

**MANAGEMENT ACCOUNTING CHANGE: AN EXPLORATORY  
STUDY OF LARGE MANUFACTURING COMPANIES IN KENYA.**

**BY:**

**BANGARA SAMWEL NDAITA**

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## DECLARATION

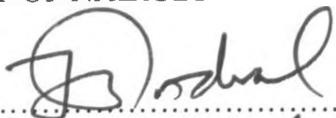
This management research project report is my original work and has not been presented for an award of a degree in any other University.

SAMWEL NDAITA BANGARA

Signature.....  
Date..... 08.11.2011

This research project report has been submitted for examination with my approval as university supervisor.

DR.JOSIAH ADUDA  
CHAIRMAN, DEPARTMENT OF FINANCE AND ACCOUNTING  
SCHOOL OF BUSINESS  
UNIVERSITY OF NAIROBI

Signature.....  
Date..... 08/11/11

## **DEDICATION**

I dedicate this work to my parent, Mrs. Peris kwamboka, my wife, Gladys Moraa and my children; daughters Kwamboka, Kemunto and son Bangara junior.

## **ACKNOWLEDGEMENT**

I am highly indebted to Dr. Josiah Aduda of the Department of Finance and Accounting, with whose invaluable guidance, constant advice and positive criticism this work materialized. I would like to thank him especially for his tireless efforts, encouragement and patience in seeing through the accomplishment of this project.

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## **ABSTRACT**

This study explores the changes in management accounting as well as the potential influence of contextual variables on management accounting practices in Kenyan large manufacturing companies located in Nairobi. This paper reports on a descriptive survey of management accounting change in Kenyan context. The findings indicate considerable changes in management accounting techniques within the surveyed companies. Both traditional and advanced management accounting techniques are practiced by the surveyed organizations.

Advanced management accounting techniques notably; customer satisfaction, quality and innovation and on time delivery have been adopted, while traditional management accounting techniques notably; incremental budgeting, variable costing, standard costing and variance analysis, sales and return on investment are being maintained. Regarding changes in management accounting techniques the study established that majority of the responding organizations indicated change relating to introduction of new techniques as replacements, modification of information or output of MAS and introduction of new techniques where none existed.

The study suggests that increased global competition, organization strategy and organization structure as contextual variables that largely facilitate management accounting change within the surveyed manufacturing companies. On the other hand, lack of adequate computing resources and lack of top management support were identified as the most hindrances to management accounting change within the surveyed organizations.

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## LIST OF ACRONYMS

ABB	-	Activity Based Budgeting
ABC	-	Activity Based Costing
ABM	-	Activity Based Management
BSC	-	Balanced Scorecard
CBS	-	Central Bureau of Statistics
EVA	-	Economic Value Added
GoK	-	Government of Kenya
IRR	-	Internal Rate of Return
JIT	-	Just in Time
KAM	-	Kenya Association of Manufacturers
KIRDI	-	Kenya Industrial Research Development Institute
LDC's	-	Less Developed Countries
MAP	-	Management Accounting Practice
MAS	-	Management Accounting system
NPV	-	Net Present Value
ROCE	-	Return on Capital Employed
ROI	-	Return on Investment
SMA	-	Strategic Management Accounting
TC	-	Target Costing
TMATs	-	Traditional Management Accounting Techniques

# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 Background to the study.

Management accounting is concerned with the provision of information to people within the organization to help them make better decisions and improve the efficiency and effectiveness of existing operations. The information provided is as a result of the established management accounting practices that encompass activities undertaken by staff within the organization (Drury, 2008). The organizations management accounting system serves as a vital two way communication link between senior and subordinate managers. It is the means by which senior executives communicate the organization goals and objectives to subordinates and decentralized managers. In the reverse direction, the management accounting system is the channel by which information about the firm's product performance and production efficiencies is reported to upper levels of management (Kaplan, 1987).

The origins of today's management accounting can be traced back to the industrial revolution of the nineteenth century. The emergence of managed, hierarchical enterprises during this period such as armories and textile mills resulted in management accounting costing techniques being established to provide information on costs in an attempt to improve the cost structure. Further innovations in management accounting systems occurred in the early decades of the twentieth century to support the growth of multi-activity, diversified corporations. Several important operating and budgeting activities were devised to coordinate activities and allocate resources to groups. The most important management accounting innovation was the return-on-investment (ROI) that

provided an overall measure of the commercial success of each operating unit and of the entire organization.(Kaplan and Artkinson,2007).

According to Johnson and Kaplan (1987), most of the management accounting practices that were in use in the mid 1980s had been developed by 1925 and for the next 60 years there was a slow down or even a halt, in management accounting innovation. They claim that over the years, organizations have become fixated on the cost and management accounting systems of 1920s that are obsolete and no longer relevant to the changing competitive and manufacturing environment. In the 1980s, major new challenges emerged for management accounting. Companies rediscovered the critical role that manufacturing plays in creating competitive advantage for their organizations. Quality in manufacturing and in product design became more emphasized, reduction in inventory levels and manufacturing lead times represented by just-in-time production and the introduction of computer controlled manufacturing operations. In this new manufacturing environment management accounting systems must be designed to support the drive for manufacturing excellence. Measurement systems must evolve to support efforts to increase quality and productivity, move to just-in-time and computer-integrated - manufacturing production systems and investment in new technologies. Since the mid-1980s management accounting practitioners and academics has sought to modify and implement new techniques that are relevant to today's business environment. (Kaplan and Atkinson, 2007).

### **1.1.1 Management accounting change.**

Management accounting change refers to a move from the way a particular management accounting practice or technique is applied. As such, management accounting change is found to consist of addition, replacement, output modification, operational modification and reduction (Sulaiman and Mitchell, 2005). Replacement of existing techniques and information output modifications have been found significant, with high frequency and importance. Management accounting change ranges from introduction of a comprehensive costing system, to tentative, partial and temporary change of a more modest type (Anderson and Young, 2001, Innes and Mitchell, 1990). Instances of change have also been found to involve the supplementation of information in existing performance measurement packages (Vaivio, 1999).

Management accounting change is not a uniform phenomenon. Consequently one might expect the causal factors of change to be varied and this has indeed been confirmed by management accounting researchers. It is evident that both the external factors (environmental) and internal factors (relating to the organization concerned) have influenced the recent development of new management accounting systems and techniques. According to Shields (1997), the potential change drivers are competition, technologies, organizational design and strategies. These drivers of change also indicate the differing roles which causal factors can have in the process of change. Change in environment also implies uncertainty and risk which create a demand for further management accounting change (Vaivio, 1999).

In Kenya, liberalization of the economy opened door for intensive competition from overseas companies in 1990s in the domestic market. This has resulted to a situation where most firms are now competing in a highly competitive global market. Protection policy by the government limited the ability by foreign companies to compete in domestic markets. This implied that there were little incentives for firms to maximize efficiency, improve management accounting practices or minimize costs. However, in the mid 1990s many organizations including manufacturing firms began to encounter severe competition from foreign competitors that offered high quality products at low prices. Privatization of government controlled entities in the same period contributed to the change in the business environment.

Organizations commonly utilize traditional management accounting techniques (TMATs), such as full costing, job order costing and process costing. Developments in management accounting in the past two decades provided more advanced management accounting techniques, including activity based costing (ABC), activity based management (ABM), target costing, value added accounting, cost of quality reporting, economic value added, life cycle costing, throughput accounting and back flush costing. These forms a set of contemporary management accounting practices. Each technique has its advantages and disadvantages and may be applicable under certain circumstances. Szendi and Elmore (1993) drew a distinction between contemporary and traditional management accounting practices. They found that new management accounting techniques are being adopted while traditional systems are being maintained, thus suggesting that management accounting is in a transitional stage. The inclination of

organizations towards new management accounting techniques has been explained as facilitated by management accountants whose behavior is innovative cognitive in style are more likely to initiate radical changes to the practices of their organizations (Emsley *et al.*, 2006).

To compete successfully in today's highly competitive global environment, companies are adopting new management accounting practices, changing their manufacturing systems and investing in new technologies. This study focuses on the change in management accounting and how such changes have been adopted by large manufacturing companies in Kenya.

### **1.1.2 Large manufacturing firms in Kenya.**

Kenya's manufacturing firms are diverse in terms of the products that they are engaged in and size as determined by the number of employees in such firms. These firms range from small and medium sized to large. Large manufacturing firms are those employing more than one hundred employees and an annual turnover or production level in excess of kshs.500 million (International Finance Corporation,2002). Whereas these firms engage in production of a wide range of products, food and beverage, metal engineering and textile firms' account for 63 % of manufacturing value added (GOK, 2006).The sector was developed under import substitution policy (1967) but the policy emphasis now is export oriented industrialization. The sector is heavily relied on production of consumer goods. Government participation in manufacturing sector is smaller as compared to private enterprises due to privatization policy. Within the private sector, companies are owned and operated by both local and foreign investors. Most companies are subsidiaries of multinational corporations.

Business environment in Kenya has rapidly changed as a result of globalization. Since the liberalization of the Kenyan economy in 1990s this sector continues to experience both global and local competition. In this regard, the manufacturing firms are required to rethink and improve their processes. According to the directory of manufacturing industries ,the firms are classified as either; food, beverage and tobacco; textile, wearing apparel and leather industries; manufacture of wood and wood products; manufacture of chemical, petroleum, rubber and plastic products; manufacture of non-metallic mineral products; basic metal industries ;and manufacture of fabricated metal products, machinery and equipment.

Large manufacturing firms sector has been selected for this study because it is claimed that the origin of today's management accounting systems can be traced back to the industrial revolution, therefore making it reasonable to assume that manufacturing firms will pioneer in the adoption of management accounting changes. Also, large manufacturing firms have adequate resources, hence easy to meet the implementation costs of adopted changes in management accounting systems.

## **1.2 Statement of the problem.**

The operating environment of manufacturing entities in which management accounting is practiced has faced dramatic changes with advances in information technology, highly competitive environments, change in customer demands and focus on quality. In many developed countries management accounting practice has introduced new cost and management accounting systems in order to cope with these changes in the operating environment. Such management accounting systems include; activity-based costing



(ABC), activity-based management (ABM), target costing, product life cycle costing, quality cost management, customer accounting, and the balanced scorecard (BSC) approach to performance measures. For example, in Canada Libby and Waterhouse (1996) reported a 31 per cent change in management accounting systems within a period of three years, refuting claims that management accounting is generally resistant. In the U.K Burns et al (1999) found significant changes in management accounting practices in the last decade. They argued that the change is in regard to the way management accounting is used and not necessarily introduction of new systems or techniques. A 1990 UK survey reported by Bromwich and Bhimani (1994) indicates that the cost management techniques most commonly used or planned to be used by UK firms were; ABC, cost modeling, and costs of quality. Other techniques were; target costing, strategic management accounting, and throughput accounting. The 1990 survey is consistent with Boer (2000) that found an emphasis on strategic management. A USA survey by Silk (1998) estimated that 60% of Fortune 1000 firms have experienced with the balanced scorecard.

However, there is little research on the adoption of these practices in developing countries for example, Cadez and Guilding (2007) surveyed manufacturing companies in Slovenia benchmarked with Australia on strategic management accounting usage, and they found a non-uniform adoption. Some techniques that have popularly high ranking in one country were relatively low in another country. They attributed this to contextual variables of difference in economies and cultures of the countries. Wallace, (1990) found no different techniques in rich and poor countries or that Less Developed Countries (LDCs) import grossly inappropriate practices. No management accounting system is

unique to LDCs has been found. Wallace (1990) claims accounting in LDCs is a tale of importation of western practices and institutions by transnational accounting firms.

Bromwich and Bhimani (1989) argue that merely transplanting new management accounting systems devised in foreign settings for coping with a changing business environment is not totally satisfactory because of the diverse conditions under which different companies operate. They further argue that consideration should always be made of the political, economic, social and cultural environments that surround the firm. The evidence on the use of more contemporary and more sophisticated management accounting tools and techniques in emerging and/or developing nations remains mixed and is currently not suggestive of a “natural” evolution as argued by the above-mentioned authors (Van Triest and Elshahat, 2007).

