generated? More importantly and of particular interest to this study, how can top management sensibly evaluate the performance of each division and also of their managers?

Overall, the above questions raise issues that are central to the design of accounting systems and the manner in which such systems are used. The design of suitable systems of performance evaluation, methods of pricing and allocating intra-organizational flows of goods and resources, schemes for rewarding managers and finely – tuned combination of financial and non-financial indicators are all implications of the multi-divisional form.

Divisional performance measurement is deemed necessary for a number of reasons (see for example, Solomons, 1965; Shillinglaw, 1982),

1. It guides central management in assessing the efficiency of each division as an economic entity. Divisional viability decisions, for example, whether to expand or reduce the activities of a particular division are dependent on the results of performance measurement.
2. It is necessary in assessing the efficiency with which divisional managers discharge their responsibilities in running their divisions

Divisional performance is therefore two folds. The former aspect relates to economic performance measurement while the latter relates to managerial performance measurement. To divisional management, performance measurement offers a guide in making decisions in respect of daily activities of the division.

Divisional performance measurement essentially involves setting divisional objectives, that is, a criteria which define the required or desirable performance of the division, reinforced by periodic reports of actual divisional performance. Such *ex-post* reports, it is argued, provides the element of feedback in the control system by reporting data about actual performance to both the controlled and the controller (Scapens, 1979). Feedback in itself is suggested to be an important motivational element. Cook (1967, p.217) reports that,

"Managers desire self actualization, that is, the satisfying feeling of a job well done and performance reports (even without an associated reward structure) may motivate them to achieve the acknowledged 'good' performance"

According to Scapens and Sale (1985), performance measurement has the potential to influence decisions because divisional managers are aware that their performance will be measured at some later date and that financial and or non-financial rewards will be obtained if appropriate decisions are made. Further, the organization's performance

system influences the behavior of managers and employees, and executives use performance reports to align the interest of employees with those of the overall organization (Kaplan & Norton, 1992).

1.3 Statement of the Research Problem

Divisional performance measurement has been a concern of accountants since the advent of multi-divisional organizations. Performance measurement forms an integral part of a firm's managerial accounting system, which is supposed to provide information useful for manager's planning and control decisions. In a decentralized organization, for such a system to be useful, the system should provide appropriate incentives and signals to managers working in different functions, with diverse products and processes, amid globally dispersed operations.

A survey study in Kenya (Minja, 1995) reports that various measures are used in practice to measure divisional performance. These measures are largely financial ranging from those that include an explicit adjustment for divisional capital employed to those that do not. Additionally, the contemporary trends in technology, competition and management calls for a de-emphasis of the use of simple aggregate, short-term financial measures and encouragement of the use of indicators more consistent with long-term competitiveness and profitability of the firm; the non-financial measures. The choice of performance measure used is therefore hypothesized to be influenced by organizational characteristics, such as the extent to which decision-making authority has been delegated to divisional managers.

Against such a backdrop, two questions of particular interest can be raised; What factors guide the choice of performance measures used in practice, and is there a linkage between the measures used and selected organizational characteristics?. The study sets out to provide additional evidence on the subject of divisional performance by attempting to answer the two questions.

1.4 Objectives of the Study;

The following are the objectives of the study.

1. To identify;
 - i) the objectives of divisional performance measurement
 - ii) the measures used to evaluate the performance of divisions and of their managers
2. To identify the main factors in practice that guide the choice of performance measures used.
3. To establish the association, if any, between performance measures used and organizational characteristics.

1.5 Importance of the study;

1. The study would sensitize corporate management to link their performance system to organizational characteristics. This is particularly more important in a divisionalized set-up where operations and products vary from one division to another.
2. Management accounting being focussed on internal use of accounting information attracts very little attention and practically no legislation. The result has been that internal management accounting function has become subservient to the external

reporting function. It is expected that this study would provide a stimulus for further research effort in the area of management accounting.

3. Divisional performance measurement has an implied linkage to external reporting in so far as segmental reporting is regulated by accounting standards. A number of divisionalized companies are themselves segments of multi-national corporations which in the course of financial reporting are required to observe the International Accounting Standard No. 14 and Statement of Standard Accounting Practice, SSAP22. The measures of divisional performance and the factors that guide their choice would be a considerable input in such external reporting function.

CHAPTER TWO: LITERATURE REVIEW

2.1 Divisional Performance Measurement

As already pointed out, one of the attributes of a divisionalized structure relates to the allocation of responsibility for differing decisions in which strategic decisions are undertaken by top management whereas the operating decisions relating to day to day operations are taken by divisional management. Delegating decision-making authority to lower level management however does not absolve corporate management of their responsibility for the entire operations of the organization. Corporate management must therefore exercise some control over delegated authority.

According to Scapens and Sale (1979) these control functions could be implemented by setting divisional objectives, that is, criteria, which defines the required or desirable performance of the division, reinforced by periodic reports of actual divisional performance. In a multi-divisional firm performance measurement is therefore an important control device since it generates reports which provides a feedback on the use of delegated authority and can be used to align the interest of divisional managers with those of top management. Performance reports form the basis of rewarding "good" performance⁴ or penalizing "bad" performance and consequently it is a tool of sensitizing managers to strive towards corporate goal.

Other than being useful as a control device, performance reports also acts as a motivating device for divisional management. This is because divisional managers are aware that their performance will be measured at some future date and that financial

or non-financial rewards may be obtained if appropriate decisions are made (Scapens and Sale, 1985). Cook (1967) observes that the feedback itself has an important element of motivation. The aspects of feedback, control and motivation are however interrelated as illustrated by the remarks of Scapens (1979, p.282),

... It should be recognized that unless there is effective motivation (for instance, through a system of rewards) periodic performance reports are unlikely to contribute to the control of divisional activities.

For performance measurement to be useful for control purposes, it is essential that the performance reports be expressed in terms of the criteria used by corporate management to define the performance required of the divisions. For example, if a division's objective is expressed in terms of maximizing the Net Present Value (NPV) of its projects, its actual performance should be measured in terms of NPV and the control function would probably be ineffective if divisional performance were measured in different terms, such as the accounting profit or accounting return on capital employed. Henderson and Dearden (1966) argues that such differences can induce bias into the control system and thus the importance of linking divisional performance measurement to corporate objectives.

It is only through linking divisional performance measurement to overall company objectives that effective control would be achieved, for effective control requires that performance reports must measure the extent to which the required performance has been achieved. The need for this linkage is better summarized in the words of Fremgen (1972, p. 473), who states,

"Any system of divisional performance measurement and appraisal must begin with a clear statement of its objective(s). If it does not, the system may measure the wrong

⁴ The distinction between bad and good performance is often blurred by situation factors, for example instances where one division is inherently more profitable than the others.

things, management may draw the wrong inferences from these measures; and the wrong actions may be taken as a consequence".

Performance measurement is different from performance evaluation. Whereas performance measurement seeks to determine in an objective way what performance actually is, performance evaluation is a somewhat subjective judgement as to whether that performance is good or bad. Fremgen (1972) argues that the former is appropriately within the province of a management accountant.

Divisional performance measurement is two fold; managerial and economic. Each of these and the distinction between them is explained in the next section.

2.2 Objectives of divisional performance measurement

A review of the literature provides several measures of divisional performance. These measures are typically financially focused, such as accounting profit, return on investment (ROI), residual income and sales revenue. In addition, frequent appeals have been made in the academic literature to broaden the choice of financial measures by incorporating measures such as discounted cash flow (DCF) and value added⁵, and by buttressing financial measures in general with non-financial and qualitative measures, for example employee turnover and customer satisfaction⁶.

An evaluation of these measures however begs the question; what objective are the measures of performance expected to serve? Solomons(1965) identifies three main reasons for which an index of divisional performance would be sought, namely;

⁵ See for example Parker, 1979; Emmanuel and Otley, 1979 and Scapens, 1979.

⁶ The call for the use of non-financial measures is documented in Ouchi, 1979, among others.

1. To guide central management in assessing the efficiency of each division as an economic entity in order to make divisional viability decisions. Decisions of whether to expand, reduce or discontinue the operations of a particular division are made after a careful assessment of the performance of such a division. The implication of this is that a measure of divisional performances offers a guide in resource allocation.
2. To help central management in assessing the efficiency with which divisional managers discharge their responsibilities in running their divisions. This objective arises from the concept of responsibility accounting by which various levels of management are permitted to make decisions regarding the economic factors over which they have control. Ezzamel (1992) observes that this objective need not be identical to (1) above because some of the elements which impact upon the performance of a division may be beyond the control of its managers (for example, divisional share of Head Office expenses) and should thereby be excluded from the performance index of the latter.
3. To guide divisional managers in making decisions in respect of the daily activities of their own divisions.

The above are shared by other authors as objectives of divisional performance as reported by Lynch (1986); Fremgen (1972); Amey and Egginton (1973) and Shillinglaw (1982).

2.3 Criteria for evaluation of performance measures

Whereas the above objectives may be regarded as useful insights with respect to the underlying objectives of divisional performance measurement, Ezzamel (1992) considers them narrowly conceived because,

- i) they exclude internal uses of divisional performance measures below the divisional manager level and;
- ii) they focus on internal uses, to the exclusion of external uses.

To the first omission, Williamson (1970) argues that measures of divisional performance can be used by lower – level managers to monitor, or at least to influence, their divisional managers so as to bring such deviant divisional managers in line with corporate objectives in order to prevent cuts in divisional resources which might be imposed by top management. As regards the second omission, it is argued that use of disaggregated divisional results can be employed by external users in their assessment of the firm. Ortman (1975) reports that financial analysts who use disclosed segmental (divisional) data derive more accurate estimates of the per-share value of the firms' capital. Additionally, assessment of the overall corporate riskiness and classification of a firm into the correct industrial group has been suggested as ideal uses to which divisional performance data can be employed (see for example Lee, 1981).

The usefulness of divisional data for external reporting purposes explains the increasing tendency toward companies disclosure of financial information by major segments (divisions) and frequent appeals in the academic literature for regulation of segmental reporting.

2.3 Criteria for evaluation of performance measures

As a general statement, a performance index would be deemed appropriate as long as it meets the requirements stated under the objectives of divisional performance measurement. This implies attending to the needs of both internal and external users

in relation to monitoring managerial performance, assessing the profitability and guiding divisional managers in making operating decisions. The literature however suggests more specific set of criteria to guide the evaluation of performance measures. Shillinglaw (1961) argues that monitoring managerial performance requires that the measure used engender corporate – optimal behavior, promote divisional independence and maintain controllability principle. According to Scapens (1979) and Tomkins (1973), an assessment of divisional and corporate profitability requires that the performance measures should approximate “ideal” income. Use of discounted cash flow (DCF) is proposed because it emphasizes long-terms, “ex-ante” information and optimal behavior (Emmanuel and Otley, 1976). Further, Kaplan (1983, 1984), Johnson and Kaplan (1987) argues that because the organization is presumed a going concern that adopts different strategies to enhance its long-term profitability, the performance measure used should provide incentives and signals to managers working in different functions, with diverse products and processes, amid performance measures used should reflect the company’s long-term competitive position.

2.3.1 Corporate Optimality

Corporate optimality is a principle meant to avoid making sub-optimal or dysfunctional decisions and asserts that individual divisional managers should not take independent actions which maximizes their performance at the expense of the overall company performance. Horngren and Foster (1991, p. 853) defines sub-optimal decision as arising, ...when a decisions’ benefit to one sub-unit is more than offset by the costs or loss of benefits to the organization as a whole.

Such sub-optimal behavior are argued to arise frequently because of non-co-operative behavior by individual divisions (Kaplan, 1988; Horngren and Foster, 1991) but also because of the imperfection of the performance index used (Solomons, 1965). While lack of cooperation among divisions may take the form of attracting business away from a sister division or buying/selling products externally rather than internally thereby reflecting unfavourably on the performance of other divisions and of the parent company, an example of the use of an imperfect performance index with similar consequence is given by Ezzamel (1992, p. 21) as,

"allocation of head office overheads based on divisional sales volume could motivate divisions to seek a lower volume of high price sales in preference to maximizing sales revenue, because savings in overhead allocation more than compensates for reduction in revenue."

2.3.1 Controllability Principle

Against the corporate-optimality score, a performance index should therefore be evaluated against its ability to guard against actions that lead to sub-optimal or dysfunctional behavior.

It must be noted, however, that corporate optimality is premised on the concept of

goal congruence which assumes that organizations have a clear, consistent and well ordered goals and can even establish a single dominant enterprise goal. This has been challenged as unrealistic and narrow in view of the range of objectives toward which any one organization strives (see for example Parker, 1976; 1979)

2.3.2 Divisional Independence

As a criterion, divisional independence implies that each divisions' performance measure should be as independent as possible of the efficiency and managerial decisions relating to other parts of the organization (Shillinglaw, 1961). Even though

divisional independence seems ideal, Ezzamel (1992) suggests that it is likely to obtain if the firm is a holding company where the divisions would be loosely coupled and where head office plays a minimum role in co-ordinating divisional activities. According to Scapens (1979) divisional independence implies minimal inter-divisional relations and an absence of corporate resources, or a "perfect" system of transfer pricing, which conditions may not exist in the real world. Because of the inherent inter-dependence among divisions, the concept of divisional independence is often violated by accounting rules, such as those relating to the allocation of central overheads.

2.3.3. Controllability Principle

Regarded as one of the main pillars of responsibility accounting, controllability principle in the context of divisional accounting implies that the performance index of each division should reflect all items which are substantially under the control of divisional managers or divisional staff (Lynch, 1986). In as much as this principle stresses on control of divisional items, evidence from case studies⁷ however indicate that at times firms hold managers accountable for some uncontrollable factors, for example,

- a) uncontrollable but relevant cost and revenue factors, such as interest expense and income, and the cost of centralized administration.
- b) economic and competitive conditions such as business cycles and price competitions.
- c) acts of nature such as accidents and earthquakes.

