

**THE RELATIONSHIP BETWEEN PERFORMANCE MEASUREMENT AND
ORGANISATIONAL CULTURE SYSTEMS IN KENYA MANUFACTURING
SECTOR**

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**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER
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UNIVERSITY OF NAIROBI**



NOVEMBER, 2012

DECLARATION

This management research project is my original work and has not been presented for a degree in any university.

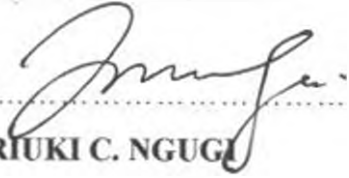
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The management research project has been presented for examination with my approval as the university supervisor.

for: Sign 

Date 

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DEDICATION

This research is dedicated to my dear husband Antony Musau and my wonderful daughter Michelle Malaika.

ACKNOWLEDGEMENT

I would like to express my profound gratitude to my Lecturers, School of Business University of Nairobi, for their contribution in tackling my specific problems in the course of my entire study.

In a more special way, I acknowledge my project supervisor Kariuki C. Ngugifor his immense support given to me during my research as well as my classmates for their continuous moral support.

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TABLE OF CONTENT

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENT	iv
ABSTRACT.....	vii
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the study	1
1.2 Statement of the problem	6
1.3 Objective of the study	7
1.4 Importance of the study	7
CHAPTER TWO: LITERATURE REVIEW.....	9
2.1 Organizational Culture with Competing Values Model	9
2.2. Traditional Versus Contemporary PMS.....	11
2.3. Different Types of Contemporary PMSs.....	13
2.4. Design elements of a PMS.....	15
2.5. Use of a PMS	16
2.6. Determinants of PMS Design and Use	16
2.7. Performance Measurement in Various Cultural Structures	17
2.8. Conceptual Framework.....	19
CHAPTER THREE: RESEARCH METHODOLOGY	21
3.1. Research Design.....	21
3.2. Population	21
3.3. Sampling techniques	21
3.4. Data collection	22
3.5. Data Analysis.....	23

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS.....	24
4.1 Distribution of respondent firms	24
4.2 Performance measurement systems	24
4.3 Organizational culture systems	26
4.4 Relationship between the Organizational Culture and Performance Measurement systems.....	28
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS	31
5.1 Summary	31
5.2 Conclusions.....	31
5.3 Recommendations.....	32
5.4 Limitation of the study	33
5.5 Suggestion for future research	33
REFERENCES.....	34
APPENDIX 1: QUESTIONNAIRE	39
APPENDIX 2: LIST OF MANUFACTURING FIRMS USED IN THIS STUDY.....	43

LIST OF TABLES

Table 2.3.1 Comparison between the Tradition and Contemporary PMSs	14
Table 3.2.1 The Number of Firms in Each Stratum.....	21
Table 3.3.1 The Number of Firms Selected From EachStratum.....	22
Table 4.1.1 Respondent Firms	24
Table 4.2.2 Mean response of the PMS attributes	25
Table 4.3.2Mean response of the organizational culture attributes	27

ABSTRACT

The aim of this study was to determine relationship between organizational culture systems and performance measurement systems (PMS). The objectives are: to establish the organizational culture systems in Kenyan manufacturing sector; to establish performance measurement systems used in Kenyan manufacturing sector; and to establish the relationship between the type of organizational culture and PMS used by the manufacturing sector.

To test this relationship empirically data were collected through a questionnaire survey of manufacturing firms in Kenya. Hierarchical cluster analysis was used to identify two PMS groups and assign them to traditional and contemporary types and two types of organizational culture and assign them to flexible and control cultures.

The study established that the firms which had control culture used traditional PMS and those that had the flexible culture used contemporary PMS. Therefore the culture of an organization plays a key role in determining the type of the PMS used hence there is a relationship between these two variables.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

The essence of management control systems is to manage the tension between creative innovation and predictable goal achievement, and to balance the basic organizational dilemma between control and flexibility (Simons, 1990). Traditionally, management control systems were considered to be formal control and feedback systems used to monitor organizational outcomes and correct deviations from preset standards of performance (Anthony, 1965; Hofstede, 1978). Now, the role of management control systems is to foster flexibility and support organizational change, innovation, and organizational learning (Simons, 1990).

Control and flexibility represent two competing values which are considered to be attributes of organizational culture (Quinn, 1983). Control values refer to predictability, stability, formality, rigidity and conformity while flexibility values refer to spontaneity, change, openness, adaptability and responsiveness. Prior research in accounting has devoted much attention to the role of Management control system (MCS) to emphasize control and, to a lesser extent, to stress flexibility. Implicitly, this research has assumed that MCS are compatible with the combination of control and flexibility values reflected by the organizational culture. However, empirical evidence to support such relationships between MCS and organizational culture is sparse (Barney, 1986). This study aims to articulate and test the relationships between organizational culture and one component of management control systems, namely performance measurement systems.

1.1.1 Organizational culture system

Organizational culture is an idea in the field of organizational studies and management which describes the psychology, attitudes, experiences, beliefs and values of an organization. It has been defined as "the specific collection of values and norms that are shared by people and groups in an organization and that control the way they interact with each other and with stakeholders outside the organization" (Barney,1986).

Hofstede (1991) found that culture contributes to the success of the organization, but not all dimensions contribute the same. It was found that the impacts of these dimensions differ by global regions, which suggests that organizational culture is impacted by national culture. Organizational culture is reflected in the way people perform tasks, set objectives, and administer the necessary resources to achieve objectives. Culture affects the way individuals make decisions, feel, and act in response to the opportunities and threats affecting the organization.

Quinn and Rohrbaugh(1983) developed the Competing Values Model, which has been used to examine various organizational phenomena, including culture. The competing values model incorporates two sets of competing values along two axes: the control/flexibility dilemma which refers to preferences about structure, stability, and change; and the people/organization dilemma which refers to differences in organizational focus. From these two axes emerge four quadrants which reflect four types of culture, namely rational, hierarchical, developmental and group (Quinn and Kimberly, 1984,Quinn, 1988). The rational and hierarchical types are rooted in the value of control while the developmental and group types share emphasis on flexibility (Quinn, 1988).

1.1.2 Performance Measurement System

Performance measurement is the process whereby an organization establishes the parameters within which programs, investments, and acquisitions are reaching the desired results(Henri, 2006).

There are two categories “traditional” and “contemporary” which were essentially borne out of the need to move away from reliance upon financial measures and upon financial control as typified by the work of Kaplan and Norton(1992) and toward the concept of “balance”, where financial and non-financial metrics are used in harmony. Quite what “balance” means depends on who the author is, and therefore a plethora of balanced PMS frameworks has appeared in recent years (Neely et al., 2001). In addition to the balance scorecard, these include the SMART system, strategic measurement analysis and reporting techniques which used a pyramid of measures to integrate performance through the hierarchy of the organization (Cross and Richard, 1988),

The performance measurement matrixproposes a balance between internal and external measures and between cost based and non-cost based measures (Keegan et al., 1989). The performance measurement questionnaire (PMQ) by Dixon et al (1990) provides a mechanism for identifying improvement areas of the company and the associated performance measures. The results and determinants matrix (Fitzgerald et al,1991) is concerned with the causal chain of business success. (Azzone et al, 1991) To identify the most appropriate measures for organizations that have chosen to pursue a strategy of time-based competition. The performance pyramid system by Lynch and Cross(1991) viewed business performance from more than one perspective. The consistent PMS by Flapper et al(1996) consists of defining performance indicators and the relationship between those indicators and setting target values for them. The integrated dynamic performance measurement framework by Ghalayini et al(1997) integrates three primary functions areas of: management; process improvement team; and the factory shop floor.

The Cambridge performance measurement process by Neely et al(2001) used a performance measure record sheet to determine the nature of the measures required and simplify the process of designing measures. The comparative integrated PMS (Kim et al, 1997) proposed a system to provide the integral view of an activity’s performance in a comparative manner such that managers will be able to ultimately identify investment and improvement opportunities, Bititci et al(1997) initiated the development of processes to implement PMSs.