A number of studies have been carried out in Kenya addressing the application of specific management accounting practices. The studies have examined the kind of practices that organizations apply most (Wangari 2008, Arithi 2001, Nzule 1999, Waweru 1999, Osewe 1998 Gathumbi 1997 and, Minja 1995,).None of these studies has sought to explore why and how management accounting systems have changed and why new or innovative practices have or have not been adopted in Kenyan context. This study is intended to bridge this knowledge gap. It is against this background that the following research questions arise;

- i. What changes have occurred in management accounting systems in the last two decades?
- ii. What factors facilitate/hinder management accounting system change in large manufacturing companies in Kenya?

### **1.3 Objectives of the study.**

#### **The specific objective;**

To explore management accounting systems change.

#### **Other objectives;**

- i. Establish the management accounting systems adopted by Kenyan large manufacturing companies.
- ii. Identify the factors that facilitate /hinder the management accounting systems change in large manufacturing companies in Kenya.

### **1.4 Importance of the study.**

The study will be of importance to the management accountants of large manufacturing firms as its findings will provide an understanding on management accounting systems change and the drivers of change.

Professional bodies would find this study of importance to understand the state and trends in management accounting practices.

Academicians will find this study of interest as it will show the extent to which management accounting system changes are adopted by organizations and the drivers of change hence relate theory with practice.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Introduction.**

This chapter presents the theoretical framework for the study, change in management accounting systems, factors facilitating management accounting systems change and the factors limiting the adoption of these practices. Empirical researches and the summary of the literature.

#### **2.2 Theoretical frameworks.**

Management accounting systems change is grounded on some theories that try to explain why organizations tend to change their practices. This study is based on the following theories:

##### **2.2.1 Contingency theory.**

To design effective management accounting control systems it is necessary to consider the circumstances in which they will be used. It should be apparent that there is no universally best management accounting control system which can be applied to all organizations. The applicability of management accounting control system is contingent on the situational factors faced by organizations. This is the contingent theory approach to management accounting. The situational factors represent the contingent factors (also known as contingent variables or contextual factors. Examples of the contextual factors that have been examined in the literature include the external environment faced by the organizations, the type of competitive strategy adopted, organization structure, nature of the production process) (Drury, 2008 pg. 407).

Contingency theory (Burns and Stalker, 1961; Lawrence and Lorsch, 1967) provides an explanation of why management accounting systems vary between firms operating in different settings (Otley, 1980; Innes and Mitchell, 1990; Fisher, 1995). As Otley (1980) suggests: The contingency theory of management accounting is based on the premise that there is no universally appropriate accounting system applicable to all organizations in all circumstances. Rather the contingency theory attempts to identify specific aspects of an accounting system that are associated with certain defined circumstances and to demonstrate an appropriate matching.

### **2.2.2 Institutional theory.**

The concept of institutionalization is important in explaining management accounting change. Oliver (1997) has noted that institutional activities tend to be long-lasting, socially accepted, resistant to change, and not directly dependent on rewards or monitoring of their permanence. In the context of management accounting, Scapens (1994) has observed that, over time, management accounting can constitute a structure that reflects a particular organisation's way of thinking and acting which is taken for granted and detached from its specific historical circumstances. It thus becomes an unquestioned way of doing things. A particular management accounting system can be accepted if it conforms to the socially accepted norms. The work of DiMaggio and Powell (1983) suggests that the various actors operating in and around organisations can create the institutional pressures that lead individual organisations to adopt specific structures and procedures. For instance, the government and its agencies can be a source of coercive pressures, professional bodies can contribute to the creation of normative pressures and consultants may have an important role in the emergence of mimetic pressures. In this paper, we suggest that the institutional context in and around

organisations can be envisaged as a field in which multiple actors undertake strategies of power to enroll others, including top managers, to specific representations of the organization. Therefore, such pressures may lead to the change in management accounting practices in order for an organization to comply.

## **2.3 Changes in management accounting systems.**

The changes in management accounting systems entail a move from use of traditional management accounting techniques/tools to the use of innovative or contemporary management accounting practices. The changes may also encompass the way in which management accounting is used and not necessary adopting new management techniques.

### **2.3.1 Costing systems.**

The costing system (or cost accounting system) estimates the cost of goods and services, as well as the cost of organisational units, such as departments. Managers may need information about product costs for a range of strategic and operational purposes including setting prices, controlling operations and making decisions about the continuation of a particular product. Traditional absorption costing systems have long been subject to criticism. Two long-standing issues have been the choice of appropriate overhead recovery rates i.e. plant wide or more specific, and secondly the controversy about the need to recover/allocate (absorb) overheads at all. During the last two decades the problems of traditional absorption costing were again brought under the spotlight. This time the focus of criticism was that these systems do not accurately measure costs for decision making purposes and activity based costing (ABC) has been developed and promoted.

ABC is a theoretical approach that has provided manufacturing firms with a better grasp of their costs, and has led to important practical implications for operating managers in both the manufacturing and service industries. Kaplan and Cooper (1988) demonstrated that the domain of traditional contribution margin analysis could be greatly enhanced by the use of ABC. ABC has major advantages over other costing methods by showing the ability to trace overhead costs to individual products, which allows for more accurate unit costing (Cooper and Kaplan, 1992; Garrison and Noreen, 1997). The key to proper use of ABC methods is to trace overhead costs to products and not merely to allocate them (although some cost allocation may be necessary during the ABC process). Furthermore, ABC infers that activities cause costs and that cost objects create the demand for activities. The general conditions that make companies good candidates for the application of ABC systems have been pointed out, such as a diversity of resource consumption, or the fact that product and resource consumption are not correlated with traditional cost allocation methods.

### **2.3.2 Planning and control systems.**

Planning and control systems are a vital element of management accounting. As part of strategy implementation, organisations need to put in place plans to set the direction of the organisation, and control systems to ensure that operations are proceeding according to plan. Planning and control systems provide the framework for effective resource management to generate customer and shareholder value. Long-term planning entails capital budgeting. The appraisal of capital budgeting decisions requires the use of methods that take into account the time value for money, such as net present value (NPV), internal rate of return (IRR). Frequently used methods in practice include the payback period method and the accounting rate of return. These methods are

theoretically weak and they will not necessarily lead to maximization of the market value of ordinary shareholders (Drury, 2008).

A budget is an example of a plan that summarizes the financial consequences of an organization's operating activities for a specified future time period, usually one year. Even if traditional budgeting has been questioned in the past decades, we can observe that for many companies it is still a key element of their management control system. Due to environmental uncertainty, the budget is being subject to considerable criticism and debate (Hope & Fraser, 2000, 2003a; Bogsnes, 2009). Recent budget process developments have focused on two practices: improving the budgeting system or abandoning it (Hansen et al, 2003, p. 95). The first type aims at maintaining the process, improving it with complementary techniques such as activity-based budgeting or rolling forecasts and zero-based budgeting systems. The second category is more radical and advocates for the complete elimination of the budgetary process, to enable firms to respond faster and therefore, cope better with uncertainty (Hope & Fraser, 2001, p. 23). As a matter of fact, some European companies, such as Volvo, Rhodia, Borealis, have already dismantled their budgeting process (Hope & Fraser, 2003a).

Activity-based budgeting (ABB) has been defined by Ayvaz & Pehlivanli (2011, p. 150) as "the budgeting of resources according to target activities." The application of this type of budgeting system is easy to use, as it focuses on the activities within the process rather than cost objects. Its primary purpose is to collect all costs within the process which



includes materials, setup time, number of hours worked and manufacturing overhead that is to be included in the budget.

### **2.3.3 Performance measurement systems.**

The choice of measures to guide and evaluate the performance of business units is one of the most critical challenges facing organizations (Ittner and Larcker, 1998). Management accounting should report all relevant information related to the evaluation of business units' performance. Systems which focus solely on financial measures such as profits, sales growth, return on investment(ROI),return on capital employed(ROCE) ,standard costs and variance analysis have been widely criticized (e.g. Ittner *et al.*, 1997; Kaplan and Norton, 1996; Shields, 1997). The criticisms arise because these measures are distorted by external reporting conventions; they promote short-termism and accounting manipulation, and do not take into consideration the cost of capital or non-financial “leading” measures such as customer satisfaction, labour efficiency, on time delivery, quality or innovation.

To incorporate the cost of capital into financial measures a variety of “economic value” measures have been introduced (Ittner and Larcker, 1998).\_Residual income was developed in 1950s but more recently “Economic Value Added” (EVA<sup>®</sup>) was promoted as a proprietary adaptation of residual income. EVA<sup>®</sup> can be defined as adjusted operating income minus a capital charge, and implies that a manager's action only adds economic value when the resulting profits exceed the incremental cost of capital. Kaplan and Norton (1996) introduced the Balanced Scorecard (BSC) as a way of integrating financial and non-financial performance measures. In their model business unit

performance should be evaluated from four perspectives: financial, customer-related, internal business processes, and learning and growth.

### **2.3.4 Cost management and Strategic management accounting systems.**

Since, the mid 1980s criticisms about the current state of management accounting practices were widely publicized in the professional and academic literature (Johnson and Kaplan, 1987; Ashton et al.1991 ;). Revisions of management accounting practices have produced a variety of novel approaches in the fields of costing, strategic investment appraisal, strategic control and performance management. Paralleling developments at the level of individual accounting techniques the new term “strategic management accounting” has emerged. Hoque (2001) sees the significance of SMA to be such as to view it as a whole new discipline. Simmonds (1981) was the first to use the term “strategic management accounting.” He defined it as “the provision and analysis of management accounting data about a business and its competitors for use in developing and monitoring the business strategy”. What constitutes SMA techniques is not clear. However, Guilding et al. (2000) highlighted that techniques qualifying as “strategic management accounting” should exhibit degrees of one or more of the following orientations: environmental, competitive, marketing, or long-term, forward-looking orientation. Departing from the position taken by Cooper and Kaplan (1988), it is felt that activity-based costing is more concerned with costing accuracy rather than the adoption of a strategic-orientation, hence excluded as SMA technique. The following are presumed to be the SMA techniques;

#### **2.3.4.1 Target costing.**

According to the technique, the target cost (TC) results from the difference between the product price, derived from how much the market can support, and a desired target profit.

Through an accurate product design, the costs must be contained to achieve the TC (Monden & Hamada, 1991; Morgan, 1993). External market factors intervene frequently in this strategic management accounting technique. In a wide-reaching review paper of TC, Ansari *et al.* (2007) claimed that TC is being increasingly adopted by a number of leading firms through the world, even pointing to some diffusion in India and Malaysia. They point to individual companies in the USA, like Chrysler and Caterpillar, who attribute their financial success in the mid-1990s to the adoption of target costing. They argued that while TC is fairly mature in Japanese assembly industries, it is fairly young in the USA and Europe and is found in some auto and assembly companies. They stated that many managers underestimate the potential of target costing, and this may be one reason for low adoption.

Ansari *et al.* (2007) presented a comprehensive review of more than 80 publications in English and 100 in Japanese that deal with target costing. These are mostly normative or technical papers, but also include case studies of TC success, including those in the US automotive industry. But they do point to the work of Koga (1999) and Koga and Monden (2000) who found many companies in the camera manufacturing industry did not meet cost targets. There are only a few surveys of practice. Tani *et al.* (1994) found that 109 of the corporations surveyed had implemented TC. Boer and Ettlé (1999), in a survey of 126 US corporations, found that many estimated costs in the product design phase. This could be interpreted as a very partial or preliminary implementation of TC.

#### **2.3.4.2 Lifecycle costing.**

It aims at calculating the total cost of a product along its life cycle (from the design to the decline, through introduction, growth and maturity (Shields & Young, 1991; Wilson,

1991). Its clear long term accounting perspective and market orientation make it part of the SMA techniques.

#### **2.3.4.3 Benchmarking**

Benchmarking is a technique that is increasingly being adopted as a mechanism for achieving continuous improvement. It is a continuous process of measuring a firm's products, services or activities against the other best performing organizations, either internal or external to the firm. The objective is to ascertain how the processes and activities can be improved (Drury, 2008).

#### **2.3.4.4 Just-in-time systems.**

The just-in-time (JIT) approach involves a continuous commitment to the pursuit of excellence in all phases of manufacturing systems design and operations. The aims of just in time are to produce the required items, at the required quality and in the required quantities, at the precise time they are required (Drury, 2008).

#### **2.3.4.5 Total quality management (TQM).**

Is a cost management tool that is based on continuous improvement (kaizen) principles to facilitate change on a constant and progressive basis. It does not merely focus on satisfying the customer's needs, but also on exceeding the expectations of the customer (Blocher *et al* 2002).

