RELATIONSHIP BETWEEN HEALTH CARE MANAGEMENT ACCOUNTING PRACTICES AND FINANCIAL PERFORMANCE OF PUBLIC HOSPITALS IN NAIROBI COUNTY, KENYA

BY

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DECLARATION

This study is my original work and has not been presented anywhere to the best of my knowledge has not been presented for degree award to any other institution.

Signature……………………………… Date…..

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D61/5027/2017

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

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DEDICATION

This research project is lovingly dedicated to dear wife Felista and my lovely daughters Neriah and Olive, who has been my constant source of inspiration. You gave me the drive and discipline to tackle any task with enthusiasm and determination. Without your love and support this project would not have been made possible.

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ABBREVIATIONS AND ACRONYMS

ABB	Activity Based Budgeting
ABC	Activity Bases Costing
CVP	Cost Volume Profit
IAS	International Auditing Standards
IFRS	International Financial Reporting Standards
MAP	Management Accounting Practices
UK	United Kingdom

ABSTRACT

Management accounting offers a good best opportunity for organizations to compete in the market in order to offer best quality products and services at affordable prices to consumers. The general objective of this study was to investigate the effects of health management accounting practices on financial performance of public hospitals in Nairobi County, Kenya. This study adopted a descriptive survey design. The target population for this study was 77 public hospitals in Kenya. The study collected primary data from the respondents. The data collected was both quantitative and qualitative. Qualitative data is a categorical measurement expressed not in terms of numbers, but rather by means of a natural language description. Quantitative data is a numerical measurement expressed in terms of numbers. Analysis was done using Statistical Package for Social Sciences (SPSS V 18.0) allowing the researcher to present the information in form of tables and figures. The study concludes that Information for Decision Making practices was established as having the greatest impact on financial performance of public hospitals in Nairobi County, Kenya followed by Strategic Analysis, Budgeting, Total quality management, Costing, Size and financial performance respectively. The study thus concluded that

CHAPTER ONE

INTRODUCTION

1.1Background

Organizations embrace management accounting methods to evaluate their operations. Management makes use of accounting information mainly for making plans and exercising control over the core activities of the organization. These practices are paramount to organizational success (Horngren, et al., 2009). Management accounting hence deals with applying techniques and concepts to process past data and plan by specifying potential economic objectives and how to achieve them. This study will be guided by contingency theory and new institutional sociology theory. Contingency theory explains the reasons why management accounting processes may be distinct when conducting a comparison of one organization to another (Burns & Stalker, 1961); this can be connected to organizations operating in various zones. The key contention of new institutional sociology theory is that some organizations operate in highly institutionalized environments. Therefore the environment cannot be seen as the source of operational constraints but calls for control and coordination of the institution.

Public hospitals in Kenya are under more pressure, due to the increasing population and standards of living, there has been increased pressure on proper facilities, service delivery and facilitation in these institutions to the citizens. This has been a challenge to the local immediate public health providers in the community. For any institution, officers in charge of management accounting mostly determine the allocations of resources that each department is authorized to spend. Therefore, management accounting establishes institution performance for every unit in terms of income and spending. Premchand

(2000) argues that if institutions provide impartially precise forecasts and controls in capital and operations allocations, then there’s no doubt on the institutional performance. This study intends to show the association between health care practices in management accounting and financial performance of public hospitals in Nairobi County, Kenya.

1.1.1 Management Accounting Practices

In the modern dynamic business environment, organizations that employ techniques in managing financial resources survive in the long run and achieve competitive edge because the actions of the management are guided. Behavioral motivation and creation of cultural values are guided by the practices towards achievement of the strategic objectives. Management accounting seeks to address the managerial internal needs. It leans toward performance evaluation and forecasting future estimates as opposed financial accounting which focuses on historical data. These practices focus on shareholders, investment decisions, financing and this lays a firm foundation for sustained external reporting. Management accounting is flexible by characteristic hence calls for careful attention in determination of management needs which cannot be acknowledged in advance (Parker, 2002). One key role is provision of accounting information for consumption by stakeholders, regulators, creditors and groups not necessarily in management.

Management accounting taps information from the environment and makes use of it in making informed decisions. The information captured has three attributes: Technical-it promotes comprehension of the phenomena measured and strategic decisions are made from it, Behavioral-it guides events that are aligned to strategic objectives, and Cultural-it promotes a shared norms, beliefs, and thinking in the entity and humanity (Ashton et al., 1991). The progress of management accounting responds to needs of management and the business atmosphere. Management accounting promotes change management and three major forces that make organizations to develop: Technologically, globalization, and Consumer needs (Mc Watters, 2001).

1.1.2 Financial Performance

Mills (2008) defined as a one-sided measurement of the usage of assets from primary business mode to create revenues .This term is also used as a measure of how the firm achieves its fiscal goals. In a nutshell it looks at the financial well being of the business span of time and can be used in comparing similar entities in similar industry. Employees an organization can contribute to the value of a firm by contributing to the growth of future cash flows through receipt in an accelerated manner which makes them more certain and less risky (Cadbury, 1992).

Measurement of financial performance can be done in various ways but these should be done in aggregation. Key indicators of financial performance are market value ratios, return on assets, working capital management, management of assets and profitability ratios.

Carreta and Farina (2010), argued that there is a justification on managers performance and it provide a mixture of key performance indicators such as accounting profits, productivity, and cash flow. Financial performance measures include Returns on investment (ROI) Returns on Equity (ROE) and growth in sales.

1.1.3 Management Accounting Practices and Financial Performance

Past studies have shown that management accounting practices have an affirmative alliance with financial performance. Diverse studies have concentrated on the alliance between the two. Merchant, (1981) tried to find the alliance between the act of using budgeting and performance. He attained this by quizzing the affiliation between organizational performance and a firms approach to budgeting. The study findings illustrated that formal administrative way of budgeting was more powerfully allied to better performance of firms of considerable size and interpersonal way of budgeting was more powerfully allied to better performance in smaller firms. Van Der Stede (2004) scrutinized the motives for budgeting in firms and their connection to performance and discovered that the three motives of budgeting which includes total quality management, operational planning and strategy formulation to have an affirmative alliance with organizational performance.

Kaplan and Norton (1992) BSC style of management has become popular in research as a way of combining finance and non-finance total quality managements (Hoque and James, 2000). Further investigations on the BSC implementation and its influence on performance were conducted by James and Hoque(2000), together with Jusoh et al. (2008). Jacobs and Maiga (2003), tried for equivalent effect between BSC and ABC and found that when the two, that is ABC and BSC are combined they had a denoting an affirmative effect on the performance of a firm.

Managerial accounting facilitates practitioners to gain appropriate analysis for important making decisions (Alleyne and Weekes-Marshall, 2011). Uyar (2010) pointed out that the supposed significance in accounting for costs is majorly achieved through the economic downturn, escalating costs and decreasing profitability. The researcher outlined that firms continue recognize conventional practices as still vital, contemporary techniques like transfer pricing and long term planning are deemed to be not as important as conventional methods. Otley and Berry (1980) referred to business systems as being open, which receive and give in a continuous manner resources as inputs and outputs to the external environment. The business environmental interactions have impact on the practices employed in the organization. Scholars have observed that economic and cultural environments also affect the practices.