⁷ Such case study evidence are documented in Merchant, K. (1989). *Rewarding Results: Motivating Profit Center Managers*, Boston: Harvard Business School Press.

Arguments for making managers accountable for such uncontrollable events would be, to motivate them to pay attention to events such as those under (a), encourage them to respond to events such as those under (b) and help them minimize the one time damage caused by events such as those under (c).

2.4. Responsibility centers

The design and use of performance evaluation is largely dependent upon the type of responsibility center being dealt with. Amey and Egginton (1973) argue that the choice of a performance measure is determined by among others, divisional responsibility and the purpose of the measurement. It is therefore imperative that the exact nature of responsibility center be established clearly before a choice of performance measure is undertaken.

As already noted, a key attribute of a divisionalized structure relates to the allocation of responsibility for differing decisions. The extent of this allocation of responsibility defines the degree of centralization and implies divisional autonomy and the related lines of responsibility (Kaplan, 1988). According to Horngren and Foster (1991) responsibility center denotes the apportioning of responsibility, either collectively or individually but usually the latter, to a particular part of the organization. This part of may be a department process, product or member(s) of the organization, the distinctive feature being that lines of responsibility can be traced down clearly from the manager in charge to the responsibility center. This responsibility is often expressed in terms of costs and or revenue, physical output or quality of service.

2.4.2 Revenue Centers

* See Amey and Egginton, 1973; Anthony & Welch, 1977; Eccles, 1980; Fiegen, 1972; Ghoshal, 1984; Horngren & Foster, 1991; Sigal & Marston, 1989 and Shillinglaw, 1982.

On the basis of areas where autonomy (discretion and authority to make decisions) is granted, the literature⁸ identifies five responsibility centers, namely; cost centers, profit centers, revenue centers, investment centers and strategic business units (SBU). Each of these centers is discussed below.

2.4.1. Cost Centers

Cost centers are those in which responsibility relates to the monitoring of production flows and associated cost flows. Managers in charge of these centers have discretion and control only over the use of physical and human resources necessary to accomplish their task and no control over revenue (Siegel and Marconi, 1989). On the basis of input – output relationship, Kaplan and Atkinson (1992) categorizes cost centers into two; standard cost centers and discretionary expense centers. The distinction between the two lies in the fact that the former are established mainly in manufacturing operations where for each type of output (product) a standard amount and cost can be established, while the latter are used where no strong relation exists between input and output or where output are not measurable in financial terms. According to Siegel and Marconi (1989), cost center managers are assigned production quotas during planning and may participate in setting realistic and fair cost goals for the anticipated output level. The evaluation of such managers is by periodic reports that compare actual costs with the budgeted costs.

2.4.2 Revenue Centers

⁸See Amey and Egginton, 1973; Anthony & Welsch, 1977; Ezzamel, 1992; Fremgen, 1972; Hirsch, 1994; Horngren & Foster, 1991; Siegel & Marconi, 1989 and Shillinglaw, 1982.

In a revenue center, the managerial responsibility relates to monitoring the flow of revenue without explicit attention to cost, because it is likely to be either trivial or uncontrollable at that level. Kaplan (1988) argues that revenue centers exist in order to organize marketing activities, typically, they acquire finished goods from a manufacturing division and is responsible for selling and distribution of such goods. Kaplan and Atkinson (1992) distinguishes revenue centers that serve as marketing units for trading organizations from those that serve as collection points for non-trading organizations such as tax authorities. The former is usually given discretion for setting selling prices and determining the physical volume and mix of sales. Thus profit and sales mix variables analysis is often used in evaluating the performance of a revenue center.

2.4.3 Profit Centers

Profit centers are characterized by responsibility for both costs (production) and revenue (sales) or simply maximization of profits. No account is taken of the level of investment in such centers. The manager has authority to make decisions on sources of supply and choice of markets. The unit would be willing to sell a majority of its output to outside customers and is free to choose sources of supply for its materials, goods and services (Kaplan, 1988). Accounting profit and its variants are the ordinary measures used to evaluate the performance of profit centers.

2.4.4 Investment Centers

Investment centers are characterized by responsibility that goes beyond profitability in an absolute sense to include the investment base⁹ of the center. In these centers an attempt is made to relate profits to assets employed and managers would have

⁹ The investment base varies from one organization to another depending on how investment has been defined. These are total assets available, total assets employed, working capital plus other assets.

maximum discretion in determining not only short-term operating decisions but also level and type of investment (Kaplan, 1988). Deakin and Maher (1987) and Hirsch (1994) argues that relating profits to capital invested is intuitively appealing because capital resources are scarce and it is important that an evaluation be made of returns that a division is earning on invested capital. To justify the allocation of capital among competing divisions the utilization of these capital resources should be considered. This can be achieved by incorporating into the performance index the divisional capital base. Typical performance measures for an investment center are return on investment (ROI) and residual income (RI).

2.4.5 Strategic Business Units (SBUs)

These centers are argued to reflect responsibility with respect to a part of the organizations strategic mission as it relates to specific areas of business activity. This type of responsibility center is relatively new in management accounting literature and is occasioned by the conglomerate diversification strategy by which organizations undertake to invest in areas of business activities basically for the financial synergy that they present. Baker (1995, p.75) defines an SBU as;

“a business area with an external market place for goods and services for which management can determine objectives and execute strategies independent of other business areas. It is a business that could possibly stand alone if divested”.

Performance measures for such centers would emphasize long-terms profitability and thereby lend themselves to the use of non-financial measures, such as market share.

2.5 Measures of Divisional Performance

Measures of divisional performance used in practice are typical financially focused.

These measures are argued to be a result of an accounting approach to divisional

performance measurement which is based to a large degree upon the acceptance of the goal congruence concept (Parker, 1970). In view of the range of objectives toward which one organization may strive, the validity of the goal congruence concept has been questioned (see for example Parker, 1976). Being as they are based on such a limiting concept, financial measures are considered narrow and biased for they ignore the important role that other qualitative, non-financial controls can play in guiding the performance of local managers. Consequently, use of a wide range of measures incorporating both quantitative and qualitative divisional success criteria has been suggested (Emmanuel and Otley; 1976; Parker, 1979, Scapens, 1979 and Hirsch, 1994). In providing a rationale for the need for multiple performance criteria, Hirsch (1994, p. 610) notes that,

"Financial measures are deficient not because they can be abused but because they purport that financial health is the only goal of the organization; a focus which results in management's myopic pursuit of short-run profit maximization"

Additionally, scholars like Kaplan (1983; 1984), Kaplan and Norton (1992), Johnson and Kaplan (1987), Howell and Soucy (1987), Weaving (1995), Skinner (1969) and Mackay (1987) argue that the changing face of the environment in which organizations are operating in terms of global competition, manufacturing flexibility and information technology, calls for a de-emphasis of the short-term financial measures and a move towards the long-term, non-financial measures that links the company's accounting system to its corporate strategy. The import of this argument is that the measures used to evaluate divisional performance should be a reflection of the diverse functions and products that each division handles and also the diverse competitive conditions under which the divisions operate.

The measures can therefore be categorized broadly into two; financial and non-financial measures of performance.

2.5.1 Financial Measures of Performance

Financial, alternatively known as accounting measures, are argued to be based on conventional accounting measurement techniques. The literature in financial accounting (see for example, Lee 1981) as echoed by Johnson and Kaplan (1987) suggests that financial measures of performance are based on practices mandated for external reporting, such as the periodicity concept. Hirsch (1994) argues that this consequently leads to management's pursuit of periodic "short-run" profit maximization. For this reason, the financial measures are referred to in the literature as short – run measures.

Survey studies (e.g. Mauriel and Anthony, 1966; Tomkins, 1973 and Minja, 1995) report a wide use of a multiple of such short run measures. These measures are accounting profit, return on investment, residual income, sales revenue, cash flow targets and budget targets.

2.5.1.1 Accounting Profit

Shillinglaw (1957) and Amey (1975) advocate the use of accounting profit in the context of divisional performance. Arguing from the position of macro-economic efficiency, rather than that of a single enterprise, Amey contends that firms should simultaneously maximize profits and minimize total costs. He argues that by more useful specification of required data it would be possible to produce profit figures which would be a good proxy for economic efficiency. Shillinglaw (1957) discusses the usefulness of four variants of accounting profit for the purposes of divisional

performance measurement, namely; sales margins, controllable profit, contribution margin and net profit.

- a) Net profit – takes into account the division's allocation of central (head office) general and administrative expenses. The motivation of this allocation is said (Shillinglaw, 1957, p. 84) is to

“alert divisional managers to the level of the company's common costs and indicate to them that the company as a whole is not profitable unless the revenue – generating divisions produce enough contribution margin to cover a 'fair' share of central costs”.

Whereas the rationale for the allocation of such central costs appears appealing, net profit as a measure is considered the least useful in evaluating the performance of a division or divisional manager.

This is because the basis of such allocations¹⁰ is usually arbitrary, bearing no causal relationship to the way in which divisional activities influence the level of these corporate expenses (Kaplan and Atkinson, 1992; Horngren and Foster, 1991).

Ezzamel (1992) observes that this arbitrary allocation of corporate expenses violates the criteria of corporate – optimality, divisional independence and even controllability and is likely to remain the case even with the recent attempt to use activity based costing (ABC).

- b) Contribution Margin – refers to sales revenue less divisional variable costs and divisional separate, controllable and non controllable fixed costs. As a measure of performance it is considered superior to net profit because it excludes any proration of extra divisional fixed costs. It is also useful in indicating the amount a division contributes toward the recovery of central overhead expenses (Ezzamel, 1992). Shillinglaw (1957) however argues that to the extent that it does deduct divisional fixed costs which are

¹⁰Common allocation bases include percentage of sales, assets/space occupied by each division. These allocations make true earnings separability impossible.

d) uncontrollable, its relevance falls apart. Such fixed costs often result from past investment decisions (e.g. depreciation and property taxes) or are set by central management (e.g. salaries of divisional executives) and are therefore not controllable by divisional managers. The irrelevance of such fixed costs are emphasized by Shillinglaw (1975, p. 86).

"Non-controllable fixed costs are all 'water under the bridge' and hence have no proper place in shaping management's current operating decisions"

According to Kaplan (1988), contribution margin as a performance measure is more relevant for the evaluation of the divisions performance than that of the divisional manager.

c) Controllable profit – defined as sales revenue less divisional variable costs and divisional controllable fixed cost it stresses direct tractability and controllability of costs to the division and by the divisional manager (Kaplan and Atkinson, 1992). According to Shillinglaw (1957), controllable profit is a hybrid measure because it is what is left after deducting from revenue all variable costs plus those "fixed" costs which can be controlled by the profit center manager such costs are controllable by action since they are only fixed with respect to activity level (Kaplan, 1988). Controllable profit is regarded as perhaps the best measure of the divisional manager's performance since it reflects the manager's ability to use effectively the resources under his control and authority. This measure however lacks usefulness in the long run considering the fact that there exists non-controllable long run costs to be legitimately assigned to divisions.

d) **Sales Margin** – refers to sales revenue less variable costs or the sum of the incremental profits produced by each of the division's product. Though the least inclusive of all the profit concepts, it is considered least ambiguous as it avoids arbitrary breakdowns and includes only those costs that are functionally related to the volume of sales (Shillinglaw, 1957). This measure is considered useful in showing the effect of current decisions, for example, changing the selling prices by a given amount, on divisional performance (Henderson and Dearden, 1966).

In discussing the usefulness of the four variants of accounting profit, Shillinglaw (1957) adds that each of the four has a role to play and none can be said to be superior for all purposes. He reports that for profit trend analysis; contribution margin, controllable profit and sales margin would be more useful; for long-term investment analysis – contribution margin is relevant; for evaluating executive performance, the presumption is in favour of controllable profit while for guiding relative short – run decisions both controllable profit and sales margin should be considered.

2.5.1.2 Return on Investment (ROI)

In situations where divisions are designed as investment centers, as often is the case, performance measures should reflect divisional manager's responsibility not only for profit but also investment. Relating profits to capital invested is argued to be intuitively appealing because capital resources are scarce and it is therefore important that an evaluation be made of the returns that a division is earning on invested capital (Deakin and Maher, 1987; Kaplan, 1988 and Hirsch, 1994). ROI has been advocated as an appropriate measure of performance under such a situation.

Defined as operating profits divided by an investment base¹¹, that is, some measure of assets employed, it is considered the most popular approach to incorporating the investment base into a performance measure. According to Horngren and Foster (1991) its conceptual appeal lies in the fact that it blends into a single number all the major ingredients of profitability, that is, revenue, cost and investment and that it can be compared with opportunities elsewhere, inside or outside the company.

Additionally, it is argued to be a common measure since it is analogous to a cost of capital for which external referents exists in capital markets (Kaplan, 1988). The widespread use of ROI as a measure of performance is reported both in the United States and United Kingdom (Dearden, 1969). Survey studies further attests to this popularity (see Mauriel and Anthony, 1966; Tomkins, 1973 and Minja, 1995).

Despite its widespread use in practice ROI is not without limitations. Calculations of ROI are usually based on traditional accounting profit and hence all shortcomings inherent in such a measurement system are argued to apply to ROI. The literature provides a documentation of these limitations (see Dearden, 1961; 1969; Mauriel and Anthony, 1966 and Ezzamel, 1992). In particular the choice of investment base (how to define investment) can be manipulated to affect divisional performance inconsistently with the overall company performance thereby leading to sub-optimal results (Dearden, 1969). He reports that such sub-optimal behavior could result when either gross book value or net book value is used to determine the investment base. Sub-optimal divisional behavior can be promoted under both methods in connection with replacement decisions and inventory decisions. For example, when gross book value is used to determine the divisional investment base there would be an incentive

¹¹ The base depends on how investment has been defined & the measurement alternative (present value, current cost or price level adjusted) used for the assets included in the definition of investment.

for divisional managers to prematurely scrap equipment which is temporarily idle in the short-run, in order to maximize their ROI thereby leading to misallocation of the company resources. It is also possible that divisional managers would become reluctant to invest in projects which are profitable but have a lower ROI, because this would result in a lower overall ROI for the division (Dearden, 1960).