#### **2.3.4.6 Attribute costing.**

This SMA technique is concerned with costing the benefits that products provide to customers (Roslender and Hart, 2003). Bromwich (1990) sees these benefits as constituting the ultimate cost drivers. The customer (external orientation highlights why attribute costing may be considered as an example of SMA).

#### **2.3.4.7 Competitive position monitoring.**

Simmonds (1986) talks of competitive position as an asset with finite earning potential. As part of competitive position assessment, Simmonds suggests that trends with respect to sales, market share, volume, profit, unit cost, and cash flow should be appraised when formulating strategy. Although Simmonds noted that accounting is still a long way from being able to quantitatively express an organisation's competitive position in a single-figure, Rangone (1997) describes an analytical framework that results in a single-figure denominated quantitative assessment of an organisation's competitive standing.

#### **2.3.4.8 Competitor cost assessment.**

This technique can be distinguished from competitive position monitoring due to its specific concentration on the cost structures of competitors. Advocates of this technique (Simmonds, 1981; Jones, 1988; Bromwich, 1990; Ward, 1992) argue that an assessment of a key competitor's relative cost position can yield an enhanced appreciation of an organisation's strategic decision-making environment.

#### **2.3.4.9 Competitor performance appraisal.**

Moon and Bates (1993) propose that strategic performance and key sources of competitive advantage can be assessed by applying an appropriately conducted analysis of competitors' published financial statements. Moon and Bates illustrate this analytical technique by investigating and interpreting the accounts of two UK retailers.

#### **2.3.4.10 Customer profitability analysis.**

This appears to be most widely-discussed customer-focused accounting technique. Commentaries have been provided by Shapiro et al. (1987) and Ward (1992). The technique is concerned with tracing customer specific costs and sales to individual

customer accounts (Guilding and McManus, 2002).

#### **2.3.4.11 Integrated performance measurement.**

Integrative performance measurement systems provide financial and non-financial performance measures that cut across a range of organizational perspectives. When combined together, “these measures provide a way of translating strategy into a coherent set of performance measures” (Chenhall, 2005, p. 396). This SMA technique can be seen to be closely related to the balanced scorecard that has been popularized largely through the writings of (Kaplan and Norton, 1996).

#### **2.3.4.12 Lifetime customer profitability analysis.**

This approach moves beyond computing the annual profit that will be generated from a particular customer to considering all future projected profits that will result from a trading relationship with a particular customer (Guilding and McManus, 2002). The use of profitability analysis over multiple years is motivated by marketing practitioners’ common observation that customer profitability changes with the length of the trading relationship (Foster and Gupta, 1994; Jacob, 1994).

#### **2.3.4.13 Quality costing.**

Belohlav (1993, pg.55) argues that “a common denominator in many discussions on competitiveness and strategy is the issue of quality.” Typically, quality costs are classified into four categories: prevention, appraisal, internal failure, external failure (Albright and Roth, 1992). Today, in many firms quality is typically defined in terms of customer satisfaction.

#### **2.3.4.14 Strategic pricing.**

Pricing decisions based on a conventional internally-oriented and historically-based analysis can result in sub-optimality. The data used in making pricing decisions

should be supplemented with information regarding possible competitor reactions to any proposed change in pricing policy. This was illustrated in a case study by Rickwood et al. (1990).

#### **2.3.4.15 Value chain costing.**

Shank and Govindarajan (1992) developed a costing method that represents a management accounting operationalisation of Porter's (1985) value chain analysis. The focus of this technique is external to the firm as it involves viewing the organization as a link in the chain of all value-creating activities associated with the provision of a product or service. Shank and Govindarajan (1992) demonstrate that traditional value added analysis can be seen to be somewhat narrow as it fails to consider any latent cost savings that lie unrealized in the firm's linkages with its suppliers and customers.

#### **2.4 Factors facilitating management accounting systems change.**

Studies on the determinants of MASs and change found various organizational, technical, and economic factors that influence the diffusion and adoption of these practices. The prevailing factors found in prior studies are global competition and changes in technology (Waweru *et al.*, 2004), performance gap (Lin and Yu, 2002), organizational structure (Abernethy and Bouwens, 2005; Cavalluzzo and Ittner, 2004), top management support (Cavalluzzo and Ittner, 2004), and the influence of government (Lapsley and Wright, 2004). Contradictorily, Libby and Waterhouse (1996) found that organizational structure, size, and competition did not predict changes in management accounting systems. Based on the literature I identified the following contingent factors which might influence the adoption of contemporary management accounting systems in the participating organizations;

### **2.4.1 Deregulation/global competition.**

The period between 1990 and 2000 was characterized by the opening up of most developing economies. Many state owned enterprises have since been privatised, while most of the protectionist barriers have been removed, substantially altering the competitive environment in these economies (IMF, 1990; Narayan *et al.*, 2000). Globalisation has exposed companies in developing countries to stiff competition. Most of them now have to cope with the declining market share while several have been forced out of the market. Companies operating in these countries now require quality and timely information and hence the need to change their management accounting systems. Research provides evidence that managers faced with high levels of competition require a variety of both financial and non-financial information for making organisational decisions (Libby and Waterhouse, 1996; Hoque *et al.*, 2001; Cooper, 1995).

### **2.4.2 Manufacturing Technological advancements.**

The introduction of fast microcomputers and the widespread use of the Internet have greatly affected the technological environment within which firms in developing countries operate. Such changes have also affected the production and product or service delivery processes. Customers have also become more demanding insisting on high quality products at competitive prices. This has resulted in an increased focus on quality and better customer service by those firms wishing to retain competitiveness (Whitley, 1999; Cooper, 1995). According to Al-Omiri and Drury (2007) organizations with high-quality information systems can provide detailed data that are easy to access relating to the cost driver information that is needed by more sophisticated costing systems.



### **2.4.3 Size and type of organization**

Size and nature of business may also determine the range of possible change in organisational systems. For example, since large organisations have adequate resources to develop new management accounting techniques, their systems are expected to be different from those of smaller companies (Innes and Mitchell, 1995; Hoque and James, 2000). Many researchers found that company size is positively related to accounting sophistication and control systems (Choe, 1996; Guilding, 1999; Haldma and Laats, 2002; Libby and Waterhouse, 1996;). Furthermore, the larger the size of the company, the lower the costs of processing information (Guilding, 1999 ). Increased organizational size or number of employees typically brings decentralized structuring of activities and more decision-making autonomy at the lower levels in the organization (Harrisson and McKinnon, 2007). Hoque and James (2000) found that there is a positive relationship between size of the organization and BSC usage. Thus, the bigger the company, the more practical it is to use BSC to support their strategic decision-making.

### **2.4.4 Organizational strategy**

The logic for linking management accounting and control system to strategy is based on the following propositions developed by Anthony and Govindarajan (2007) .Different organizations generally operate in different strategic contexts. Different strategies require different task priorities, key success factors, skills, perspectives, and behaviors for effective execution. Control systems are measurement systems that influence the behavior of the people whose activities are being measured. Thus, a continuing concern in the design of control systems should be whether the behavior induced by the system is consistent with the strategy. From a contingency perspective, accounting theoreticians have claimed that the MAS must fit the unit's strategic-type to achieve performance

(Chenhall and Langfield-Smith, 1998. Empirical research linking organizational strategy to MAS in industries generally contends that strategy influences MAS (Langfield-Smith, 1997). Kober *et al.* (2007) analysed the role of strategy, arguing that management control systems both shape and are shaped by the strategy.

#### **2.4.5 Organisation structure.**

Organization structure is regarded as the formal specification of the different roles, job tasks for organization members with established pattern of relationships between the component parts of an organization, with the details of communication, control and authority pattern (Robbins, 1990; Moores and Mula (1993). Organization structure is the level of decentralized decision autonomy. It was viewed as one element of contextual variables that impinge on the overall control system within an organization. According to Robbins (1990), organization structure was a natural influence on management accounting system design.

#### **2.5 Factors limiting management accounting systems change.**

There are many other factors that limit management accounting change. These may include lack of adequate accounting skills; new shareholders; fear of change; “no need for change” attitude; and lack of adequate communication between management and staff. There is a wide body of literature to support this ( Lee, 1987; Hopwood, 1990; Innes and Mitchell, 1990; Waweru *et al.*,2004).

## 2.6 Empirical researches

Chenhall and Langfield-Smith (1998), surveying the Australian manufacturing sector, found that traditional management accounting techniques were found to be more widely adopted than recently developed techniques and that there is greater attention being paid to newer techniques in the future, especially activity-based techniques and benchmarking. Their concluding comments suggest that future research should be directed at gaining a better understanding of the factors that influence differences in the levels of adoption of recently developed management accounting techniques between countries.

Joshi (2001) reports on a survey administered in 1998 among 60 Indian industrial firms. Overall, the level of sophistication seems high: 65 percent of the respondents use multiple allocation bases, and ABC adoption in the sample is 20 percent. Especially, the ABC adoption seems high, given that reported adoption rates in Western countries range between 10 and 20 percent (Brown *et al.*, 2004, p. 330).

Haldma and Laats (2002) conducted contingency theory research in Estonia. Estonia regained independence in 1991 and has since undergone fundamental political and structural changes. These changes were found by the researchers to have influenced the operations of the companies there. The authors found some evidence that changes in cost and management accounting practices are associated with shifts in the business and accounting environment as external contingencies, and with those of technology and organizational aspects as internal contingencies. Of their sample, 7 percent use ABC. Multiple allocation bases for costs are used by 70 percent of respondents. Haldma and

Laats (2002, p. 395) also observe that within their sample, the “level of sophistication is of a cost accounting system tends to increase in line with company size”.

The survey reported by Garg et al. (2003) was conducted in 2003 and found traditional management accounting techniques are still widely used and new cost management techniques are not a priority. The survey also found that the most widely used techniques were operational budgeting, quantitative techniques, traditional costing, and overhead allocation. The techniques used widely were also ABM & standard costing, capital budgeting, breakeven analysis, and transfer prices. Other techniques which were newer management accounting developments such as the balanced scorecard, value chain analysis, and supply chain costing were not adopted as often.

Clarke *et al.* (1999) studied the state of management accounting practices in Ireland. The data were collected from a questionnaire survey mailed to 511 Irish manufacturing companies. They found that ABC systems were not as widely used within Irish companies as within companies in the USA, the UK, and Canada because “the practice of management accounting in Ireland is marginalized.” In other words, Irish management accountants work as record keepers rather than innovators and decision facilitators, possibly due to supply and demand barriers. Also, the results indicate that ABC was not well understood by Irish management accountants.

Xiao *et al.* (2007) studied the use of Management accounting practices (MAPs) in China and attempted not only to establish if there had been an increase in the use of MAPs by

businesses in China but also to examine if there was a difference in use depending on the businesses' location in China, the industry type and the size of the business. They found that in general there had been an increase in the use of MAPs but that the various degrees of regional economic development in China had little impact on that use; however, based on their observations, they concluded that larger firms and firms in the manufacturing sector are more likely to have implemented management accounting methods.

Waweru *et al.* (2004) conducted a research on management accounting change in South Africa. The research was done using a contingency theory framework within four retail companies to understand the processes of their management accounting systems change and to explore the rationales for such change processes. The findings indicate considerable changes in management accounting systems within the four cases. Such changes include increased use of contemporary management accounting practices notably activity-based cost allocation systems and the balanced scorecard approach to performance measures. The paper suggests that recent environmental changes in the South African economy arising from government reform/deregulation policy and global competition largely facilitated the management accounting change processes within the participating organizations.

Hyvonen (2005), carried a study on large manufacturing firms in Finland, her attempts were to identify the level of adoption of various MAP, the received benefits from the adoption, and the intentions of Finnish manufacturing firms to emphasize the practices in the future. Her findings suggest that financial measures like product profitability analysis

and budgeting for controlling costs is likely to be important for the future and also greater emphasis will be placed on newer MAP like customer satisfaction surveys and employee attitudes.

Mat *et al.* (2010) studied management accounting and organizational change in Malaysian manufacturing firms. They found that majority of responding companies had reacted positively to changes in the competitive business environment and advanced manufacturing technology. Significant changes in management accounting practices were also influenced by structure and strategy.