In Kenya the management accounting research has not been adequately explored. Few studies however are in existence in Kenyan universities (Arithi, 2001; Waweru, 1999; and Mapetla, 1982) worldwide (for example Ndwiga, 2011), countrywide peer reviewed journal exist (for example Waweru, Kamasara and Anyangu, 2003) and internationally the same case applies where there is minimal research on this area (for instance Abdel-Kader and Wadongo, 2011; and Mathenge, 2012). In conclusion, the practice of management accounting and relationship on financial performance has not been fully explored same with developing countries as was observed by Li and Yu (2002).

1.1.4 Public hospitals in Nairobi County

With rapid growth in population in Kenya, it implies that there is increased in number of people who require healthcare services. The resources required in terms of infrastructure, personnel and financial resources also increase. The significance of healthcare to human life critical and which means health care financing should be equitable. In Kenyan context health care financing systems are being geared towards achieving equitable access to universal health care. As the financial resources are being directed towards health services provision it calls for prudent management of the financial resources.

Health systems are composed institutions, citizens and interventions whose main objective is to support, sustain health (Musyoka, 2015). Budget control has been difficult to achieve in public hospitals as a number of factors including, adequate funds from the primary source, the government is never sufficient as the needs always outgrow the resources. Most public hospitals in Kenya are managed by administrators who mostly do not have the needed capacity in running the institutions eventually affecting performance.

In 1994 the Kenyan government approved the (KHPF) Kenya Health Policy Framework to be used as a blue print in the management and development of the health sector. The Ministry of health, Kenya, developed an implementation and action plan whereby they established the (HSRS) Health Sector Reform Secretariat, in the year 1996, under a committee to lead and oversee the implementation process. This policy's initiative focused on responding to constraints such as inefficient funds utilization, expenditure, inadequate management skills among others (Muga, kizito, Gakuruh, &Mbayah, 2004).

1.2 Research Problem

From the earlier argument all institutions whether private or public positioning themselves aggressively and they are vibrant in coming up with strategies that will yield profitability or cost cutting measures. Competitive outcomes can be as a result of innovations, technological advancement and dynamic customers. The competition amongst business organizations compels the management to come up with strategies that would steer entities toward profit maximization. This is achievable through sales increase and cost cutting measures. Some management accounting practices offer strategies that can influence customer to direct their preference to company's products (Thompson, Strickland &Gamble 2009.)

A research by Bloom et al (2009) quantified performance in health institutions is poor related to other organizations they say that it's even of poorer quality in public than private hospitals. In the 2012/2013 financial year, operational performance of health institutions in general emerged as a subject of worry. In Kenya, introduction of Performance contracting by the government in 2004 was aimed to improve service delivery. It aimed to reform the mindset of the public service operations away from a culture of inward looking towards a businesslike, focused on the customer and results. The introduction of the Result-based Management (RBM) strategy, in 2004, was also directed at improving operational performance, service delivery, and governance (John, Shedrack, &Douglus, 2015). The people of Kenya can benefit from an improved operational performance evidently having quality, accessible, and safe health services as a key obligation from the government institution

The alternating aspects of management accounting practices have been analysed, in addition to the processes of management accounting both globally and locally. Adler et al. (2000) focused on management accounting processes adopted by manufacturing trades in New Zealand. The study included a vast array of management accounting practices. The study findings indicated that traditional management accounting processes were more used than advanced management accounting processes by Venkatachalam (1996). The study results are generally compatible with the study by Ainikkal (1993) and Hawkes et al. (2003) which stated there being a deficiency in advance management accounting processes as stated by the reviews, but incompatible with respect to single processes. A study by Alkhadash &Feridun, (2006), revealed a strong affirmative alliance in existence use of Management accounting practices and financial performance enhancement. This was consistent with prior research conducted by earlier.

The study by Thanju (2009) indicated significant management accounting changes in the hospitals in all the areas. It further revealed that the firms had also adopted many modern management accounting techniques. The study created a need to study further Management accounting practices in the utilities industry. Ndigwa (2011) tried to plug the gap by carrying out a case study on equity bank of Kenya. This focused on how management accounting can create a competitive edge. The case study looked at the value management accounting processes and the contribution towards competitive advantage. Mwangi (2014) carried out a descriptive study on the influence of management accounting processes on financial performance but instead of focusing on utilities industry, he focused on the on manufacturing companies leaving the service industry still hanging. A conclusion can therefore be made that the effect of Management accounting practices on financial performance in the utilities industry specifically the health sector is not well documented. This gap is not yet filled. Consequently, the aim of this study is to fill this research gap by trying to appreciate the relationship between health care management accounting practices and financial performance of public hospitals. Leading to the research problem of what is the relationship between health care management accounting practices and financial performance of public hospitals in Nairobi County, Kenya?

1.3 Research Objective

The main purpose was to explore the relationship between health care management accounting practices and financial performance of public hospitals in Nairobi County, Kenya. Specifically the study was seeking to establish the practices used in public Hospitals in managing financial resources.

1.4 Value of the Study

The positively contributes to the theory of management accounting in countries which are developing with specific focus on the practice of public hospitals in Nairobi County and demonstrate whether the public hospitals still have a preference the customary methods or there exists inventions in practice as has the theory. The study is significant to government of Kenya as it formulates financial policies on implementation of universal healthcare. The health practitioners may become more advised of enhanced techniques to bring utilities in order to attract and ensure efficient service delivery to customer. This research may further help various other associations in Kenya as they may be in a better position to understand the management accounting approaches and techniques feasible for them as far as improving their performance.

Scholars and academicians concerned to pursue accounting and especially management accounting laid a foundation for future studies. As the government is striving towards achievement of universal health care this will inform the health care financing and financial management in public health facilities in the country.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The need for management accounting advice has increased overtime. This has attracted scholars and academicians to study management accounting practices usage across-firms and countries. This chapter furnishes the study with various management accounting practices adoptions studies. The chapter begins with a theoretical review, followed by theories of management accounting, and then by determinants of financial performance of public hospitals. It also presents the empirical reviews where several researches have been carried out on management accounting processes together with their conclusions and their aid to this research is noted. The chapter is finalized by summary of the literature review section.

2.2 Theories of Management Accounting

There are two theories discussed in this section. The contingency theory is discussed in subsection one and new institutional sociology theory as postulated by Ribeiro and Scapens (2006) is discussed in subsection 2.

2.2.1 Contingency Theory

This theory explains the reasons why management accounting processes may be distinct when conducting a comparison of one organization to another (Burns & Stalker, 1961); this can be connected to organisations operating in various zones. Otley (1980) enforced contingency theory to management accounting processes and related information systems that there is no sole overall definitive accounting practice that applicable in all associations. This means that each association will adopt its management accounting practice(s)

Focus was at specific significant elements aiding management in making decision on a suitable management accounting technique. These significant elements include external factors, organisational factors and processing factors. External factors are perceived to be environmental uncertainty and customer’s power among others. Processing factors refer to complexity of the processing system, product perishability, TQM, technology advancement and JIT systems. The factors include competitive strategy; decentralization and firm’s size. This theory will be applied in this research since it will be looking at the organisation influential elements helping management to decide on proper management accounting techniques.