2.5.1.3 Residual Income (RI)

Residual income of a division is defined as the net income of the division less the product of the capital of the division and a required rate of return, that is, net earnings less an imputed interest cost¹² (Shwayder, 1970). It represents the excess of net earnings over the cost of capital and is therefore a measure of performance for investment centers (Ezzamel, 1992). According to Solomons (1965) several variants of residual income can be calculated and used in different decision contexts much in the same way as those derived for accounting profit.

Several arguments have been advanced for the superiority of residual income as a measure of divisional performance over the other measures. First, it is argued that the use of residual income as a measure of divisional performance would overcome the limitations documented under accounting profits and ROI. Solomons (1965) has argued that charging the cost of capital to divisions would fulfil the dual role of guiding decisions and evaluating performance. Hence divisional managers would have an incentive to invest in all projects that promise internal rates of return higher than, or at least equal to, the cost of capital. This eliminates the possibility of avoiding profitable projects as under ROI and accepting inefficient investments (in the sense of

¹² Algebraically, Residual Income (RI) = Net Income – Imputed interest cost
= Net Income – $r \times$ investment base.

having expected returns below the cost of capital) as would be the case under accounting profit. Second, residual income is argued to facilitate comparisons of the performance of company divisions, as divisional managers would have to cover the cost of capital charged on their investment levels. Under the residual income, the actions of divisional managers are made sensitive to changes in capital markets by manipulating divisional required rates of return as the company's cost of capital changes (Shwayder, 1970). This kind of sensitivity of performance indicators to changes in the cost of capital is important as it guides the actions of divisional managers. Third, residual income is considered a better approximation to ideal income than accounting profit or ROI. In this regard, Solomons (1965) suggests that residual income is the short – term analogue of maximizing the long run discounted cash flow (DCF). Similarly, Scapens (1979) has demonstrated by use of a model that a policy of maximizing economic profit will result in optimal decisions (that is, decisions that maximizes the net present value, NPV of an economic entity) and that economic profit has the characteristics of residual income. Tomkins (1975) supports this by reporting that the use of residual income as a means of appraising investment decisions is consistent with NPV as long as the capital base, on which interest charges are imputed, is measured in terms of economic (NPV) value.

Even though residual income has to its credit several conceptual appeals, the question of whether it is practical and optimal as a measure of divisional performance has been controversial and the debate seems to be far from settled. This controversy centers around the validity of including an implicit cost of capital employed (or at least some part thereof) to ensure that divisional managers are encouraged to operate with the optimal capital resources (Solomons, 1965; Tomkins, 1973). On the other, it is argued

that it is theoretically erroneous to deduct interest in the appraisal of operating decisions (Amey, 1969). Efforts have also been made in the literature to reconcile the two sides of the argument (Emmanuel and Otley, 1979).

The thrust of the “*cost of capital*” debate is that it questions the usefulness of residual income as a measure of performance of units and managers in divisionalized organizations. Solomon’s (1965) originally proposed it as a measure capable of separately appraising the performance of both an investment center and its manager. Tomkins (1975) advocates the use of residual income for profit centers whose control over working capital is vested with the division, although he dismisses it as redundant for full investment centers. Amey (1975) on the other hand, in responses to Tomkins proposition specifically denies the appropriateness of residual income in either case holding that “in the interest of achieving the firm’s overall objective, divisions should not ... have the powers to determine their own capital investment. Emmanuel and Otley (1976) in an attempt to reconcile the two sides of the debate, argues in favour of residual income and points out (p. 44) that,

“the observed differences of opinion revolve essentially around an organizational issue. Are divisional managers in a position to take investment decisions? If they are, should a charge upon capital employed be imputed?”

Despite the controversy surrounding the computation of residual income as a performance measure, its use is widespread. In a survey of 1000 large American firms, Mauriel and Anthony (1966) reported that 27 percent of the respondent firms indicated they use residual income. Similarly, Tomkins (1973) has reported the use of residual income in addition to other measures among United Kingdom companies.

2.5.1.4 Other financial measures of performance

Other financial measures used in practice for divisional performance measurement are sales revenue, ability to stay within the budget and meeting cash flow targets.

Additionally, use of discounted cash flow (DCF) has been proposed both as a replacement for traditional accounting profit and as a complimentary reporting technique (Lee, 1972). Ezzamel (1979) advocates for a measure based on DCF because it reflects ideal income. Scapens and Sales (1981) in a study comparing the use of cash flow and accounting profits, reports that companies both in UK and USA use divisional cash flows as a measure of performance but to a lesser extent than divisional profits. Merchant and Manzoni (1989) reports that organizations with multiple divisions of the profit center nature use the achievability of budget targets as a measure of performance and that such budget targets are set to be achievable an average of eight or nine year out of ten.

2.5.2 Non-Financial Measures of Performance

The call for the use of non-financial measure of performance is largely based on the limitations of the "short-term" financial measures of performance. Hirsch (1994) argues that financial measures are deficient because they can be abused and also purport that financial health is the only goal of the organization. Parker (1979), Emmanuel and Otley (1976) and Amey and Egginton (1973) in exposing limitations of conventional divisional performance measures., advocates the use of multiple performance criteria. Ezzamel (1992) suggests that the exclusive focus on financial measures has two limitations, namely; it ignores the important role that other quantitative, non-financial controls can play in guiding performance of local managers and by implication it completely understates the extent to which qualitative controls brings about organizational coherence and reduce the potential for

opportunistic behavior. In support, Ouchi (1979) observes that control in the context of divisionalized organizations should be conceived fairly broadly as including structural and non-financial controls and not only the financial controls, for these controls are not mutually exclusive but complimentary.

According to Johnson and Kaplan (1987) the contemporary trends in competition, technology and management demands major changes in the way organizations evaluate short and long term performance with the challenge of de-emphasize the current focus on simple, aggregate, short term financial measures and encourage the use of indicators that are more consistent with long term competitiveness and profitability of the firm, the non-financial measures. The import of Kaplan's argument is that performance measure should reflect the circumstances under which each unit of the organization operates. He notes (p. 23) that,

... large decentralized organizations require systems to motivate and evaluate the performance of their managers. These systems should provide appropriate incentives and signals to managers working in different functions, with diverse products and processes, amid globally dispersed operations.

Kaplan (1983, 1984), Johnson and Kaplan (1987) and Howell and Soucy (1987) suggests that non-financial indicators should be driven by corporate strategy and should include key measures of manufacturing, marketing research and development and human resources development success. In this connection, Skinner (1974) reports that in view of contemporary developments, the ultimate challenge to management accounting is to design systems meant to support the operations and strategy of the organization.

The non-financial measures can be captured in areas such as labour efficiency and turnover, customer satisfaction, product quality and reliability, new products and markets and delivery schedules. Whereas these areas may be expected to have financial implications at least over the short-run, their direct measurement would be in non-financial quantities (Siegel, 1978), Parker (1979) suggests that elements of social responsibility accounting (in the form of social responsibility budgets, narrative social responsibility report and cost benefit social responsibility report), employee related information (e.g. turnover) could be developed and applied as divisional performance measures. Measures of accidents occurring in a division can also be used. This would include number of accidents causing lost time, hours lost as a percentage of hours worked and injury costs (developed from tables of hospitalization costs, worker compensation costs and insurance premium increases).

There is generally a paucity of empirical studies on the use of non-financial measures. A survey by Howell (1985) reports the use of the following non-financial measures in practice in their order of preference; product quality, labour productivity, delivery performance, customer service, market share, market growth, throughput rate, material yield product development performance, equipment productivity, manufacturing flexibility and technological capabilities. Without stating the particular measures, Scapens and Sale (1985) reports that 23 percent and 23.9 percent of their samples in UK and USA respectively used non-financial measures for evaluating divisional performance.

2.6 *Review of related studies*

Studies on divisionalization and its related aspects have largely been carried out in U.S.A. and UK.

A set of empirical studies have been conducted to assess the performance differential of divisionalized structures, that is, the extent to which divisionalized form outperforms other structural forms. With few exceptions, these studies were stimulated by a hypothesis developed by Williamson (1970) and which came to be known in the literature as the M-form hypothesis. The hypotheses states that:

"The organization and operation of the large enterprise along the lines of the M-form favours goal pursuit and least-cost behavior more nearly associated with the neoclassical profit maximization hypotheses than does the U-form (non-divisionalized) organizational structure".

This hypothesis anticipates the benefits of divisionalized structure as resulting from minimized transaction costs. The results of these studies (Armour and Teece, 1978; Teece, 1981; Steer and Clable, 1978, Robert and Vicione, 1981) are summarized in Ezzamel (1985) and are largely supportive of the M-form hypothesis. They reveal a performance differential in favour of M-form in terms of earning superior rates of return on shareholders equity and improvement of the corporations internal efficiency.

Ezzamel and Hilton (1980) conducted an empirical study in UK aimed at deriving a single scalar that could be used as a measure of divisional discretion representing the optimizing ability of the central managers within the firm. This was done by ranking on a Likert scale the responses in terms of the extent of divisional discretion granted to divisional managers on a number of decision areas. The results indicate the possibility to deriving such a scalar by use of statistical data reduction techniques that

distinguish between "more important" and "less important" factors of divisional autonomy.

Scapens and Sale (1985) conducted an international (both in USA and UK) study aimed at describing the relationship between accounting practices in divisionalized companies and certain organizational variables. Collecting data in 1980 from a mail survey of companies in the Fortune 500 in the USA and the Times 1000 in UK, the researchers gave particular attention to the measurement of divisional performance and the control of capital investment. The organizational variables were constructed to reflect accounting methods and divisional autonomy and were; interconnectedness, operating autonomy, capital expenditure autonomy and accounting methods. The variables were ranked in scales that prevented the use of parametric statistical techniques for data analysis and thus Kendalls' Tau correlation coefficients were calculated for each pair of variables. The results failed to reveal most of the expected associations between the accounting methods used in divisionalized companies and the autonomy of divisional managers.

Other survey studies have been conducted that reported the measurement of divisional performance and the use of a number of measures. Precise figures about the use of each measure are wanting because of the use of multiple indices. In the US Mauriel and Anthony (1966) reports that approximately 40% of a large sample of companies uses accounting profit along with other measures such as return on investment or residual income to assess the performance of divisions and of their managers. Recce and Cool (1978) also conducted a study in the US that indicated the use of various measures in practice. In the UK Tomkins (1973) conducted a study focussed on different aspects of divisionalization and performance measurement; namely use of

sought to establish the extent of divisional autonomy granted to divisional performance. Distributing structured questionnaires to 45 firms, a response rate of 72 percent (31 firms) was recorded. The results indicate that Kenyan divisionalized firms do not equally measure divisional performance. In order of importance the objectives of divisional performance were found to be control, profitability, planning and strategy formulation. Divisional performance, investment decision and managerial autonomy. Divisional autonomy was found to be great in operating policy. Divisional autonomy was found to be great in operating policy and financial policy respectively. The most popular measures used were financial and non-financial with the former being highly popular. The results indicate that all companies used more than one indicator as a measure of performance. Problems in divisional performance measurement were reported to be difficult in defining and measuring division's costs and revenues.

performance measures, divisional autonomy, transfer pricing and reporting frequency. He tried to link a set of thirteen performance measures to two measurement objectives; evaluation of division head's performance and evaluation of the contribution of the division in achieving overall corporate goals. The results indicate the use of similar measures for both objectives of evaluation of division head's performance and the divisions' contribution to overall company achieving the two objective. Further, the results report the popularity of return on capital employed in achieving the two objectives. Among the eight variants of accounting profit, it was found that controllable operating profit and net residual income before tax were the most popular. The study also reports that 93% of the surveyed firms use more than one measure in evaluating division head's performance.

Scapens and Sale (1981) conducted a study both in the UK and USA aimed at finding out the financial criteria used to evaluate the performance of divisional managers and the relative importance of cash flows and profit in assessing divisional performance. The results indicate that profit before interest and taxes, residual income and budgets were top three measures respectively in UK used for evaluating the performance of the divisional managers. In the US the top three measures were residual income, budgets and profit before interest and taxes. 50.7 percent of the companies in the UK and 27.6% in the USA indicated that cash flows and profit were equally important criteria for measuring divisional performance.

In Kenya, Minja (1995) conducted a study aimed at finding out whether divisionalized companies do measure performance for their divisions, the objectives of performance measurement and the measures (indicators) used. The study also

sought to establish the extent of divisional autonomy granted to divisional performance. Distributing structured questionnaires to 45 firms, a response rate of 72 percent (31 firms) was recorded. The results indicate that Kenyan divisionalized firms do actually measure divisional performance. In order of importance the objectives of divisional performance were found to be control, profitability, planning and strategy formulation, managerial performance, investment decision and managerial remuneration. Divisional autonomy was found to be great in operating policy, accounting and internal audit and financial policy respectively. The measure (indicators) used were both financial and non-financial with the former being highly used. The results also indicate that all companies used more than one indicator as a measure of performance. Problems in divisional performance measurement were reported to be difficult in defining and measuring division's costs and revenues, separating a division from the rest of the firm, defining and measuring divisional investment and transfer pricing due to inter-independence of divisions respectively.

3.2 Sample and Sample Plan.

Not all listed companies are divisionalized. The sample plan therefore was to identify the divisionalized companies among the listed companies.

The rule of sampling used was as follows:-

1. A Company must have more than one sub-unit (division) catering for either a different geographical area (market), a product line, production process or as a part of the company's specific mission.

