THE RELATIONSHIP BETWEEN OVERHEAD ALLOCATION TECHNIQUES AND FINANCIAL PERFORMANCE OF MANUFACTURING COMPANIES IN KENYA

BY

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DECLARATION

This research project is my original work and has not been submitted for examination to any other university.

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DEDICATION

I dedicate this work to my family and all those who supported me in the completion of this project.

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I thank God for providing me with an opportunity, strength, health, knowledge and favour to complete this research project. In addition, I am heartily thankful and appreciate my supervisor, Dr Josiah Aduda, without whose guidance and supervision, this project would not have been accomplished.

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ABSTRACT

Overhead cost allocation has become, in the past few decades, one of the most serious problems related to cost management for companies. Accurately allocating overhead costs is one of the key criteria for effective product costing, meaning that correct managerial decisions can thus be made, an example being pricing decisions governing products consequently defining the financial performance of any manufacturing firm. In Kenya the manufacturing sector is dominated by subsidiaries of multinationals and a few indigenous manufacturers. Due to the high costs of production in the country, many of these subsidiaries are relocating from Kenya and are now represented by direct subsidiaries or appointed distributors. For efficiency and effectiveness manufacturing firms in Kenya therefore need to plan for success. This study sought to investigate the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya. To this end, the study sought to answer the following research questions; what overhead allocation techniques have been adopted by the manufacturing companies in Kenya? What is the relationship between of overhead allocation techniques and financial performance of manufacturing companies in Kenya?

This study adopted a descriptive survey design. The study population was forty manufacturing firms, out of a population of sixty five manufacturing companies in Kenya as registered by the ministry of industrialization (2014). Both primary data and secondary data were collected in this study. To ensure instrument validity, content validity was tested. Instrument reliability was achieved through test-retest reliability where the tools were administered twice to the same group of five respondents working in firms listed in NSE in a span of two weeks. Overhead allocation techniques data was summarized for each firm in table form to facilitate data analysis. In line with our first and second objective, the study used linear regression model. The linear regression model sought to establish the relationship between overhead allocation techniques and the financial performance.

The study found out that majority of the manufacturing companies' percentage of overhead costs to the total project costs were from 5% to less than 10% and all these companies have adopted various overhead allocation techniques. The study indicated that overhead allocation techniques significantly predicted the financial performance of manufacturing companies in Kenya. Activity based costing contributes the most to the financial performance of manufacturing companies in Kenya followed by Traditional allocation Method, size, Step-Down Allocation Method, Leverage and Reciprocal Allocation Method respectively. The study recommended that the manufacturing companies implement the ABC system as it assigns overhead costs more accurately than other cost accounting system from a cost management perspective.

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ABBREVIATIONS

ABC   Activity Based Costing

CBK   Central Bank of Kenya

GDP   Gross Domestic Product

NAICS   American Industrial Classification System

OH   Over Head

ROA   Return on Assets

ROE   Return on Equity

TOC   Theory of Constraints

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Over Head (OH) costs are those charges which cannot be attributed exclusively to a single product or service (Tipper, 1966), or the summary of expenses that benefit more than one cost objective (Fultz, 1980). Carr (1989) defined overhead or indirect costs as the costs that would have been occurred even if an activity had not been performed. Direct costs are costs that are not incurred if the activity is not performed. Another definition is that OH costs are those costs which are not a component of the actual construction work but are incurred by the contractor to support the work (Cilensek, 1991).

Recent developments, such as a global market, technology advances and e–Commerce, shorter product life cycles and intense competition have transformed the business operating environment. As a result various financial management systems, including budgeting, cost allocation methods, financial reporting systems and others have come under greater scrutiny. It is imperative that businesses that want to remain competitive have excellent control over their costs. Otherwise these businesses may cease to operate in the near future, as they may not be able to compete effectively (Banham, 2000; Johnston, 1990 and Kaplan, 1988). Indeed, failure to draw – up, monitor, and adjust budgets to changing conditions is one of the primary reasons behind the collapse of many businesses (Horngren, 2000).

Generally an organizations objective is expressed in time frames as informed by its mission and visions. The planning horizon for organizations may vary depending on

organization objectives and uncertainties involved. The most forward – looking budget is the strategic plan, which sets the overall goals and objectives of the organization (Horngren, 2000) (Though most business analysts do not call a strategic plan a budget because of lack of specific time frame). Budgets come in after the strategic planning for organization has been done, action planning has happened and organization needs to know how much money will be required to execute those actions. The major value of budgeting lies in aligning the plans and budgets to strategies. The future of budgeting lies in planning for value. Overhead allocation practices can be an invaluable aid in planning and formulating policy and in keeping check on its execution (Jiang, 2005).

1.1.1 Overhead Allocation Techniques

There are two distinct sources of companies' overhead costs which include the support departments and the service departments. An organization's support activities include service and administrative departments. While service departments are organizational units like; central purchasing, maintenance, engineering, security, warehousing, etc., administrative departments are units like, human resources, accounting, legal, headquarters, etc. The costs of these support departments should be covered by products and services for appropriate cost computations, managerial motivation and managerial decision making. As the number of product lines and the complexity of organizations increased, the need for additional support activities also increased and appropriate allocation of support department costs became more vital for cost management (Szychta, 2002).

To allocate the head office overhead costs to the ongoing projects, the financial managers should select either to the traditional techniques or modern costing systems such as the Activity Based Costing (ABC). Although that the traditional costing techniques were used for the purposes of overhead cost allocation during the 20th century, most of the current companies going towards to use the ABC as a base of overhead cost allocation system. Popesko and Novak (2008) referred the using the ABC to two major phenomena, the first is ever increasing competition in the marketplace, the necessity to reduce costs and the effect of having more detailed information on company costs. The second one, there has been a change in the cost structure of companies. In terms of the majority of overhead costs, traditional allocation concepts, based as they are on overhead absorption rates, can often provide incorrect information on product costs. Modern costing systems and methods have the advantage of providing more sophisticated techniques for overhead cost allocation. Unfortunately, these processes often prove extremely demanding as regards input data and the general abilities of users, limiting their effective utilization.

1.1.2 Financial Performance

The International financial landscape is changing rapidly; economies and financial systems are undergoing traumatic years. Globalization and technology have continuing speed, financial arenas are becoming more open with new products and services being invented and regulators everywhere are scrambling to assess the changes and master the turbulence (Sandeep et al., 2002).