2.2.2 New Institutional Sociology theory

Rowan and Meyer (1977) laid the foundation of new institutional sociology theory in a seminal paper. This paper followed events of perplexing perceptions made in the 1970s by a class of reviewers who were reviewing the educational zone in the United States of America. Differences had been identified by the researchers and had also recognised the easy coupling of proper operations and real trade systems, which existing organisational theory couldn’t define (Scott&Meyer,1992)

Existence of associations in highly institutionalized setting is the concept behind this theory. Setting is not only seen as an origin of task pressure that fake claims for functional systems and controls on an organisation, but includes the cultural guidelines and sociable estimates that are mirrored in certain proper patterns and routines of the organisation. This means that institutionalized associations often chose to use procedures and designs that are normally seen to be of value in their cultural and social setting. This is done with an aim of searching for validity and to secure the assets that are important for their continuity. The search for validity and assets tend to explain why a particular association forms and routines are distributed across organisations working in same setting for example societal factors, similar setting (Scott&Meyer,1992), or organizational fields (DiMaggio & Powell, 1983). They further suggested that this practice can cause intimidation that can lead to associations becoming similar with other associations in their institutional surroundings. Competitive similarities are not downsized but emphasizes is placed on 3 types of institutional similarities which include normative, mimetic and coercive similarities. This highlights the political and social estimates of the setting in which associations are located (Hannan et, al, 1977).

Rowan & Meyer, S (1977) paper highlights an important aspect which is the fat that that the formal designs and routines of institutionalized associations may become detached from real trade practices. These formal designs and routines are normally used by associations in order to gain validity and in order to ensure the availability of the needed resources for the associations‟ continuity. However this designs and procedures are normally isolated from associations‟ daily practices with an aim of not interfering with the normal processes. Other arguments state that associations are normally strategic in their reaction to the institutional concerns inflicted on them, (Oliver, 1991). These associations can keenly agree with regulations or they may use certain formal designs and routines. However they do so in a devious way so as to get validity and consequently secure assets and grants on which they rely on (Edelman, 1992). Utilization of the concept of this theory in the research results will be of great value to the public hospitals in Kenya.

2.3 Determinants of financial performance in public hospitals

Scrutiny salient determinants of performance for body corporate financially are considered fundamental especially for government. These key elements which give value to stakeholders are: company profitability currently, risks, growth economically, and capital structure. Public hospitals equally are influenced by these factors .

2.3.1 Profitability of the organization

Branch **(**2000**)** argued on the contrary, that accounting information and related indicators are sufficient to show value to stakeholders' .with implementation of performance contracting public hospitals performance as measured through financial stewardship is inclined to market position. Profitability can be further disintegrated into: net income and surplus. Ross et al. (1996) explains that both of the components impact the profitability of an entity at any one time. Higher revenues implies better use of the assets owned by the institutions which translates to better efficiency thus higher surpluses and this implies good market presence.

2.3.2 Risk and economic growth

Risk and growth equally are vital factors affecting performance of health facilities financially. Valuation in the market environment is accustomed by the company's performance; exposure to risk can instigate market value shifts. Growth in the economy helps in achievement of better financial performance. This is achieved through consideration of future economic benefits hence positively impacting financial performance. Since large firms can access factors of production they enjoy economies of scale once they attract these factors of production. According to classical theory however it observed that capital structure as irrelevant for performance measurement, taking into account that only real factors influence performance in a perfectly competitive market.

2.3.3 Capital structure

Capital structure plays a crucial role in determination of corporate performance. This has been contradicted by recent studies which have argued that capital structure is irrelevant. Barton & Gordon (2008) suggested that firms with higher profits rates are as result of being low leveraged because they can finance activities from internal sources. Being highly leveraged increases chances of bankruptcy. The asset base affects the firm's financial performance implying the higher the level of assets the lesser the risk. The turnover is not positively associated with performance financially. Past studies evaluated whether there is any association connecting turnover and corporate financial performance, results have been inconclusive. Goals of an organization have been evolving; short term profits have been replaced by long-term growth in profits.

Information analysis plays a crucial role management of public hospitals in Nairobi County, there is a shift moving from inactive function of being providers of information towards decision making professionals (Kibera, 2000). This inclination has led to remarkable innovations with management accountants becoming more active. They have come up with modern techniques which entities are adopting for example Activity Based Costing, Just in time and Programme Based budgeting. The resultant gains are gradually being adopted in Kenyan health sector.

2.4 Empirical Studies

Adler, Everett, and Waldron (2000) study focused on specific techniques like target costing. They issued a questionnaire to partakers who were required to management practices ranking on a scale of five points. The method of sampling used in the study was judgment sampling method. One hundred and sixty five questionnaires were completed which presented a 19% response rate. The findings indicated that traditional MA processes for example direct costing, standard costing and full costing were used more often than advanced MA processes for example strategic MA. The overall results are generally consistent with the review by Ainikkal (1993) and Hawkes et al. (2003) which stated the non-adoption of advanced MA processes was reported from reviews, but inconsistent with respect to single processes. Further findings stated that Australian organizations used Activity Based Costing, costing practices that targeted quality and the bigger firms the more likely they used contemporary practices.

Anand et al. (2004) contacted research India focusing on cost management practices in India. This was intended to review enhancement of cost management practices such as budgetary control and standard costing to validate significant variation in management incentive for the usage of standard cost as a control tool by firms using activities based cost management and entities using traditional costing systems. Questionnaires were administered Chief Finance Officers totaling to 53 in Indian corporations. The study found out that firms using the Activity Based costing had a better perception for benchmarking and budgeting but this showed lack of consistency in prioritization goals as compared to systems which have been in use traditionally.

Abdel-Kader and Luther (2006) carried out a study in hospitality sector in United Kingdom seeking to comprehend the superiority and factors that influence implementation practices in management accounting in this sector. The study revealed that the sophistication level increased when the companies moved to the uncertain environment. The study also revealed that there is little evidence of management accounting systems in hospitality companies in the whole industry. The systems employed by these companies were as not complicated but adopted simple management accounting methods.

Liaqat (2006) studied empirically application of contemporary management accounting techniques which involved surveying 530 member companies of the National Association of Financial Directors and Cost Controllers. Investigations discovered the Indian firms were motivated by profitability and cost reduction in using management accounting systems. The research found an affirmative relationship between implementation of activity Based Costing and company attributes.

Isa & Thye (2006) studied the application of management accounting in public hospitals in Malaysia. It considered relationship between variety in product mix, production processes complexity, competition levels, size of the company, overheads and usage of advanced management accounting practices (MAP). It established that was adoption from Waldron and Everett (2004). There was evidence of use of full costing, standard costing, job order costing and process costing.

Salawu et al., (2012) conducted survey on adopting among Nigerian Public hospitals collection of data was undertaken by use of questionnaires and analysis was by use tabular presentations, proportionally and mean. Study revealed inability of traditional cost systems providing relevant cost hence an explanation for use of activity based costing.