Studies done in Kenya have concentrated on the application of specific management accounting practices. Minja (1995), tried to find out whether divisionalised companies do measure performance for their divisions, the objective of performance measurement and the performance measure indicators used. He concluded that control, profitability, planning and strategy formulation, managerial performance, investment decisions and managerial remuneration were identified as the main objectives of performance measurement. The main measurement indicators were; accounting profit, return on investment, residual income and sales revenue.

Osewe (1998) studied the factors guiding the choice of performance measures in practice and association between organization characteristics and performance measurements. His conclusion was that most firms preferred financial measures to non-financial measures.

Waweru (1999) carried out a survey on the application of management accounting practices by publicly quoted companies in Kenya. The findings from his analysis led to the following conclusions; budgeting was the mostly used practice, planning and control were indentified as the major purposes of management accounting reports, simple management accounting techniques were found to be preferred to complex techniques and management accounting theory related well with practice.

Nzule (1999) carried out a survey to establish the adoption of activity based costing systems by selected companies in Kenya. A structured questionnaire was used to collect data from a sample of 35 companies. The findings were that 54 % of the companies were found to be using ABC. The main reason for adoption of ABC was to improve cost control and the main motivation was to reduce costs.

Arithi,(2001) studied the application of strategic management accounting by large manufacturing companies in Nairobi .The sample frame adopted was that of companies listed in the Kenya association of manufacturers(KAM) 1999 directory. The study revealed that target costing and cost analysis are the mostly applied techniques of strategic management accounting. The balanced scorecard and value chain analysis did not appear to have taken root among large manufacturing firms.

## **2.7 Chapter Summary**

From the literature we observe that there is little empirical research in management accounting change research in developing countries. This study builds on, but the work is distinguished from earlier studies in Kenyan context in that it looks at a broad set of contemporary management accounting practices (costing, planning and control, performance evaluation and cost management and strategic management accounting) in the manufacturing sector. Prior research has focused either on the application of management accounting practices generally or application of specific management accounting practices. Furthermore there is no published empirical evidence about the adoption rate and the factors influencing/ hindering the adoption of management accounting changes grounded on theory as there has been in other countries.



## **CHAPTER THREE**

### **3.0 METHODOLOGY.**

#### **3.1 Introduction.**

This chapter presents the research design that was employed in the study, the study setting, population of the study and the sample and sampling procedures followed by data collection, data analysis, validity and reliability.

#### **3.2 Research design.**

This study employed a descriptive survey research design. A descriptive survey is a design used to collect data from members of a population in order to determine the status of that population with respect to one or more variables (Mugenda and Mugenda, 2003). Descriptive survey designs are appropriate where an understanding of the characteristics of a population in the way they use common practices is sought (Sekaran, 2007).

#### **3.3 Study setting.**

The study focused on the large manufacturing companies located in Nairobi. This is because most of the large manufacturing companies are concentrated in Nairobi; hence they represented all the categories that were required for the study. It was found to be convenient in data collection given the available time.

#### **3.4 Population of the study.**

The population of the study comprised of all the large manufacturing companies in Nairobi. Large manufacturing companies are those employing more than one hundred employees and/or an annual turnover or production level in excess of kshs.500 million(International Finance Corporation,2002) As at June 2007, there were 2085

manufacturing companies in Kenya(GOK).Of this number ,759 companies were located in Nairobi.

### 3.5 Sampling

A disproportionate stratified random sampling technique was used to select a sample size of 50 companies. This was considered adequate for this study because 50 are well above 30 that have been recommended as the minimum sample size for surveys (Saunders et al. 2000). In similar studies in manufacturing companies in Kenya (Nzule, 1999; Odongo, 2008) used sample sizes of, 35 and 30 respectively.

The classification and sample selection is presented in table 3.1

**Table 3.1 Sampling procedures.**

Category	Total number in category	Proportion (%)	Sample size
Agro processing.	226	29.8	12
Wood and wood products.	74	9.7	6
Capital goods & spare parts.	28	3.7	1
Iron and still making	43	5.7	3
Electrical and electronics.	24	3.2	1
Construction & equipment.	54	7.1	4
Pulp and paper	114	15	7
Chemical processing	134	17.6	11
Ceramics and glass making	62	8.2	5
<b>Total</b>	<b>759</b>	<b>100</b>	<b>50</b>

The number of employees was used to determine the firm's size. Large manufacturing firms are those employing more than 100 staff according to the Kenya Industrial Research Development Institute (KIRDI, 1997).The KIRDI directory classifies the population into a size class code and the number of employees.

### **3.6 Data collection.**

Primary data was used for this research. Data was collected through the help of a semi-structured questionnaire. Interviews were conducted to gain more insight on open-ended questions. The questionnaire was administered through the drop and pick later method accompanied with a covering letter explaining the purpose of the study and assuring the confidentiality of information provided.

The questionnaire was administered to executives in the financial departments (management accountants) or their equivalents that had firm knowledge of the cost and management accounting practices that have been adopted and used within their firms. The survey was organized covering the large manufacturing firms based in Nairobi, according to their number of employees selected from the KIDRI directory.

### **3.7 Data analysis**

The data was checked for completeness, coded and presented using tables. Demographic data of the firms used in the survey was presented in tables. Data was analyzed using content analysis for open-ended questions, descriptive statistics for data based on scales, regression- path analysis using Statistical Package for Social Sciences (SPSS) version 17.0 software for data relating to contextual variables influence on MAS change adoption. The analysis was tied to each objective so as to reach reliable conclusions.

### **3.8 Validity and Reliability.**

Validity of the research instrument was established by presenting it to a panel of three accountants who had along experience in management accounting to refine the content of

the research instrument. Construct validity was tested by how well the collected data correlated to theory.

Reliability of the research instrument was established through a pilot study in one of the large manufacturing firms that was not included in the study. The ambiguities, weaknesses and inconsistencies that were noted were corrected before the actual data collection.

## CHAPTER FOUR

### 4.0 DATA ANALYSIS AND PRESENTATION.

#### 4.1 Introduction.

This chapter presents the profile of the companies surveyed, management accounting systems, change in management accounting techniques, factors facilitating management accounting change, hindrances to management accounting systems change, group parent company pressures influence on management accounting systems change. The summary and interpretations of findings is presented last.

#### 4.2 Profile of companies.

A profile of the responding companies is presented in table 4.1 below. As can be seen from table 4.1 the majority of respondents are companies with a business life of over 20 years (93.8%); followed by companies that have been in existence for between 11-20 years (6.3%) and none of the respondent companies has a business life of less than 10 years.

Out of the various industries engaged in this study, only 11 (34.4%) of them are local companies while 20 (62.5%) of the respondents are foreign companies operating in Kenya. Out of the 32 companies participating in this research, 34.4% produce consumer products, 62.5% for industrial supply and 3.1% for both consumer and industrial supplies. Of the responding companies 18.8% have an annual turnover in millions of less than shs.500 million while 71.9% have an annual turnover of over shs.500 million.

The sample for this study embraces large manufacturing companies. Large manufacturing companies are those having more than 100 employees (International Finance Corporation, 2002). The majority of the respondents indicated that they had 200-499

(53.1%) employees; followed by over 500 employees (25%); and 100-199 employees (21.9%).

In terms of industry category, it can be seen that majority of the respondents are from chemical processing (31.3%); followed by agro processing (25%); pulp and paper (12.5%); construction and equipment (9.4%); wood and wood products, iron and steel making and ceramics and glass making (6.3%) each; capital goods and spare parts (3.1%) with no response from the electrical and electronics industry.

**Table 4.1: Descriptive statistics of responding companies**

	<b>Frequency.</b>	<b>Percentage.</b>
<b>Business life in years</b>		
5- 10 years	0	0
11- 20 years	2	6.3
Over 20 years	30	93.8
<b>Total</b>	<b>32</b>	<b>100</b>
<b>Business scope</b>		
Local	11	34.4
International	20	62.5
Non response	1	3.1
<b>Total</b>	<b>32</b>	<b>100</b>
<b>Type of product</b>		
Consumer	11	34.4
Industrial product	20	62.5
Others	1	3.1
<b>Total</b>	<b>32</b>	<b>100</b>
<b>Turnover(millions)</b>		
Less than 500 million	6	18.8
Over 500 million	23	71.9
Non response	3	9.4
<b>Total</b>	<b>32</b>	<b>100</b>
<b>Total number of employees</b>		
100-199	7	21.9
200-499	17	53.1
Over 500	8	25
<b>Total.</b>	<b>32</b>	<b>100</b>
<b>Industry category</b>		
Agro processing	8	25.0
Wood and wood products	2	6.3
Capital goods and spare parts	1	3.1
Iron and steel making	2	6.3
Electrical and electronics	0	0
Construction and equipment	3	9.4
Pulp and paper	4	12.5
Chemical processing	10	31.3
Ceramics and glass making	2	6.3
<b>Total</b>	<b>32</b>	<b>100</b>

Source: Survey data.

### **4.3 Management accounting systems.**

Respondents were asked to indicate whether they use the 23 systems listed adopted directly from Libby and Waterhouse (1996) and whether such systems have been changed for the last 10 years. The findings are presented in table 4.2 below. From the table it can be seen that most of the respondent manufacturing companies in Kenya use most of the management accounting systems listed in the table. The mostly used systems entail; organizational performance measurement systems (65.6%); direct allocation of manufacturing overhead (59.4%); measures of performance in terms of quality, and use of more non-financial performance measures (53.1%); capital budgeting systems(50.0%); strategic planning systems(46.9%); operational planning(43.8%); budgeting, individual or team based performance measurement, direct allocation of other overhead and information reported more frequently (40.6%). While management accounting systems other than those listed in table 4.2 are indicted to be of minimal use by the surveyed organizations.

However, as regards to whether the systems have been changed in any manner for the last 10 years, it can be seen that the frequency of change is smaller than the frequency of use for most systems. Least changes are reported with respect to direct allocation of manufacturing overhead (15.6%); reward system-bonuses (15.6%); and organizational performance measurement systems (18.8%).



**Table 4.2 Management Accounting Systems**

Management Accounting system	Being Used		Have changed		Non response	
	Freq uenc y	Perce ntage	Frequ ency	Perce ntage	Frequ ency	Per cent age
Budgeting	13	40.6	10	31.3	9	28.1
Operation planning	14	43.8	11	34.4	7	21.9
Capital budgeting	16	50.0	10	31.3	6	18.8
Strategic planning	15	46.9	10	31.3	7	21.9
Other planning systems	7	21.9	8	25.0	17	53.1
Individual/ team-based performance measurement	13	40.6	8	25.0	11	34.4
Organizational performance measurement	21	65.6	6	18.8	5	15.6
Measurement of performance in terms of quality	17	53.1	8	25.0	7	21.9
Measurement of performance in terms of customer satisfaction	12	37.5	9	28.1	11	34.4
Other performance measures	6	18.8	9	28.1	17	53.1
Direct allocation of manufacturing overhead	19	59.4	5	15.6	8	25.0
Direct allocation of marketing costs	12	37.5	8	25.0	12	37.5
Direct allocation of other overhead	13	40.6	8	25.0	11	34.4
Internal product transfers	9	28.1	6	18.8	17	53.1
Other costing systems	9	28.1	6	18.8	17	53.1
Reward systems – bonuses	16	50.0	5	15.6	11	34.4
Reward systems – pay for performance plans	12	37.5	10	31.3	10	31.3
Other reward systems	14	43.8	6	18.8	12	37.5
Information reported more frequently	13	40.6	7	21.9	12	37.5
Use of more non-financial measures	17	53.1	9	28.1	6	18.8
Information reported more broadly	6	18.8	10	31.3	16	50.0
Other changes to reporting systems	5	15.6	12	37.5	15	46.9
Other changes to systems that do not appear in this list	7	21.9	8	25.0	17	53.1

Source: Survey data

#### 4.4 Change in management accounting techniques.

Descriptive statistics for change in management accounting techniques are presented in table 4.3. The results presented show a higher percentage use of traditional management accounting techniques; the results are consistent with the literature of the management

accounting techniques that are applied in developing countries. Large manufacturing companies in Kenya still focused more on the use of traditional management accounting techniques. From table 4.3 the results show that the most popular traditional management accounting techniques used are; sales (N/A= 0%); standard costs and variance analysis (N/A=3.1%); residual income (N/A= 6.3%) and incremental budgeting (9.4%). This is consistent with the findings of Chenhall and Langfield-Smith (1998).The most popular advanced management accounting techniques are quality and innovation (N/A= 6.3%) and labour efficiency (N/A=9.4%). While the advanced techniques that have little adoption by Kenyan manufacturing companies are; beyond budgeting (N/A=75%); economic value added (N/A=37.3%); value chain costing and attribute costing (N/A=34.4%); target costing, lifecycle costing and balanced scorecard (N/A= 31.3%). This is consistent with the findings of Arithi (2001) which revealed that the balanced scorecard and value chain costing did not appear to have taken root among large manufacturing firms in Kenya.