CHAPTER THREE; RESEARCH METHODOLOGY

3.1 Population of the study

The study being as it is a case study of the listed companies, the population is all those companies listed in the Nairobi Stock Exchange as at 30/4/98. The listed companies have been selected because they are fairly large in size and consequently likely to be divisionalized (size being one of the causes of divisionalization). The absence of documented information (e.g. Times 1000 in UK and Fortune 500 in US) in Kenya renders it difficult to establish the divisionalization status of the firms in Kenya. The listed companies, because of their ability to source funds from the public would be argued to have the potential for being large. Additionally, the listed companies are considered appropriate for they are likely to respond favourably to questions touching on investments in intangibles and reward schemes, which questions were generated from the literature (see Part C of Appendix 2)

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2. Such units must have same autonomy (i.e. authority and discretion to make decisions) in various decision areas. This autonomy need not be absolute and varies from one decision area to another and one organization to another.

The researcher conducted a pilot study among all the listed companies to establish which ones were divisionalized. Applying the above rule, a total of 31 companies indicated that they were divisionalized. This number is lower than the total listed companies because of two reasons. First, some companies did not respond on their divisionalization status. Secondly, some listed companies are themselves divisions of other listed companies (e.g. National Industrial Credit is a division of Barclays Bank of Kenya; Limuru Tea is a division of Brooke Bond).

3.4 Data Analysis Method and Procedure.

3.3 Data Description and Collection method

The study relied basically on primary data. A structured questionnaire with closed-end questions was used to gather the necessary data (see Appendix 2). The questionnaire is divided into three sub-sections. Section A contains general company information and pre-supposes a divisionalized structure, that having been established in the pilot study. Section B addresses performance measurement and the questions are designed along survey studies conducted on the same (e.g. Minja, 1995; Mauriel and Anthony, 1966). The questions in section C are generated from the literature and designed along the study by Scapens and Sale (1985).

The data collection method used was principally interviewing supplemented with "drop and pick" for companies with headquarters in Nairobi. Companies outside Nairobi had questionnaires mailed to them. The questionnaires were addressed to corporate accounting personnel, specifically to Management Accountant or Group

Management Accountant where the company was operating as a group. This was considered appropriate as suggested by Fremgen (1972) that performance measurement is within the province of the Management Accountant. The researcher was however frequently referred to the Financial Accountant for Part C of the questionnaire.

Having been addressed to the corporate headquarters, it is inevitable that the questionnaire response reflect only the formal systems within the organization. In general these formal systems apply to all or most divisions within a particular organization.

3.4 Data Analysis Method and Procedure.

The analysis method used depends on the objective being addressed. Data pertaining to objectives 1 and 2 are subjected to descriptive analysis. Data relating to research objective 3 is analyzed using non-parametric statistics. Specifically, Kendall's Tau correlation coefficients were calculated for each pair of variables. This was done with the aid of a statistical package, SPSS. This technique has been used in another study (Scapens & Sale, 1985) for locating association.

Data relating to measures of divisional performance are classified into financial measures. The findings are presented by use of summary statistics and tables. This analysis technique is considered appropriate because of the qualitative nature of the data and has been used in other survey studies (Minja 1995; Ezzamel and Hilton 1980; Mauriel and Anthony 1966).

Overall, the mail responses were as good as the interview responses, but for the advantage that the letter generated a lot of additional information not captured by the questionnaire especially under the others (please specify) caption. Where indicated, all such additional information are discussed alongside the ones captured by the questionnaire.

CHAPTER FOUR; DATA ANALYSIS AND RESEARCH

FINDINGS

4.1 Introduction

4.1.2 General Sample Characteristics

4.1.1 Population

Through a pilot study the study units, that is divisionalized firm, were identified as 31 control (foreign or locally controlled) and bases of divisionalization. Some and industry questionnaires were sent to all the 31 study units including those with headquarters outside Nairobi. A follow-up exercise was conducted through the phone and interview sessions arranged with the respondents. Other respondents had the questionnaire duly completed at the time the researcher was calling to arrange an interview. In all such cases the researcher reviewed the completed questionnaire for consistency before taking it away.

Table 1: Divisionalized companies and their sizes

Size (Annual turnover) Ksh.	No. of companies	Percentage	Cumulative %
Below One billion	11	35.5	35.5
Between One billion and 2 billion	10	29.0	64.5
Between 2 billion and 3 billion	3	9.4	73.9
Between 3 billion and 4 billion	3	9.4	83.3
Between 4 billion and 5 billion	2	6.1	89.4
Between 5 billion and 6 billion	2	6.1	95.5
Between 6 billion and 7 billion	0	0.0	95.5
Between 7 billion and 8 billion	0	0.0	95.5
Between 8 billion and 9 billion	0	0.0	95.5
Between 9 billion and 10 billion	0	0.0	95.5
Between 10 billion and 11 billion	0	0.0	95.5
Between 11 billion and 12 billion	0	0.0	95.5
Between 12 billion and 13 billion	0	0.0	95.5
Between 13 billion and 14 billion	0	0.0	95.5
Between 14 billion and 15 billion	0	0.0	95.5
Between 15 billion and 16 billion	0	0.0	95.5
Between 16 billion and 17 billion	0	0.0	95.5
Between 17 billion and 18 billion	0	0.0	95.5
Between 18 billion and 19 billion	0	0.0	95.5
Between 19 billion and 20 billion	0	0.0	95.5
Between 20 billion and 21 billion	0	0.0	95.5
Between 21 billion and 22 billion	0	0.0	95.5
Between 22 billion and 23 billion	0	0.0	95.5
Between 23 billion and 24 billion	0	0.0	95.5
Between 24 billion and 25 billion	0	0.0	95.5
Between 25 billion and 26 billion	0	0.0	95.5
Between 26 billion and 27 billion	0	0.0	95.5
Between 27 billion and 28 billion	0	0.0	95.5
Between 28 billion and 29 billion	0	0.0	95.5
Between 29 billion and 30 billion	0	0.0	95.5
Between 30 billion and 31 billion	0	0.0	95.5
Between 31 billion and 32 billion	0	0.0	95.5
Between 32 billion and 33 billion	0	0.0	95.5
Between 33 billion and 34 billion	0	0.0	95.5
Between 34 billion and 35 billion	0	0.0	95.5
Between 35 billion and 36 billion	0	0.0	95.5
Between 36 billion and 37 billion	0	0.0	95.5
Between 37 billion and 38 billion	0	0.0	95.5
Between 38 billion and 39 billion	0	0.0	95.5
Between 39 billion and 40 billion	0	0.0	95.5
Between 40 billion and 41 billion	0	0.0	95.5
Between 41 billion and 42 billion	0	0.0	95.5
Between 42 billion and 43 billion	0	0.0	95.5
Between 43 billion and 44 billion	0	0.0	95.5
Between 44 billion and 45 billion	0	0.0	95.5
Between 45 billion and 46 billion	0	0.0	95.5
Between 46 billion and 47 billion	0	0.0	95.5
Between 47 billion and 48 billion	0	0.0	95.5
Between 48 billion and 49 billion	0	0.0	95.5
Between 49 billion and 50 billion	0	0.0	95.5
Between 50 billion and 51 billion	0	0.0	95.5
Between 51 billion and 52 billion	0	0.0	95.5
Between 52 billion and 53 billion	0	0.0	95.5
Between 53 billion and 54 billion	0	0.0	95.5
Between 54 billion and 55 billion	0	0.0	95.5
Between 55 billion and 56 billion	0	0.0	95.5
Between 56 billion and 57 billion	0	0.0	95.5
Between 57 billion and 58 billion	0	0.0	95.5
Between 58 billion and 59 billion	0	0.0	95.5
Between 59 billion and 60 billion	0	0.0	95.5
Between 60 billion and 61 billion	0	0.0	95.5
Between 61 billion and 62 billion	0	0.0	95.5
Between 62 billion and 63 billion	0	0.0	95.5
Between 63 billion and 64 billion	0	0.0	95.5
Between 64 billion and 65 billion	0	0.0	95.5
Between 65 billion and 66 billion	0	0.0	95.5
Between 66 billion and 67 billion	0	0.0	95.5
Between 67 billion and 68 billion	0	0.0	95.5
Between 68 billion and 69 billion	0	0.0	95.5
Between 69 billion and 70 billion	0	0.0	95.5
Between 70 billion and 71 billion	0	0.0	95.5
Between 71 billion and 72 billion	0	0.0	95.5
Between 72 billion and 73 billion	0	0.0	95.5
Between 73 billion and 74 billion	0	0.0	95.5
Between 74 billion and 75 billion	0	0.0	95.5
Between 75 billion and 76 billion	0	0.0	95.5
Between 76 billion and 77 billion	0	0.0	95.5
Between 77 billion and 78 billion	0	0.0	95.5
Between 78 billion and 79 billion	0	0.0	95.5
Between 79 billion and 80 billion	0	0.0	95.5
Between 80 billion and 81 billion	0	0.0	95.5
Between 81 billion and 82 billion	0	0.0	95.5
Between 82 billion and 83 billion	0	0.0	95.5
Between 83 billion and 84 billion	0	0.0	95.5
Between 84 billion and 85 billion	0	0.0	95.5
Between 85 billion and 86 billion	0	0.0	95.5
Between 86 billion and 87 billion	0	0.0	95.5
Between 87 billion and 88 billion	0	0.0	95.5
Between 88 billion and 89 billion	0	0.0	95.5
Between 89 billion and 90 billion	0	0.0	95.5
Between 90 billion and 91 billion	0	0.0	95.5
Between 91 billion and 92 billion	0	0.0	95.5
Between 92 billion and 93 billion	0	0.0	95.5
Between 93 billion and 94 billion	0	0.0	95.5
Between 94 billion and 95 billion	0	0.0	95.5
Between 95 billion and 96 billion	0	0.0	95.5
Between 96 billion and 97 billion	0	0.0	95.5
Between 97 billion and 98 billion	0	0.0	95.5
Between 98 billion and 99 billion	0	0.0	95.5
Between 99 billion and 100 billion	0	0.0	95.5

In total, 22 questionnaires were completed and returned to the researcher. The 9 study units who did not respond were citing lack of time as the main reason for inability to afford the researcher time. Out of the 22 responses, 1 response proved unusable because of the inconsistency of the data there in. This response eluded the researcher having been mailed back from one study unit with its head office outside Nairobi and which the researcher could not visit due to resource constraints. The findings of this study are therefore based on the 21 usable responses which represents 67.7 percent response rate and any interpretations therefrom should be so understood.

Overall, the mail responses were as good as the interview responses, but for the advantage that the latter generated a lot of additional information not captured by the questionnaire especially under the others (please specify) caption. Where indicated, all such additional information are presented and discussed alongside the ones captured by the questionnaire.

4.1.2 General Sample Characteristics

The sample characteristics are here presented in terms of size, industry, ownership control (foreign or locally controlled) and bases of divisionalization. Size and industry – through its competition, though not the only causes, are hypothesized to cause divisionalization. The type of ownership control¹³ is also critical in divisionalization. The presentation of these characteristics is summarized in Tables 1 to 4.

Table 1; Divisionalized companies and their sizes

Size (Annual turnover) Ksh.	No. of companies	Percentage	Cumulative %
Below One billion	11	35.5	35.5
Between 1 and 3 billion	8	25.8	61.3
Between 3 and 5 billion	9	29.0	90.3
Above 5 billion	3	9.7	100.0
	31	100	

Source; Research Data

Represented by average annual turnover over the period 1993 to 1997, the sizes of the respondent companies are categorized into 4. Of all the companies indicating their divisional status, 35.5 percent are in the below 1 billion category; 25.8 percent in the

¹³One of the factors considered critical in explaining variation in strategy practices (which also has a bearing on the structure) is ownership & company control. For a detailed discussion see Aosa,E. (1992).

between 1 and 3 billion category; 29.0 percent in the between 3 and 5 billion category and 9.7 percent indicated their annual turnover exceeded 5 billion.

Table 2; Divisionalized companies and their industry classification

Industry (stock listing classification)	No. of Companies	Percentage	Cumulative percentage
Commercial and services	9	29.0	29.0
Industry and Allied	12	38.7	67.7
Finance and Investment	6	19.4	87.1
Agriculture	4	12.9	100.0
	31	100	

Source: Research Data

According to the industry classification, 29.0 percent are from the Commercial and service sector; 38.7 percent from the Industry and allied sector; 19.4 percent from the Finance and investment sector while only 4 firms – representing 12.9 percent are from the Agricultural sector.

Table 3 Divisionalized Companies and type of ownership control

Control type	No. of companies	Percent	Cumulative. Percent
Local; Commercial & Services	6	16	51.7
Industry & Allied	5		
Finance & Investment	4		
Agriculture	1		
Foreign; Commercial & Service	3	15	48.3
Industry & Allied	7		
Finance & Investment	2		
Agriculture	3		
	31		

Source: Research Data

On the basis of ownership control, 51.7 percent of the divisionalized companies were locally controlled while 48.3 percent are foreign controlled. These observations can be explained in two ways. Foreign controlled companies are themselves subsidiaries or divisions of large multi-national corporations. These corporations cater for diverse products and geographical markets thereby necessitating divisionalized structure. It can be argued that these foreign controlled companies adopt divisionalized structures to conform to the organizational structure obtaining in their parent companies. The adoption of divisionalized structure by locally controlled companies could be due to the intense competition occasioned by liberalization of the Kenyan economy. Competition calls for strategies that would enhance stronger financial standings. Diversification into new product lines and geographical areas is often one such strategy.