Waweru, (1999) conducted a study which sought to find the extend the management accounting practices in companies quoted in Nairobi securities exchange looking at the how often the reports are prepared and the nature of the reports. The study was revealed availability of timely and quality information contributed to the success of business entities.

Ndigwa (2011) conducted a case study on equity bank of Kenya which looked at contribution of management accounting towards sustenance competitive advantage. The researcher sampled 40 respondents. The results revealed that the modern management accounting processes provide important professional skills which enhance competitive advantage. It also established there is a need for further studies in significance contemporary management techniques in advancing a competitive advantage specifically in the health sector.

Mwangi (2014) explored the connection between management accounting processes and financial performance in Kenyan manufacturing sector. A descriptive survey design to cover 455 entities and a stratified sample to cover 46 manufacturing Nairobi based entities was used. The scope covered real estate, hospitality, pharmaceuticals, firms and paper manufacturing. Data collection was primarily from the partakers by use a structured questionnaire. Data analysis was done using SPSS V 18. The research gave factual relationship between MAPs and financial performance being affirmative. This was evidenced by increased return on equity basically as a result of management accounting.

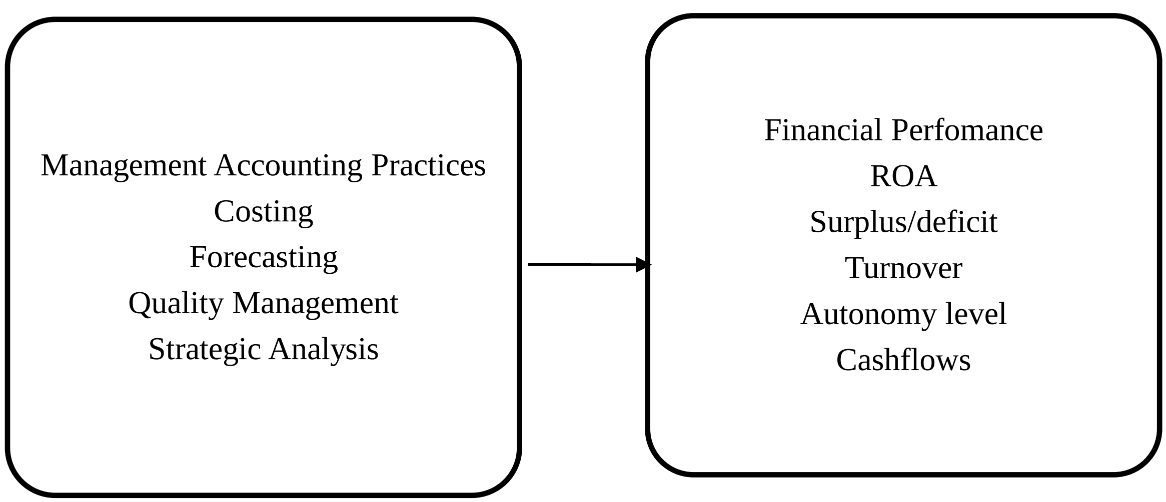
2.5 Summary of Literature Review

From the foregoing evaluation, it is clear management accounting practices affect the organizations in Kenya and other countries one way or the other. However, the variables considered are not similar for every organization. Internationally, the study findings by Adler et al. (2000) are widely compatible studies by Ainikkal (1993) and Hawkes et al. (2003) which stated deficiency in implementation of advanced management accounting practices as reported by the studies, but incompatible with respect to single techniques. Alkhadash &Feridun, (2006) study revealed a strong affirmative alliance between using management accounting practices and financial performance advancement. This was compatible with previous research such as Venkatachalam (1996).

Locally, the varying purpose of Management accounting practices has been researched together with the processes of MA. Prior researchers, Njenga (2006), Ndigwa, (2011), Mwangi (2014) reviewed different angles of MA and they identified key issues that reflected on various factors affecting the associations. These elements mostly cut across the industries; however several are unique to the certain industries. The studies found a positive effect on financial performance as a result of adopting MA practice. However none of them have focused on health sector and thus the need to undertake the study to establish the relationship between health care management accounting practices and financial performance of public hospitals in Nairobi County, Kenya.

2.6 Conceptual framework

This sub-section f maps out the actions required in the course of the study.



2.6.1 Measurement of variables

The variables will measured by obtaining the average of likert scaled data for each of the health facility. The control variable will be hospital bed capacity and the status of the facility versus the facilities financial performance.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This part discussed approach which was used from design of the project, population, collecting data, and data analysis and data presentation.

3.2 Research Design

Churchill (2011) described a descriptive survey as methodology that is suitable for studies describing groups, estimation of definite characteristics and eventually making predictions. It was required the researcher collect data from public hospitals at a point in time and make a determination the Relationship between health care management accounting practices and financial performance of public hospitals in Nairobi County, Kenya.

Kathari (2004) argues that descriptive study allows for both qualitative and quantitative data and subsequent examination. This fitted well with this study.

3.3 Population

Statistical population in an inquiry population is the entire accumulation of people or items that forms the central part of the study from which information is obtained. In this study, the target population was all Public hospitals in Nairobi County.

3.4 Sample Design

Basically this refers to a subgroup of the total population Kothari (2004). In this study the population being small the sampling procedure entailed consideration of all public hospitals in Nairobi County.

3.5 Data Collection

Data was collected primarily from respondents in the representative health facilities. The collection of the data was both quantitative and qualitative. Measurement of qualitative data is non-numeric by way of describing through natural language. Quantitative data is arithmetically measured in figures. Questionnaire was used in data collection. The design of the questionnaire comprised of two sections namely general and operational attributes which purposed to establish essential characteristic of respondents. Part two dedicated questions on the relationship between health care management accounting practices and financial performance of public hospitals in Nairobi County, Kenya.

3.6 Data Analysis

This is a procedural act of putting data in an orderly manner, structuring and significantly making mass information have a meaning (Mugenda&Mugenda, 2003). Since the conduct of the study was through a mixed approach the results were analysed through SPSS enabling the presentation of the data in a tabular form. This visually gives an overview of the findings.

In addition, regression model predicted the degree to which independent variables have an effect on the dependent variable. This was done through SPSS V 18.0 for regression analysis and coifficients computation. The model is represented by the following:

$Fp_t = \beta 0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \beta_4 X4 + \beta_5 X5 + e_t$

Where;

Fpt = Financial Performance

X1 = Costing

X2= Budgeting

$X3$= Total quality management

$X4$= Information for decision making

$X5$= Strategic analysis

β_0 = Constant or intercept; β_1 to… β_5 are regression coefficients

e_t = Error term

Values of X_1 to X_5 were obtained by getting the mean score on each likert data from each health facility. For each of the individual independent variable mean scored values were regressed again Y values.

3.6.1 Hypothesis Testing

The study tested the following hypotheses using T-test at 95% confidence level.

Ho: Health care management accounting practices do not affect financial performance of public hospitals in Nairobi County, Kenya.