Comprehensive understanding on multiple performance measures is possible with the balanced scorecard concept (BSC) developed by Kaplan and Norton in 1992. BSC can be expressed as the name of a model or mechanism which transforms a firm's organizational strategy to operational concepts (Kaplan and Norton, 2001; Kaplan and Norton, 1992). The model emphasizes, in particular, the terms of "balance" and "measurement". Here, "balance" is explained through four desired factors of the model: long and short-term purposes; financial and non-financial measurements; operation and result indicators, and internal and external perspectives of the organization. The "measurement" gets its meaning in the concise expression of Kaplan and Norton (1996). "If you cannot measure, you cannot manage". BSC reminds us of how the characteristic of performance measurement system are important in affecting the attitude and behavior of the manager and employees.

1.1.3 Performance Measurement and Organizational Culture System

In the performance measurement literature there are many instances where authors have referred to the interplay between performance measurement, organizational culture and management styles. However, there is little empirically based research that has attempted to understand this relationship. Henri (2006), to some extent, described how performance measurement can impact on the way management behaves, described corporate culture as one of the critical factors supporting the use of strategic performance measurement and that there are two main approaches developed in the literature: The need for a culture that supports team-working, ownership and entrepreneurship; and the importance of corporate culture focused on continuous improvement and use of strategic performance measurement system.

BSC can be seen as an indicator of a firm's culture. So, by considering BSC including financial and non-financial measures, we can obtain some impressions about cultural typologies of firms, and how these measures are used by management. In this context, it is possible to argue by considering BSC that there is a positive relationship between control values culture and traditional PMS (Abernethy and Lillis, 1995).

1.1.4 Kenya Manufacturing Sector

The manufacturing sector is a major sector of growth, with its share in gross domestic products (GDP) having risen from 13 percent in 2002 to 15.7 percent in 2007. Kenya, as the most politically stable country in East Africa(<http://www.kenyarep-jp.com/industry>), has attracted a large number of investors who now thrive in many sectors of manufacturing. The manufacturing sector comprises of more than 700 established enterprises and employed over 500,000 people in 2008 (KAM, 2008). According to the Economic Recovery Strategy for Employment and Wealth Creation Report, the manufacturing sector is a major source of growth, with still high potential of growth and investment (<http://www.kenyarep-jp.com/industry>).

The recent introduction of the East Africa Customs Union provides Kenya's manufacturing sector, as the most developed within the region and has a greater opportunity for growth by taking advantage of the enlarged market size, economies of scale, and increased intraregional trade. Some of the major industries include small-scale consumer goods producers, agricultural products processing, oil refining, and cement. Industrial production is confined exclusively to the urban centers, such as Nairobi, Mombasa and Kisumu (<http://www.kenyarep-jp.com/industry>)

Kenyan manufacturing sector, as it is taking the advantage of the enlarged market size, economies of scale, and increased intraregional trade, there is inevitable growth. In the business environment defined by new elements such as high customer satisfaction, technology-intensive production, high competition and rapid change, firms are left with no choice but to adapt to these conditions in order to survive and be successful. These conditions have a direct effect on the organizational structure of businesses and subsequently the organizational culture. Firms which had needed to change from a control-centered culture to a flexible organizational one were left with no choice but to review their management control systems in line with these changing trends (Dent, 1991; Markus and Pfeffer, 1983).

1.2 Statement of the problem

The importance of order and control versus innovation and change is at the heart of ongoing debates in management accounting (Atkinson et al, 2004). The organizational culture has been overlooked in recent PMS studies even though numerous authors over the past decades have argued that organizational culture has had an important effect on MCS (Nudurupati,2003). Prior research on management accounting system (MCS) and culture has focused mainly on national culture instead of organizational culture (Chow and Wu, 1998). The studies which have examined organizational culture have mainly emphasized; budget as component of MCS; accounting firms and reporting; and MCS or management accounting systems as a whole (Dent, 1991; Sunder, 2002). Hence, there is a need to examine PMS and organizational culture from a competing-values perspective, specifically the dilemma of control versus flexibility.

A similar study was performed by MelekEker and SemihEker(2009) in the context of the Turkish Business environment. Specifically investigated in this study are the changes in the aims and measures of PMS used in different organizational cultures by managers. For this, the model developed by Jean-François Henri(2006) is used to understand and analyze the relationship under Turkish conditions. According to the results of logistic regression analysis, firms with a flexible culture tend to use non-financial performance measures and use PMS for aims such as organizational attention-focusing and supporting strategic decision-making more than firms which have a control culture. On the other hand, firms with a control culture tend to use PMS for aims such as monitoring and legitimization more than firms which have a flexible culture.

In Kenya no know study has been done to establish the relationship between the performance measurement and organizational culture in manufacturing sector. Therefore, this study will investigate the relationship between the organizational culture and the PMS used in different organizational cultures by managers. The above study was done in Turkey a developed country while Kenya is a developing country hence it is important for the same study to be done under this different condition. It has been observed that customers are lessbuyers of previous century, their demands and expectations are on the

rise. These facts have created a great challenge for manufacturer to produce best quality at right time and with minimum cost to be competitive in this aggressive market era (<http://www.kenyarep-jp.com/industry>).

This research aims at addressing the relationship between the organizational culture and PMS in Kenya and in the most recent years, thus answering the following research questions: Which organization culture systems are associated with the manufacturing sectors? What type of PMSs is used in the manufacturing sector? Does organizational culture affect the PMS implemented by the managers?

1.3 Objective of the study

This research study aims to establish the relationship between performance measurement and organizational culture systems in manufacturing sector in Kenya.

The specific objectives are:

- (i) To establish the organization culture systems in Kenyan manufacturing sector.
- (ii) To establish performance measurement systems used in Kenyan manufacturing sector.
- (iii) To establish the relationship between the type of organizational culture and performance measurement systems used by the manufacturing sector.

1.4 Importance of the study

With the establishment of the goals given, this study may also be of importance to the goals that have been set. By fulfilling the aims that were stated in the previous section, this study will be useful to various groups as discussed below.

A better understanding of organizational culture will allow practitioners to better assess the organizations' readiness to implement performance measurement systems. The results will provide guidance towards the management styles that would be appropriate when implementing performance measurement systems in different cultural settings.

Establishing the relationship between performance measurement and organizational culture, would provide useful insights and methods for future researchers in this area.

The results will provide executives with an empirical basis for embracing a strong market culture as a means of creating a competitive advantage for their firms and the superior business performance that results.

CHAPTER TWO: LITERATURE REVIEW

This chapter presents a review of the literature on organizational culture and performance measurement systems as presented by various researchers, scholars, analysts and authors. The chapter covers: organizational cultures based on competing value model; traditional versus contemporary PMS; different types of contemporary PMSs; design elements of a PMS; use of a PMS; determinants of PMS design and use; performance measurement in various cultural structures; and conceptual framework

2.1 Organizational Culture with Competing Values Model

Generally, common values, goals and meanings shared by the individuals in the organization form the concept of organizational culture. Many authorities have studied the various dimensions of this concept but they have yet to reach a consensus on the meaning of organizational culture.

Daft(1998) identified organizational culture as the whole of a series of common basic values, beliefs, understandings and norms shared by employees as thinking style and handed on new members. In the same way Quinn (1983) defined organizational culture as a system of shared values and beliefs, which are in interaction with employees to create behavioral norms, organizational structures and control systems. According to this, organizational culture denotes a complex whole composed of the values, beliefs, basic assumptions and symbols determining behavior styles in the organization. Organizational culture, with this characteristic, has a rather wide and intensive effect on firms because business culture determines not only employees, customers, suppliers and rivals related to firms but also the kind of the interaction the firms will have with these basic actors (Barney, 1986).

According to Schein(1985), organizational culture is the contextual structure composed of a series of presumptions for firms. This contextual structure might be invented or developed by a certain group to cope with the problems encountered during the processes of outside adaptation and realization of inside integration. This context, achieved in the course of time, is the sum of a series of original perception, thinking and feeling styles

believed to be valid and true solutions to problems and, with this characteristic, handed on new members.

The most comprehensive definition of organizational culture denotes a system composed of values and thoughts shared by organization members and forming an identity together with one another (Schein, 1985). So, organizational culture can thus be evaluated, forming an ethical ground in the firm of right and wrong behaviors in regard to executives and the decisions they make, it can be regarded as a general framework representing the organizational integrity and, in this respect, holding members together. In this respect, organizational culture as a value and meaning has functions such as having members acquire an identity and characteristic specific to organization, differentiating organization from other organizations and motivating all its members by directing them to shared goals.