Table 4; Divisionalization base

Base	No. of Companies	Percentage	Cumulative %
Geographical area	7	22.6	22.6
Product	20	64.5	87.1
Geographical area & product	4	12.9	100.0
Customer focus	0	0	100.0
Process	0	0	100.0
	31	100	

Source: Research Data

Basically, three divisionalization bases were reported for creating divisions among the surveyed companies. These are geographical area; product line; and geographical area and product lines combined. These are presented in table 4. 22.6 percent of the

surveyed firms were divisionalized on geographical basis, 64.5 percent were divisionalized on the basis of product line while 12.9 percent were divisionalized on the basis of geographical area and product line combined. No companies for divisionalized on the basis of customer focus or process. The low percentage of firms divisionalized on geographical basis perhaps explains the possibility of having a centralized structure with high reporting frequency to the corporate management. Product line divisionalization calls for localization of technical expertise thereby

making it difficult to have corporate management in control, thus the high percentage of firms divisionalized on product basis

Decisions	4	1	0	2.71	0.56
Remunerating	3	3	6	1.76	0.94
Performance	3	3	6	1.76	0.94
Overall	3	3	6	2.86	0.38
To aid segmental reporting	9	5	4	2.24	0.77

4.2 Objectives of the study

4.2.1 Objectives of divisional performance Measurement

Five key objectives of divisional performance measurement were addressed by the questionnaire and respondents were given an additional option of indicating any other objective not captured by the questionnaire. Represented on a four scale “Likert Scale” of Very Important (VI), Important (I), Little Important (LI) and Not Applicable (NA), numerical values were assigned of 3,2,1 and 0 respectively to reflect the importance attached to each objective. These numerical values were then used to calculate the weighted mean score and standard deviation¹⁴ of responses relating to each objectives. The findings are discussed below and tabulated in Table 5.

In general all the objectives of divisional performance measurement are considered important as indicated by the average mean score of 2.3. This suggests that in a divisional set-up it is important to measure divisional performance, regardless of the particular objective that the organization may wish to address. Specifically, the

¹⁴See Appendix 6 for a computation of the mean score and standard deviation values.

objectives as ranked in their order of importance are company control, making divisional viability decisions, aiding segmental reporting; aiding corporate resource allocation and remunerating managerial performance. These are represented by mean scores of 2.86; 2.71; 2.24; 1.95 and 1.76 respectively.

Table 5; Objectives of divisional performance measurement

Frequency of Questionnaire Response

	VI	I	NI	NA	Mean score	Std Dev.
Making Divisional Viability Decisions	16	4	1	0	2.71	0.56
Remunerating Managerial Performance	5	8	6	2	1.76	0.94
Overall Company Control (aligning divisional interest to corporate interest)	18	3	0	0	2.86	0.36
To aid segmental reporting	9	8	4	0	2.24	0.77
To aid corporate resource allocation	3	16	0	2	1.95	0.74
					2.30	

Source: Research Data

Discussion;

The highest score in overall company control implies that corporate management is concerned with the extent to which delegated authority is being used by divisional management. Whereas decentralization calls for delegating decision-making authority to lower level management, this does not absolve corporate management of their responsibility for the entire operations of the organization. This score can be interpreted as reflecting corporate management's concern for delegated authority.

Making divisional viability decision ranks second and can be discussed alongside the objective of corporate resource allocation. This ranking suggests an important concern for the performance of a division as an economic entity, that is, economic

performance measurement. Generally, corporate management would seek to evaluate the performance of a division as an economic entity to justify resource allocation thereby forming the basis of expansion, reduction, or discontinuation of operations of certain segments. Examples among surveyed firms are Unga Group Ltd. selling off Elianto; Kenya Breweries Ltd. discontinuing Mombasa Plant operations and Brooke Bond selling off Sulmac Flowers)

The findings further indicate segmental reporting need as an important objective. As noted elsewhere in this paper, the surveyed firms are either themselves divisions of multi-national corporations or are subsidiaries of other parent companies. In both cases, either in conformity to the requirements of segmental financial reporting or as part of efforts to prepare consolidated financial statements, results of divisional performance measurement would be useful. The implication of this is that data generated for internal management use can form a basis of external reporting.

Of all the objectives, remunerating managerial performance was reported as the least important with a mean score of 1.76. This suggests that managerial performance measurement is not as important as economic performance measurement. A number of respondents indicated that whereas they appreciate "good" managerial performance, even their reward schemes are not tightly linked to performance measurement.

Overall, these findings are in line with the theory behind performance measurement (see for example Ezzamel, 1992 and Solomons, 1965) and are supportive of the findings of Minja (1995).

4.2.2 Measures of Divisional Performance

This section presents the findings in respect of objective 1(ii). The measures of divisional performance are here divided into financial and non-financial. This categorization basis is followed in discussing the measures and a comparison of the extent of usage of financial and non-financial measures is also made. The distinction between the two was clearly explained to the respondents and even presented in the questionnaire. The results are presented in Tables 6a and 6b.

Table 6a; Financial Measures

Frequency of Questionnaire response

Financial Measure	TGE	M	TSE	TLE	NA	Mean	Std. Dev.
Achievement of Target profit before interest and taxes	21	0	0	0	0	4.0	0.00
Achievement of target profit after interest on capital employed	8	5	4	4	0	2.81	1.17
Achievement of target rate of return (ROI) imposed by the corporation	9	4	0	8	0	2.67	1.39
Achievement of target cash flows	13	2	4	2	0	3.24	1.09
Ability to stay within budget limits	15	6	0	0	0	3.71	0.46
Sales revenue (in shillings or units)	18	3	0	0	0	3.86	0.36
Divisional total profit	11	6	4	0	0	3.33	0.79
Divisional contribution margin	13	8	0	0	0	3.62	0.49
Divisional controllable profit	13	5	3	0	0	3.48	0.75
						3.41	

Source: Research Data

Key: TGE- To a Great Extent M- Moderately TSE-To Some Extent TLE- To a Little Extent NA- Not Applicable

As indicated in the said tables, financial measures are used to a greater extent than non-financial measures as represented by mean scores of 3.41 and 2.12 respectively. There is therefore a general dominance of financial measures over non-financial measures. All the financial measures are used to varying extents. On average, these financial measures are used either moderately or to a great extent. On the other hand, the non-financial measures are used either to a limited extent or not used at all. A number of the non-financial measures are also not applicable as a performance measure to some organizations.

a) Financial Measures

A total of nine financial measures generated from the literature were presented to the respondents with an option of indicating any other measure used by them. Numerical values ranging from 4 to 0 were assigned to reflect the extent of usage. Using the numerical values, mean scores and standard deviation values were computed. These values forms the basis of discussing the extent of usage of these measures. All the nine measures were reported to be used though to varying degrees. Besides, six other measures were reported to be used. These findings are presented in Table 6a.

Discussion;

The most used measures are target profit before interest and taxes (4.0) and sales revenue either in units or shillings (3.86) while the least used measures are target profit after interest on capital employed (2.81) and target rate of return (ROI) imposed

by the corporation (2.67). The other measures fall in between in so far as the extent of their usage is concerned. It must however be pointed out that whereas the questionnaire did not address the issue of usage of multiple measures, it is very unlikely that each of the measures would be used in isolation. It would be expected of one division to use more than one measure at a time.

The highest mean score of 4.0 in target profit before interest and taxes can be explained by the fact that the measure is a close proxy to operating profit in the financial statements and therefore easy to identify. It is instructive to note that all the respondent firms indicated they use the measure to a great extent. The next set of measures are sales revenue (3.86) and ability to stay within budget limits (3.71). The score of sales revenue reflects ease of identification and definition. It therefore avoids the problem of defining a measure of performance which may introduce arbitrariness in allocation of its components. This is suggested by Shillinglaw (1975) as one of the reasons for the high usage of sales revenue. Ability to stay within budget limits reflects the extent to which corporate management are concerned with implementation of planning policies.

Profitability measures reported are Divisional contribution margin (3.62); Divisional Controllable Profit (3.48) and Divisional total profit (3.33). These measures reflect the variants of accounting profit as discussed by Shillinglaw (1957). The little differences between their scores could suggest little understanding of what variables goes into the computation of each of the above profitability variants. Respondents had their own definition of each of the above profitability measures.

The lowest scores were recorded in profit after interest on capital employed by the division (2.81) and target rate of return imposed by the corporation (2.67). The former measure can be equated to residual income (RI) to the extent that it would imply deducting an imputed interest charge from the profits. Generally, these two measures are considered appropriate in situations where profits are being related to capital invested as is the case in investment centers. The recorded scores in these two measures suggest that divisional management have no authority or little if any in investment decisions.

Additionally, six other measures were identified by respondents. These are **profit before overhead, trading contribution, debt collectibility; stock turnout, economic value added and interest expense**. These measures even though coming very close to the measures captured by the questionnaire, they do reflect the fact

there is no standard definition of each of the measures identified. It is clear that every organization has a unique definition of the measures used and the variables that go into the computation of each may vary from one organization to another. One of these measures deserves mention; namely, trading contribution as defined by the respondent;

"It is computed much the same way as net profit except that interest and depreciation charges are replaced by some statistical equivalent and charged on levels of working capital".

Overall, these findings indicate that most divisions are either designed as cost centers or profit centers and only a few are designed as investment centers. There is therefore a dominance of profit center measures over investment center measures. This is consistent with the findings of other researchers like Tomkins (1973) and Minja (1995).

Source: Research Data

b) Non-financial Measures

A total of nine non-financial measures generated from the literature were presented to the respondents. The average score of **2.12** suggests that non-financial measures are generally used to a very limited extent or not used at all.

The non-financial measures as presented in Table 6b are ranked as follows; Market share/growth (2.86); Quality improvement (2.61); Efficiency in product/service delivery (2.48); customer relations cost (2.38); New product introduced (2.33); social responsibility costs (2.04); Employee turnover (1.84) Accident frequency (1.33) and Warranty expenses (1.23).

Table 6b; Non-financial Measures

Frequency of questionnaire response

Measure	TGE	M	TSE	TLE	NA	Mean	Std. Dev.
Market share/growth	11	3	2	3	2	2.86	1.46
Employee turnover	3	0	10	6	2	1.81	1.12
New products introduced	2	7	10	0	2	2.33	1.02
Customer relations costs	2	7	6	2	4	2.04	1.28
Social responsibility costs	9	4	2	0	6	2.38	1.72
Warranty expenses	0	0	13	0	8	1.23	0.99
Efficiency in product/service delivery	5	6	6	2	2	2.48	1.25
Quality improvement	9	4	3	1	4	2.61	1.56
Accident frequency	1	6	0	6	8	1.33	1.39
						2.12	

Source: Research Data

Discussion

The need for non-financial measures had been recognized as stemming from the limitations of financial measures. The non-financial measures were therefore generated from the literature that calls for supplementing conventional measures through the use of a wide-ranging set of non-financial measures. Parker (1979, p. 317) summarizes the areas where non-financial measures could be captured: He says,

"Further attention could usefully be paid to the development of divisional productivity indices, projected monetary benefits of the maintenance of certain market positions, cost versus benefits of product development, division social accounts for social responsibility, and human resource accounting for aspects such as personnel development, employee turnover, accident frequency, etc".

Of all the non-financial measures, the highest extent of usage is recorded in market share or growth. This could indicate the extent to which organizations are concerned with competitor's activities and also the fact that market share consideration is more common than the other measures. Quality improvements, efficiency in product or service delivery and new products introduced also indicate relatively higher extent of usage as measures of performance. It is instructive to note that the measures of market share, quality improvement, and efficiency in product delivery are indicators of marketing success while new product introduced is an indicator of research and development effort. It is expected that marketing for the role it plays in the organization would be more important thus the observed scores that are relatively higher. Indicators of personnel development and manufacturing are on the other hand used to a very limited extent as reflected by scores of 1.81 for employee turnover, 1.33 and 1.23 for accident frequency and warranty expenses respectively.

	Mean	Std. Dev.
Consolidability of divisional items	2.33	0.48
Sub-optimal behavior considerations	1.57	0.98
Personnel development	1.81	0.77
Manufacturing	1.23	0.77

Overall it can be observed that non-financial measures used as suggested by Johnson and Kaplan (1987), are driven by corporate strategy and reflect measures of success in

manufacturing, marketing and research and development. However measures reflecting success in marketing are used to a greater extent than the other measures.

Of very little use are measures reflecting manufacturing success. Kaplan (1983)

argues that measuring manufacturing performance requires a return to operation based management practices which are in little use currently. From these observation it can be argued that whereas there are calls in the academic literature to use non-financial measures supported by powerful arguments, the little practical use of these measures indicates that corporate practices are lagging behind academic developments.

Ezzamel (1992, p. 116) summarizes it all,

“the problem is not how to make a case for non-financial measures, since the case has been established for some time; rather the problem is how to device and elaborate credible measures”.

4.2.3 Factors Guiding the Choice of Performance Measures Used

The choice of performance measure used for a division is hypothesized to be influenced by a number of considerations. The importance attached to each of these considerations varies from one organization to another. Six key factors were presented to the respondents with an option of indicating any other factor. Numerical values were assigned as follows; Very Important (3); Important (2); Little Important (1) and Not Important (0). The importance of each factor is discussed below and tabulated in Table 7.

Table 7; Factors Guiding the Choice of Performance Measures Used.

Frequency of questionnaire response

Factor	VI	I	LI	NA	Mean	Std. Dev.
Controllability of divisional items	7	14	0	0	2.33	0.48
Sub-optimal behavior considerations	5	4	10	2	1.57	0.98
Dominance of external reporting	3	4	14	0	1.48	0.74
Long term competitive position consideration	9	8	4	0	2.24	0.77

Independence of the division from other divisions	2	12	7	0	1.76	0.62
Lack of executives understanding of division's chief operations	0	3	4	14	0.47	0.75
					1.64	

Source; Research Data

The factors are ranked as follows; controllability of divisional items (2.33); long term competitive position (2.24); independence of the division from other divisions (1.76); sub-optimal behavior considerations (1.57); Dominance of external reporting (1.48) and Lack of executive's understanding of the divisions chief operations (0.47).