Financial performance refers to the degree to which financial objectives being or has been accomplished. It is the process of measuring the results of a firm's policies and

operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. The most popular measures of financial performance are return on equity (ROE) and return on assets (ROA). The ROE measures accounting earnings for a period per dollar of shareholders' equity invested. It is a product of the profit margin and the asset turnover. ROA doesn't distinguish between capital raised from shareholders and that raised from creditors. The financial performance analysis identifies the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and profit and loss account (Al-Hussein and Johnson 2009).

1.1.3 Overhead Allocation Techniques and Financial Performance

According to The Theory of Constraints by Goldratt (1984) with the elimination of constraints through adoption of a hybrid of overhead allocation techniques, the financial performance of a firm is enhanced. Using the Activity Based Costing theory, Harrison and Sullivan (1996) argues that the horizontal process facilitates the integration of budgets with other management initiatives, such as performance measurement systems focused on cause –effect or lead –lag relationship consequently enhancing the financial performance of a firm.

The size of the company has significant impact on positive use of management accounting based on ABC. Companies significantly benefited by implementing and using up-to-date technology and methodologies. They receive on time necessary information which provides the organizations with the competitive advantage. These

companies are undeniably the leaders in their market segment with profitable products and satisfied customers (Solodovnychenko, 2013).

More accurate products cost information, identification of cost drivers, and better recognition of non-profitable activities have the potential to advantageous for small businesses. Implementing the ABC concept can also be much easier for small companies because their infrastructure is flexible and decision making does not require a long approval list. The implementation of ABC concepts can be essential for production companies. It helps the company identify profitable and non-profitable processes, correctly calculate price of the products and provide optimal flexibility and profitability to products mixes. Recognition of problems and improving the decision making process on all levels can bring this company back to profitability and probably to competitiveness (Adams and Buckle 2003).

1.1.4 Manufacturing Companies in Kenya

The manufacturing industry in Kenya is dominated by subsidiaries of multinationals. The players fall in the following categories as represented in the Kenya association of manufacture's listings; food and beverages processing, Paper and paper board, Wood products Pharmaceutical and medical equipment, Leather products, Chemical and allied, Textiles, Tobacco, Plastics and rubber (Association of Manufacturers, 2013). Manufacturing is a significant contributor to the economy as it contributes 10% of GDP, 12.5% OF Exports and 13% of formal employment (CBK, 2013).

A wide range of opportunities for direct and joint venture investments exist in the manufacturing sector including processing, manufacture of garments, assembly of

automotive components, electronics, plastics, chemicals, pharmaceuticals, metal engineering products for both domestic and export markets (Republic of Kenya 2003). The manufacturing sector was initially developed under the import substitution policy. There has been a shift, however to export oriented manufacturing as the thrust of Kenya's industrial policy. The sector plays an important role in adding value to agricultural output and providing forward and backward linkages, hence accelerating overall growth. By the year 2003 the manufacturing sector comprised more than 700 established enterprises and directly employed over 218,000 persons as at the year 2000 (Kenya Association of Manufacturers, 2010).

According to the Major et al., (2005), the productivity growth in the Kenyan manufacturing sector had been zero or negative since the early 1990s. Productivity declined by 0.5% per year between 1991 and 1998. Regression analysis of companies' data suggests that between 1999/2000 and 2002/03; almost no productivity improvement was visible in the average firms. There had been virtually no change in labour productivity. Capital increase was not statistically distinguishable from zero. Total factor productivity appeared to have increased by 7% between 1999 and 2002, but again this estimate was not statistically different from Zero.

Based on the Kenya Association of Manufacturers (2010), majority of the Kenyan manufacturing firms are slowly adopting modern models of overhead allocation techniques as they have previously been using traditional allocation Methods. The majority are adopting the Activity based costing which they consider superior to other

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overhead allocation techniques. However, they lack expertise in implementing the modern overhead allocation techniques.

1.2 Research Problem

Overhead cost allocation has become, in the past few decades, one of the most serious problems related to cost management for companies. Accurately allocating overhead costs is one of the key criteria for effective product costing, meaning that correct managerial decisions can thus be made, an example being pricing decisions governing products consequently defining the financial performance of any manufacturing firm (Garrison et al., 2006). According to Al-Hussein and Johnson (2009) financial managers should select traditional techniques or modern costing systems such as the Activity Based Costing (ABC) during allocation of the overhead costs. This study was conducted in the banking sector in Saudi Arabia and thus a similar study in Kenya is important to validate the findings. An overhead allocation system can be an invaluable aid in planning, formulating policy and keeping check on its execution (Premchard, 1994). The proponents of overhead allocation have argued that overhead allocation practices have several important roles. Blocher (2002) in his study argued that overhead allocation practices helps allocate resources, coordinate operations and provide a means of performance measurements.

In Kenya the manufacturing sector is dominated by subsidiaries of multinationals and a few indigenous manufacturers. Due to the high costs of production in the country, many of these subsidiaries are relocating from Kenya and are now represented by direct subsidiaries or appointed distributors. For efficiency and effectiveness

manufacturing firms in Kenya therefore need to plan for success. This study sought to find out how manufacturing firms in Kenya are currently go about planning and specifically allocating overhead costs.

Bogdigen, (2005) and Nirel and Gross, (2007) researched on relationship between overhead allocation techniques and financial performance. Their studies were however done on the health sector and governments respectively. There is no study in Kenya on the relationship between overhead allocation techniques and financial performance in the manufacturing sector in Kenya.

Informed by this knowledge gap the researcher sought to investigate the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya. To this end, the study sought to answer the following research questions; what overhead allocation techniques have been adopted by the manufacturing companies in Kenya? What is the relationship between of overhead allocation techniques and financial performance of manufacturing companies in Kenya?

1.3 Objectives of the Study

1.3.1 Main objective

The objective of the study was to investigate the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya.

i. To investigate the overhead allocation techniques adopted by the manufacturing companies in Kenya.

ii. To establish the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya.

1.4 Value of the Study

The findings of this study will help the regulators and policy makers in the manufacturing industry in coming up with regulatory framework that embraces best practices in implementation of overhead allocation. The study will identify overhead allocation techniques to increase organizations financial performance while still ensuring fair competition in the sector.

The study findings will act as a guide on how companies and management should handle and implement overhead allocation techniques. The study findings will assist management in planning for any requisite improvements in overhead allocation in order to attract new investors and also retain existing ones.