Ha: Health care management accounting practices affects financial performance of public hospitals domiciled in Nairobi County, Kenya

CHAPTER FOUR
DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

Results obtained from the study are presented in the in this section on the association of health care management accounting practices on financial performance of public hospitals in Nairobi County, Kenya. Some key matters for consideration under this will be the response rate, regression analysis and hypothesis testing.

4.2 Response Rate

The study involved data collection from seventy seven hospitals in Nairobi County. Out of the 72 questionnaires which were given to the respondents, 70 respondents were validly representing a response rate of 90.9% (Table 4.1)

Table 4.1: Response Rate

No. of Questionnaires Returned	Target No. of respondents	Response Rate (%)
70	72	95.92%

Response rate of (90.9%) as shown in Table 4.1 was impressive which can be attributed to instrument administration methodology, the researcher adopted an approach of going through the questionnaire with respondents which is satisfactory according to Mugenda and Mugenda (2003). At the point of data collection respondents' questions clarifying any concerns were addressed. However, carefulness was observed to avoid biasness in the process. It also minimized t effects of language barrier, hence, ensuring a high instrument response and scoring rate.

4.3 Diagnostic Tests

The research paper was able to make an establishment of how suitable the data was by examining on the multi-collinearity for the different kind of variables and the outcome are going to be discussed in the following section.

4.3.1 Tests of Normality

The proper application of the parameters of inferential statistics the assumption of normality is tested. This is to ensure that the kurtosis and skewness of the data is tested. This is just to make a confirmation on whether the data under study is normally distributed. The data normality was then tested by use of Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. The second method is best used when the sample of the data is small i.e. less than fifty. The method is much more reliable especially when making a determination on kurtosis and skewness of the data. When the result is below 0.05, then it is slowly deviating from the distribution of the data that is normal.

Table 4.2: Shapiro-Wilk Test of Normality

Variables	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Costing	.072	70	.200	.979	70	.428
Budgeting	.093	70	.200	.972	70	.219
Total Quality Management	.085	70	.200	.976	70	.322
Information for Decision Making	.069	70	.200	.632	70	.295
Strategic Analysis	.063	70	.200	.616	70	.256

In accordance to the results, the Shapiro-Walk values were 0.428 for Costing, 0.219 for Budgeting, 0.322 for Total Quality Management, 0.295 for Information for Decision Making, and 0.256 for Strategic Analysis. Kolmogorov-Smirnov tested significant values were at 0.200 for Costing, Budgeting, Total Quality Management, Information for Decision Making, and Strategic Analysis size each. This brings an implication that the p-value is far much greater than level 0.05 then the prediction that the data was normally distributed cannot be denied. The tested results are therefore of the population emanating from the normal distribution.

4.3.2 Test for Multi-colinearity

Multi-colinearity is the type of the test that makes an evaluation of whether the independent variable under the study is correlated or not. The multi-collinearity test was done to check if the date have high correlation or are independent variable. The VIF was used to make an evaluation of how the variable correlate and the level of variance each variable has as a result of the dependence with the other variables. Upon the application of the rule of the thumb when VIF is bigger than 10 then there must be an existence of a great problem with the multicollinearity hence this is very dangerous to the research (Newbert, 2008). The outcome of multicollinearity test was as presented in Table 4.3.

Table 4.3: Coefficients[a]

	Colinearity Statistics Tolerance	VIF
Costing	.500	2.000
Budgeting	.608	1.646
Total Quality Management	.633	1.580
Information for Decision Making	.493	2.027
Strategic Analysis	.242	2.083

In the results above, all the VIFs are very low because they are well below 5. These values suggest that the coefficients are well estimated and the study should trust their p-values.

4.3.3 Serial Correlation

Wooldridge F-statistic serial correlation analysis was done to test whether the study variables were correlated in any way. Serial correlation test was done and as per the results it is clear that there is no correlation. This ensures the OLS estimates are not biased. The diagnostic results are found on Table 4.10 below

Table 4.4: Durbin Watson Test of Autocorrelation

Test	Statistic
Durbin Watson	1.998

Source: Research Findings

The Durbin Watson serial correlation test results as per Table 4.2 indicated the value to be 2.482 which is more than 2 implying that there is no serial correlation.

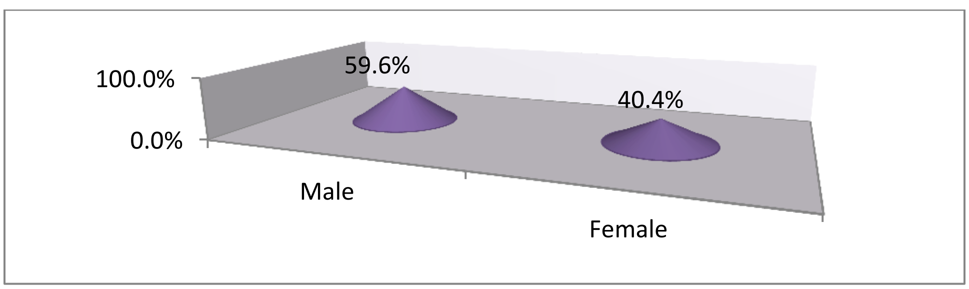
4.4 General Information

In order to address fundamental issues of the study respondents provided the following feedback. The following are the findings.

4.4.1 Gender

The figure below show gender of the respondents.

Figure 4.1: Gender

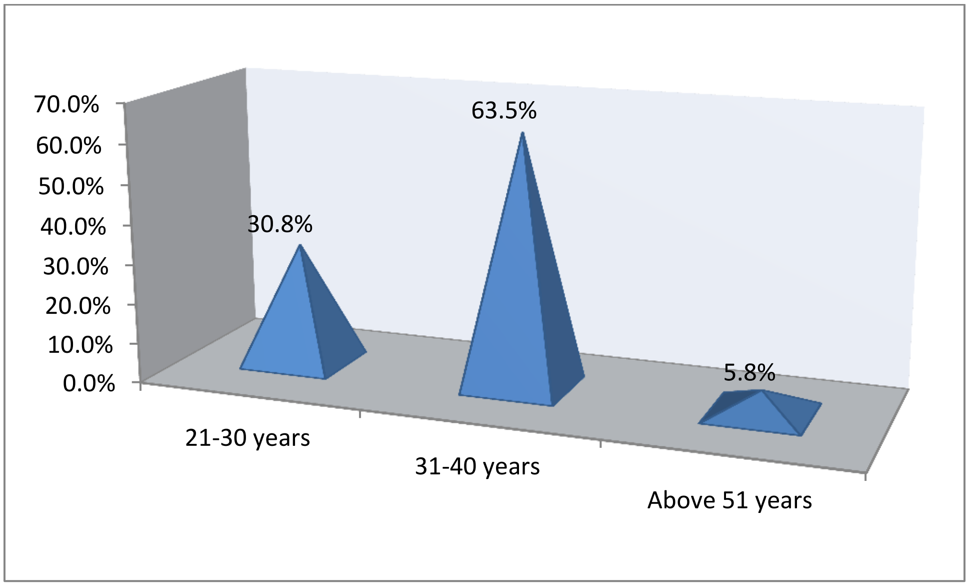


Male respondents accounted for (60%) whereas female respondents were (30%) This implies that majority of the respondents' were males. This was in alignment with one third rule of the Kenyan constitution and also in terms of good corporate governance policies and showed that public hospitals management were sensitive towards balancing gender of their management.