Additionally, two factors were also identified as important, that is, **ease of implementation and ability of employees to relate performance measurement to the operations.**

Discussion

Controllability of divisional items implies the extent of divisional autonomy. The performance measure used to evaluate a division would depend on whether the division has express authority to take investment and financing decisions or not. In this way the measure used should reflect all items which are substantially under the control of the divisional staff or management. The concern for controllability of divisional items is important for both economic and managerial performance measurement though greater for the latter. The statement by one respondent about the concern for controllability of divisional items suggest the principle is one of the main pillars of responsibility accounting. He said,

"We use interest expense as a measure of divisional performance because our divisional management are given authority to source and negotiate for financing and the interest charge is an indicator of ones negotiating ability". It is therefore expected for controllability of divisional items to have the highest score (2.33).

The score of long term competitive position consideration is however not consistent with the measures used. On a general note it would be expected that consideration of long term competitive position be consistent with the use of performance measures that reflect the company's success in marketing, research and development and manufacturing; that is the non-financial measures. This inconsistency could be as a result of the difference that exists between corporate strategy and management practices. Companies generally design very elaborate mission statements that reflect their future orientation but adopt management practices that are short-term in outlook, for example emphasis on financial measures. It is therefore only logical that if presented, with the question, respondents would indicate they have long term competitive considerations as very important.

The consideration of independence of the division from other divisions recorded a mean score of 1.76. This suggests that the factor, on an average is either of little importance or important. It is suggested that each division's performance index should be as independent as possible of the efficiency and managerial decisions relating to other parts of the organization. The independence of the division from other parts of the organization would therefore dictate whether the measure used reflects levels and scope of corporate wide expenses (for example research and development) or not. The score of 1.76 can be interpreted to mean there exists some level of interdependence among divisions and that even if divisional independence exists, this can be violated by accounting rules such as those relating to allocation of corporate overheads. This further suggests that the problem of separating divisions from the rest of the organization is crucial.

use and that management has little incentive if any to use one set of information for

The factor of sub-optimal behavior consideration with a score of 1.57 indicates between little important and important weighting. As a criterion of evaluating the performance measure used, it implies that the measure used should not enable individual divisional managers to take independent actions which maximizes their performance whilst reducing that of the parent company. The corporate optimality consideration is based on the restrictive assumption that organizations have clear, well-ordered goals. The score suggests that divisions may be having goals different from those of the parent organization, that is, goal congruence holds to a little extent. Dominance of external reporting had a score of 1.48. This suggest that a s factor guiding the choice of performance measure it is either not important or of little importance. It is hypothesized that management accounting systems being driven by the procedures and cycles of the organizations financial reporting system, tends to emphasize on meeting periodic (quarterly, monthly or annual) earnings target. While considered appropriate for external reporting and satisfying auditing requirements, short-term financial measures have dominated the management accounting system because of the subservient role of the management accounting information system. The upshot of this argument is that the pace is set by external financial reporting and if it so emphasizes on short-term financial measures, then the same measures must dominate over non-financial measures even in the management accounting system where the focus should be on providing information for control and decision making.

These results indicate that dominance of external reporting is not an important factor in choosing the measure to use. The interpretation is that management prepares two sets of information, one set for external use and another for management's internal

Group	Number		
Financial Performance	1.	Target profit before interest & taxes	0,1,2,3,4
	2.	on capital employed	0,1,2,3,4
	3.	imposed by corporation	0,1,2,3,4
	4.	Ability to stay within budget limits	0,1,2,3,4
	5.		0,1,2,3,4
	6.	Sales Revenue (in shillings or units)	0,1,2,3,4

use and that management has little incentive if any to use one set of information for both purposes.

The least ranked factor was lack of executives understanding of divisions chief operations. As indicated elsewhere in this paper, performance measurement falls within the province of management accountants who are trained in financial matters. Divisions on the other hand are created to cater for specific localized expertise. The possible result is that management accountant may not understand the divisions shop floor operation and in measuring their performance chooses to set the objectives in financial terms which he understands. As a factor this has been reported unimportant with a score of 0.47. This can be interpreted to mean that among the firms surveyed, no division had localized expertise that went beyond the understanding of the corporate management. Alternatively there could be bias in the response to the question because of its nature.

4.2.4 Association between Performance Measures and Organizational Characteristics

A total of 38 variables (presented in Table 8) were constructed from the questionnaire.

Table 8; Variable List

Variable Group	Variable Number	Variable description	Scale
Financial Measures of Performance	1.	Target profit before interest & taxes	0,1,2,3,4
	2.	Target profit before interest on capital employed	0,1,2,3,4
	3.	Target rate of return (ROI) imposed by corporation	0,1,2,3,4
	4.	Achievement of target cash flows	0,1,2,3,4
	5.	Ability to stay within budget limits	0,1,2,3,4
	6.	Sales Revenue (in shillings or units)	0,1,2,3,4

Financial Measures of Performance	7.	Divisional total profit	0,1,2,3,4					
		8.	Divisional contribution margin	0,1,2,3,4				
			9.	Divisional controllable profit	0,1,2,3,4			
				10.	Market share growth	0,1,2,3,4		
				11.	Employee turnover	0,1,2,3,4		
Non-financial Measures of Performance	12.	New products introduced	0,1,2,3,4					
		13.	Customer relations cost	0,1,2,3,4				
			14.	Social responsibility costs	0,1,2,3,4			
				15.	Warranty expenses	0,1,2,3,4		
					16.	Efficiency in product/service delivery	0,1,2,3,4	
						17.	Quality improvement	0,1,2,3,4
							18.	Accident frequency
Extent of divisional autonomy	19.	Autonomy in operating decision	0,1,2,3					
		20.	Autonomy in accounting & internal control	0,1,2,3				
			21.	Autonomy in finance decisions	0,1,2,3			
				22.	Autonomy in investment decisions	0,1,2,3		
Investment in intangibles & Discretionary expenditure	23.	Product/process development	0,1,2,3					
		24.	Promotion and distribution	0,1,2,3				
			25.	Applications Engineering	0,1,2,3			
				26.	Human relations development	0,1,2,3		
					27.	Customer relations development	0,1,2,3	
						28.	Mergers and takeovers	0,1,2,3
Financial Entrepreneurship	29.	Diversiture and spin-offs	0,1,2,3					
		30.	Leverage buy-outs	0,1,2,3				
			31.	Debt swaps and repurchases	0,1,2,3			
				32.	Sale of fixed assets	0,1,2,3		
Accounting convention	33.	Timing recognition of income	0,1					
		34.	Choosing conservative accounting method	0,1				
Reward scheme	35.	Reward based on a period beyond one year	0,1					
		36.	Reward tied to achieving strategic objectives	0,1				
Dividend policy	37.	Dividend paid after investment decision	0,1					
		38.	Dividend varies with earnings	0,1				

These variables reflect the particular measures of performance used and organizational characteristics. The first 18 variables relates to the measures of performance used while the remaining twenty relate to the organizational characteristics. These variables are further grouped into eight. This grouping is useful for analysis in a subsequent section.

The association sort is between the measures of performance (as divided into financial and non-financial) and the organizational characteristics (as grouped into the various categories). It is imperative to emphasize that the issue addressed here is the

association (rather than causal relationship). Because of the rank scales used to construct the variables parametric statistics could not be used to analyze the data. Consequently, Kendall's Tau Correlation Coefficients were computed for each pair of variables. This was done with the aid of a software package, SPSS. The coefficient values form the basis of discussing the association.

Observations:

The computer output (a section of which is annexed to this report) indicate three sets of associations; association between the individual financial measures of performance; association between the individual non-financial measures of performance and the association between individual financial measures and individual non-financial measures of performance.

In the association (correlation coefficients) between the individual financial measures of divisional performance the following observations were made; Positive associations were observed between target profit after interest on capital employed and target rate of return (ROI) imposed by the corporation as represented by a coefficient of 0.7111; target profit before interest and taxes and achievement of target cash flow (0.5949); target rate of return (ROI) imposed by the corporation and divisional contribution margin (0.5241); divisional total profit and divisional controllable profit (0.5849). Negative associations can be observed between divisional controllable profit and ability to stay within budget limits (-0.3388); ability to stay within budget limits and target rate of return imposed by the corporation (-0.2284).

The correlation coefficients between the individual non-financial measures of performance indicate the following; Notable positive associations are between quality

improvement and efficiency in product/service delivery (0.8700); new products introduced and quality improvement (0.7203). On the other hand negative correlation is observed only between market share and accident frequency (-0.3186)

The associations between financial and non-financial measures are either weakly positive (below 0.5) or negative. However strong positive associations were observed between target cash flow and quality improvement (0.7681) and target cash flow and new products introduced (0.7203).

Measures of Performance Vs Organizational Characteristics

Because of the number of measures and the characteristics, it was tedious to present the correlation between each measure and each characteristic. The grouping indicated in Table 8 was used to reduce the variables to 8. The mean score of each set of variables constituting a group was calculated and the score taken as representing the same group of variables. The association sort is therefore between a group of measures (e.g. financial measures) and a group of organizational characteristics (e.g. extent of divisional autonomy).

Expected Associations

It is important to note that financial measures of performance are measures based on conventional accounting measurement techniques and premised on the periodicity (one year) concept. For this reason, it is expected that financial measures would have a positive association with accounting convention (because they stress on periodicity), and financial entrepreneurship (these by their very nature refer to activities that improve short-term earnings without creating long-term value, see Kaplan, 1983); a negative association with discretionary and intangibles investments. The association

between financial measure and extent of divisional autonomy, reward scheme and dividend policy would be either positive or negative. For example the extent of divisional autonomy would determine whether the measure used takes into account divisional capital base or not.

Non-financial measures of performance on the other hand are expected to have positive association with expenditures in discretionary and intangible items; a negative association with financial entrepreneurship activities, a negative association with accounting convention and either positive or negative association with the rest of the organizational characteristics. Expenditure in discretionary and intangibles have their benefits accruing to future financial periods and therefore lend themselves to non-financial measures, thus the expected positive association.

Results

Table 9 presents the correlation coefficients for the association between the measures and organizational characteristics.

Positive associations are observed between financial measures and discretionary expenditure(.1784), accounting convention(.3264), reward scheme(.0433) and dividend policy(.3416). Negative associations can be observed between financial measures and extent of divisional autonomy (-0.0635) and financial entrepreneurship (-0.0335).

These observations conform to the expected associations save for the association between financial measures and; discretionary expenditure, and financial entrepreneurship. The former was expected to register a negative association but registered a positive association while the latter was expected to have a positive association but recorded a negative association. Thus there is a misspecification of signs for the two associations.

Non-financial measures on the other hand are positively associated with discretionary expenditure (0.0053), accounting convention (0.3792) and reward scheme (0.0363). Negative associations are observed with divisional autonomy (-0.4497), financial entrepreneurship (-0.1853) and dividend policy (-0.0953). These observations conform to the expected associations save for the association between non-financial measure and accounting convention. The expected association is negative but the recorded association is positive. There is once again a misspecification of sign for this association.

Table 9
KENDALL CORRELATION COEFFICIENTS

	V1	V2	V3	V4	V5	V6	V7	V8
V1								
V2	.3342							
	Sig .010							
V3	-.0635	-.4497						
	Sig .710	Sig .007						
V4	.1764	.0053	-.0589					
	Sig .302	Sig .975	Sig .731					
V5	.0338	-.1853	.1785	-.4789				
	Sig .830	Sig .286	Sig .312	Sig .002				
V6	.3764	.3792	.1411	-.3966	.1674			
	Sig .094	Sig .048	Sig .469	Sig .045	Sig .407			
V7	.1433	.0363	.0619	.0380	-.3330	.1032		
	Sig .813	Sig .843	Sig .739	Sig .840	Sig .083	Sig .627		
V8	.3414	-.0953	-.2802	.3158	-.1029	-.2983	-.25	
	Sig .080	Sig .418	Sig .182	Sig .110	Sig .616	Sig .182	Sig .25	
	V1	V2	V3	V4	V5	V6	V7	V8

(Coefficient / Cases) / 2-tailed Significance

* is printed if a coefficient cannot be computed

SUMMARY AND CONCLUSIONS

5.1 Conclusion

This study which was exploratory in nature had the primary objectives of identifying the factors that guide the choice of measures of performance used in divisionalised companies and to establish the empirical association between the measures of performance used and organizational characteristics. To address these two objectives it was necessary that the measures used to evaluate divisional performance be addressed too.

The study found out that the primary objectives of divisional performance measurement were to align the interest of divisional management to those of top management, that is overall control and to aid top management in making divisional viability decisions, that is whether to expand or reduce the activities of the division. Measures of divisional performance were found to be both financial and non-financial. The financial measures identified in their order of usage are achievement of target profit before interest and taxes, sales revenue (both in units and shillings), ability to stay within budget limits, divisional contribution margin, divisional controllable profit, divisional total profit, achievement of target cash flows, achievement of target profit after interest on capital employed and achievement of target rate of return (ROI) imposed by the corporation. On the other hand, the non-financial measures identified were market share/growth, quality improvement, efficiency in product/service delivery, social responsibility costs, new products introduced, customer relation costs, employee turnover, accident frequency and warranty expenses. The extent of usage however is biased in favor of financial measures. In deciding which measures to use in assessing the divisional performance (both economic and managerial), controllability of divisional items and long term

competitive considerations are largely considered. The other factors considered though to a lesser extent in deciding which measures to use are independence of the division from other units of the organization, sub-optimal behavior consideration and dominance of external reporting. In addition, two other measures were suggested by the respondents, these are; ease of implementation and the ability of employees to relate performance measurement to operations.

A number of associations were empirically located between the measures of performance used and organizational characteristics. The expected associations were observed between financial measure of performance and accounting convention, reward scheme, dividend policy and extent of divisional autonomy. Further, the expected associations were also observed between non-financial measures of performance and discretionary expenditure, reward scheme, extent of divisional autonomy, financial entrepreneurship and dividend policy. However, the expected associations were not uniformly located by the analysis. There existed mis specifications of association signs between financial measures of performance and expenditure in discretionary and intangible items and also between financial measures of performance and financial entrepreneurship.