The findings will also be useful to researchers and scholars since it will form a basis for further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents review of theoretical literature, empirical studies a summary of the literature review on overhead allocation techniques and financial performance. This is intended to achieve the objective of the study which is to investigate the effects of overhead allocation techniques on the financial performance of manufacturing companies in Kenya.

2.2 Review of Theories

While overheads allocation depends to a certain extent on the particulars of an organization there are certain guidelines which apply across projects and organizations. The study will be based on the theory of constraints,

2.2.1 Theory of Constraints

The Theory of Constraints is a methodology for identifying the most important limiting factor (i.e. constraint) that stands in the way of achieving a goal and then systematically improving that constraint until it is no longer the limiting factor. In manufacturing, the constraint is often referred to as a bottleneck. The Theory of Constraints takes a scientific approach to improvement. It hypothesizes that every complex system, including manufacturing processes, consists of multiple linked activities, one of which acts as a constraint upon the entire system (i.e. the constraint activity is the "weakest link in the chain.

Goldratt (1984) conceived the Theory of Constraints (TOC), and introduced it to a wide audience through his bestselling 1984 novel, "The Goal". Since then, TOC has

continued to evolve and develop, and today it is a significant factor within the world of management best practices. One of the appealing characteristics of the Theory of Constraints is that it inherently prioritizes improvement activities. The top priority is always the current constraint. In environments where there is an urgent need to improve, TOC offers a highly focused methodology for creating rapid improvement.

The core concept of the Theory of Constraints is that every process has a single constraint and that total process throughput can only be improved when the constraint is improved. A very important corollary to this is that spending time optimizing non-constraints will not provide significant benefits; only improvements to the constraint will further the goal (achieving more profit). Thus, TOC seeks to provide precise and sustained focus on improving the current constraint until it no longer limits throughput, at which point the focus moves to the next constraint. The underlying power of TOC flows from its ability to generate a tremendously strong focus towards a single goal (profit) and to removing the principal impediment (the constraint) to achieving more of that goal. In fact, Goldratt considers focus to be the essence of TOC.

Throughout accounting is an alternative accounting methodology that attempts to eliminate harmful distortions introduced from traditional accounting practices – distortions that promote behaviors contrary to the goal of increasing profit in the long term. In traditional accounting, inventory is an asset (in theory, it can be converted to cash by selling it). This often drives undesirable behavior at companies – manufacturing items that are not truly needed. Accumulating inventory inflates assets

and generates a "paper profit" based on inventory that may or may not ever be sold (e.g. due to obsolescence) and that incurs cost as it sits in storage. The Theory of Constraints, on the other hand, considers inventory to be a liability – inventory ties up cash that could be used more productively elsewhere (Goldratt 1984).

In traditional accounting, there is also a very strong emphasis on cutting expenses. The TOC, on the other hand, considers cutting expenses to be of much less importance than increasing throughput. Cutting expenses is limited by reaching zero expenses, whereas increasing throughput has no such limitations. These and other conflicts result in the Theory of Constraints emphasizing Throughput Accounting, which uses as its core measures: Throughput, Investment, and Operating Expense. TOC is implemented through three measures: throughput, operating expenses and inventory.

2.2.2 Activity Based theory

ABC theory contends that, because virtually all of a company's activities exist to support production and delivery of goods and services, they should all be included as product costs (ABC Technologies, 1996).

A study by Miller and Vollman (1985) categorises overheads into four groups, which cover functions such as purchasing and materials movements, set up and scheduling, quality control and tracking and monitoring of production. According to Harrison and Sullivan (1996), manufacturing overheads cannot be directly traced to the manufacturing process or the unit product. Manufacturing overheads need to be distributed or allocated to the unit product. Therefore, manufacturing overheads are

prorated on some basis to all products manufactured. Traditional methods assume that direct labour or direct materials trigger costs. Thus typical vehicles of product costing are direct production hours and direct machine hours. According to Harrison and Sullivan (1996), a term named predetermined overheads rate or burden rate was introduced.

As its name implies, the ABB approach focuses on generating a budget from an activity based model of the organization as opposed to the traditional product – market, responsibility center, or department focus. The ABB- group's fundamental thrust is to expand activity based and capacity management concepts into budgeting. The ABB- group contends that budgeting serves primarily a planning role and that budgeting suffers because the financial – oriented, higher –level budgeting process is not adequately connected to the underlying operational mode of the organization.

The ABB –group lists several potential benefits of their approach (Hansen and Torok 2003). First, by balancing operational requirements, the ABB approach avoids unnecessary calculations of the financial effect on operationally infeasible plans. More importantly, the ABB approach focuses on generating a budget explicitly from activities and resources. Because it incorporates batch, facility, and other types of cost drivers not found in traditional budgeting systems, it highlights the sources of imbalances, inefficiencies, and bottlenecks. These insights allow better product, process, or activity costing and decision making, and better resource allocation to support organizational priorities (Stephen and David 2003).

Second, the more sophisticated operational model in the budgeting system provides a richer set of tools for balancing capacity. In addition to adjusting demand or changing the amount of resources supplied, the organization can also adjust the activity or resource consumption rates. Moreover, the explicit analysis of resources capacity and the increased visibility of resource consumption allow organizations to identify capacity issues and make adjustments earlier in the budgeting process than under traditional budgeting processes which do not track resource consumption patterns (Stephen and David 2003).

Third, lower –level managers and employees can more easily understand and communicate budgeting information in operational rather than financial terms. Similarly, by providing an understanding of how resources and activities are related, activity –based budgets help managers understand how to perform their jobs. An improved model of resource and activity flows also can lead to improved performance evaluations by specifying in more detail that is accountable for specific activities than cross departmental borders. In addition, the expanded set of options for adjusting outcomes enriches manager's ability to respond to contingencies and also improves performance measurement, evaluation, and decision making (Stephen and David 2003). Finally, activity –based approaches reinforce a horizontal, process view of the organization cutting across departmental borders, in contrast to traditional budgeting's vertical orientation. The process model facilitates the integration of budgets with other management initiatives, such as performance measurement systems focused on cause –effect or lead –lag relationship s (e.g. balanced scorecards).

2.3 Determinants of Financial Performance of Manufacturing Firms

At macro and microeconomic level, performance is the direct result of managing various economic resources and of their efficient use within operational, investment and financing activities. To optimize economic results, a special attention should be given to the proper grounding of managerial decisions. These should be based on complex information regarding the evolution of all types of activities within the company. A synthetic picture of the company's financial position and its performance is found in the annual financial statements, which therefore become the main information sources that allow the qualitative analysis of how resources are used during the process of creating value.