4.4.2 Age bracket

Demographic factors touching on the age is depicted by Figure 4.2 below.

Figure 4.2: Age bracket

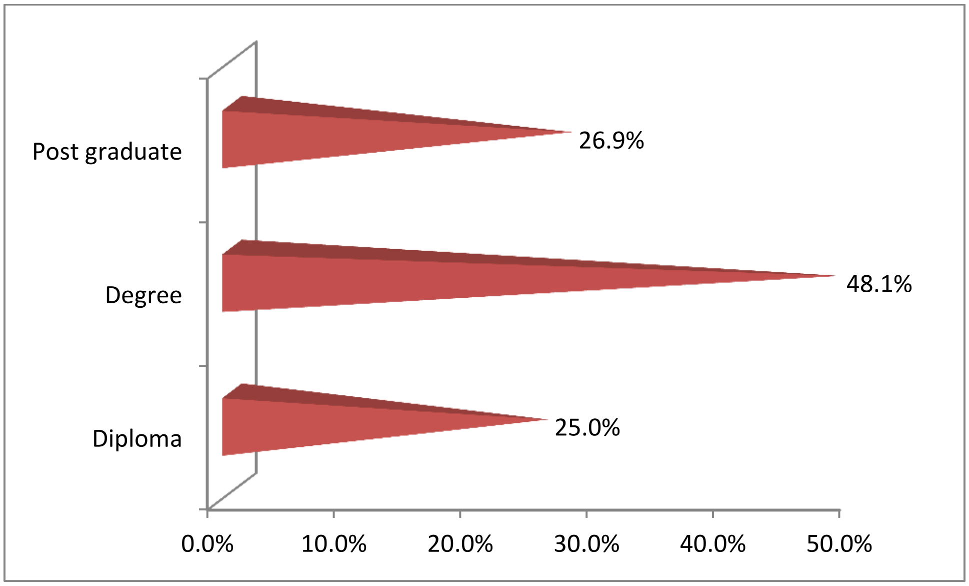


From the findings, most (63.5%) of the respondents had ages between 31-40 years, 30.8 % were aged between 21-30 years, while 5.8% were aged above 51 years. The implication is that 31-40 years age bracket has majority of young and energetic, and thus higher data collection cooperation.

4.4.3 Highest academic qualification

The level of education is a key determinant in the performance of the employees. Education is correlated to the quality of services offered and the better educated personnel are more of a human capacity resource since they form part of organizational learning which is a key competency in offering competitive advantage of the organization.

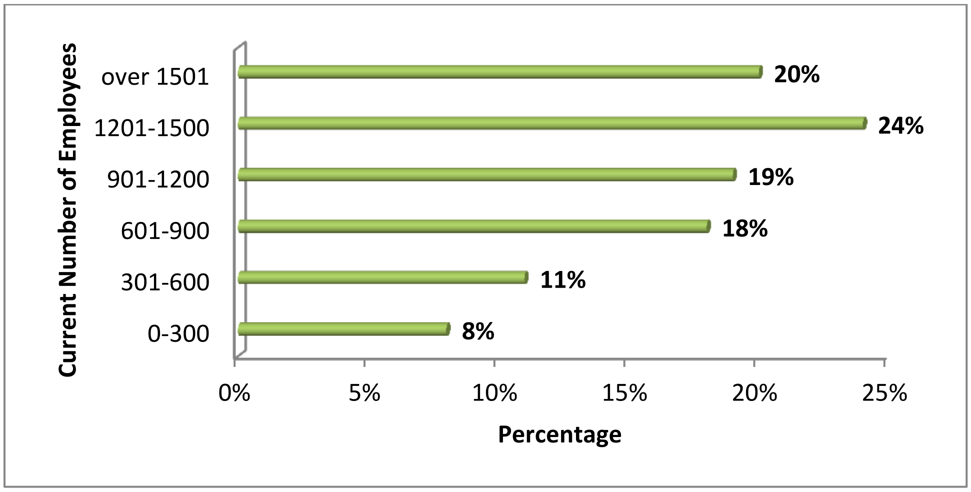
Figure 4.3: Highest academic qualification



As shown in figure 4.3, majority (48.1%) of the interviewed were graduates with degree, with 26.9% being post graduates, while 25% being diploma holders. Averagely it shows majority of respondents have sound educational background This showed that staff in the management level are highly educated and are in a position to undertake critical managerial decision in relation to financial performance management of their institution.

4.4.2 Current Number of Employees in the Respondents in health facilities.

The number of employees currently in the health facilities was also studied.



From the above, (24%) health facilities have an in-post 1201-1500 employees, whereas 20% have above 1501, 19% have between 901-1200, 18% have 601-900, 11% have 301-600 and finally 8% of the health facilities have 0-300 employees.

4.5 Health care management accounting practices

Respondents rated the use of cost techniques, budget and control, total quality management, decision making information, and strategic analysis health care management accounting practices in their Company. The ranking ranged from 1 (never) to 5 (very often).

4.5.1 Usage of Costing Health care management accounting practices

Evaluation of costing method was subjected to a five Likert scale ranging from 1 (never) to 5 (very often). Measurement of satisfaction was considered on the variables. A measure of dispersion (standard deviation) was computed.

Table 4.5: Costing Health care management accounting practices

	1	2	3	4	5	Mean	SD
Separation of variable cost, incremental costs & fixed costs	2.0	6.4	9.6	49.0	35.0	4.20	0.64
Department or multiple	0.0	6.0	8.8	47.1	38.1	4.26	0.88
Activity- based costing (ABC)	0.0	4.6	15.0	37.5	42.9	4.02	0.45
Target costs	4.2	16.0	25.3	36.5	18.0	3.99	0.60
Regression and /or learning curve techniques	4.5	20.0	42.0	18.0	15.5	3.55	0.82
Overall mean						**4.01**	**0.68**

Table 4.6:Usage of Budgeting Health care management accounting practices

	1	2	3	4	5	Mean	SD
Budgeting for planning	1.2	1.5	7.5	39.5	32.5	4.11	0.88
Budgeting for controlling costs	0	5	5	30.7	44.5	4.26	0.09
Activity- based budgeting	5	4	5	42.5	25	4.08	0.61
Budgeting with “what if analysis”	0	6.8	6	50	20	4.14	0.17
Flexible budgeting	0	0	6.5	35	42.5	4.2	0.15
Zero-based budgeting	0	2.5	2.5	35	47.4	4.37	0.23
Medium Term Expenditure Framework (MTEF)	0	6	8.8	47.1	38.1	4.26	0.88
Budgeting for long-term (strategic) plans	0	0	10	39.2	50.8	4.54	0.59
Overall mean						**4.25**	**0.45**

Table 4.7:Usage of Total quality management Health care management accounting practices

	1	2	3	4	5	Mean	SD
Process Management analysis	0.0	0.0	12.0	42.0	46.0	4.38	0.54
Leadership/management commitment analysis	0.0	2.5	2.5	43.5	38.5	4.33	0.61
Supplier quality management analysis	0.0	0.0	10.5	38.5	40.0	4.29	0.41
Continuous improvement review	0.0	0.0	7.5	67.5	25.0	4.24	0.76
Customer and employee involvement analysis	2.5	7.5	10.0	37.5	42.5	4.09	0.89
Benchmarks	0.0	2.5	22.5	42.5	32.5	4.00	0.66
Overall mean						**4.22**	**0.65**

From the overall mean of 4.22, total quality management measures were rated as highly used.