Generally, the organizational culture of firms is categorized in two forms. These forms are named flexible and control culture. In today's literature various models are developed on determining organizational culture. In this study, "competing values" is examined. This model is developed by Cameron and Freeman(1999) and Quinn(1983). In the model, the vertical axis strikes continuity from organic processes concerning organization to mechanical processes. A shift is observed in the values, which are important for organizations, toward flexibility, speed and adaptation, and at the other end to stability, control and order. In the horizontal axis, internal state whose organizational importance is relative and external positioning is defined.

In addition the attributes for the organizational culture system have the following features: institutional character shows the behavior of the employees in respect to how they feel about the nature of their firm; institutional leader shows the employee understanding their employer as a hard-driver, organizer, administrator, and innovator; institutional cohesion shows what holds the organization together such as development, rules, policies and loyalty; institutional emphasis it brings out what the organization values in terms of human resource, growth, stability and achievement.

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Flexible culture emphasizes basic values like spontaneity, change, openness, adaptation and sensitivity. Control culture emphasizes predictability, stability, permanence, formality, rigidity and conformity. A flexible or organic culture is suitable for firms in dynamic and unstable environments. In such an environment they have to respond to the continuous change and customer profiles and adapt to conditions rapidly. In such an environment, because of low predictability, a mechanical organizational structure is not suitable for the firms (Leana and Barry,2000).

On the other hand, in a control or mechanical culture, foreseeing, rigid control on decision and activities, structuring communication processes and precisely defined channels, and determining the information transmission and flow styles are basic characteristics. Firms with these cultures are generally in a stable environmental condition where risk and conflict are minimized. If the conditions change to a highly competitive and unstable market, firms have to change their cultural structure. As conditions can change from time to time, firms should adopt a control or flexible culture or both at the same time. Observing any firms at any time, we can notice that sometimes control values or flexible values are evident (Leana and Barry, 2000).

2.2. Traditional Versus Contemporary PMS

Past PMSs have been primarily based on management accounting systems to control, monitor and improve operations (Ghalayini et al., 1997). Traditionally, financial budgets have served as the primary constituent of PMSs in organizations. Manoochehri(1999) stated that most companies were still using concepts and practices developed from accounting systems in the 1920s. Bourne et al (2000) claimed that since the late 1970s and 1980s, traditional PMSs have been criticized due to their shortcomings, and by the mid-1980s there were many vocal and well-respected critics of traditional PMSs (Johnson and Kaplan,1987). Ghalayini and Noble(1996) asserted that criticism heightened during the 1980s when companies in the UK and US began to lose market share to overseas competitors, such as from Japan, who were able to provide higher-quality products with lower costs and more variety.

According to Eccles(1991) during this period, many executives saw their companies' strong financial records deteriorate because of unnoticed declines in non-financial performance areas or because global competitors overtook them in these areas. Apart from academic papers and critiques, direct evidence exists that managers feel that traditional accounting-based measurement systems are no longer adequate to fulfill these functions for example, the Institute of Management Accountants(IMA)(1996) survey in the USA in 1996. The survey demonstrated that only 15 percent of the respondents felt their measurement systems supported top management's business objectives well, while 43 percent were less than adequate or poor. Sixty percent of the IMA respondents reported that they were undertaking a major overhaul or planning to replace their PMSs.

Ghalayini and Noble(1996) argued that to regain a competitive edge companies not only shifted their strategic priorities from low-cost production to quality, flexibility, short lead times and dependable delivery, but also implemented new PMSs to replace the traditional PMS. Eccles(1991) discovered that senior managers in large high-tech and smaller manufacturing organizations had recently taken direct responsibility for adding non-financial measures such as customer satisfaction, quality, market share, human resources, manufacturing effectiveness and innovation to their existing PMSs. Kaplan(1987) believed that integrating the non-financial data provided by manufacturing into the existing management accounting systems (PMSs) represents, in itself, a significant and necessary challenge. The surveys mentioned above seem to suggest that, not surprisingly, many traditional PMSs have proved to be unsuitable or even counter-productive in achieving desired performance (Dhavale, 1996).

Barsky and Bremser (1999) stated that as the pace of change continues to accelerate in the global economy it is important for firms to move beyond lagging financial performance indicators to consider variables that contribute to long-term value creation. Kaplan(1991) found that traditional summary measures are harmful and should be eliminated, since they conflict with attempts to improve quality, reduce inventories and increase flexibility. Direct measurement is needed for quality, process time, delivery performance and any other operating performance criterion that needs to be improved

(Kaplan, 1991). This suggests that for businesses to survive in a competitive marketplace, new and well-designed PMSs are required to overcome the limitations of traditional PMSs. Thus a common understanding has developed in the literature that there exists a “traditional” approach, which relies on financial measures, and a more balanced or “contemporary” approach which depends on a wide range of financial and non-financial measures (Richardson and Gordon, 1980; Kaplan and Norton, 1992). Many organizations have discovered one of the hidden benefits of matching performance measures and strategies through deploying performance measures that also encourage the implementation of strategy (Neely, 2001). As a result, the choice of performance measures, and the system, is one of the most critical challenges facing organizations in all business sectors.

2.3. Different Types of Contemporary PMSs

The recognition of the categories “traditional” and “contemporary” was essentially borne out of the need to move away from reliance upon financial measures and upon financial control as typified by the work of Kaplan and Norton(1992) and toward the concept of “balance”, where financial and non-financial metrics are used in harmony. Quite what “balance” means depends on who the author is, and therefore a plethora of balanced PMS frameworks has appeared in recent years (Neely et al., 2001).

In addition to the BSC these include the SMART system, strategic measurement analysis and reporting techniques, which used a pyramid of measures to integrate performance through the hierarchy of the organization(Cross and Richard, 1988). The performance measurement matrix (Keegan et al, 1989) proposes a balance between internal and external and between cost based and non-cost based measures. The performance measurement questionnaire (PMQ) by Dixon et al(1990) provides a mechanism for identifying improvement areas of the company and the associated performance measures. The results and determinants matrix (Fitzgerald et al,1991) is concerned with the causal chain of business success. Azzone et al(1991) seek to identify the most appropriate measures for organizations that have chosen to pursue a strategy of time-based

competition. The performance pyramid system by Lynch and Cross (1991) viewed business performance from more than one perspective.

The consistent PMS by Flapper et al (1996) consists of defining performance indicators and the relationship between those indicators and setting target values for them. The integrated dynamic performance measurement framework (Ghalayini et al., 1997) integrates three primary functions areas of: management; process improvement team; and the factory shop floor. The Cambridge performance measurement process by Neely et al (1997) used a performance measure record sheet to determine the nature of the measures. Kim et al (1997) proposed a system to provide the integral view of an activity's performance in a comparative manner such that managers will be able to ultimately identify investment and improvement opportunities. Bititci et al (1997) initiated the development of processes to implement PMSs. In general, the features of these traditional and contemporary types of PMS can be summarized as in table 2.3.1.

Table 2.3.1: Comparison between the Tradition and Contemporary PMSs

Items	Tradition financial based PMSs	contemporary PMSs
Basis of system	Accounting standard	Company strategy
Types of measures	Financial	Financial and non-financial
Focus of measures	Internal, historical	Internal and external, future oriented
Audience	Middle and top managers	All employees
Shop floor Relevance	Ignored	Used
Frequency	Lagging (weekly or monthly)	Real-time (hourly or daily)
Maintenance	Expensive	Relevant and easy
Integration	Ignored	Integration exists
Linkage with reality	Indirect, misleading	Simple, accurate, direct
Local-global relevance	Static, non-varying	Dynamic, situation structure dependent
Stability	Static, non-changing	Dynamic, situation timing dependent
Format	Fixed	Flexible/variable
Purpose	Monitoring	Improvement
Function	Allocate blame	Encourage creative and learning
Decision making	Structured	Unstructured
Effect on continuous improvement	Impedes	Supports/stimulates
Linked to strategy	No/less link to strategy	Derived from strategy

2.4. Design elements of a PMS

A PMS should provide timely, accurate feedback on the efficiency and effectiveness of an activity or operation in any business environment (Kim et al., 1997). Globerson(1985) has stated that a PMS of an organization should include: a set of well-designed and measurable criterion; standards of performance for each criterion; routines to measure each criterion; procedures to compare actual performance to that defined in the standard; and procedures for dealing with discrepancies between actual and desired performance. Dixon et al(1990), Neely et al(2001) further argued that the PMS itself typically comprises several key elements, including: a set of procedures for collecting and processing data; timetables and protocols for distributing information about performance to users within and outside the organization; an organizational learning mechanism to identify what actions can be taken to further improve performance; and a review process which ensures that the PMS is regularly updated.