The considerable numbers of studies that approach the performance issue at economic level prove the special importance of financial management aspects, on the improvement of which depend the obtained results and the companies' competiveness. In the case of economic agents, various methods may be used to study performance. One way to study company performance is regression analysis, which allows the modeling the functional form of dependence between various economic and financial indicators. Modelling economic performance aims to increase efficiency by improving interventions in an adaptive learning cycle (Campbell et al., 2001). The indicators involved in the regression analysis of economic performance are numerous. Models developed to study the impact caused by the allocation and use of capital within the firm tie performance to the contribution of various resources to the increase of efficiency, expressed in terms of profitability (Dumbravă, 2010).

According to Johnson & Scholes (2007) many managers find a process for developing a useful set of performance indicators for the organization. One reason for this is that many indicators give a useful but only partial view of overall picture also some indicators are qualitative in nature, whilst the hard quantitative end of assessing been dominated by financial analysis. The evaluation of earnings performance depend upon key profitability measures such as (return on equity and return on assets) to industry bench mark and peer group norms (Federal Reserve Bank, 2002). Profitability as a measure of performance is widely accepted by Banks, financial institutions management, company owners and other creditors as they are interested in knowing whether or not the firm earns sustainability more than it pays by way of interest (Sadakkadulla and Subbaiah, 2002).

Analyst use metrics like cash conversion cycle, the return on assets ratio and fixed asset turnover ratio to compare and assess a company annual asset performance, an improvement in asset performance means that accompany can either earn a higher return using the same amount of assets or is efficient enough to create same amount of return using less assets (Adams and Buckle, 2003).

Financial performance is a management initiative to upgrade the accuracy and timeliness of the financial institution to meet the required standard while supporting day to day operation (Bessis, 1998). Financial performance key measures are driven by three critical issues as follows profitability, size of the business, and growth of the business overtime. Consequently, financial performance measures that assess

profitability, size, and growth rates are essential to monitor overall financial performance and progress (Ronald, 2011).

Recent literature analyzes the profitability of companies from various countries and economy sectors through indicators like net operating profitability (NOP) (Raheman et al., 2010), (Dong and Su. 2010), return on total assets (ROTA) (Deloof, 2003), (Padachi, 2006), return on invested capital (ROIC), return on assets (ROA) (Narware, 2010). In these cases, the elements considered by profitability analysis as independent variables are financial indicators that express the working capital.

Profitability at microeconomic level has been studied depending also on indicators such as current ratio, liquid ratio, receivables turnover ratio and working capital to total asset (Singh and Pandey, 2008). Other studies consider performance assessment expressed by earnings before interests and taxes (EBIT) and the associated risk resulted from the influence of using a certain financing structure (Akintoye, 2008) or expressing it though economic value added (EVA), return on equity (ROE), operating profit margin (OPM), earnings per share etc (Rayan, 2008).

According to James and John (2005), liquidity ratios are defined as a measure of a firm's ability to pay back short-term obligations. Much insight can be obtained into the present cash solvency of the firm and the firm's ability to remain solvent in the event of adversity. Liquidity ratios can be measure by current ratio and quick ratio. Steve et al. (2006) defined current ratio as a measure of an entity's liquidity. Current ratio equal current assets divide by current liabilities. The higher the current ratio, the greater ability of the firm pays its bills. Liquidity measures the ability of managers in

firms to fulfill their immediate commitments to policyholders and other creditors without having to increase profits on underwriting and investment activities and liquidate financial assets (Adams and Buckle, 2003).

Jose et al. (2010) defined total asset turnover (asset utilization ratio) as the ratio measure the efficiency of a firm to get incomes or revenues by using its assets. This ratio also indicates pricing strategy. Businesses with low profit margins tend to have a high asset turnover, and those with high profit margins tend to have a low asset turnover.

Leverage ratios are intended to address the firm's long-term ability to meet its obligations. When a firm has debt, it has the obligation to repay the interest. Holding debt will increase the firm's riskiness. The level of financial leverage shows the ability of listed firm to manage their economic exposure to unexpected losses (Adams and Buckle, 2003).

2.4 Empirical Studies

Anand et al. (2004) in their study of cost management practices in India studied the responses furnished by 53 CFOs in Indian corporations. The objective of their study was to capture the development in cost management practices such as accounting for overheads, applications of budgetary control and standard costing in corporate India. The survey questionnaire also aimed to verify any significant difference in management motivation for the implementation and use of standard costing as a control tool between activities based cost management (ABCM) user firms and firms using traditional costing systems. The study established that the firms are successful

in capturing accurate cost and profit information from their ABC cost systems for value chain and supply chain analysis. The results suggest that the firms have better insight for benchmarking and budgeting with ABC cost system yet the consistency in their priority of budget goals is lacking unlike the firms who are using traditional costing systems.

Liaqat (2006) carried out an empirical study to find out the application of contemporary management accounting techniques in Indian industry through a survey of 530 member companies of the National Association of Financial Directors and Cost Controllers. Sixty three companies responded which constituted the sample; a response rate of about 12%. The sample was stratified in two segments; ABCM user firms and Non ABCM user firms. A five point Likert scale was used. The focus of the study was to find evidence on how widely traditional and contemporary management accounting practices were adopted by Indian industry. The investigations revealed that improvement of overall profitability and cost reduction were the motivating factors for using management accounting in Indian companies. The researcher found a positive association between the adoption of ABC and company characteristics (e.g. degree of customization, pressure of competition, business size, and proportion of overhead to total cost). However, none of the differences was found to be significant at 10% level.

Isa & Thye (2006) examined the usage of management accounting practices in manufacturing firms in Malaysia. They also studied the relationship between product variety, complexity of production process, level of competition, company size,

overhead expenses and usage of advanced management accounting practices. Management accountants in 500 manufacturing firms were randomly selected from the 2004/2005 Federation of Malaysian Manufacturers Directory. A total of 75 usable responses were received, that represented a response rate of 15%. Respondents comprised of senior level managers, including Chief Executive Officers, General Managers and Management Accountants. In this study, the measures for traditional management accounting techniques (TMAT) and advanced management accounting techniques (AMAT) were adopted from Waldron and Everett (2004). The TMAT were represented by four techniques: full costing, standard costing, job order costing and process costing. The AMAT comprised thirteen techniques: Activity-Based Costing, Activity-Based Management, Target Costing, Kaizen Costing, Value Added Accounting, Cost of Quality, Economic Value Added, Life Cycle Costing, Target Cost Planning, Cost Modeling, Strategic Management Accounting, Throughput Accounting and Back Flush Costing.