Table 4.8: Usage of Information for Decision Making Health care management accounting practices

	1	2	3	4	5	Mean	SD
C-V-P analysis for major services	5	7	5	52.5	30.5	4.16	0.56
Product profitability analysis	0	12.8	0	37.2	50	4.36	0.62
Customer profitability analysis	0	4	8	33.5	54.5	4.4	0.49
Stock control models	0	0	14	42.5	42.5	4.28	0.33
Evaluation of capital projects using discounted cash flows	0	0	2.5	27.5	59.5	4.47	0.44
Evaluation of capital projects using payback period and/ or accounting rate of return	0	13.2	0	46.8	40	4.34	0.42
Evaluation of major capital investments, documentation and reporting on non-financial aspects.	0	0	2.5	30	56.5	4.45	0.41
Major capital investment evaluation using cost of capital to discount cash flows	0	7.2	5	34	54	4.41	0.51
Cost-volume-profit analysis (break-even analysis) for major products	5	7	5	52.5	30.5	4.16	0.56
Product profitability analysis	0	12.8	0	37.2	50	4.36	0.62
Overall mean						**4.34**	**0.49**

From the overall mean of 4.34, Information for Decision Making was rated as highly used.

Table 4.9: Usage of Strategic Analysis Health care management accounting practices in

	1	2	3	4	5	Mean	SD
Long-term forecasting	0	0	25	30	45	4.19	0.74
Industry analysis	0	0	0	57.5	42.5	4.38	0.33
Analysis of competitive position	0	0	0	70	30	4.27	0.41
Suppliers "and/or customers" integration value chains possibilities	5	7.5	37.5	30	20	3.81	0.65
Analysis of competitive position	0	0	0	70	30	4.27	0.41
Overall mean						**4.18**	**0.51**

From the overall mean of 4.18, Strategic Analysis was rated as highly used.

4.6 Respondents Opinion on the Importance of Health care management accounting practices

The respondents were asked to state to what extent they agreed with the following statements on importance of health care management accounting practices. The Scoring ranged from 1 (very low extent) to 5 (very large extent).

Table 4.10 Importance of health care management accounting practices

	Mean	std
Key factors identification that affect performance and improvements required in risky areas management accounting function.	4.69	0.21
Increase in return on equity(Net income/average equity) as a result management accounting practices application	4.69	0.27
Development of strategies that enable hospitals in exploitation of financial innovations in competitive advantage sustenance.	4.68	0.25
Provision of information from the environment by management accounting.	4.68	0.15
Application of management accounting resulting to increased	4.67	0.48

Return On Asset(Net Income/Total assets)		
Management accounting application results to Financial Leverage improvement (Equity/Total Assets)	4.61	0.34
Application of skills by management accountants in evaluation of profitability and risk prospects.	4.55	0.17
Creation of cultural values by management accounting necessary to achieve strategic objectives.	4.55	0.13
Management accounting function manage interest rates with a view of achieving risk reduction.	4.49	0.14
Price comparison by public health facilities using accurate measures by use of cost of finance in choosing best alternative and optimal pricing of assets to pay the required returns.	4.47	0.16
All sectors are able to raise large amounts of money at a cheaper cost than anywhere.	4.41	0.41
Application of innovative management accounting practices provides techniques to manage risk exposures.	4.39	0.14
Credit risk management is enhanced by management accounting function hence a competitive advantage in the health sector.	4.35	0.28

4.7 Correlation Analysis

Pearson's correlation analysis was undertaken to look at the relationship between variables. A positive correlation shows that when you increase one variable the other variable also increases while a negative correlation implies that increasing one variable decreases the other variable.

Table 4.11: Correlation Analysis Table

	Y= Financial Performance	*X1 = Costing*	*X2 = Budgeting*	*X3 = Total Quality*	*X4 = Information for Decision Making*	*X5 = Strategic Analysis*
Y= Financial Performance	1					
X1 = Costing	0.023258035	1				
X2 = Budgeting	0.050875249	0.068673574	1			
X3 = Total Quality	0.162359999	0.042929728	0.108223522	1		
X4 = Information for Decision Making	0.166618747	-0.100860089	0.14874827	0.119486696	1	
X5 = Strategic Analysis	0.08958931	-0.117973539	0.037945493	0.010972869	0.445791708	1

Source: Author, 2018.

According to table 4.11, the correlation of all independent variables against financial performance of public hospitals is positive but they are weak since they are all, below 0.5. This means that increasing management accounting practices increases financial performance albeit in small quantities.

4.8 Regression Analysis

The study adopted multiple regression guided by the following model:

$Fp_t = \beta 0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \beta_4 X4 + \beta_5 X5 + e_t$

Table 4.11 shows the regression model summary results where R square, adjusted R square and standard error of estimate are presented.

Table 4.12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.224[a]	.050	-.025	3.882

The results in table 4.11 shows that the coefficient of determination measured by R squared are 5%. This means that the model can only be used to predict the dependent variable (financial performance of public hospitals in Nairobi County) up to the level of 5%. The rest 95% of the changes in the dependent variable is predicted by other factors which were not tested in the model. This shows that the model is weak.

Table 4.12 shows the ANOVA results which explain the model fit through the F statistic and the probability of F-statistic. It helps us to determine whether to reject the null hypothesis or not and tells us whether there exists significant relationship or not. The null hypothesis of the study is that there exists no relationship between healthcare management accounting practices and financial performance of public hospitals in Nairobi County. In order to reject the null hypothesis the calculated value of F should be less than the critical value of F calculated using the F distribution of table at an alpha value of 0.05.

Table 4.13: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	50.202	5	10.040	.666	.650[b]
	Residual	949.276	63	15.068		
	Total	999.478	68			

The table also shows whether there is a significant relationship between variables or not. This is done by comparing the p value with the alpha value of 0.05. If the p value is less than alpha then the relationship is significant and the vice versa is true.

The results in Table 4.12 show that the F statistic was 0.666. The F critical value as per the F distribution table for 5 and 63 degrees of freedom is 2.37. The F critical is larger than the F calculated and therefore the F test refuses to reject the null hypothesis and we therefore conclude that there is no relationship between the two variables. The p value of 0.65 is also greater than 0.05 and we therefore conclude that the relationship is insignificant. In conclusion we therefore conclude that the relationship of financial performance with management accounting practices in Kenya is statistically insignificant.