**Table 4.3 Change in management accounting techniques**

Change in MAT	No change	new techniques	new techniques	Modification of output	Modification of technical	Abandonment	mean	SD	N/A
	%	%	%	%	%	%			%
Incremental budgeting	18.8	9.4	18.8	25.0	6.3	12.5	2.7	1.9	9.4
Activity based budgeting	0	9.4	21.9	6.3	12.5	3.1	4.1	1.9	43.8
Zero based budgeting	12.5	3.1	21.9	3.1	0	0	4.0	2.4	56.3
Beyond budgeting	3.1	3.1	6.3	6.3	3.1	0	5.1	1.7	75.0
Full/absorption	25.0	9.4	21.9	3.1	9.4	3.1	2.5	2.3	18.8
Variable/marginal costing	18.8	6.3	21.9	18.8	9.4	0	2.6	2.0	15.6
Activity based costing	12.5	6.3	18.8	12.5	12.5	0	3.3	2.2	28.1
Residual income	37.5	12.5	15.6	9.4	6.3	0	1.5	1.8	6.3
Sales	43.8	9.4	15.6	15.6	9.4	3.1	1.5	1.6	0

Return on investment	25.0	12.5	15.6	12.5	9.4	0	2.3	2.1	15.6
Economic value added	9.4	6.3	15.6	0	21.9	0	3.9	2.2	37.5
Balanced scorecard	12.5	9.4	12.5	6.3	12.5	3.1	3.5	2.3	31.3
Standard costs and variance analysis	34.4	6.3	12.5	9.4	15.6	6.3	1.9	1.9	3.1
Customer satisfaction	37.5	3.1	15.6	3.1	15.6	0	2.0	2.2	12.5
Labour efficiency	31.3	9.4	15.6	12.5	9.4	3.1	2.1	2.0	9.4
Quality and innovation	28.1	18.8	15.6	3.1	12.5	3.1	1.9	1.9	6.3
On time delivery	31.3	15.6	15.6	3.1	12.5	3.1	2.1	2.2	12.5
Target costing	12.5	18.8	25.0	3.1	3.1	0	2.9	2.3	31.3
Lifecycle costing	18.8	9.4	12.5	9.4	6.3	0	3.1	2.4	31.3
Benchmarking	28.1	9.4	9.4	15.6	15.6	0	2.5	2.1	15.6
Just-In-time	15.6	12.5	12.5	18.8		0	3.0	2.3	28.1
Total quality management	25.0	12.5	15.6	6.3	15.6	0	2.3	2.1	12.5
Attribute costing	21.9	6.3	6.3	12.5	6.3	0	3.3	2.5	34.4
Competitive position monitoring	25.0	9.4	15.6	9.4	15.6	3.1	2.7	2.2	18.8
Competitor cost assessment	18.8	12.5	15.6	9.4	6.3	0	2.8	2.3	25.0
Competitor performance appraisal	18.8	6.3	15.6	12.5	6.3	0	3.1	2.4	28.1
Customer profitability	25.0	9.4	18.8	9.4	6.3	0	2.6	2.3	21.9
Balanced scorecard	9.4	9.4	18.8	9.4	3.1	0	3.7	2.3	43.8
Lifetime customer profitability analysis	9.4	9.4	18.8	9.4	12.5	0	3.5	2.2	34.4
Quality costing	12.5	18.8	6.3	12.5	12.5	0	3.2	2.3	28.1
Strategic pricing	18.8	6.3	12.5	15.6	6.3	0	3.2	2.4	31.3
Value chain costing	18.8	9.4	12.5	12.5	6.3	3.1	3.2	2.4	34.4
Average	-	-	-	-	-	-	2.9	2.1	-

Likert scale of 0-5: 0=No change; 1=New techniques; 2=New techniques as replacements; 3=Modification of information output; 4=Modification of technical operations; 5=Abandonment; N/A= Not applicable;

Source: Survey data.

Table 4.4 represents frequencies for management accounting change dimensions in each of the respondents' company. The results show that a majority of the responding companies have not made changes in the use of management accounting techniques (31.23%). Excluding this group, the most commonly occurring change is introduction of management accounting techniques as replacements (23.31%) and information output modification (14.81%). This is consistent with Sulaiman and Mitchell (2005). Introduction of new techniques (14.52%) was ranked fourth. Changes occurring in modification of technical operation of the MAS and removal with no replacements (abandonment) show the lowest percentages (13.93% and 2.2% respectively).

**Table 4.4: Management accounting change dimensions**

<b>Dimensions of change</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Rank</b>
No change	213	31.23	1
Introduction of new techniques	99	14.52	4
Introduction of new techniques as replacements	159	23.31	2
Modification of information or output	101	14.81	3
Modification of technical operation	95	13.93	5
Abandonment	15	2.20	6
	682	100.00	

Source: Survey data

## **4.5 Factors facilitating management accounting change.**

### **4.5.1 Competition.**

The descriptive statistics for all the indicators of competition variable as a factor facilitating management accounting change is presented in table 4.5 below. The results indicate that competition positively influence management accounting change and all the indicators seem to be equally likely with an overall mean of (3.67). However,

competitor's action and competitors' markets/channels were found to have the greatest influence with a standard deviation of (0.99 and 1.19 respectively).

**Table 4.5 Competition**

Competition	Negligible %	Less negligible %	Moderate %	Intense %	Extremely intense %	Mean	S.d
Price competition	15.6	0	18.8	25.0	34.4	3.67	1.42
New product development	9.4	12.5	21.9	37.5	15.6	3.39	1.20
Marketing/channels	6.3	6.3	21.9	28.1	28.1	3.72	1.19
Competitor's action	3.1	3.1	18.8	37.5	31.3	3.97	.99
Competitor's markets	9.4	9.4	18.8	28.1	28.1	3.60	1.30
<b>Average</b>	-	-	-	-	-	3.67	1.23

Likert scale of 1-5: 1=negligible; 2=less negligible; 3=moderate; 4=intense; 5=extremely intense.

Source: Survey data

#### 4.5.2 Manufacturing technology.

Table 4.6 presents descriptive statistics for all variables in AMT. The results show that most of the respondents indicated that flexible manufacturing technology and computer aided manufacturing as the most important indicators with standard deviations of (1.22 and 1.36 respectively).

**Table 4.6 Manufacturing technological advancements**

<b>Manufacturing technologies</b>	<b>Irrelevant %</b>	<b>Less irrelevant %</b>	<b>Moderate %</b>	<b>Important %</b>	<b>Extremely important %</b>	<b>Mean</b>	<b>S.d</b>
Flexible manufacturing systems	6.3	9.4	9.4	34.4	37.5	3.90	1.22
Computer aided manufacturing	12.5	9.4	9.4	37.5	28.1	3.61	1.36
Just-In -Time	21.9	9.4	12.5	21.9	31.3	3.32	1.58
Computer -int. manufacturing	28.1	9.4	18.8	21.9	15.6	2.87	1.50
Others	6.3	0	0	9.4	6.3	3.42	1.72
<b>Average</b>	-	-	-	-	-	3.42	1.47

**Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=extremely important.**

Source: Survey data

### **4.5.3 Organization strategy.**

The literature has identified strategy as the most important factor in any organization for survival. This is evident with the results presented in table 4.7. Majority of the respondents reported an increased emphasis in their organizational strategy. The indicators were rated as either important or extremely important by most respondents. The results indicate that the customer focus strategies are emphasized more in the surveyed organizations, (for example, provide high quality products=68.8%, provide on time delivery =40.6% and make dependable delivery promises 34.4%). Except for, provide low costs (9.4%) and provide unique products (6.3%) none of the strategic variables was identified as irrelevant. Among these items provide high quality products, provide on time delivery and make dependable delivery promises are seen as the most

important strategies with standard deviations of (0.66, 0.79 and 0.80 respectively).

Ideally, strategy is highly emphasized as it has an average mean score of (4.11).

**Table 4.7 Organization strategy**

Organization strategy	Irrelevant %	Less irrelevant %	Moderate %	Important %	Extremely important %	Mean	S.d
Provide on time delivery	0	3.1	9.4	37.5	40.6	4.28	.79
Make dependable delivery promises	0	3.1	12.5	40.6	34.4	4.17	.80
Provide high quality products	0	3.1	21.9	0	68.8	4.67	.66
Provide low costs	9.4	3.1	25.0	28.1	25.0	3.62	1.23
Provide unique products	6.3	6.3	21.9	21.9	37.5	3.83	1.23
<b>Average</b>	-	-	-	-	-	4.11	0.95

**Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=Extremely important.**

Source: Survey data

#### 4.5.4 Organization size and type.

The descriptive statistics for the indicators of organizational size and type are presented in table 4.8 below. It can be deduced that organization size and type variables positively influence management accounting change with an overall average mean score of (3.45). The item increase in resources appear to be a more influential indicator with a standard deviation of (0.98) indicating an insignificant variation of the respondents.

**Table 4.8 Organization size and type**

<b>Organization size and type</b>	<b>Irrelevant %</b>	<b>Less irrelevant %</b>	<b>Moderate %</b>	<b>Important %</b>	<b>Extremely important %</b>	<b>Mean</b>	<b>S.d</b>
Increase in acc. staff	18.8	12.5	31.3	18.8	12.5	2.93	1.31
Expansion	6.3	6.3	25.0	34.4	25.0	3.67	1.14
Increase in resources	3.1	6.3	18.8	43.8	18.8	3.75	.98
<b>Average.</b>	-	-	-	-	-	3.45	1.14

**Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=Extremely important.**

Source: Survey data

#### **4.5.5 Organization structure.**

Table 4.9 provides details of the descriptive statistics for items in organization structure. Improved communication was emphasized by the majority of responding organizations in which (40.6%) of the respondents rated it as extremely important with a standard deviation of (1.11). However, an interesting result is indicated by the respondents in the decentralization item where, (25.0%) rated it as an irrelevant variable in influencing management accounting change .while another (25.0%) rated the variable as extremely important and (15.6%) rating it as moderate. This clearly indicates that some Kenyan large manufacturing companies have tall structures and some have horizontal structures.



**Table 4.9 Structural changes.**

Structural changes	Irrelevant	Less Irr.	Moderate	Import	Extremely important	Mean	S.d
	%	%	%	%	%		
Decentralization	25.0	9.4	15.6	21.9	25.0	3.13	1.56
Improved communication	6.3	0	12.5	31.3	40.6	4.10	1.11
Average	-	-	-	-	-	3.62	1.33

**Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=Extremely important.**

Source: Survey data

#### **4.5.6 Overall rating of the contextual factors facilitating management accounting change.**

Table 4.10 presents the descriptive statistics of the overall rating of the factors facilitating management accounting change. The average mean score of (3.80) shows that these factors positively influence management accounting change. The results presented in table 4.10 show competition and organization strategy as the most influential factors relative to the others with a standard deviation of(0.78 and 0.80 respectively),indicating an insignificant variation among the respondents. This is consistent with Waweru *et al* (2004) who found competition as one of the important factors influencing management accounting change. This is also consistent with Langfield-Smith (1997), who found that strategy influences MAS and Kober *et al* (2007) argued that management control systems both shape and are shaped by strategy. Robbins (1990) emphasized on structure.