Adler, Everett, and Waldron (2000) conducted a survey that asked management accountants, in New Zealand manufacturing businesses, to indicate the techniques adopted in their business. While many studies have focused on particular techniques such as ABC or target costing, Adler et al. provided a questionnaire that included a vast array of management accounting techniques to provide a fuller set of response options. Respondents were asked to rank management techniques on a five point scale "from most used to least used". A judgment sampling method was chosen to achieve a response rate of 19% that provided 165 completed questionnaires. Traditional management accounting techniques, such as full costing, direct costing and standard

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costing were found to be used more often than advanced management accounting techniques, such as strategic management accounting. The study by Adler et al. (2000) is generally consistent with the lack of adoption of advanced management accounting techniques as stated by the Ainikkal (1993) and Hawkes et al. (2003) studies, but inconsistent with respect to individual techniques. It was found that firms in Australia adopted ABC, and cost of quality techniques and also that big firm were more likely to use modern accounting techniques.

Zatma (2006) revealed that the application of ABC leads to better knowledge in tender pricing, more ability to estimate the cost and updating costs data. It also saves the suitable information which are necessary to enter the bidders and to compete to win them. This system helps in supervising and controlling the activities which the company does and to make rational and correct decisions. The study recommended that the contracting companies are requested to convert gradually their method of pricing to ABC to find a managerial information system to exemplify the application of this system.

Skaik (2006) established that most important decisions in Gaza Strip factories are taken for Product Quality, Product Cost, Cost of Add/delete Product Lines and Product Costing consequently costing system is a vital component for the decision makers in helping for rational decision making. Another result indicates that Gaza factories are not implementing ABC which affect negatively the decision making process. The study suggested that the strengthening the Decision Making mechanism

required a strong cost information system; this cost information system is not used in the Gaza Strip factories.

Enchassi (2008) established that the majority of contractors are aware of overhead costs in construction projects. The staff wages are the highest overhead costs component. The currency exchange rates, inflation, increase in financial costs among others lead to increase in overhead costs. The findings illustrate that the overhead costs are on average 11.1 percent of the total project cost. Controlling and managing overhead costs are considered the main tools to improve the companies' financial situation. The study recommended that courses are offered to Palestinian contractors periodically to increase their knowledge and awareness about the overhead costs concept. Contractors should utilize the ABC system to minimize and control their expenditures as much as possible. Each contractor should apply periodical measurements during the project life to understand clearly the actual expenditures, and to make separation between the site overheads and the office overhead.

Salawu et al., (2012) did a survey of Activity Based Costing Adoption Among Manufacturing Companies in Nigeria. The study reveals that inability of the traditional cost systems to provide relevant cost was the most highly ranked reason in their decision to adopt ABC. Traditional methods of allocating overhead were therefore believed to be deficient in terms of improving global competitiveness. Also, 60% of the respondents have adopted ABC due to increased ranges of products, competition and increased overhead. Familiarity with and adoption of ABC was found to be across the manufacturing, more than half of the sample are familiar with it. The

40% of respondents who have not adopted ABC cited the cost and complexity involved with implementation as the main reason in non-adoption. However, cost of implementing ABC was enormous which hinder the small scale manufacturing from adopting it. This result may reflect the fact that larger firms are more likely to have the diverse mix of products or services that makes the use of ABC advantages. Consequently, the study recommends that the companies who have not adopted ABC because of its high cost of implementation should endeavor to consider its adoption because in the long run the benefits derive from it will outweigh its cost. It helps to identify inefficient products, departments and activities and helps to allocate more resources on profitable products. In conclusion, the senior management should also give their utmost support to the implementation and success of ABC.

Langat (2005) did a survey of cost allocation practices of manufacturing companies in Kenya. Results indicate that cost allocation is practiced by majority of companies in Kenya. However, most companies still use traditional volume-based approach, which suggests that majority of companies, could be making serious mistakes in their decisions as noted in the literature that bad allocation lead to poor decisions. The most important reason for cost allocation noted by respondents is to provide information for managerial decision-making. On average, Kenyan manufacturing companies have two cost centers and majority of companies use units of outputs as their allocation base. Majority of companies use actual activity levels to determine an overhead application rate, and thus the problem of dealing with over or under recovery of overheads is not common in Kenya. The few companies that use budgeted activity levels; however, write- off over- or- under application of overheads through profit and loss account.

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Results of this study also indicate that Activity Based Costing has not been appreciated in Kenya.

2.5 Summary of Literature

The chapter presented the theoretical and empirical review of the study on relationship between overhead allocation techniques and financial performance. The chapter also presented the determinants of financial performance of manufacturing firms. The chapter posits that even large contractors do not have a unified or even proper understanding of the term OH costs (Assaf et al, 1999). Anand et al (2004) indicates that the firms are successful in capturing accurate cost and profit information from their ABC cost systems for value chain and supply chain analysis while Zatma (2006) revealed that the application of ABC leads to better knowledge in tender pricing, more ability to estimate the cost and updating costs data.

The study by Adler et al. (2000) is generally consistent with the lack of adoption of advanced management accounting techniques as stated by the Ainikkal (1993) and Hawkes et al. (2003) studies, but inconsistent with respect to individual techniques. It was found that firms in Australia adopted ABC, and cost of quality techniques and also that big firm were more likely to use modern accounting techniques. According to Popesko and Novak (2008) the traditional concepts of overhead cost allocation very often simplify the relationship between costs and outputs. There exists a knowledge gap as various studies were conducted outside the Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter is a blueprint of the methodology that will be used by the researcher conduct the study. In this chapter the research methodology will be presented in the following order; research design, population, sample, data collection, data analysis and finally validity and reliability.

3.2 Research Design

This study adopted a descriptive survey design which according to Churchill (1991) is appropriate where the study seeks to describe the characteristics of certain groups, estimate the proportion of people who have certain characteristics and make predictions. The primary purpose of the study was to study the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya.

3.3 Population

The study population was forty manufacturing firms, out of a population of sixty five manufacturing companies in Kenya as registered by the ministry of industrialization (2014). All the sixty five registered manufacturing companies constituted the target population of this study. The accessible population was all the registered manufacturing companies at 31st December 2013.