Barsky and Bremser(1999) emphasize that PMSs have to be designed with a great deal of care to ensure that in optimizing personal, group, departmental or divisional performance, employees do not jeopardize the organization's collective performance. Poorly designed or poorly implemented PMSs can encourage dysfunctional and sub-optimal working throughout an organization (Dhavale, 1996). A range of characteristics can be perceived that enhance PMS, such as: linking to the business strategy (Keegan et al., 1989, Dixon et al., 1990); linking measures hierarchically from strategy through to operational detail (Dixon et al., 1990; Lynch and Cross,1991); balanced measures such as financial and non-financial (Feurer and Chaharbaghi,1995) and internal and external (Waggoner et al., 1999); the system should be easy to understand, be simple to use and provide timely information (Dixon et al.,1990; Lynch and Cross, 1991); providing a feedback mechanism to enable the corrective actions and flow of information to decision-making function of the company (Bititci et al.,2006); and allowing ongoing updating and changes as needed (Ghalayini and Noble,1996).

2.5. Use of a PMS

Research in information systems teaches that the use of an information system (IS) is often different from the purpose for which it was designed and the technical capability of the IS design may not match with the user's needs. IS research also shows that IS systems have a high failure rate so it is not surprising that commentators (McCunn, 1998) allege PMS failure rates of 70 per cent.

According to Feurer and Chaharbaghi (1995), the way in which PMSs are used can differ widely from financial reporting to controlling employee performance. PMSs can provide quality information to managers to help understand when their programs are succeeding or failing (Cook et al., 1995). Tatikonda (1998) noted that PMSs are an integral part of management control systems through which management ensures resources are obtained and used efficiently and effectively in accomplishing organizational goals. PMSs are well recognized as a tool to influence behavior (Eccles, 1991; Neely et al., 2001).

2.6. Determinants of PMS Design and Use

No single design of PMS would serve all organizations, and therefore organizations should adapt and update their PMS in the light of changes in the internal and external business environments (Neely and Bourne, 2000). Typical external factors affecting organizations and thus potentially driving the need for such adaptation could include changed levels of competition, new IT and other technologies, the changing nature of work and changing demands such as deregulation. In addition, different organizational factors may influence the nature of PMS (re)design and use, such as size, age, ownership, culture and strategy. The latter fall squarely in the domain of contingency theory, with key authors in the field (Lawrence and Lorsch, 1967) suggesting such factors affect the way organizations design and use their management systems.

From this viewpoint it can be argued that contemporary PMSs should fit better to the environment and strategy than traditional ones. The use of BSC has been correlated with firm size; with larger firms more likely users (Speckbacher et al., 2003). Garengo et al (2005) examine the particular constraints on PMS design that explain this lower use by

SMEs. Using a contingency approach, Davila(2005) selects age, size and venture capital as drivers of the emergence of formal management control systems. Bititici et al(2006) conclude that the design and use of a PMS interacts with culture.

2.7. Performance Measurement in Various Cultural Structures

Performance measures are different in different cultures. Since control cultures consider values like stability, hierarchy and formality, measures are often financial. On the other hand, in flexible cultures, change, adaptation, and creativity are some evident values. Performance measures therefore can generally contain non-financial measures. Today, flexible culture and naturally multiple performance measures can be seen as the most important concepts in a dynamic and changing environment. Because of their structural features, flexible firms prefer to use multiple performance measures including financial and non-financial activities and measures (Marrow, 1992).

Comprehensive understanding on multiple performance measures is possible with the balanced scorecard concept (BSC) developed by Kaplan and Norton in 1992. BSC can be expressed as the name of a model or mechanism which transforms a firm's organizational strategy to operational concepts (Kaplan and Norton, 2001; Kaplan and Norton, 1992). The model emphasizes, in particular, the terms of "balance" and "measurement". Here, "balance" is explained through four desired factors of the model: long and short-term purposes; financial and non-financial measurements; operation and result indicators, and internal and external perspectives of the organization. The "measurement" gets its meaning in the concise expression of Kaplan and Norton (1996) "if you cannot measure, you cannot manage". Briefly, BSC reminds us once more of how the characteristic of performance measurement system is important in affecting the attitude and behavior of the manager and employees.

BSC has four sub-dimensions. Firstly, the financial performance measures are the focal point for the target and measures of the other three perspectives in BSC. In this sense, financial performance measures will be considered as the outcome of the operational actions. Therefore, each selected measure needs to be a part of the cause-and-effect

relationship leading to an improvement in financial performance. These measures are likely to be factors such as sales amount, market share, new customers, new markets, cash flow and return on capital (Morrow, 1992).

Secondly, the customer performance measures are an essential vision and mission indicator because being customer-focused is one of basic values of today. In order to implement the company mission, specific measures reflecting critical factors including time, quality, and cost of which customers are aware should be determined. Hence, it is possible to list these basic measures as customer satisfaction, customer loyalty, gaining new customers, customer profitability, and market and customer shares in targeted scope (Morrow, 1992).

Thirdly, the internal operation measures are obtained by focusing on actions and work process addressing critical success factors in empowering shareholder and customer satisfaction (Keegan et al., 1989). However, the most important key point that must not be ignored here is the necessity of defining and evaluating an exact internal operation value chain in the phases of design and development, and production and commercializing in order to create value for both customer and shareholder. These aforementioned internal operation measures include the duration spent presenting a new product to the market, number of new products, sales percentage of new products, rate of defect, duration of production, production cost and just-in-time delivery.

Finally, learning and growth measures constitute the idea that achieving the targets related with finance, customer and internal operations greatly depends on the learning and growth capability of the organization. Learning and growth measures especially address the question of what type of route should be followed in order for internal operation methods to be improved. These measures are employee-centered and focused on employee satisfaction, productivity and sustainability.

BSC can be seen as an indicator of a firm's culture. So, by considering BSC including financial and non-financial measures, we can obtain some impressions about cultural

typologies of firms, and how these measures are used by management. In this context, it's possible to argue by considering BSC that there is a positive relationship between control values culture and traditional PMS (Abermetyh and Lillis, 1995).

In addition the PMS have attributes which have the following features: well-roundedness that reflects the comprehensiveness of the PMS in covering catering for future needs, coordinating between departments and levels in the hierarchy, and incorporating strategic objectives; extensive coverage which demonstrates a broad coverage of all measurement areas by incorporating external and internal aspects; balanced measures which addresses the balance between financial and non-financial measures; ad hoc decision which shows the degree to which the PMS supports the organization in dealing with novel and unplanned situations through one-off and complex decisions; speedy and influential feedback that deals with providing fast feedback on performance against organizational objectives to influence both employees and senior managers; managerial commitment and purposefulness which is concerned with the extent to which the system is used to report to both middle and senior management; simplicity and accuracy that shows how the system is simple and easy to follow while providing accurate and timely information; objectives and goals which deals with the extent to which the system is focused on achieving the organization's goals (Neely and Bourne, 2000).

Therefore, it's possible to contend that while non-financial performance measurement systems show harmony with flexible cultural structures and high organizational performance on the other hand financial measures are suitable with control cultural structures (Banker et al., 1993).

2.8. Conceptual Framework

Organizational culture has two variables which are, control and flexible values. Flexibility value firms are expected to be associated with financial and non - financial performance measures systems to a greater extent than control value firms. On the other hand the control value firms are expected to be associated with financial performance measures to a greater extent than flexibility value firms.