**Table 4.10 Overall rating of contextual variables.**

Contextual variables	Irrelevant	Less irrelevant	Moderate	Import	Extremely important	Mean	S.d
	%	%	%	%	%		
Competition	0	3.1	18.8	46.9	25.0	4.00	.78
Manufacturing technology	3.1	9.4	15.6	21.9	40.6	3.96	1.18
Organization strategy	0	0	28.1	34.4	28.1	4.00	.80
Organization size and type	3.1	12.5	28.1	25.0	21.9	3.55	1.12
Organization structure	9.4	9.4	25.0	18.8	28.1	3.52	1.32
<b>Average</b>	-	-	-	-	-	3.81	1.04

**Likert scale of 1 to 5; 1=irrelevant; 2= less irrelevant; 3= moderate; 4 =important; 5= extremely important**

Source: Survey data

The descriptive statistics in table 4.10 is supplemented by a summary of the regression analysis in table 4.11. To test the contingent fit of the contextual variables (independent variables) and the management accounting change index (dependent variable) shown in appendix 2. The results show that competition and structure have got a positive relationship with management accounting change having coefficients' of (4.262 and 2.864 respectively) explaining 15.3% of the change in management accounting systems.

**Table 4.11: Factors facilitating management accounting change regression analysis**  
**Coefficients (a)**

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95% Confidence interval for B	
	B	Std.Error	Beta	T		Lower bound	Upper bound
(Constant)	20.932	7.845		2.668	.014	4.704	37.160
Competition	4.262	1.722	.498	2.475	.021	.700	7.824
Manufacturing technology	-.024	1.240	-.004	-.019	.985	-2.588	2.541
Organization strategy	-1.814	2.261	-.219	-.802	.431	-6.492	2.864
Organization size and type	-1.740	2.100	-.293	-.828	.416	-6.085	2.605
Organization structure	2.864	1.676	.571	1.709	.101	-.602	6.330

Source: Survey data

#### 4.6 Hindrances to management accounting change.

Table 4.11 provides details of the descriptive statistics for variables that act as hindrances to management accounting change. All the variables positively hinder management accounting change. Of the variables lack of top management support and lack of adequate computing resources were emphasized by the respondents rating them as extremely important variables with (37.5% and 31.3% respectively). This results support the findings of Al-Omiri and Drury (2007) that high quality information systems are useful in providing detailed data needed for more sophisticated costing systems. The lack of adequate computing resources limits management accounting change adoption.

**Table 4.12 Factors hindering management accounting change.**

Hindrances to MAS change	Irrelevant	Less irr.	Moderate	Important	Extremely important	Mean	S.d
	%	%	%	%	%		
Lack of adequate computing resources	21.9	6.3	15.6	15.6	31.3	3.31	1.61
Lack of top management support	21.9	6.3	0	25.0	37.5	3.55	1.66
Lack of autonomy	37.5	15.6	3.1	18.8	12.5	2.46	1.57
Fear attitude	31.3	9.4	12.5	25.0	9.4	2.68	1.49
Others	3.1	0	3.1	6.3	3.1	3.40	1.52
<b>Average</b>	-	-	-	-	-	3.08	1.57

Likert scale of 1 to 5; 1=irrelevant; 2= less irrelevant; 3= moderate; 4 =important; 5= extremely important

Source: Survey data.

#### **4.7 Group parent company pressures influence on management accounting change.**

From the institutional theory perspective it is argued that various actors operating in and around the organizations can create the institutional pressures that lead individual organizations to adopt specific structures and procedures. From this study it was evident that such pressures exist .In this survey respondents of organizations that are subsidiaries reported that they adopted certain practices as a requirement from the head office or parent company. Subsidiaries were expected to present their management accounts in the formats dictated by the parent company and also implement their management information systems in a way consistent with the parent company. Despite this there were no significant differences in the majority of the variables tested.

#### **4.8 Summary and interpretation of findings.**

The findings from this study confirm that there has been a change in the business environment in which manufacturing companies operate in Kenya over the past two decades. Out of the various industries engaged in this study 62.5% are foreign companies operating in Kenya while 34.4% are local companies. Majority of the responding companies had a business life of over 20 years (93.8%) and an annual turnover of over Shs 500 million.

On the aspect of the management accounting systems that are used by the surveyed organizations the findings from this study indicated that of the 23 management accounting systems adopted from Libby and Waterhouse (1996) at least 19 of the systems are used by the responding organizations. Regarding whether the systems have been changed in the last 10 years the findings show that there has been some change in some of the systems, however, the percentage reported on change is smaller than that reported on the usage of these systems.

It has also been found that both traditional and advanced management accounting techniques appeared to be almost equally important. These findings show that manufacturing companies in Kenya rely on both techniques in order to cope with significant changes in their internal as well as external environmental factors. Incremental budgeting for planning, absorption and marginal costing for costing, sales, return on investment (ROI) and residual income for performance measurement were found to be the most commonly applied traditional management accounting techniques.

Besides the kind of practices that are adopted by the surveyed organizations, this study also analyzed the dimensions of change in management accounting practices. The results

show that most of the responding companies have not changed in the way in which they apply management accounting techniques. 31.23 % of the respondents indicated no change has occurred in their management accounting practices. The majority of the respondents, who reported changes chose to replace their existing techniques (23.31%), modify the information output(14.81%) or introduce new techniques(14.52%); the least changes were reported in regard to modification of technical operations of the management accounting system (13.93%) and removal without replacement (abandonment) (2.2%) of the adopted techniques. These results support the findings of Sulaiman and Mitchell (2005) who found that replacements of existing techniques and information output modification had a relatively high frequency in their study on manufacturing companies.

From the contingency theory perspective there are no universally best management accounting practices that are applied by all organizations, but organizations adopt different management accounting techniques depending on the contextual variables surrounding their business environment in which they operate. In this study five contextual variables were identified as facilitating the reported change in the surveyed organizations. The findings from this study confirm that there has been a significant increase in the competitive environment faced by Kenyan manufacturing companies over the past two decades. The use of advanced manufacturing technology has also increased significantly. Results also show an increased emphasis on strategy, organization size and structure. In competition the indicators of competitor's action and marketing channels were reported as most important with standard deviations of (0.99 and 1.19 respectively).

From the findings flexible manufacturing technology and computer aided manufacturing were emphasized by the respondents as the important indicators of manufacturing technology. As regards strategy, the findings indicate that most of responding organizations identified strategies that relate to customer focus as greatly emphasized, such as, provide high quality products, provide on time delivery and make dependable delivery promises.

On organizational size and type, the item increase in resources was rated as extremely important in facilitating change. While in organization structure more emphasis was given to improved communication in relation to decentralization. The findings show in overall rating of the contextual variables, competition and organization strategy as the most critical factors that facilitate management accounting change in the participating organizations. Group pressures influence on management accounting practices was reported by respondents whose companies were subsidiaries of parent companies located outside Kenya. In particular subsidiaries were expected to present their management accounts in the formats dictated by the parent company and also implement their management information systems in a way consistent with the parent company.

Although management accounting systems has been found to be important to organizations capacity to cope with the ever changing business environment it is not without some hindrances. The factors that limit management accounting change were also examined. From the findings lack of top management support (37.5%) and lack of adequate computing resources (31.3%) were noted to be the most critical factors limiting management accounting change.

## CHAPTER FIVE

### 5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

#### 5.1 Summary.

This study is about management accounting change: an exploratory study of large manufacturing companies in Kenya. The three objectives of this study were; to explore management accounting change; to establish the management accounting systems adopted by Kenyan large manufacturing companies and to identify the factors that facilitate/hinder management accounting systems change in large manufacturing companies in Kenya. The study is grounded on two theories namely; the contingency theory and the institutional theory of management accounting that try to explain why organizations tend to change their management accounting practices.

The paper utilized a descriptive survey research design. The study setting was on large manufacturing companies' located in Nairobi. A disproportionate stratified random sampling was used to select a sample of 50 companies for the survey. However, the response rate was 32 (64%) of the sampled companies participated in the survey, while 8 (16%) of the sampled companies returned blank questionnaires citing confidentiality of the information requested and lack of time to fill the questionnaire as the main reasons. While, 10 (20%) of the sampled companies declined to take part in the survey.

The paper used primary data that was collected using a semi-structured questionnaire and interviews. The data obtained from the responding companies was analyzed using content analysis, and descriptive statistics. A multiple regression path analysis was used to analyze the extent to which management accounting systems change is influenced by the identified contextual variables.



## 5.2 Conclusions.

For an organization to survive with competition in the ever changing world, it must change and put in place sound management accounting practices. This is what the study sought to find out in the Kenyan manufacturing companies. The findings provide insights into the objectives the study aimed to achieve. In regard to management accounting change aspect, the findings indicate that there has been some change in the way in which MAPs are applied. Most of the respondents indicated change taking the dimension of introduction of new techniques as replacements for existing parts of the management accounting system (23.31%), modification of the information or output of the MAS (14.81%), introduction of new techniques where no management accounting technique previously existed (14.52%), modification of the technical operation of the management accounting techniques (13.92%) and abandonment (2.2%). The change has been experienced in both the local and foreign companies having branches in Kenya. The study provides evidence to reject the general view that management accounting has not changed or is resistant to change.

As regards the kind of management accounting systems adopted by Kenyan large manufacturing companies, the research findings on this objective indicate that most of the systems listed are used by the surveyed organizations. Also from the findings it became evident that both traditional and advanced management accounting techniques are adopted. As new /advanced management accounting techniques are adopted traditional techniques are being maintained. This was evident from the aspect of management accounting change relating to abandonment recording the lowest score of (2.2%).

The third objective was to identify the factors facilitating /hindering management accounting change adoption. The findings from this study support the view that internal and external environments surrounding an organization have an impact on its management accounting systems. The findings illustrated MASs as important and have to be changed in order to cope with the change in the operating business environment. Further the findings provided more evidence to prior research relating to contingent factors forcing organizations to change their management accounting practices (Hoque and Hopper, 2004; Shields, 1997). The increase in global competition, structure and organization strategy were the main contextual factors facilitating management accounting change in the surveyed organizations.

Further, it was also suggested from the research findings that, lack of top management support, lack of adequate computing resources and lack of autonomy from parent company were highlighted as the most critical factors acting as hindrances to management accounting change. Also, group pressures may dictate the kind of practices adopted. This was evident from the study findings that any changes that were adopted by companies which are subsidiaries had to conform to those of the parent company. Some respondents indicated that whatever management accounting techniques that are in place in their organizations have been approved by the parent company.

### **5.3 Policy recommendations.**

In enhancing the management accounting systems change adoption, the study suggests that the relevant professional accounting bodies, especially the Institute of Certified Public Accountants of Kenya (ICPAK), to establish a unit that implements and promotes

the practice of advanced management accounting techniques in Kenya. There is need for the professional association to maintain their leadership role in identifying, supporting and educating on the positive changes that is taking place in the management accounting profession. This unit will specifically need to encourage and support the interaction between accounting educators and practitioners in the country.

ICPAK accordingly is required to do proper planning and promotions needed to ensure that seminars on management accounting can be promoted to all industries including the government agencies and also to the public at large. The seminars must be held regularly to ensure members and other participants are updated with various MATs especially the advanced management accounting techniques. This unit of professional bodies must also be responsible in creating the awareness on management accounting applications to other accounting bodies. This is important in order to educate the others about the benefits, the effectiveness and the importance of management accounting change applications.

The management accounting applications can also be promoted to all industries and the public by encouraging research and writing on the advanced management accounting topics. Besides, detail explanations are needed to inform the management of manufacturing entities and the public about the difference between the management accounting field and the financial accounting area. More articles and publications on management accounting topics should be printed in journals, magazines and other media. The effectiveness of success of management accounting change applications should be written and printed to public media using a range of organizational role models to

convince business organizations and public of the fact that the new management accounting practices would be relevant to their own types of firms.

Further, the unit established should actively provide consultancy, technical supports and enhance trainings to update management level of knowledge. At this workshops and professional events specific organizations and companies especially manufacturing concerns should be targeted to improve the rate adoption of advanced management accounting techniques. Finally, it should be made mandatory for companies to incorporate management accounts reported as disclosure items in the financial statements.

#### **5.4 Limitations of the study.**

There are a number of limitations to this research findings; first ,due to the relatively small sample size any generalizations of the study results to non-manufacturing organizations or beyond cannot be made without caution.

Second, the relatively low response rate is a major limitation in this research. For example, the decline of quite a number of sampled companies to take part in the survey, some returning blank questionnaires and response bias due to unwillingness of other respondents to share the accurate information.

Third, most of the findings in the study are from quantitative data and do not capture an in-depth understanding of the subject phenomena. Thus, a different approach such a qualitative case study research may shed light on this issue.