Table 4.14: Coefficients

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	t	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	31.789	7.704		4.126	.000
	X1 = Costing	.051	.187	.034	.272	.787
	X2 = Budgeting	.011	.117	.011	.091	.927
	X3 = Total Quality	.165	.143	.143	1.148	.255
	X4 = Information for Decision Making	.141	.144	.138	.985	.328
	X5 = Strategic Analysis	.039	.179	.030	.219	.828

The table of coefficients usually describes the coefficients of all variables in the model in order to come up with a predicting model. However the model is weak in prediction of Y. we therefore obtain the prediction effect of the 5%

$Y = 31.789 + 0.051X_1 + 0.011X_2 + 0.165X_3 + 0.141\ X_4 + 0.039X_5 + 7.704$

4.9 Summary and Interpretation of Findings

From analysis it is apparent that the management accounting practices have a combined insignificant effect on the financial performance of public hospitals in Nairobi County, Kenya. At 5% level of confidence, the F statistic was insignificant. Regression model summary also confirms that the model was weak in predicting the dependent variable with a coefficient of determination of 5%. The findings of this study are in agreement with the results found by Mia and Clarke (1999), who established indirect relationship between the strength of market competition and business unit performance through the use of management accounting information. On the contrary several studies obtained contradicting results Chenhall and Langfield-Smith (1998b)

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The main purpose of this study was to explore the effects of health management accounting practices on financial performance of public hospitals in Nairobi County, Kenya. This study espoused a descriptive survey design. Population targeted for this study was the 77 public hospitals in Nairobi County, Kenya.

5.2 Summary of findings

Decision making using the information was highly used in the respondents' health facilities. Secondly the budgeting practices were used in the respondents' health facilities a mean of 4.25. Total quality management measures were also found to be third most used in the respondents' organizations with a mean 4.22.Use of Strategic analysis came fourth with a mean of 4.18 whereas Costing was ranked the least used practice with a mean of 4.01 .

5.3 Conclusions of the study

It was concluded that use of information for decision making was the highly used management practice in public hospitals in Nairobi County, Kenya followed by strategic analysis, budgeting, and Total quality management, and Costing in that order. It was further concluded that the most significant elements of management accounting practices amongst the public hospitals in Nairobi County, Kenya are; the management accounting is used to identify factors affecting performance and risky areas which call continuous improvement.

Management accounting practices significantly lead to the improvement of return on equity and return on assets. This effectively means the stakeholders in the health sector get the value. It also plays a vital role coming up with innovative ways hence it creates a competitive advantage. Service innovation is greatly impacted because of the timely and accurate nature provided by management accountants. Environmental information is tapped hence the forces in the business environment are taken in consideration during decision making processes.

5.4 Recommendations for Policy and Practice

This study examined effects of management accounting practices on financial performance of public hospitals in Nairobi County, Kenya. It is recommended that a creating of awareness is done in the service firms on the importance of information in decision making emphasising on the timeliness and frequency on the production of management reports .In order to accomplish a proper measure of financial performance, organizations need embrace value based management as opposed to conventional practices. Management accountants have a critical role to play by upholding ethical practices and practicing professionalism for entities they work for and implement research findings for improvement of operations.The accounting curriculum should be reviewed with the aim of equipping the trainees with skills to cope with demands of the competitive environment more so in the area of accounting information systems and forecasting.

5.5 Limitations of the Study

The health facilities covered under this research were only the public ones and the ones located in Nairobi county Kenya. Other sectors need also to be considered as this is applicable to public health facilities

Public entities are heavily regulated and provision of data was a challenge with some facilities failing to respond to the questionnaires owing to lengthy processes of authorization. Further some of the information was classified by the respondents as sensitive

Because of time and budgetary constraints the areas discussed in prior sections was not investigated to give a nationwide picture. This would have enabled this study to come up with empirical data for policy makers to implement.

5.6 Suggestions for Further Research

The relationship between healthcare financing and financial performance of all health facilities need to be investigated because it plays a critical role in coming up with financing models.

Similar studies need to be carried out to in developing countries to see the extent of application of management accounting practices in the public health facilities.

Further studies need to undertaken on the financial performance of private sector hospitals and management accounting practices establish the relationship.

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Appendix II: Research Questionnaire

Section A:

(Please complete this section by checking the correct answer)

1. Kindly indicate your Gender

   Male [ ]

   Female [ ]

2. Indicate your age ______ Years

3. What is your highest level of Education? (Tick as applicable)

   Diploma [ ]

   Degree [ ]

   Post graduate [ ]

4. How many employees does the health facility currently have?

   ....

5. What is the hospital facility patient capacity

   ....

Section B: Management Accounting Practices

6. How often does your organization use the following management accounting practices? Score using the key which ranges from 1 (never) to 5 (very often).

	1	**2**	**3**	**4**	**5**
Costing					
Separation of variable cost, incremental costs & fixed costs					
Department or multiple organization -wide rates					
Activity- based costing (ABC)					
Target costs					
Regression and /or learning curve techniques					
Budgeting					
Budgeting for planning					
Budgeting for controlling costs					

Activity- based budgeting					
Budgeting with "what if analysis"					
Flexible budgeting					
Zero-based budgeting					
Medium Term Expenditure Framework (MTEF)					
Budgeting for long-term (strategic) plans					
Total Quality Management					
Process Management analysis					
Leadership/management commitment analysis					
Supplier quality management analysis					
Continuous improvement review					
Customer and employee involvement analysis					
Benchmarks					
Information for Decision Making					
Cost-volume-profit analysis (break-even analysis) for major services					
Product profitability analysis					
Customer profitability analysis					
Stock control models					
Evaluation of major capital investment based on discounted cash flow method(s)					
Evaluation of major capital investments based on payback period and/ or accounting rate of return					
For the evaluation of major capital investments, non-financial aspects are documented and reported					
Calculation and use of cost of capital in discounting cash flow for major capital investment evaluation					
Strategic analysis					
Long-term forecasting					
Industry analysis					

Analysis of competitive position					
The possibilities of integration with suppliers' and/or customers, value chains					
Analysis of competitors' strengths and weaknesses					

Section C: Importance of management accounting practices

To what extent do you agree with the following statements on importance of management accounting practices? Score using the key which ranges from 1 (very low extent) to 5 (very large extent)

	1	2	3	4	5
The management accounting function identifies key factors that influence performance and risky areas that require improvements					
Return on equity, ROE (Net income / Average Equity) has increased as a result of application of management accounting practices					
The management accounting function develops strategies that enable the manufacturing companies to exploit financial innovations in creating a sustainable competitive advantage					
Management accounting provides information from its environment to management to facilitate decision-making					
Return on Asset, ROA (Net income /Total assets) as a result of application of management accounting practices					
financial leverage or (Equity / Total Assets) as a result of application of management accounting practices					
Management accountants apply their skills to assist financial managers in evaluating profitability prospects and anticipated risks thereby creating a competitive advantage.					
Management accounting function creates the cultural values necessary to achieve the organization strategic objectives					
Organizations manages interest rates in such a way that it reduces risks and creates a competitive advantage with the help of the management accounting function					

Accurate measures of the cost of financing an organization operations allow organisation to compare prices between alternative funding sources and to ensure that assets are priced high enough to cover and pay shareholders the required return					

The end