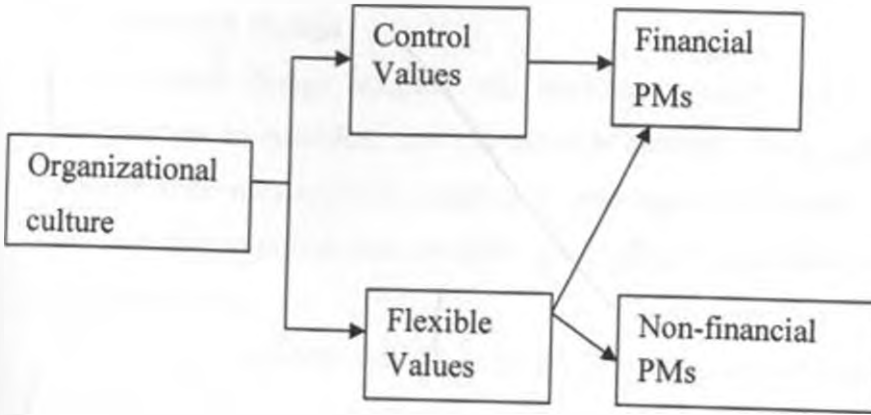


Fig.1. Conceptual model

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Research Design

The research design adopted was exploratory study because I gathered preliminary information to establish the relationship between the organizational culture and the performance measurement systems in manufacturing sector in Kenya. The study also involves two variables that are PMS and organizational culture system.

3.2. Population

The target population was 70 large private manufacturing entities in Kenya, which are members of Kenya Association of Manufacturers (KAM) and are located in Nairobi's industrial area and Baba Ndogo in Kariobangi (<http://www.kenyarep-jp.com/industry>).

Table 3.2.1 The Number of Firms in Each Stratum.

Manufacturing Firms	strata	%
Cement Industries	4	5.7
Textile and leather tannery industries	4	5.7
Cosmetic industries	5	7
Food and drinks Industries	14	20
Plastics Industries	21	30
Paint Industries	10	14
Adhesive Industries	4	5.7
Shoe polish Industries	4	5.7
Pesticides industries	4	5.7
Total	70	100

3.3. Sampling techniques

The sampling technique used in this study was the stratified sampling where the population has been divided into strata based on what they manufacture. Firms were selected at random from each subgroup using the following formula: (www.westfallteam.com)

$$n_i = \frac{N_i \times n}{N}$$

where N_i = number of sample units from stratum I, N = total number of the units in the population, N_i = the total number of units in the stratum, n = sample size desired

Table 3.3.1 The Number of Firms Selected From Each Stratum.

Manufacturing Firms	N_i	Sample(n_i)
Cement Industries	4	3
Textile and leather tannery industries	4	3
Cosmetic industries	5	4
Food and drinks Industries	14	12
Plastics Industries	21	19
Paint Industries	10	9
Adhesive Industries	4	3
Shoe polish Industries	4	4
Pesticides industries	4	3
Total	70	60

3.4. Data collection

Primary data has been used in the study since the data has been collected from first-hand experience. Data was collected using a structured questionnaire which comprised of two sections with questions formatted on likert scale of 1-5.

The first section was to determine the organizational culture used by the firms and it had four attributes which include; Institutional Character, Institutional Leader, Institutional Cohesion and Institutional Emphasis.

The second section was to determine PMSs used by the firms and it had eight attributes which include: well-roundedness, extensive coverage, balanced measures, Ad hoc decision, speedy and influential feedback, managerial commitment and purposefulness, simplicity and accuracy, objectives and goals.

The questionnaires were sent to the top management team who included general and procurement managers and each firm was given two questionnaires. Since the sample was large and the questionnaire had simple questions, the study used drop and pick method as well as emailed the questionnaire to the respondents.

3.5. Data Analysis

The descriptive data analysis was used to calculate mean scores, standard deviations and the correlation of the attributes indicating the organizational culture and the PMS for each firm. The mean scores measured the level of usage of the attributes, where the global mean of the PMS attributes is less than 3.5 it implies that they use traditional measures and when it is above 3.5 they use conventional measures. When the global mean of the organizational culture is less than 3.5 they have control values and above 3.5 have flexible values. Standard deviation measured the level of the variance of the attributes of the organizational culture and PMS used.

Based on the results the two PMS types were identified based on the four sub dimensions of balance scorecard that is financial, customer, internal business processes, and learning and growth, as well as how the type of organizational culture related to PMS implemented by the managers (Kothari, 2006). The data was analyzed using The Statistical Package for Social Sciences.

The study used hierarchical cluster analysis, based on Ward's method (Hair et., 1998) to identify the two organizational cultures (Deshponde and Farley, 2004) by using the "competing values" model. Respondents were asked to indicate on a likert scale of 1-5 among the two ideal cultural types along each of the following four dimensions of culture: institutional character; institutional leader; institutional cohesion; and institutional emphases.

The organizational culture and the PMS variables have a moderate positive correlation of 0.044 hence there is a relationship between the organizational culture and PMS.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

This chapter covers: distribution of respondent; PMS, organizational culture system and relationship between Organizational culture and PMS

4.1 Distribution of respondent firms

This chapter presents the data that was collected from the primary sources using questionnaires, filled by the top managers of the sampled manufacturing firms. The industry distributions of the sample respondent firms are presented in Table 4.1.1

Table 4.1.1 Respondent Firms

61.7% firms responded and this was a good numbers of firms to work with in this study.

Manufacturing Firms	Sample	Respondent	Percentage
Cement Industries	3	2	66.7
Textile and leather industries	3	3	100
Cosmetic industries	4	3	75
Food and drinks Industries	12	4	33.3
Plastics Industries	19	12	63.2
Paint Industries	9	6	66.7
Adhesive Industries	3	2	66.7
Shoe polish Industries	4	4	100
Pesticides industries	3	1	33.3
Total	60	37	61.7

4.2 Performance measurement systems

To distinguish whether the firm is traditional or contemporary the global mean score for the attributes of the PMS was determined. The performance measurement system firms that had global mean score below 3.5 were considered as using traditional performance measures and those that had a mean score above 3.5 were considered as using contemporary performance measures.

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4.2.1 Attributes for the PMS

These attributes include: well-roundedness, extensive coverage, balanced measures, Ad hoc decision, speedy and influential feedback, managerial commitment and purposefulness, simplicity and accuracy, objectives and goals.

Table 4.2.2 Mean response on a likert scale of 1-5 of the PMS attributes

FIRMS	MEAN OF ALL THE ATTRIBUTES	STD OF ALL THE ATTRIBUTES
1.	3.78	0.36
2.	4.32	0.11
3.	4.00	0.21
4.	2.9	0.52
5.	2.92	0.48
6.	3.95	0.19
7.	4.14	0.38
8.	2.80	0.71
9.	4.15	0.26
10.	2.88	0.62
11.	2.90	0.67
12.	2.64	0.71
13.	4.17	0.2
14.	4.33	0.34
15.	4.29	0.29
16.	4.1	0.24
17.	4.14	0.24
18.	4.32	0.13
19.	2.77	0.71
20.	2.93	0.76
21.	4.15	0.26
22.	2.9	0.35
23.	3.05	0.6

24.	2.81	0.52
25.	4.14	0.38
26.	4.29	0.33
27.	4.13	0.31
28.	4.2	0.28
29.	3.12	0.94
30.	2.95	0.32
31.	3.05	0.68
32.	2.92	0.76
33.	3.17	0.22
34.	4.22	0.46
35.	4.16	0.17
36.	4.26	0.08
37.	4.08	0.22

Using the cluster analysis two distinct categories of the PMS were established from the firm's mean score of the eight attributes of the PMS. The table indicates that 16 firms have global attributes mean score between 1 and 3.5 hence they use traditional performance measures and 21 firms have a mean score between 3.5 and 5 hence they use the contemporary performance measures.

4.3 Organizational culture systems

To distinguish whether the firm use flexible or control values the global mean score for the attributes of the organizational culture was determined. The organizational culture system firms with global mean scores less than 3.5 are classified as having control values and those with mean scores above 3.5 as having flexible values.

4.3.1 Attributes for organizational culture systems

The attributes for the organizational culture system include: Institutional Character, Institutional Leader, Institutional Cohesion and Institutional Emphasis.