These mis specification of signs can be explained thus; the scales used to construct the variables used in locating the associations had no established theoretical basis even though consistently used. Such adhoc nature of the scales used might have reduced the statistical accuracy of the tool used. Thus the possibility of mis specification has to be acknowledged. A further problem could be due to the use of questionnaire. It is known that questionnaires elicit responses which reflect formal systems within the organization. Such formal systems are just but a subset of the total

organizational control system. Performance measurement in a multi-divisional organization is a control device. Where informal systems forms a major component of the organization's control system there would possibly be a confounded relationship between the variables. An additional problem with questionnaire response is the tendency of respondents to confine themselves to the questionnaire provided options regardless of their applicability to the organization. This often leads to quite inconsistent responses with the potential effect of failure to locate desired relationships among variables. It is imperative to note that one of the miss specification of sign involved the variable of financial entrepreneurship which was not well understood by the respondents. Finally, the choice of performance measure or a combination of measures used would be influenced by anticipated costs and benefits and these would be situation-specific and may not be consistent from one organization to another. The personalities and background of key individuals within the organization may also have a bearing on the choice of performance measures used. This could also explain the lack of consistency in the responses and therefore the failure to locate the expected associations

This mis specifications therefore makes it inappropriate an attempt to generalize that there exists a linkage between measures of performance and organizational characteristics.

5.2 Limitations of the Study

Interpretations of the findings of this study should bear in mind a number of limitations. First and foremost the findings are based on the usable response from 21 firms. Whereas it can be argued that there exist statistical tools for small sample sizes, the sample size of 21 units would reduce the statistical robustness of the findings. As

such this is considered a limitation of the study. This sample size was occasioned by among other things the time constraint. Secondly, the study suffers the general problems associated with questionnaire based studies. One potential effect of this would be for the respondents to misunderstand the questions. Third, the scales used to construct the variables for objective 3 even though consistently used, had no established theoretical basis. Such ad hoc nature of the scales could possibly lead to mis specification of certain responses.

5.3 Suggestions for further research.

Improvements on the issues addressed in this study could be made by including in the sample a number of firms which are divisionalised. Such larger samples would provide a higher assurance that the results therefrom are representative of the entire population of divisionalised companies. Further, a pilot study that attempts to justify the scales used to construct the variables would improve the accuracy of the responses.

Your company has been selected for this study. Kindly assist by completing the attached questionnaire. If you do not have the answer to any question or section of the questionnaire, kindly pass it over to the relevant person. The information obtained will be used for purely academic purpose and the findings of the study, shall, upon your request be made available to you.

Any additional information or comment not captured by the questionnaire would be highly welcome.

Thank you for your co-operation.

OSSEWE E.O.
MBA CANDIDATE

KITHINJI A. (MBS)
LECTURER
DEPARTMENT OF ACCOUNTING
SUPERVISION

APPENDIX 1; Introductory Letter – Request for Research data

Osewe, E. O
C/o Faculty of Commerce
University of Nairobi
P.O. Box 30197
NAIROBI

.....
.....
.....

Dear Sir/Madam,

I am a postgraduate student at the University of Nairobi pursuing a course leading to a Masters degree in Business Administration (MBA). In partial fulfillment of the requirements of the stated course, I am conducting a study entitled “**The Choice of Performance Measures used in Divisionalized Companies; A Survey Study Amongst Listed Companies**”. A division is here defined as a sub-unit of the company (partitioned either on the basis of product line, geographical area, production process, customer focus or as part of the company’s strategic mission) for which some autonomy, defined as authority to make discretionary choices, is granted. A division goes by several names as either branch, department or segment. A company is divisionalized if it has more than one such divisions.

Your company has been selected for this study. Kindly assist by completing the attached questionnaire. If you do not have the answer to any question or section of the questionnaire, kindly pass it over to the relevant person. The information obtained will be used for purely academic purpose and the findings of the study, shall, upon your request be made available to you.

Any additional information or comment not captured by the questionnaire would be highly welcome.

Thank you for your co-operation.

OSEWE E.O.
MBA CANDIDATE

KITHINJI A. (MRS)
LECTURER
DEPARTMENT OF ACCOUNTING
SUPERVISOR

APPENDIX 2 ; QUESTIONNAIRE TO RESPONDENTS

A GENERAL COMPANY INFORMATION

1. State the size of your company in terms of; Annual turnover (Kshs)
Capital Employed (Kshs)
2. What is the industry classification of your company?

Agriculture	()
Commercial & services	()
Finance and investment	()
Industrial and allied	()
3. State the basis of divisionalization (mark all that apply)

Geographical area	()
Product	()
Customer focus	()
Process	()
Others (specify)	()
4. State the number of divisions
5. For how long has your company been using a divisionalized structure?

B. PERFORMANCE MEASUREMENT

1. Does your company measure divisional performance? (Yes/No)
2. If No, give reasons why
.....
.....
.....
3. To what extent are each of the following considered objectives of divisional performance measurement.
KEY: VI = Very Important; I = Important; LI = Little Important; NI = Not Important

	VI	I	LI	NI
Making divisional viability decisions	()	()	()	()
Remunerating managerial performance	()	()	()	()
Overall company control (aligning divisional interest to corporate interest)	()	()	()	()
To aid external (segmental) reporting	()	()	()	()
To aid corporate resources allocation	()	()	()	()
Others (specify)	()	()	()	()

4. To what extent are each of the following considered in practice as important in guiding the selection of performance measures to be used.
KEY: As in Question 3

	VI	I	LI	NI
Controllability of divisional items	()	()	()	()
Avoiding sub-optimal behaviour	()	()	()	()
Independence of the division from others	()	()	()	()
Dominance of external reporting	()	()	()	()
Considerations of long term competitive positions	()	()	()	()
Lack of executives understanding of divisions' chief operations	()	()	()	()
Others (specify)	()	()	()	()

5. To what extent are each of the following used in measuring divisional performance.
Note: Financial measures refer to measures based on conventional accounting measurement techniques and largely based on the periodicity (one year) concept while non-financial measures are long term in outlook and aimed at reflecting future competitive positions.

KEY: TGE = To a great extent; M = Moderately; TSE = To some extent; TLE = To a Little Extent; NA = Not an applicable measure.

Financial Measures;	TGE	M	TSE	TLE	NA
Achievement of target profit before Interest and taxes	()	()	()	()	()
Achievement of target profit after interest on capital employed	()	()	()	()	()
Achievement of target rate or return (ROI) imposed by the corporation	()	()	()	()	()
Achievement of target cash flows	()	()	()	()	()
Ability to stay within budget limits	()	()	()	()	()
Sales revenue (shillings or units)	()	()	()	()	()
Divisional total profit	()	()	()	()	()
Divisional contribution margin	()	()	()	()	()
Divisional controllable profit	()	()	()	()	()
Other financial measures (specify)	()	()	()	()	()

Non-financial Measures;	TGE	M	TSE	TLE	NA
Market share/growth	()	()	()	()	()
New products introduced	()	()	()	()	()
Employee turnover	()	()	()	()	()
Customer relations	()	()	()	()	()
Social responsibility costs	()	()	()	()	()
Warranty expenses	()	()	()	()	()
Efficiency in product/service delivery	()	()	()	()	()
Quality improvement	()	()	()	()	()
Accident frequency	()	()	()	()	()
Others (specify)	()	()	()	()	()

6. In their order of importance, state the measures considered by your company as best suitable for;
- Divisional economic performance
- Divisional managerial performance
- Overall company performance

C. COMPANY PRACTICES

1. Divisional Autonomy (discretion to make decisions).
To what extent is autonomy granted to divisional managers in the following decision areas;
KEY: FA = Full Autonomy; SA = Substantial Autonomy; LA = Little Autonomy; NA = No Autonomy granted.

	FA	SA	LA	NA
Operating decisions	()	()	()	()
Accounting and internal control decisions	()	()	()	()
Financing decisions	()	()	()	()
Investment decisions	()	()	()	()

2. Discretionary and intangibles investments.
To what extent does your company invest in the following;
KEY: CT = Continuously (budgeted for annually); PR = Periodically (within 5 year period); OC = Occasionally (Not budget period stated); NA = Not at all

	CT	PR	OC	NA
Product process development	()	()	()	()
Promotion and distribution	()	()	()	()
Human relations development	()	()	()	()
Customer relations development	()	()	()	()

Others (specify)

3. Financial Entrepreneurship – refer to activities that increase short-term earnings without creating long-term value to the firm.

To what extent does your company engage in each of the following activities;

KEY: As in Question 2 above.

	CT	PR	OC	NA
Mergers and takeovers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diversiture and spin-offs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leveraged buy-outs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Debt swaps and repurchases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sale of fixed assets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Accounting conventions – refers to practices mandated for external reporting.

To what extent does your company undertake each of the following;

KEY: As in Question 3 above

	CT	PR	OC	NA
Timing the recognition of income and Expense items (to exhibit steady earnings)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choosing conservative accounting methods For (inventory valuation, depreciation, Expensing etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. For each of the following practices, state the option that describes your company policy;

Yes No

a) Reward scheme

Based on a period beyond one year	<input type="checkbox"/>	<input type="checkbox"/>
Tied to achieving strategic (not financial) objectives	<input type="checkbox"/>	<input type="checkbox"/>
Does not penalize managers for sacrifice short term earnings for long term profitability	<input type="checkbox"/>	<input type="checkbox"/>
Others (specify)	<input type="checkbox"/>	<input type="checkbox"/>

b) Dividend policy

Dividend paid after investment decisions have been made	<input type="checkbox"/>	<input type="checkbox"/>
Dividends paid varies with earnings	<input type="checkbox"/>	<input type="checkbox"/>
Others (specify)	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for your cooperation.

APPENDIX 3; LIST OF DIVISIONALIZED FIRMS

1. A. Baumann and Co. Ltd.
2. BOC Kenya Ltd.
3. Bamburi Cement Ltd.
4. Barclays Bank of Kenya Ltd.
5. Brooke Bond Kenya Ltd.
6. Car and General (K) Ltd.
7. Carbacid Investments Ltd.
8. CMC Holdings Ltd.
9. Crown Berger (K) Ltd.
10. Dunlop (K) Ltd.
11. E. A. Cables Ltd.
12. E. A. Packaging Industries Ltd.
13. E. A. Portland Cement Ltd.
14. Express Kenya Ltd.
15. George Williamson Kenya Ltd.
16. Jubilee Insurance Co. Ltd.
17. Kakuzi Ltd.
18. Kenya Airways Ltd.
19. Kenya Breweries Ltd.
20. Kenya Commercial Bank
21. Kenya National Mills
22. Lonhro Motors (E.A.) Ltd.
23. Marshalls (E.A.) Ltd.
24. Nation Printers and Publishers Ltd.
25. National Bank of Kenya Ltd.
26. Pan African Insurance
27. Sasini Tea and Coffee Ltd.
28. Standard Chartered Bank (K) Ltd.
29. The Standard Newspapers Ltd.
30. Unga Group Ltd.
31. Uchumi Supermarkets

APPENDIX 4; LIST OF SURVEYED FIRMS

1. A. Baumann & Co. Ltd.
2. Barclays Bank of Kenya Ltd.
3. Brooke Bond Kenya Ltd.
4. Car and General (K) Ltd.
5. CMC Holdings Ltd.
6. Crown Berger (K) Ltd.
7. Dunlop (K) Ltd.
8. E. A. Packaging Industries Ltd.
9. George Williamson Kenya Ltd.
10. Kenya Breweries Ltd.
11. Kenya Commercial Bank Ltd.
12. Kenya National Mills Ltd.
13. Kakuzi Ltd.
14. Lonhro Motors (E.A.) Ltd.
15. Marshalls (E.A.) Ltd.
16. Nation Printers and Publishers Ltd.
17. National Bank of Kenya Ltd.
18. Sasini Tea and Coffee Ltd.
19. Standard Chartered (K) Ltd.
20. Standard Newspapers Ltd.
21. Uchumi Supermarkets Ltd.
22. Unga Group Ltd.

1. A. Baumann Co. Ltd.
2. BOC Kenya Ltd.
3. Bamburi Cement Ltd.
4. Barclays Bank of Kenya Ltd.
5. Brooke Bond Kenya Ltd.
6. Carback Investments Ltd.
7. Crown Berger (K) Ltd.
8. Dunlop (K) Ltd.
9. E. A. Cables (K) Ltd.
10. E. A. Packaging Industries Ltd.
11. George Williamson (K) Ltd.
12. Kakuzi Ltd.
13. Lonhro Motors (E.A.) Ltd.
14. Nation Printers and Publishers Ltd.
15. Standard Chartered Bank (K) Ltd.

APPENDIX 5; DIVISIONALIZED COMPANIES AND
DEVIATION CONTROL/OWNERSHIP TYPE

A. Locally Controlled Companies

1. Car and General (K) Ltd.
2. CMC Holdings (K) Ltd.
3. E. A. Portland Cement Ltd.
4. Express (K) Ltd.
5. Jubilee Insurance Co. Ltd.
6. Kenya Airways Ltd.
7. Kenya Breweries Ltd.
8. Kenya Commercial Bank
9. Kenya National Mills Ltd.
10. Marshalls Group (E.A.) Ltd.
11. National Bank of Kenya Ltd.
12. Pan Africa Insurance Co. Ltd.
13. Sasini Tea and Coffee Ltd.
14. Standard Newspaper Ltd.
15. Unga Group Ltd.
16. Uchumi Supermarkets Ltd.