3.4 Sample

The sample design of this study was mainly on Kothari's (2004) hypothesis. According to Kothari (2004) a sample of 10-30% of the target population is usually representative and generalizable. Based on Kothari (2004) hypothesis, the sample size for this study was 20 manufacturing companies which are 30% of the target population of 65 manufacturing firms. The study used census sampling technique to obtain the required sample size of 20 manufacturing firms. This is because the sample was small and therefore accessible. The study covered a period of 5 years (2009-2013).

3.5 Data collection

Both primary data and secondary data were collected in this study. Primary data was obtained through self-administered questionnaires with closed and open-ended questions. The researcher asked questions face to face with the interviewees (chief finance officers) at the selected firms. The secondary data was obtained from the published annual reports spanning five years (2009-2013) for the sampled 20 manufacturing firms in Kenya. This was done through desk review. Secondary data also included the governments' publications, journals, and survey reports of the manufacturing companies in Kenya.

Instrument validity is the degree to which research results obtained from the analysis of the data actually represent the phenomenon under study (Mugenda & Mugenda, 2008). To ensure instrument validity, content validity was tested. Content validity refers to a measure of the degree to which data collected using a particular instrument

represent a specific domain of indicators or content of a particular concept. This was achieved by availing the questionnaire to the experts in the study area who constructed content validity. The amendments that they suggested were incorporated in the questionnaire to increase its validity.

Instrument reliability of measurement concerns the degree to which a particular measuring procedure gives similar results over a number of repeated trials (Orodho, 2008). This was achieved through test-retest reliability where the tools were administered twice to the same group of five respondents working in firms listed in NSE in a span of two weeks. Spearman rank order correlation (r) was used to compute the correlation co-efficient to establish the degree to which there is consistency in eliciting similar response every time the instrument is administered.

3.6 Data analysis

Overhead allocation techniques data was summarized for each firm in table form to facilitate data analysis. In line with our first and second objective, the study used linear regression model. The linear regression model sought to establish the relationship between overhead allocation techniques and the financial performance. The linear regression model is:

$FP = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 X_5 + \beta_5 X_6 + e$, Where,

FP = financial performance, ROA=$\dfrac{\text{Net Income}}{\text{Total assets}}$

X_1=Activity based costing, X_2=Step-Down Allocation Method

X_3 Reciprocal Allocation Method, X_4 =Traditional allocation Method

X_5 and X_6 = other determinants of financial performance (L) and (S) Size

X_5= Ratio of total debt to total assets

X_6 = Size, defined as the natural log (Ln) of Total assets

β_0 = constant or intercept, β_1- β_4 = regression coefficients

e = error term of the model (significance level of the model).

The values of X_1 to X_4 were calculated from the mean score response on each likert scaled data for each firm. The mean score was thus obtained for the respective variable for each firm. These values were then utilized for regression analysis. The value of Y (Financial performance) was an average for the five year period.

3.6.1 Diagnostic tests

F-test was tested for joint significance of all coefficients and t-test for significance of individual coefficients. Measures of central tendency (mean) and a measure of dispersion/variation (standard deviation) was used to analyze the data.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION

4.0   Introduction

This chapter presents the results of data analysis. Responses from 17 manufacturing firms (representing 85% response rate) were used in the data analysis. The chapter presents results on the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya. The information was gathered from the chief finance officers as they handle financial issues. The objectives of the study were; to investigate the overhead allocation techniques adopted by the manufacturing companies in Kenya and to establish the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya.

4.1 General Information

The respondents were asked a series in relation to their demographic and operational characteristics designed to determine fundamental issues including the demographic characteristics of the respondent. The findings are discussed below.

4.1.1 Name of the Respondents

The respondents were asked to state their names. However, all the respondents declined to indicate their names for confidentiality purposes.

4.1.2 Number of Employees

The study sought to establish how many employees the respondents firms have currently. A summary of the findings is illustrated below.

Figure 4.1: Current Number of Employees
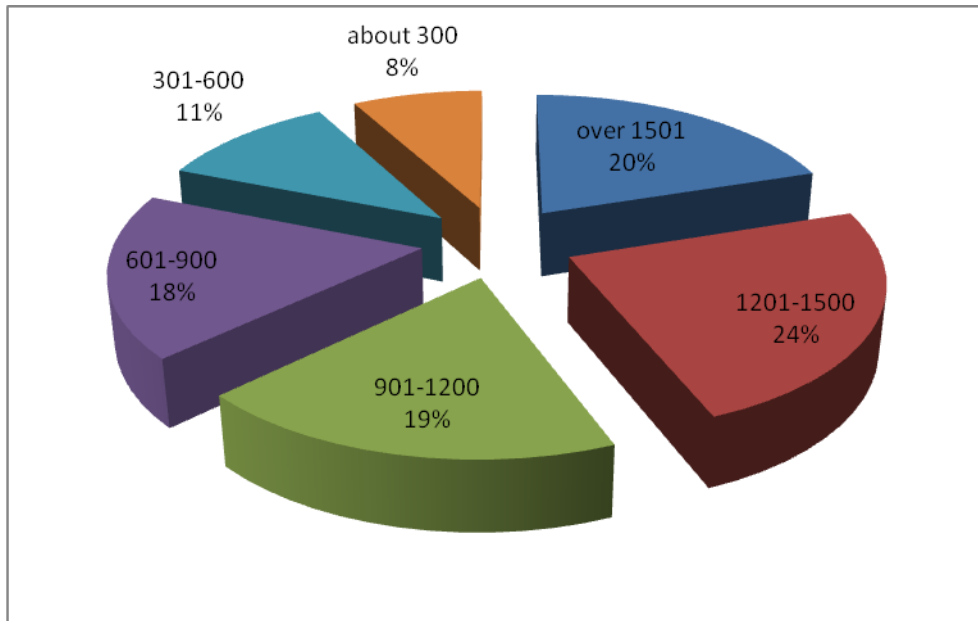
According to the findings in figure 4.1 above, most (24%) of the respondents company have 1201-1500 employees, 20% have over 1501 employees, 19% have 901-1200 employees, 18% have 601-900 employees, 11% have 301-600 employees and finally 8% of the respondents company have about 300 employees. This shows that the manufacturing companies under review are large-scale employers.

4.1.3. Number of Branches

The study requested the respondents to point out the number of branches their firms have. The study findings are tabulated below.

Table 4.1: Number of Branches of the Respondents Firms

	Frequency	Percentage (%)
0-3	4	24
4-6	6	35
7-9	3	18
Over 10	4	24
Total	17	100

From the findings, most (6) of the respondents stated that their firms had 4-6 branches in the country, 4 of the respondents said that their firms had between 0-3 and over 10 branches each and 3 of the respondents' firms had 7-9 branches. It therefore depicts that most of the respondents' firms had more than 3 branches.