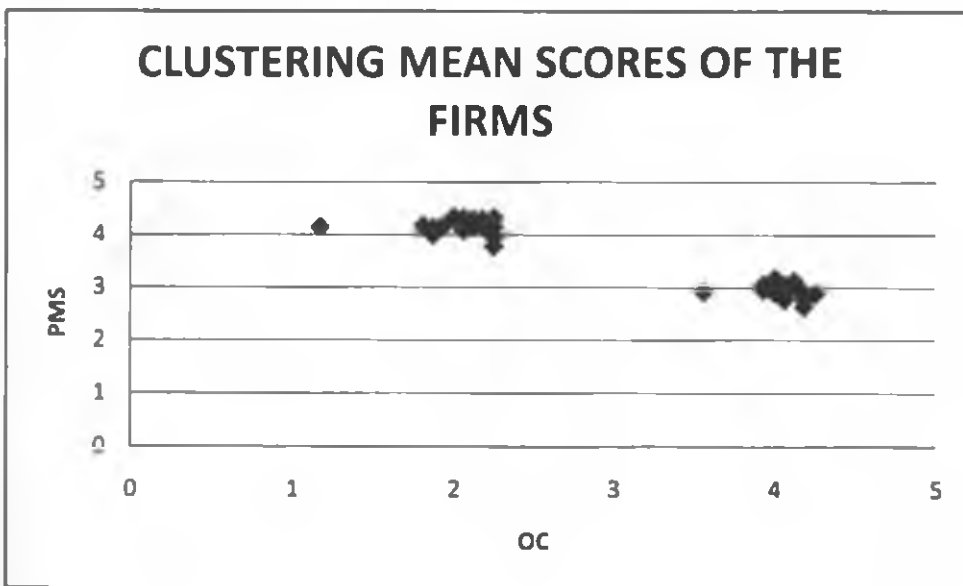
Table: 4.3.2 Mean response on a likert scale of 1-5 of the organizational culture attributes

FIRMS	MEAN OF ALL THE ATTRIBUTES	STD OF ALL THE ATTRIBUTES
1.	2.25	0.39
2.	2.25	0.37
3.	1.87	0.21
4.	4.18	0.14
5.	4.06	0.18
6.	2.25	0.39
7.	1.17	0.45
8.	4.06	0.22
9.	1.93	0.42
10.	4.25	0.12
11.	4.0	0.21
12.	4.18	0.34
13.	1.81	0.75
14.	2.0	0.66
15.	2.18	0.42
16.	2.06	0.74
17.	2.18	0.57
18.	2.06	0.63
19.	4.06	0.18
20.	4.0	0.21
21.	2.25	0.48
22.	4.06	0.16
23.	3.93	0.13
24.	4.18	0.45
25.	2.12	0.57
26.	2.12	0.45
27.	1.87	0.37
28.	2.18	0.57
29.	4.12	0.27
30.	3.93	0.61
31.	4.06	0.22
32.	3.56	0.18
33.	4	0.21
34.	2.07	0.60
35.	1.93	0.62
36.	2.12	0.48
37.	2.06	0.54

Using cluster analysis, two distinct categories of organizational culture were established from the firm's mean scores for each of the four factors related to the Institutional behavior. The table indicates that 16 firms had a global attribute mean scores between 1 and 3.5 implying the use of control values and 21 firms had mean score between 3.5 and 5 implying the use of flexible values.

4.4 Relationship between the Organizational Culture and Performance Measurement systems

According to this mean score results it is clear that the flexibility culture used the cotemporary PMS and the mean for both variables were between 3.5 and 5 and this represents cluster 1. On the other hand control culture used the traditional PMS, and the mean for both variables were between 1 and <3. 5 and this represents cluster 2.



These mean score shows that the firms which have control culture use traditional PMS and those that have the flexible culture use contemporary PMS. Therefore the culture of the organization determines the type the PMS used hence there is a relationship between these two variables.

FIRMS	MEAN OF ALL THE OC ATTRIBUTES (x)	MEAN OF ALL THE PMS ATTRIBUTES (y)	XY	X ²	Y ²
1.	2.25	3.78	8.505	5.0625	14.2884
2.	2.25	4.32	9.72	5.0625	18.6624
3.	1.87	4	7.48	3.4969	16
4.	4.18	2.9	12.122	17.4724	8.41
5.	4.06	2.92	11.8552	16.4836	8.5264
6.	2.25	3.95	8.8875	5.0625	15.6025
7.	1.17	4.14	4.8438	1.3689	17.1396
8.	4.06	2.8	11.368	16.4836	7.84
9.	1.93	4.15	8.0095	3.7249	17.2225
10.	4.25	2.88	12.24	18.0625	8.2944
11.	4	2.9	11.6	16	8.41
12.	4.18	2.64	11.0352	17.4724	6.9696
13.	1.81	4.17	7.5477	3.2761	17.3889
14.	2	4.33	8.66	4	18.7489
15.	2.18	4.29	9.3522	4.7524	18.4041
16.	2.06	4.1	8.446	4.2436	16.81
17.	2.18	4.14	9.0252	4.7524	17.1396
18.	2.06	4.32	8.8992	4.2436	18.6624
19.	4.06	2.77	11.2462	16.4836	7.6729
20.	4	2.93	11.72	16	8.5849
21.	2.25	4.15	9.3375	5.0625	17.2225
22.	4.06	2.9	11.774	16.4836	8.41
23.	3.93	3.05	11.9865	15.4449	9.3025
24.	4.18	2.81	11.7458	17.4724	7.8961
25.	2.12	4.14	8.7768	4.4944	17.1396
26.	2.12	4.29	9.0948	4.4944	18.4041
27.	1.87	4.13	7.7231	3.4969	17.0569
28.	2.18	4.2	9.156	4.7524	17.64
29.	4.12	3.12	12.8544	16.9744	9.7344
30.	3.93	2.95	11.5935	15.4449	8.7025
31.	4.06	3.05	12.383	16.4836	9.3025
32.	3.56	2.92	10.3952	12.6736	8.5264
33.	4	3.17	12.68	16	10.0489
34.	2.07	4.22	8.7354	4.2849	17.8084
35.	1.93	4.16	8.0288	3.7249	17.3056
36.	2.12	4.26	9.0312	4.4944	18.1476
37.	2.06	4.08	8.4048	4.2436	16.6464
TOTALS	107.36	134.03	366.2635	349.5302	500.0719

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Using the above formula we get that $r=0.044$

The organizational culture and PMS variables have a moderate positive correlation.

Since the study show that the firms which have control culture use traditional PMS and those that have the flexible culture use contemporary PMS. Therefore, the culture of the organization determines the type the PMS used hence there is a moderate positive relationship between these two variables.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

This chapter covers the conclusions and the recommendations on the PMS, organizational culture system and relationship between Organizational culture and PMS.

5.1 Summary

The aim of this study is to determine relationship between organizational culture systems and performance measurement systems (PMS). The objectives are: to establish the organizational culture systems in Kenyan manufacturing sector; to establish performance measurement systems used in Kenyan manufacturing sector; and to establish the relationship between the type of organizational culture and PMS used by the manufacturing sector.

To test this relationship empirically data were collected through a questionnaire survey of manufacturing firms in Kenya. Hierarchical cluster analysis was used to identify two PMS groups and assign them to traditional and contemporary types and two types of organizational culture and assign them to flexible and control cultures.

The study established that the firms which had control culture used traditional PMS and those that had the flexible culture used contemporary PMS. Therefore the culture of an organization plays a key role in determining the type of the PMS used hence there is a moderate positive correlation between these two variables.

5.2 Conclusions

From the study it is clear that the performance measurement systems used in Kenyan manufacturing sector are mainly the traditional and conventional measures. The firms that used traditional measures had control values and those that used conventional measures had flexible values. Hence the PMS of the firm depended on the type organizational culture used.

The results of the study also show that the organizational culture systems used in the Kenyan manufacturing firms are mainly control and flexible values. The firms that

have control values use traditional measures while those that have flexible values use conventional measures. Hence the organizational culture determines the type of the PMS used.

Based on the results of the study and what had earlier been envisaged, it is clear that firms which have control culture use traditional PMS and those that have the flexible culture use contemporary PMS hence there is a moderate positive correlation between these two variables. Therefore, Kenyan manufacturing firms have a moderate positive relationship between the performance measurements and organizational culture systems.

5.3 Recommendations

Based on the findings that the PMS depend on the organizational culture of the firm, to regain a competitive edge companies should shift their strategic priorities not only from low-cost production to quality, flexibility, short lead times and dependable delivery, but also implemented new PMSs to replace the traditional PMS.