## **5.5 Suggestions for further research.**

The same research be duplicated and focus on service organizations in Kenyan context to gain more understanding on this sector as these entities have become increasingly important within most economies.

As the sample used was small the same research adopting a larger sample size using case study approach in developing countries may provide more information on the research issues explored in this study.

A study to be conducted on the influence of contextual variables on management accounting systems change and its impact on organizational performance in a developing country context.

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## Appendix I: Questionnaire on management accounting change:

Please answer the questions as requested .You are NOT required to provide your name. The information requested can be used in the study and NOT for any other use. Your responses shall be treated as confidential.

### SECTION A

**This section seeks general information about your organization.**

Please tick [ ] as appropriate regarding the requested information.

**1. Business life in years**

Over 20 years [ ]                      Less than 20 years [ ]

**2. Business scope.**

Local [ ]                      International [ ]

**3. Type of product**

Consumer [ ]                      Industrial product [ ]

Other please specify .....

**4. Turn over (shs millions)**

Less than shs 500 million [ ]                      Over 500 million [ ]

**5. Total number of employees.**

100-199 [ ]                      200-499 [ ]

Over 500 [ ]

**6. Industry category**

Agro processing [ ]                      Wood and wood products [ ]

Capital goods and spare parts. [ ]                      Iron and still making. [ ]

Electrical and electronics [ ]                      Construction and equipment [ ]

Pulp and paper [ ]                      Chemical processing [ ]

Ceramics and glassmaking [ ]

## SECTION B

### Management accounting systems

7. Which of the following management accounting and control systems are in use in your organization? And have the systems been changed for last 10 years.

	Being used	Have changed
<b>Planning systems</b>		
1. Budgeting	[ ]	[ ]
2. Operation planning (production)	[ ]	[ ]
3. Capital budgeting	[ ]	[ ]
4. Strategic planning	[ ]	[ ]
5. Other planning systems	[ ]	[ ]
<b>Controlling systems</b>		
6. Individual or team-based performance measurement	[ ]	[ ]
7. Organizational performance measurement	[ ]	[ ]
8. Measurement of performance in terms of quality	[ ]	[ ]
9. Measurement of performance in terms of customer satisfaction	[ ]	[ ]
10. Other performance measures	[ ]	[ ]
<b>Costing Systems</b>		
11. Direct allocation of manufacturing overhead	[ ]	[ ]
12. Direct allocation of marketing costs	[ ]	[ ]
13. Direct allocation of other overhead	[ ]	[ ]
14. Internal (department or divisional) product transfers	[ ]	[ ]
15. Other costing systems;	[ ]	[ ]
<b>Directing Systems</b>		
16. Reward systems – bonuses	[ ]	[ ]
17. Reward systems – pay for performance plans	[ ]	[ ]
18. Other reward systems	[ ]	[ ]
<b>Decision-making systems</b>		
19. Information reported more frequently	[ ]	[ ]
20. Use of more non-financial measures	[ ]	[ ]
21. Information reported more broadly	[ ]	[ ]
22. Other changes to reporting systems	[ ]	[ ]
23. Other changes to systems that do not appear on this list	[ ]	[ ]



**SECTION C**

**Change in management accounting systems.**

**8. For each of the management accounting practices below indicate the technical level changes occurring in your company for the last 10 years in accordance to the given categories.**

Please choose the appropriate category as listed below.

0	No change
1	Introduction of new techniques where no management accounting technique previously existed .(e.g. the first time introduction of a management accounting technique)
2	Introduction of new techniques as replacements for existing parts of the management accounting system(e.g. the replacement of any traditional techniques with more advanced techniques or of a fixed budgeting system with flexible budgeting)
3	Modification of the information or output of the management accounting system(e.g. the preparation of monthly as opposed to yearly budget or the representation)
4	Modification of the technical operation of the management accounting system (e.g. the use of actual overhead rates other than predetermined rates in existing costing systems)
5	The removal of management accounting technique with no replacement(abandonment)
N/A	Management accounting technique is not practiced in the organization.

**Management accounting techniques**

**please choose the type of change as**

**Specified in the above box by ticking**

0      1      2      3      4      5      N/A

**Planning and control systems**

- |                             |     |     |     |     |     |     |     |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|
| 1. Incremental budgeting    | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 2. Activity based budgeting | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 3. Zero based budgeting     | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 4. Beyond budgeting         | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |

## Costing systems

- |                               |     |     |     |     |     |     |     |
|-------------------------------|-----|-----|-----|-----|-----|-----|-----|
| 1. Full/ absorption           | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 2. Variable /marginal costing | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 3. Activity based costing     | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |

## Performance measurement systems

- |   |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|
| 1. Residual income                      | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 2. Sales                                | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 3. Return on investment                 | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 4. Economic value added                 | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 5. Balanced scorecard                   | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 6. Standard costs and variance analysis | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 7. Customer satisfaction                | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 8. Labour efficiency                    | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 9. Quality and innovation               | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 10. On time delivery                    | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |

## Cost management& strategic management

### Accounting systems.

- |                                     |     |     |     |     |     |     |     |
|-------------------------------------|-----|-----|-----|-----|-----|-----|-----|
| 1. Target costing                   | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 2. Lifecycle costing                | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 3. Benchmarking                     | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 4. Just-in-time                     | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 5. Total quality management         | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 6. Attribute costing                | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 7. Competitive position monitoring  | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 8. Competitor cost assessment       | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| 9. Competitor performance appraisal | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |

10. Customer profitability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Balanced scorecard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Lifetime customer profitability analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Quality costing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Strategic pricing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Value chain costing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SECTION D**

**This section seeks information on factors facilitating management accounting change.**

**9. Please indicate the perceived intensity of competition faced by your organization in respect of the following variables.**

Competition	Negligible			Extremely intense	
	1	2	3	4	5
Price competition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New product development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing/distribution channels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competitor's action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competitor's markets/revenue share	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**10. Rank in order of importance how the following advanced manufacturing technologies have affected management accounting change.**

Manufacturing technology	Irrelevant			Extremely important	
	1	2	3	4	5
Flexible manufacturing systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer aided manufacturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Just-in-time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer integrated manufacturing	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>

**11. Rank in order of importance how the following organization strategy variables may have influenced management accounting change.**

Organization strategy	Irrelevant		Extremely important		
	1	2	3	4	5
Provide on time delivery	[ ]	[ ]	[ ]	[ ]	[ ]
Make dependable delivery promises	[ ]	[ ]	[ ]	[ ]	[ ]
Provide high quality products	[ ]	[ ]	[ ]	[ ]	[ ]
Provide low costs	[ ]	[ ]	[ ]	[ ]	[ ]
Provide unique products.	[ ]	[ ]	[ ]	[ ]	[ ]

**12. Rank in order of importance how the following organization size and type variables may have influenced management accounting change.**

	Irrelevant		Extremely important		
	1	2	3	4	5
Increase in accounting staff	[ ]	[ ]	[ ]	[ ]	[ ]
Expansion (e.g. new products)	[ ]	[ ]	[ ]	[ ]	[ ]
Increase in resources	[ ]	[ ]	[ ]	[ ]	[ ]

**13. Rank in order of importance how the following structural changes may have influenced management accounting change.**

	Irrelevant		Extremely important		
	1	2	3	4	5
Decentralization	[ ]	[ ]	[ ]	[ ]	[ ]
Improved communication	[ ]	[ ]	[ ]	[ ]	[ ]

**14. In overall rate the extent to which the following contextual variables have influenced management accounting change.**

	Irrelevant			Extremely important	
	1	2	3	4	5
Competition	[ ]	[ ]	[ ]	[ ]	[ ]
Manufacturing technology	[ ]	[ ]	[ ]	[ ]	[ ]
Organization strategy	[ ]	[ ]	[ ]	[ ]	[ ]
Organization size and type	[ ]	[ ]	[ ]	[ ]	[ ]
Organization structure	[ ]	[ ]	[ ]	[ ]	[ ]

**15. Rank in order of importance the influence of the following factors in relation to hindrance of management accounting change.**

	Irrelevant		Extremely important		
	1	2	3	4	5
Lack of adequate computing resources	[ ]	[ ]	[ ]	[ ]	[ ]
Lack of top management support	[ ]	[ ]	[ ]	[ ]	[ ]
Lack of autonomy from parent company	[ ]	[ ]	[ ]	[ ]	[ ]
Fear of change attitude	[ ]	[ ]	[ ]	[ ]	[ ]
Others	[ ]	[ ]	[ ]	[ ]	[ ]

16. Is your company a subsidiary of a parent company located outside Kenya?  
 YES[ ], NO [ ]

If YES explain briefly how the group parent company pressures influence management accounting systems change in your organization.

.....  
 .....

17. Please comment on any other information you consider relevant as regards management accounting change in your organization.

.....  
 .....

END.

**Appendix II: Management accounting change frequencies.**

Management accounting techniques	0 (No change)		1 (Introduction of new technique)		2 (New techniques as replacements)		3 (Modification of output)		4 (Modification of operations)		5 (Abandonment)		Non-response		N/A	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
	Incremental budgeting	6	18.8	3	9.4	6	18.8	8	25	2	6.3	4	12.5	0	0	3
ABB	0	0	3	9.4	7	21.9	2	6.3	4	12.5	1	3.1	1	3.1	14	43.8
ZBB	4	12.5	1	3.1	7	21.9	1	3.1	0	0	0	0	1	3.1	18	56.3
Beyond budgeting	1	3.1	1	3.1	2	6.3	2	6.3	1	3.1	0	0	1	3.1	24	75.0
Full/absorption	8	25.0	3	9.4	7	21.9	1	3.1	3	9.4	1	3.1	3	9.4	6	18.8
Variable/marginal costing	6	18.8	2	6.3	7	21.9	6	18.8	3	9.4	0	0	3	9.4	5	15.6
ABC	4	12.5	2	6.3	6	18.8	4	12.5	4	12.5	0	0	3	9.4	9	28.1
Residual income	12	37.5	4	12.5	5	15.6	3	9.4	2	6.3	0	0	4	12.5	2	6.3
Sales	14	43.8	3	9.4	5	15.6	5	15.6	3	9.4	1	3.1	1	3.1	0	0
ROI	8	25.0	4	12.5	5	15.6	4	12.5	3	9.4	0	0	3	9.4	5	15.6
EVA	3	9.4	2	6.3	5	15.6	0	0	7	21.9	0	0	3	9.4	12	37.5
BSC	4	12.5	3	9.4	4	12.5	2	6.3	4	12.5	1	3.1	4	12.5	10	31.3
Standard costs and variance analysis	11	34.4	2	6.3	4	12.5	3	9.4	5	15.6	2	6.3	4	12.5	1	3.1
Customer satisfaction	12	37.5	1	3.1	5	15.6	1	3.1	5	15.6	0	0	4	12.5	4	12.5
Labour efficiency	10	31.3	3	9.4	5	15.6	4	12.5	3	9.4	1	3.1	3	9.4	3	9.4
Quality and innovation	9	28.1	6	18.8	5	15.6	1	3.1	4	12.5	1	3.1	4	12.5	2	6.3
On time delivery	10	31.3	5	15.6	5	15.6	1	3.1	4	12.5	1	3.1	2	6.3	4	12.5
Target costing	4	12.5	6	18.8	8	25.0	1	3.1	1	3.1	0	0	2	6.3	10	31.3
Lifecycle costing	6	18.8	3	9.4	4	12.5	3	9.4	2	6.3	0	0	4	12.5	10	31.3
Benchmarking	9	28.1	3	9.4	3	9.4	5	15.6	5	15.6	0	0	2	6.3	5	15.6