4.1.4. Respondents Firms Current Average Annual Turnover between 2009 and 2013

The study also aimed to establish the firms' current average annual turnover between 2009 and 2013. A summary of the findings is presented below.

Figure 4.2: Respondents Firms Current Average Annual Turnover between 2009 and 2013
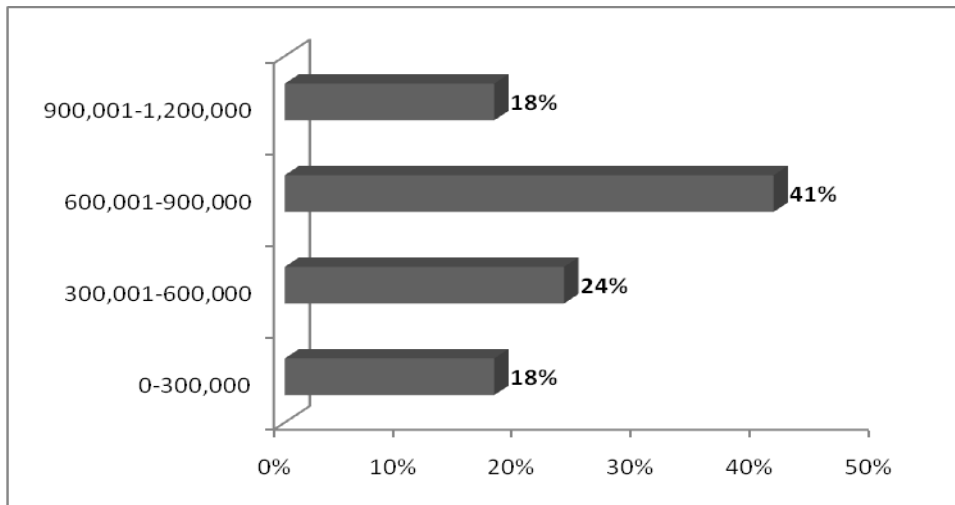
The findings in figure 4.2 above illustrates that, most (41%) of the respondents firms current average annual turnover between 2009 and 2013 was Kshs. Mn 600,001-900,000, 24% said that it was Kshs. Mn 300,001-600,000 while 18% said that it was Kshs. Mn 900,001-1,200,000 and 0-300,000 each. This implies that the manufacturing companies under review have high annual turnover sales.

4.2 Overhead Allocation Techniques Adopted by the Manufacturing Companies in Kenya

4.2.1 Respondents Organization's Average Overhead Cost in the Last 5 years (Kshs)

The study sought to determine the respondents' organization's average overhead cost in the last 5 years (Kshs). The findings are tabulated below.

Table 4.2: Respondents Organization's Average Overhead Cost in the Last 5 years (Kshs)

	Frequency	Percentage (%)
Less than 1 million	2	12
From 1 to less than 5 millions	9	53
From 5 to less than 10 millions	3	18
10 million and more	3	18
Total	**17**	**100**

According to the findings in table 4.2 above, majority (9) of the respondents firms average overhead cost in the last 5 years (Kshs) was From 1 to less than 5 millions, 3 said that it was From Kshs.5 to less than 10 millions and 10 million and more each while 2 said that it was Kshs. Less than 1 million. This implies that the manufacturing companies under review have high average overhead cost in the last 5 years (Kshs).

4.2.2 Respondents Organization's Percentage of Overhead Costs to the Total Project Costs

The study sought to establish the percentage of overhead costs to the total project costs. The study findings are illustrated below.

Figure 4.3: Respondents Organization's Percentage of Overhead Costs to the Total Project Costs
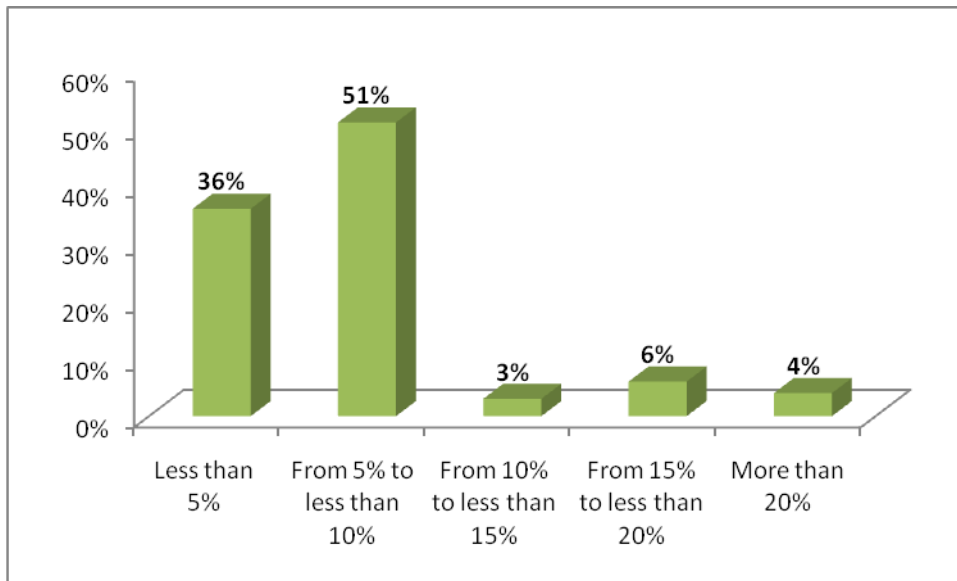
From the findings in figure 4.3 above, it can be deduced that majority (51%) of the respondents organization's percentage of overhead costs to the total project costs were from 5% to less than 10%, 36% stated that the organization's percentage of overhead costs to the total project costs were less than 5%, 6% stated that organization's percentage of overhead costs to the total project costs were from 15% to less than 15%, 4% stated that the organization's percentage of overhead costs to the total project costs were more than 20% and finally 3% stated that the organization's percentage of overhead costs to the total project costs were from 10% to less than 15%.

4.2.3 Adoption of Various Overhead Allocation Techniques in the Respondents Organization's

The respondents were asked if their organization has adopted various overhead allocation techniques. Accordingly, the findings revealed that all the respondents organization have adopted various overhead allocation techniques.