Based on the findings that, common values, goals and meanings shared by the individuals in the organization form the concept of organizational culture which determines the type of the PMS to be used, to increase the organizational success different culture environment should have different PMS.

Since it is clear that the organizational culture and the PMS have a moderate positive relationship, managers have to define organizational culture and design convenient PMS to existing organizational culture, because if there is an incompatibility between PMS and organizational culture, a designed system may fail to reach any success for business. So, top management must provide an appropriate PMS to the decision-making needs and organizational culture.

5.4 Limitation of the study

The sample was composed of only top managers of the top 60 manufacturing firms in Kenya and only 37 responded hence this did not give a chance to the junior employees. Therefore, a more comprehensive sample may be useful for future studies and cover both senior and junior employees.

5.5 Suggestion for future research

This study examined the relationship between an organizational culture and a performance measurement system. Future researches may include variables such as four different types of organizational culture (clan, adhocracy, hierarchy and market), diagnostic and interactive of PMS, sub dimensions of BSC, four sub dimensions of management accounting system (scope, timeliness, aggregation, integration), advanced manufacturing and management techniques (CAM, JIT and TQM), competition, organizational performance and national culture. In this context, future researches may test how sub dimensions of BSC and aims of PMS affect organizational performance, depending on four different types of organizational culture.

Finally, future researches could also attempt to determine the adequate fit between organizational values, diversity of measurement, and PMS use to improve organizational performance.

REFERENCES

- Azzone, G., Masella, C. and Bertele, U. (1991), "*Design of performance measures for time-based companies*", International Journal of Operations & Production Management, Vol. 11 No. 3, pp. 77-85.
- Abernethy, M.A. and C.H. Guthrie (1995) "*An Empirical Assessment Of The "Fit" Between Strategy and Management Information System Design.*" Accounting and Finance November: 49-66.
- Anthony, R.N. (1965), "*Planning and Control Systems*", A Framework For Analysis. Boston: Graduate School Of Business Administration, Harvard University.
- Atkinson, A.A., R.S. Kaplan, and S.M. Young, (2004) "*Management Accounting, Fourth Edition, New Jersey*", Pearson Prentice Hall.
- Banker, R., G. Potter, and R. Schroeder, (1993) "*Reporting Manufacturing Performance Measures to Workers: An Empirical Study.*" Journal of Management Accounting Research 5: 33-55.
- Barney, J.B. (1986) "*Organizational Culture: Can It Be A Source Of Sustained Competitive Advantage?*" Academy Of Management Review 11(3): 656-665.
- Barsky, N.P. and Bremser, W.G. (1999), "*Performance measurement, budgeting and strategic implementation in the multinational enterprise*", International Journal of Operations & Production Management, Vol. 25 No. 2, pp. 3-15.
- Bititci, S., Carrie, A.S. and McDevitt, L. (1997), "*Integrated performance measurement system a development guide*", International Journal of Operations & Production Management, Vol. 17 No. 5, pp. 522-34.
- Bourne, M., Mills, J., Wilcox, M., Neely, A. and Platts, K. (2000), "*Designing, implementing and updating performance measurement systems*", International Journal of Operations & Production Management, Vol. 20 No. 7, pp. 754-71.
- Cameron, K.S. and R.E. Quinn, (1999), "*Diagnosing and Changing Organizational Culture Based on The Competing Values Framework*". Upper Saddle River.
- Chatman, J.A. and K.A. Jehn, (1994) "*Assessing the Relationship Between Industry Characteristics and Organizational Culture: How Different Can You Be.*" Academy of Management Journal 37(3): 522-553.

- Chow, C.W., Shields, M.D. and Wu, A. (1998) "*The Importance of National Culture in the Design of and Preference for Management Controls for Multi-National Operations*". Accounting, Organizations and Society (In Press) Paper presented at the ASO Comparative Management Accounting Conference, University Of Siem, Italy, and November 1996.
- Cook, T.J., Vansant, J., Stewart, L. and Adrian, J. (1995), "*Performance measurement: lessons learned for development management*", World Development, Vol. 23 No. 8, pp. 1303-15.
- Cross, K.F. and Richard, L. (1988), "*The SMART way to define and sustain success*". National Productivity Review, New York, Vol. 8 No. 1, pp. 23-34.
- Daft, R.L. (1998), "*Organisation Theory and Design*" South-Western College Publishing, Cincinnati, OH.
- Davila, T. (2005), "*An exploratory study on the emergence of management control systems: formalizing human resources in small growing firms*", Accounting, Organizations and Society, Vol. 30, pp. 225-48.
- Deshpande, R. and J.U. Farley (2004), "*Organizational Culture, Market Orientation, Innovativeness, and Firm Performance: An International Research Odyssey.*" International Journal Of Research in Marketing 21 (1): 3-22.
- Dhavale, D.G. (1996), "*Problems with existing manufacturing performance measures*", Journal of Cost Management, Vol. 9 No. 4, pp. 50-60.
- Dixon, J., Nanni, A. and Vollmann, T. (1990), "*The New Performance Challenge: Measuring Operations for World-Class Competition.*" Dow Jones Irwin, Homewood, IL.
- Dent, J.F. (1991) "*Accounting and Organizational Cultures: A Field Study Of The Emergence Of A New Organizational Reality.*" Accounting, Organizations and Society 16 (8): 705-732.
- Eccles, R.G. (1991), "*The performance measurement manifesto*", Harvard Business Review, Vol. 69, pp. 131-7.
- Feurer, R. and Chaharbaghi, K. (1995), "*Performance measurement in strategic change*", Benchmarking for Quality Management and Technology, Vol. 2 No. 2, pp. 64-83.

- Fitzgerald, L., Brignall, T.J., Johnston, R. and Silvestro, R. (1991), "Performance measurement in service businesses", *Management Accounting*, November, pp. 34-6.
- Flapper, S.D.P., Fortuin, L. and Stoop, P.P.M. (1996), "*Towards consistent performance management systems*", *International Journal of Operations & Production Management*, Vol. 16 No. 7, pp. 27-37.
- Hofstede, G. (1991) "*Cultures and Organizations*", London: McGraw-Hill Book Company.
- Garengo, P., Biazzo, S. and Bititici, U.S. (2005), "*Performance measurement systems in SMEs: a review for a research agenda*", *International Journal of Management Reviews*, Vol. 7 No. 1, pp. 25-47.
- Ghalayini, A.M., Noble, J.S. and Crowe, T.J. (1997), "*An integrated dynamic performance measurement system for improving manufacturing competitiveness*", *International Journal of Production Economics*, Vol. 48 No. 3, pp. 207-25.
- Globerson, S. (1985), "*Performance criteria and incentive system*", *International Journal of Production Research*, Vol. 23 No. 4, pp. 639-46.
- Hair, J.J.F., Anderson, R.E., Tatham, R.L. and Black, W.C. (1998), "*Multivariate Data Analysis*", Prentice-Hall, Englewood Cliffs, NJ.
- Henri, J.-F. (2006), "*Organizational culture and performance measurement systems*", *Accounting, Organizations and Society*, Vol. 31, pp. 77-103.
- Institute of Management Accountants (1996), "*Are Corporate America's Financial Measurements Outdated?*", Institute of Management Accountants, Montvale, NJ.
- Johnson, H.T. and Kaplan, R.S. (1987), "*Relevance Lost – The Rise and Fall of Management Accounting*", Harvard Business School Press, Boston, MA.
- Kaplan, R.S. and Norton, D.P. (1992), "*The balanced scorecard – measures that drive performance*", *Harvard Business Review*, pp. 71-9.
- Kaplan, R.S. and D.P. Norton (1996) "*The Balanced Scorecard— Kaplan, R.S. and D.P. Translating Strategy into Action.*" Boston: Harvard Business School Press: 21.