B. Foreign Controlled Companies

1. A Baumann Co. Ltd.
2. BOC Kenya Ltd.
3. Bamburi Cement Ltd.
4. Barclays Bank of Kenya Ltd.
5. Brooke Bond Kenya Ltd.
6. Carbacid Investments Ltd.
7. Crown Berger (K) Ltd.
8. Dunlop (K) Ltd.
9. E. A. Cables (K) Ltd.
10. E. A. Packaging Industries Ltd.
11. George Williamson (K) Ltd.
12. Kakuzi Ltd.
13. Lonhro Motors (E.A.) Ltd.
14. Nation Printers and Publishers Ltd.
15. Standard Chartered Bank (K) Ltd.

Example. In Table 6a the standard deviation value of 1.09 relating to the measure of achievement of target cash flow is arrived at as follows:

$$S = \frac{1214 - 3.241^2 + 201 - 3.241^2 + 82 - 3.241^2 + 201 - 3.241^2 + 810 - 3.241^2}{21 - 1}$$

$$= \frac{23.8226}{21.99992} = 1.09$$

Note:

APPENDIX 6; COMPUTATION OF MEAN SCORE AND STANDARD DEVIATION VALUES.

Mean score and standard deviation values used to compare and discuss the various measures in this paper are calculated as follow;

Mean score:

The mean used refers to the weighted arithmetic mean computed as below;

$$X = \sum w_i \cdot x_i$$

Where; w_i = the weights attached to each scale. With scaled data this refers to the numerical value attached to each scale.

x_i = the frequency of questionnaire response to each scale divided by the total number of responses; i.e. the sample size.

Example: In Table 5, the mean score value of 2.71 relating to the objective of making divisional viability decision is arrived at as follows;

$$X = 3(16/21) + 2(4/21) + 1(1/21) + 0(0/21) = 2.714$$

Note:

- The weights 3, 2, 1 and 0 refers to the numerical values attached to the scales Very Important (VI), Important (I), Little Important (LI) and Not Important (NI) respectively.
- 16, 4, 1 and 0 refers to the frequency of questionnaire response relating to each of the above scales.
- 21 – refers to the total number of questionnaire responses, that is the sample size.

Standard Deviation(s)

$$S = \sqrt{\frac{\sum f_i(x - \bar{x})^2}{n - 1}}$$

Where; f_i = frequency of questionnaire response relating to each scale.
 x = numerical value attached to each scale
 \bar{x} = mean score of each observation/measure as computed above
 n = total number of questionnaire response, i.e. the sample size

Example. In Table 6a the standard deviation value of 1.09 relating to the measure of achievement of target cash flow is arrived at as follows;

$$S = \frac{13(4 - 3.24)^2 + 2(3 - 3.24)^2 + 4(2 - 3.24)^2 + 2(1 - 3.24)^2 + 0(0 - 3.24)^2}{21 - 1}$$

$$= \frac{23.8096}{20} = 1.0910912 \approx 1.09$$

Note:

REFERENCES

- 13, 2, 4, 2 and 0 refers to the questionnaire responses relating to the scales; To a great extent (TGE); Moderately (M); To some extent (TSE); To a little extent (TLE) and Not Applicable (NA) respectively.
 - 3.24 is the mean score of the measure
 - 4, 3, 2, 1, 0 refers to the numerical values attached to the above scales
 - 21 – refers to the total number of questionnaire response
 - the denominator used is $(n - 1)$ and not N because we are dealing with sample data and not population data. It is held from statistics that the denominator n if used in sample data, would tend to underestimate the population variance. (See for example Mansfield, E (1980), *Statistics for Business and Economics*, W. W. Norton and company, 3rd Edition.
- Richard D. Irwin, Inc.
- Baker, M.J. (1995), *Marketing Strategy and Management*, 2nd Edition, Macmillan Publishers.
- Caves, R.E. (1980), "Industrial Organization; Corporate Strategy and Structure" in: Emmanuel, C; Otley, D. and Merchant, K. (eds.), *Readings in Accounting for Management Control*, Chapman and Hall.
- Chandler, A.D. (1962), *Strategy and Structure; Chapters in the History of American Industrial Enterprises*, Cambridge, Mass; MIT Press.
- Coats, D.M. (1967), "The Effect of Frequency of Feedback on Attitudes and Performance", *Journal of Accounting Research*, Supplement to Vol. 5, pp. 213-224.
- Deakin, E.B. and Maher, M.W. (1987), *Cost Accounting*, 2nd Edition, Irwin Publishers, Illinois.
- Dearden, J. (1960), "Problems in Decentralized Profit Responsibility", *Harvard Business Review*, May-June, pp. 79-86.
- Dearden, J. (1961), "Problems in Decentralized Financial Control", *Harvard Business Review*, May-June, pp. 72-80.
- Dearden, J. (1969), "The Case Against ROI Control", *Harvard Business Review*, May-June, pp. 124-135.
- Daugherty, et al. (1994), *Managerial Accounting in Canada*, 2nd Edition, SouthWestern Publishing Company.
- Emmanuel, C.R. and Otley, D.T. (1975), "The Usefulness of Residual Income", *Journal of Business Finance and Accounting*, 2(4), winter, pp. 43-51.
- Errand, M. (1979), "Divisional Cost of Capital and the Measurement of Divisional Performance", *Journal of Business Finance and Accounting*, 6(3), autumn, pp. 307-319.

REFERENCES:

- Amey, L.R. (1969), "Divisional Performance Measurement and Interest on Capital", Journal of Business Finance, 1, spring, pp. 1-7.
- Amey, L.R. (1975), "Tomkins on Residual Income", Journal of Business Finance and Accounting, 2, spring, pp. 56-68.
- Amey, L.R. and Egginton, D.A. (1973), Management Accounting; A conceptual Approach, Longman Publishers.
- Anthony, R.N. and Welsch, G.A. (1977), Fundamentals of Management Accounting, Richard D. Irwin, Inc.
- Baker, M.J. (1995), Marketing Strategy and Management, 2nd Edition, Macmillan Publishers.
- Caves, R.E. (1980), "Industrial Organization; Corporate Strategy and Structure" in Emmanuel, C; Otley, D. and Merchant, K. (eds.), Readings in Accounting for Management Control, Chapman and Hall.
- Chandler, A.D. (1962), Strategy and Structure; Chapters in the History of American Industrial Enterprises, Cambridge, Mass; MIT Press.
- Cooks, D.M. (1967), "The Effect of Frequency of Feedback on Attitudes and Performance", Journal of Accounting Research, Supplement to Vol. 5, pp. 213-224
- Deakin, E.B. and Maher, M.W. (1987), Cost Accounting, 2nd Edition, Irwin Publishers, Illinois.
- Dearden, J. (1960), "Problems in Decentralized Profit Responsibility", Harvard Business Review, May-June, pp. 79-86.
- Dearden, J. (1961), "Problems in Decentralized Financial Control", Harvard Business Review, May-June, pp. 72-80.
- Dearden, J. (1969), "The Case Against ROI Control", Harvard Business Review, May-June, pp. 124-135.
- Daugherty, et al. (1994), Managerial Accounting in Canada, 2nd Edition, SouthWestern Publishing Company.
- Emmanuel, C.R. and Otley, D.T. (1976), "The Usefulness of Residual Income", Journal of Business Finance and Accounting, 3(4), winter, pp. 43-51.
- Ezzamel, M. (1979), "Divisional Cost of Capital and the Measurement of Divisional Performance", Journal of Business Finance and Accounting, 6(3), autumn, pp. 307-319.

- Ezzamel, M. (1985), "On the Assessment of the Performance Effects of Multi-divisional Structures; A synthesis", Accounting and Business Research, 61, winter, pp. 23-24.
- Ezzamel, M. (1992), *Business Unit and Divisional Performance Measurement*, Academic Press, Harcourt Brace Javanovich Publishers.
- Ezzamel, M. and Hilton, K. (1980), "Can Divisional Discretion be Measured?", Journal of Business Finance and Accounting, 7(2), summer, pp. 311-329.
- Fremgen, J.M. (1972), *Accounting for Managerial Analysis*, Richard Irwin, Inc.
- Garrison, R.H. (1991), *Managerial Accounting*, 6th Edition, Irwin Publishers.
- Gordon, M.J. and Halpern, P.J. (1974), "Cost of Capital for a Division of a Firm", Journal of Finance, September, pp. 1153-1166.
- Henderson, B. and Dearden, J. (1966), "New Systems for Divisional Control", Harvard Business Review, Sept.-Oct, pp.144-160.
- Hirsch, M.L. (1994), *Advanced Management Accounting*, 2nd Edition, SouthWestern Publishing Company.
- Hoopwood, A.G. (1972), "An Empirical Study of the Role of Accounting Data in Performance Evaluation", *Empirical Research in Accounting; selected studies*, Supplement to Journal of Accounting Research, pp. 156-182.
- Horngren, C.T. and Foster, G. (1991), *Cost Accounting; A Managerial Emphasis*, 7th Edition, Prentice Hall of India.
- Howell, R.A. and Soucy, G.R. (1987), "Cost Accounting in the New Manufacturing Environment", Management Accounting, August, pp. 42-49.
- Johnson, H.T. and Kaplan, R.S. (1987), "The Rise and Fall of Management Accounting", Management Accounting, January, pp. 22-30.
- Kaplan, R.S. (1983), "Measuring Manufacturing Performance; A New Challenge for Managerial Research", The Accounting Review, LVIII(4), pp. 686-705.
- Kaplan, R.S. (1984), "The Evolution of Management Accounting", The Accounting Review, July, pp. 390-418.
- Kaplan, R.S. (1988), *Advanced Management Accounting*, Prentice Hall, New Delhi.
- Kaplan, R.S. and Atkinson, A. (1992), *Advanced Management Accounting*, 2nd Edition, Prentice Hall of India, New Delhi.
- Kaplan, R.S. and Norton, D.P. (1992), "The Balanced Scorecard – Measures that

- Drives Performance”, Harvard Business Review, January, pp. 71-79.
- Lee, T.A. (1962), “A Case for Cash-flow Reporting”, Journal of Business Finance, 4(2), summer, pp. 27-36.
- Lee, T.A. (1981), Developments in Financial Reporting, Phillip – Allan Publishers.
- Louderback, J.G. and Dominiak, G. (1978), Managerial Accounting, 2nd edition, Wadsworth Publishing Co. Inc.
- Lynch, T.E. (1986), Management Accounting, Commerce Clearing House, Inc.
- Ma, R. (1969), “Project Appraisal in a Divisionalized Company”, Abacus, December, pp. 132-142.
- Mackay, J. (1987), “Eleven Key Issues in Management Accounting”, Management Accounting, January, pp. 32-37.
- Mauriel, J. and Anthony, R.N. (1966), “Mis-Evaluation of Investment Center Performance”, Harvard Business Review, March-April, pp. 98-105.
- McNally, G.M. (1980), “Responsibility Accounting and Organizational Control; Some Perspectives and Prospects”, Journal of Business Finance and Accounting, Vol. 7, No. 2, summer, pp. 165-179.
- Merchant, K.A. and Manzoni, J.F. (1989), “The Achievability of Budget Targets in Profit Centers; A Field study”, Accounting Review, LXIV(3), pp. 539-558.
- Minja, E.J. (1995), “A Survey of Performance Measurement in Divisionalized Companies in Kenya”, Unpublished MBA thesis, University of Nairobi.
- Organ, D.W. and Bateman, T.S. (1991), Organizational Behavior, 4th Edition, Irwin Publishers.
- Ortman, R.F. (1975), “The Effect on Investment Analysis of Alternative Reporting Procedures for Diversified Firms”, The Accounting Review, April, pp. 298-304.
- Ouchi, W.G. (1979), “A Conceptual Framework for the Design of Organizational Control Mechanisms”, Management Science, 25, September, pp. 833-848.
- Parker, L.D. (1976), “Goal Congruence; A Misguided Accounting Concept”, Abacus, June, pp. 3-13.
- Parker, L.D. (1979), “Divisional Performance Measurement; Beyond an Exclusive Profit Test”, Accounting and Business Research, autumn, pp. 309-319.

- Robins, S.P. (1993), *Organizational Behavior*, Prentice Hall, Eaglewood Cliff, New Jersey.
- Scapens, R.W. (1979), "Profit Measurement in Divisionalized Companies", Journal of Business Finance and Accounting, autumn, pp. 281-305.
- Scapens, R.W. and Sale, J.T. (1981), "Performance Measurement and Formal Capital Expenditure Controls in Divisionalized Companies", Journal of Business Finance and Accounting, autumn, pp. 389-419.
- Scapens, R.W. and Sale, J.T. (1985), "An International Study of Accounting Practices in Divisionalized Companies and their Association with Organizational Variables", The Accounting Review, LX(2), April, pp. 231-247.
- Shillinglaw, G. (1957), "Guides to Internal Profit Measurement", Harvard Business Review, March-April, pp. 82-94.
- Shillinglaw, G. (1961), "Problems in Divisional Profit Measurement", NA(C) A Bulletin, March, pp. 33.
- Shillinglaw, G. (1982), *Managerial Cost Accounting*, 5th Edition, Richard D. Irwin, Inc.
- Shwayder, K. (1970), "A proposed Modification to Residual Income – Interest Adjusted Income", The Accounting Review, April, pp. 299-307.
- Skinner, W. (1969), "Manufacturing – Missing Links in Corporate Strategy", Harvard Business Review, May-June, pp. 136-145.
- Solomons, D. (1965), *Divisional Performance: Measurement and Control*, Financial Executives Research Foundation.
- Tomkins, C. (1973), *Financial Planning in Divisionalized Companies*, London, Haymarket Publishing.
- Tomkins, C. (1975), "Another Look at Residual Income", Journal of Business Finance and Accounting, 2(1), spring, pp. 39-53.
- Weavings, J. (1995). "The Changing Role of Accounting Department", Management Accounting, May, p. 56.
- Williamson, O.E. (1970), *Corporate Control and Business Behavior*, Englewood Cliffs, NJ; Prentice Hall.