Just-In-time	5	15.6	4	12.5	4	12.5	6	18.8	0	0	0	0	4	12.5	9	28.1
TQM	8	25.0	4	12.5	5	15.6	2	6.3	5	15.6	0	0	4	12.5	4	12.5
Attribute costing	7	21.9	2	6.3	2	6.3	4	12.5	2	6.3	0	0	4	12.5	11	34.4
Competitive position monitoring	8	25.0	3	9.4	5	15.6	3	9.4	5	15.6	1	3.1	1	3.1	6	18.8
Competitor cost assessment	6	18.8	4	12.5	5	15.6	3	9.4	2	6.3	0	0	4	12.5	8	25.0
Competitor performance appraisal	6	18.8	2	6.3	5	15.6	4	12.5	2	6.3	0	0	4	12.5	9	28.1
Customer profitability	8	25.0	3	9.4	6	18.8	3	9.4	2	6.3	0	0	3	9.4	7	21.9
Balanced scorecard	3	9.4	3	9.4	6	18.8	3	9.4	1	3.1	0	0	2	6.3	14	43.8
Lifetime customer profitability analysis	3	9.4	3	9.4	6	18.8	3	9.4	4	12.5	0	0	2	6.3	11	34.4
Quality costing	4	12.5	6	18.8	2	6.3	4	12.5	4	12.5	0	0	3	9.4	9	28.1
Strategic pricing	6	18.8	2	6.3	4	12.5	5	15.6	2	6.3	0	0	3	9.4	10	31.3
Value chain costing	6	18.8	3	9.4	4	12.5	4	12.5	2	6.3	1	3.1	1	3.1	11	34.4

### Appendix III: Management accounting change index

Management accounting techniques	No change	Introduction of new technique	New techniques as replacements	Modification of output	Modification of operations	Abandonment	Not Applicable	Non response	Total	Change Index
Incremental budgeting	6	3	6	8	2	4	3	0	67	46.21
Activity based budgeting	0	3	7	2	4	1	14	1	44	51.76
Zero based budgeting	4	1	7	1	0	0	18	1	18	27.69
Beyond budgeting	1	1	2	2	1	0	24	1	15	42.85
Full/absorption	8	3	7	1	3	1	6	3	37	32.17
Variable/marginal costing	6	2	7	6	3	0	5	3	46	38.33
Activity based costing	4	2	6	4	4	0	9	3	42	42
Residual income	12	4	5	3	2	0	2	4	31	23.85
Sales	14	3	5	5	3	1	0	1	45	29.03
Return on investment	8	4	5	4	3	0	5	3	38	31.66
Economic value added	3	2	5	0	7	0	12	3	40	47.05
Balanced scorecard	4	3	4	2	4	1	10	4	38	42.22
Standard costs and variance analysis	11	2	4	3	5	2	1	4	49	36.29
Customer satisfaction	12	1	5	1	5	0	4	4	34	28.33
Labour efficiency	10	3	5	4	3	1	3	3	42	32.30
Quality and innovation	9	6	5	1	4	1	2	4	40	30.76
On time delivery	10	5	5	1	4	1	4	2	39	30.00
Target costing	4	6	8	1	1	0	10	2	29	29.00
Lifecycle costing	6	3	4	3	2	0	10	4	28	31.11
Benchmarking	9	3	3	5	5	0	5	2	44	35.20
Just-In-time	5	4	4	6	0	0	9	4	30	31.58



Total quality management	8	4	5	2	5	0	4	4	40	33.33
Attribute costing	7	2	2	4	2	0	11	4	26	28.89
Competitive position monitoring	8	3	5	3	5	1	6	1	47	37.60
Competitor cost assessment	6	4	5	3	2	0	8	4	31	31.00
Competitor performance appraisal	6	2	5	4	2	0	9	4	32	33.68
Customer profitability	8	3	6	3	2	0	7	3	32	29.09
Balanced scorecard	3	3	6	3	1	0	14	2	28	35.00
Lifetime customer profitability analysis	3	3	6	3	4	0	11	2	40	42.11
Quality costing	4	6	2	4	4	0	9	3	38	38.00
Strategic pricing	6	2	4	5	2	0	10	3	33	40.00
Value chain costing	6	3	4	4	2	1	11	1	33	33.00

**Appendix IV: Factors facilitating management accounting change.**

**Appendix IV (i) Competition**

**Frequency**

Competition	Negligible		Less negligible		Moderate		Intense		Extremely intense		Non response	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Price competition	5	15.6	0	0	6	18.8	8	25.0	11	34.4	2	6.3
New product development	3	9.4	4	12.5	7	21.9	12	37.5	5	15.6	1	3.1
Marketing/	2	6.3	2	6.3	7	21.9	9	28.1	9	28.1	3	9.4
Competitor's action	1	3.1	1	3.1	6	18.8	12	37.5	10	31.3	2	6.3
Competitor's markets	3	9.4	3	9.4	6	18.8	9	28.1	9	28.1	2	6.3

	N	Minimum	Maximum	Mean	Std. Deviation
Price competition	30	1.00	5.00	3.6667	1.42232
New product development	31	1.00	5.00	3.3871	1.20215
Marketing/ distribution channels	29	1.00	5.00	3.7241	1.19213
Competitor's action	30	1.00	5.00	3.9667	.99943
Competitor's markets/ revenue share	30	1.00	5.00	3.6000	1.30252
Valid N (list wise)	29				

## Appendix IV (ii) Manufacturing Technology

Manufacturing technologies	Frequency											
	Irrelevant		Less irrelevant		Moderate		Important		Extremely important		Non response	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Flexible manufacturing systems	2	6.3	3	9.4	3	9.4	11	34.4	12	37.5	1	3.1
Computer aided manufacturing	4	12.5	3	9.4	3	9.4	12	37.5	9	28.1	1	3.1
Just-In-Time	7	21.9	3	9.4	4	12.5	7	21.9	10	31.3	1	3.1
Computer-int manufacturing	9	28.1	3	9.4	6	18.8	7	21.9	5	15.6	2	6.3
Others	2	6.3	0	0	0	0	3	9.4	2	6.3	25	78

	N	Minimum	Maximum	Mean	Std. Deviation
Flexible manufacturing systems	31	1.00	5.00	3.9032	1.22079
Computer aided manufacturing	31	1.00	5.00	3.6129	1.35837
Just-In-Time	31	1.00	5.00	3.3226	1.57876
Computer Integrated manufacturing	30	1.00	5.00	2.8667	1.50249
Others	7	1.00	5.00	3.4286	1.71825
Valid N (listwise)	7				

## Appendix IV (iii) Organization Strategy

### Frequency

Organization strategy	Irrelevant		Less irrelevant		Moderate		Important		Extremely important		Non response	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Provide on time delivery	0	0	1	3.1	3	9.4	12	37.5	13	40.6	3	9.4
Make dependable delivery promises	0	0	1	3.1	4	12.5	13	40.6	11	34.4	3	9.4
Provide high quality products	0	0	1	3.1	7	21.9	0	0	22	68.8	2	6.3
Provide low costs	3	9.4	1	3.1	8	25.0	9	28.1	8	25.0	3	9.4
Provide unique products	2	6.3	2	6.3	7	21.9	7	21.9	12	37.5	2	6.3

	N	Minimum	Maximum	Mean	Std. Deviation
Provide on time delivery	29	2.00	5.00	4.2759	.79716
Make dependable delivery promises	29	2.00	5.00	4.1724	.80485
Provide high quality products	30	2.00	5.00	4.6667	.66089
Provide low costs	29	1.00	5.00	3.6207	1.23675
Provide unique products	30	1.00	5.00	3.8333	1.23409
Valid N (list wise)	27				

## Appendix IV (iv) Organization size and type

Organization size and type	Frequency											
	Irrelevant		Less irrelevant		Moderate		Important		Extremely important		Non response	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Increase in accounting staff	6	18.8	4	12.5	10	31.3	6	18.8	4	12.5	2	6.3
Expansion	2	6.3	2	6.3	8	25.0	11	34.4	8	25.0	1	3.1
Increase in resources	1	3.1	2	6.3	6	18.8	14	43.8	6	18.8	3	9.4

	N	Minimum	Maximum	Mean	Std. Deviation
Increase in accounting staff	30	1.00	5.00	2.9333	1.31131
Expansion(e.g. new products)	31	1.00	5.00	3.6774	1.13687
Increase in resources	29	1.00	5.00	3.7586	.98761
Valid N (list wise)	29				

## Appendix IV (v) Organization structure

### Frequency

Structural changes	Irrelevant		Less irrelevant		Moderate		Important		Extremely important		Non response	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Decentralization	8	25.0	3	9.4	5	15.6	7	21.9	8	25.0	1	3.1
Improved communication	2	6.3	0	0	4	12.5	10	31.3	13	40.6	3	9.4

	N	Minimum	Maximum	Mean	Std. Deviation
Decentralization	31	1.00	5.00	3.1290	1.56508
Improved communication	29	1.00	5.00	4.1034	1.11307
Valid N (list wise)	29				

## Appendix IV (vi) Overall contextual variables

### Frequency

Overall contextual variables	Irrelevant		Less irrelevant		Moderate		Important		Extremely important		Non response	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Competition	0	0	1	3.1	6	18.8	15	46.9	8	25.0	2	6.3
Manufacturing technology	1	3.1	3	9.4	5	15.6	7	21.9	13	40.6	3	9.4
Organization strategy	0	0	0	0	9	28.1	11	34.4	9	28.1	3	9.4
Organization size and type	1	3.1	4	12.5	9	28.1	8	25.0	7	21.9	3	9.4
Organization structure	3	9.4	3	9.4	8	25.0	6	18.8	9	28.1	3	9.4

	N	Minimum	Maximum	Mean	Std. Deviation
Competition	30	2.00	5.00	4.0000	.78784
Manufacturing technology	29	1.00	5.00	3.9655	1.17967
Organization strategy	29	3.00	5.00	4.0000	.80178
Organization size and type	29	1.00	5.00	3.5517	1.12078
Organization structure	29	1.00	5.00	3.5172	1.32613
Valid N (list wise)	29				

## Appendix V: Regression analysis

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.552(a)	.304	.153	6.12647

a Predictors: (Constant), Organization structure, Competition, Manufacturing technology, Organization strategy, Organization size and type

### ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	377.462	5	75.492	2.011	.115(a)
	Residual	863.273	23	37.534		
	Total	1240.735	28			

### Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95% Confidence interval for B	
	B	Std. Error	Beta	t		Lower bound	Upper bound
(Constant)	20.932	7.845		2.668	.014	4.704	37.160
Competition	4.262	1.722	.498	2.475	.021	.700	7.824
Manufacturing technology	-.024	1.240	-.004	-.019	.985	-2.588	2.541
Organization strategy	-1.814	2.261	-.219	-.802	.431	-6.492	2.864
Organization size and type	-1.740	2.100	-.293	-.828	.416	-6.085	2.605
Organization structure	2.864	1.676	.571	1.709	.101	-.602	6.330



## Appendix VI: Hindrances to management accounting change

Hindrances to management accounting changes	Frequency											
	Irrelevant		Less irrelevant		Moderate		Important		Extremely important		Non response	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Lack of adequate computing resources	7	21.9	2	6.3	5	15.6	5	15.6	10	31.3	3	9.4
Lack of top management support	7	21.9	2	6.3	0	0	8	25.0	12	37.5	3	9.4
Lack of autonomy from parent company	12	37.5	5	15.6	1	3.1	6	18.8	4	12.5	4	12.5
Fear attitude	10	31.3	3	9.4	4	12.5	8	25.0	3	9.4	4	12.5
Others	1	3.1	0	0	1	3.1	2	6.3	1	3.1	27	84.4

	N	Minimum	Maximum	Mean	Std. Deviation
Lack of adequate computing resources	29	1.00	5.00	3.3103	1.60587
Lack of top management support	29	1.00	5.00	3.5517	1.66017
Lack of autonomy from parent company	28	1.00	5.00	2.4643	1.57485
Fear of change attitude	28	1.00	5.00	2.6786	1.49204
Others	5	1.00	5.00	3.4000	1.51658
Valid N (list wise)	5				

**Appendix VII: List of the sampled manufacturing companies that participated in the survey.**

Associated paper manufacturers and stationary.
Athi river mining, marble and granite limited.
Banbros limited
Beta health care
Bidco limited
British American tobacco Kenya limited
Brush manufacturers
Car and general (Tyre and rubber division
Choda fabricators
Cooper Kenya limited.
Crown Berger Kenya limited.
East Africa Portland Cement Company
East African packaging industries limited
Elliot's bakery limited (Uzuri foods limited)

General plastics.
GlaxoSmithKline limited
High chem. East Africa limited
Insteel limited.
Ken pen industries limited
Kenafric industries limited
Kenya grange vehicle industries limited
Kenya stationers limited
Labh Singh Harnam Singh limited.
Mac's pharmaceuticals
Morris and Company (2004) limited.
Pembe flour mills limited
Pfizer laboratories limited
Premier flour mills
Sara lee (Kiwi) limited.
Timsales
Unga group limited
Unilever Kenya limited