- Keegan, D.P., Eiler, R.G. and Jones, C.R. (1989), "*Are your performance measures obsolete?*", *Management Accounting*, June, pp. 45-50.
- Kim, G., Chan, S.P. and Yoon, K.P. (1997), "*Identifying investment opportunities for advanced manufacturing systems with comparative-integrated performance measurement*", *International Journal of Production Economics*, Vol. 50, pp. 23-33.
- Kothari, C.R (2006). "*Quantitative Techniques*" Third edition:206-264
- Lawrence, P.R. and Lorsch, J.W. (1967), "*Organisation and Environment*", Harvard University
- Leana, C.R. and B. Barry (2000) "*Stability and Change as Simultaneous Experiences in Organizational Life.*" *Academy of Management Review* 25(4): 753-759.
- Lynch, R.L. and Cross, K.F. (1991), "*Measure up – The Essential Guide to Measuring Business Performance*", Mandarin, London.
- Markus, M.L. and J. Pfeffer (1983,) "*Power and The Design and Implementation Of Accounting and Control Systems.*" *Accounting, Organizations and Society* 8(2/3): 205-218.
- MelekEker & SemihEker (2009), "*An Empirical Analysis of the Association between the Organizational Culture and Performance Measurement Systems in the Turkish Manufacturing Sector.*" *Journal of Economic and Social Research* 11(2): 43-76
- Morrow, M. (1992) "*Activity Based Management New Approaches to Measuring Performance and Managing Costs.*" New York: Woodhead-Faulkner.
- McCunn, P. (1998), "*The balanced scorecard: the eleventh commandment*", *Management Accounting*, December, pp. 34-6.
- Manoochehri, G. (1999), "*Overcoming obstacles to developing effective performance measures*", *Work Study*, Vol. 48 No. 6, pp. 223-9.
- Neely, A., Adams, C. and Crowe, P. (2001), "*The performance prism in practice*", *Measuring Business Excellence*, Vol. 5 No. 2, pp. 6-12. Quinn, R.E. and J. Rohrbaugh (1983) "*A Spatial Model of Effectiveness Criteria: Towards A Competing Values Approach to Organizational Analysis.*" *Management Science* 29(3): 367.

- Richardson, P.R. and Gordon, J.R.M. (1980), "*Measuring total manufacturing performance*", Sloan Management Review, Vol. 21 No. 2, pp. 47-58.
- Speckbacher, G., Bischoff, J. and Pfeiffer, T. (2003), "*A descriptive analysis of the implementation of balanced scorecards in German speaking countries*", Management Accounting Research, Vol. 14, pp. 361-87.
- Tatikonda, L.U. and Tatikonda, R.J. (1998), "*We need dynamic performance measures*". Management Accounting, September, pp. 49-53.
- Schein, E.H. (1985) "*Organizational Culture and Leadership.*" San Francisco: Jossey-Bass.
- Simon, R. (1990) "*The Role of Management Control Systems in Creating Competitive Advantage: New Perspectives.*" Accounting, Organizations and Society 15(1/2): 127-143.
- Waggoner, D., Neely, A. and Kennerley, M. (1999), "*The forces that shape organizational performance measurement systems: an interdisciplinary review*", International Journal of Production Economics, Vol. 60/61, pp. 53-60.
- Waterman, R.H. Jr. and W. Kiechel III (1993) "*Implementation Through Management of Systems, Style, and Shared values(cultures)*" In Higgins, J.M. and J.W. Vincze (Ed.)
- [Http://www.kenyarep-jp.com/industry](http://www.kenyarep-jp.com/industry)

APPENDIX 1: QUESTIONNAIRE

SECTION A

Indicate on a scale of 1-5 to what extent you agree with the following about the company. 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree.

	1	2	3	4	5
The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves					
The organization is less dynamic and entrepreneurial place. People are not willing to stick their necks out and take risks.					
The organization is very formalized and structured place. Bureaucratic procedures generally govern what people do.					
The organization is very production oriented. A major concern is with getting the job done. People are not very personally involved.					
The head of Organization is generally considered to be a mentor, a sage, or a father or mother figure.					
The head of Organization is not generally considered to be an entrepreneur, an innovator, or a risk taker.					
The head of Organization is generally considered to be a coordinator, an organizer, or an administrator.					
The head of Organization is generally considered to be a producer, a technician, or a hard-driver					
The glue that holds the Organization together is loyalty and tradition. Commitment to this organization runs high.					
The glue that holds the Organization together is not commitment to innovation and development. There is no emphasis on being first.					
The glue that holds the Organization together is formal rules and policies.					
The glue that holds the Organization together is the emphasis on tasks and goal accomplishment. A production orientation is commonly shared.					
The Organization does not emphasize human resources. High cohesion and morale in the organization are important.					

The Organization does not emphasize growth and acquiring new resources. Readiness to meet new challenges is important.					
33The Organization emphasizes permanence and stability. Efficient, smooth operations are important.					
The Organization does not emphasize competitive actions and achievement. Measurable goals are not important.					

SECTION B

Please rate the extent to which each of the following measures is used by your management team where: 1= not used at all, 2= partly used, 3= used, 4= used rather a lot, 5= used very much

	1	2	3	4	5
The management uses Operating income as a performance measure.					
The management uses Sales growth as a performance measure.					
The management uses Return-on-equity (ROE) as a performance measure.					
The management uses Costs per unit produced as a performance measure.					
The management uses market share as a performance measure.					
The management uses customer response time as a performance measure.					
The management uses on-time delivery as a performance measure.					
The management uses number of customer complaints as a performance measure.					
The management uses survey of customer satisfaction as a performance measure.					
The management uses manufacturing lead time as a performance measure.					

	1	2	3	4	5
The management uses rate of material scrap loss as a performance measure.					
The management uses labor efficiency variance as a performance measure.					
The management uses materials efficiency variance as a performance measure.					
The management uses number of new patents as a performance measure.					
The management uses number of new product launches as a performance measure.					
The management uses employee satisfaction as a Performance measure.					
The management ties the organization together and enables it to focus on common issues					
The management enables discussion in meetings of superiors, subordinates and peers.					
The management enables continuous challenge and debate underlying results, assumptions and action plans.					
The management enables the organization to focus on your critical success factors.					
The management makes strategic decisions once the need for a decision is identified, and an immediate response is required.					
The management makes decisions when encountering a problem that is unstructured and has not been encountered before.					

	1	2	3	4	5
The management uses rate of material scrap loss as a performance measure.					
The management uses labor efficiency variance as a performance measure.					
The management uses materials efficiency variance as a performance measure.					
The management uses number of new patents as a performance measure.					
The management uses number of new product launches as a performance measure.					
The management uses employee satisfaction as a Performance measure.					
The management ties the organization together and enables it to focus on common issues					
The management enables discussion in meetings of superiors, subordinates and peers.					
The management enables continuous challenge and debate underlying results, assumptions and action plans.					
The management enables the organization to focus on your critical success factors.					
The management makes strategic decisions once the need for a decision is identified, and an immediate response is required.					
The management makes decisions when encountering a problem that is unstructured and has not been encountered before.					

The management anticipates the future direction of the company, as opposed to responding to an identifiable problem.					
The management confirms your understanding of the business.					
The management justifies decisions.					
The management validates your point of view.					
The management increases your focus.					
The management reviews key measures					
The management monitors results					
The management compares outcomes to expectations					
The management tracks progress towards goals					

THANKS FOR YOUR TIME.

APPENDIX 2: LIST OF MANUFACTURING FIRMS USED IN THIS STUDY.

1. NAS PLASTICS
2. KENPOLY INDUSTRY
3. NAIROBI PLASTICS
4. COMPLAST INDUSTRY
5. BRUSH MANUFACTURING
6. BETATRAD INDUSTRY
7. G.N CO POLYTHENE
8. KAMBA
9. ELEGANCE
10. SILPARK
11. ALLPARK
12. SIGNODE
13. STARPLAST
14. HOUSE OF MANJI
15. COCA COLA
16. KANGAROO INDUSTRY
17. DORIC INDUSTRY
18. DOVE WAX INDUSTRY
19. BAMBURI CEMENT
20. MOMBASA CEMENT
21. HENKEL INDUSTRY
22. CONTINENTAL PRODUCTS
23. APZ
24. ZINGO
25. AZIZ
26. EAST AFRICA TANNERY
27. GRAND PAINTS
28. SADOLIN PAINTS
29. GALAXY PAINTS
30. CROWN PAINTS
31. UNITED PAINTS
32. KENIND PAINTS
33. HIGHCHEM ESSENTIAL
34. HACO
35. INTERCONSUMER
36. UNILEVER
37. BDF