4.2.4 Respondents Opinion on the Various Overhead Allocation Techniques adopted in their Company

The respondents were asked to indicate the extent to which various overhead allocation techniques have been adopted in their company. The responses were placed on a five Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A mean of above 3 is regarded to measure satisfaction on the test variables. Standard deviation was used to indicate the variation or "dispersion" from the "average" (mean). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data is spread out over a large range of values. The results are as presented in the tables below.

Table 4.3: Respondents Opinion on Activity based costing Overhead Allocation Techniques adopted in their Company

Activity based costing	Mean	Std Dev
This method doesn't require the prediction of the usage of support department services by other support departments	3.99	0.254
It is most widely used due its conceptual and practical simplicity.	4.21	0.123
This method allocates the costs of support department directly to the operating departments	4.31	0.568
Activity-based costing provides a translation between the general ledger accounts, which are required by generally-accepted accounting practices (GAAP) for external reporting, and overhead resources representing work activities or functions of the firm	4.36	0.895
Providing timely and quality cost information	4.49	0.214

In relation to Activity based costing the findings in table 4.3 above depict that most respondents were of the view that it provides timely and quality cost information (mean=4.49), this was followed by Activity-based costing provides a translation between the general ledger accounts, which are required by generally-accepted accounting practices (GAAP) for external reporting, and overhead resources representing work activities or functions of the firm (mean=4.36), This method allocates the costs of support department directly to the operating departments (mean=4.31), It is most widely used due its conceptual and practical simplicity (mean=4.21) and that this method doesn't require the prediction of the usage of support department services by other support departments (mean=3.99).

This shows that Activity based costing have been adopted in the respondents company mainly because of providing timely and quality cost information.

Table 4.4: Respondents Opinion on Step-Down Overhead Allocation Techniques adopted in their Company

Step-Down Allocation Method	Mean	Std Dev
Under the step-down method, once a support department's costs have been allocated, no subsequent support department costs are allocated back to it.	3.91	0.148
Allows for partial recognition of the services provided by support departments to other support departments.	3.99	0.548
The support department renders the highest percentage of its total services to other support departments	4.02	0.47
Its application of the step-down requires the support departments to be sequenced in order for the step-down allocation to proceed.	4.11	0.66

Regarding Step-Down, the findings in table 4.4 above depict that most respondents agreed that its application requires the support departments to be sequenced in order for it to proceed (mean=4.11), this was followed by; The support department renders the highest percentage of its total services to other support departments (mean=4.02), it allows for partial recognition of the services provided by support departments to other support departments (mean=3.99) and that Under the step-down method, once a support department's costs have been allocated, no subsequent support department costs are allocated back to it (mean=3.91)

These shows that Step-Down Allocation Overhead Allocation Techniques have been adopted in the respondent company mainly because its application requires the support departments to be sequenced in order for it to proceed.

Table 4.5: Respondents Opinion on Reciprocal Overhead Allocation Techniques adopted in their Company

Reciprocal Allocation Method	Mean	Std Dev
The reciprocal allocation method allocates costs by explicitly including the mutual services provided among all support departments	3.99	0.41
The method fully incorporates interdepartmental relationships into support department cost allocations	4.06	0.52
It allows allocating the complete reciprocated costs of each support department to all other departments (both support departments and operating departments) on the basis of the usage percentages (based on total units of service provided to all departments	4.09	0.39
The costs of a support department are allocated to other support and operating departments according to the services provided to those departments	4.11	0.74

From the findings table 4.5 above depict that most respondents agreed that Reciprocal Overhead Allocation Techniques application requires the support departments to be sequenced in order for it to proceed (mean=4.11), this was followed by; The support

department renders the highest percentage of its total services to other support departments (mean=4.02), it allows for partial recognition of the services provided by support departments to other support departments (mean=3.99) and that Under the step-down method, once a support department's costs have been allocated, no subsequent support department costs are allocated back to it (mean=3.91). This shows that Reciprocal Overhead Allocation Techniques have been adopted in the respondent company mainly because its application requires the support departments to be sequenced in order for it to proceed.

Table 4.6: Respondents Opinion on Traditional Allocation Overhead Allocation Techniques adopted in their Company

Traditional allocation Method	Mean	Std Dev
Apply when Few very similar products or services are produced	3.98	0.42
the allocation of manufacturing cost depends on the types of resources that the products consume.	4.08	0.26
Applicable when pproduction and conversion processes are homogenous	4.19	0.32
this system allows for cost distortions, which will be greater in business units with a higher proportion of overhead costs	4.23	0.34
Used when customers, customer demands, and marketing channels are homogenous	4.26	0.44

According to the findings table 4.6 above, most respondents agreed that Traditional Overhead Allocation Techniques adopted in their Company are used when customers, customer demands, and marketing channels are homogenous (mean=4.26), this was followed by; the system allows for cost distortions, which will be greater in business units with a higher proportion of overhead costs (mean=4.23), it is applicable when pproduction and conversion processes are homogenous (mean=4.19), the allocation of manufacturing cost depends on the types of resources that the products consume

(mean=4.08) and it is applied when few very similar products or services are produced (mean=3.98).

These shows that Traditional Overhead Allocation Techniques have been adopted in the respondent company are mainly used when customers, customer demands, and marketing channels are homogenous.

4.3 Uses of Overhead Allocation Techniques in Manufacturing Companies in Kenya

The respondents were asked to indicate the extent to which various overhead allocation techniques are used in their company. The responses were placed on a five Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A mean of above 3 is regarded to measure satisfaction on the test variables. Standard deviation was used to indicate the variation or "dispersion" from the "average" (mean). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data is spread out over a large range of values. The results are as presented in Table 4.7 below.

Table 4.7: Uses of Overhead Allocation Techniques in Manufacturing Companies in Kenya

Uses of overhead allocation techniques	Mean	Std Dev
Performance evaluation	4.20	0.332
Judge and control financial performance	4.31	0.251
budget and budgetary	4.46	0.415
Co-ordination of the operations	4.49	0.226
Decision making	4.49	0.417
Cost management	4.51	0.338

The findings in table 4.7 above portray that various overhead allocation techniques are used in their company mostly for cost management (mean=4.51), Decision making as well as Co-ordination of the operations (mean=4.49 each), budget and budgetary (mean=4.46), Judge and control financial performance (mean=4.31) and Performance evaluation (mean=4.20).

This implies that various overhead allocation techniques are used in manufacturing companies for the ultimate goal of improving the financial performance of the organizations.

4.4 Inferential Statistics

The study further applied multiple regressions to determine the predictive power of the overhead allocation techniques on financial performance of manufacturing companies in Kenya.

4.4.1 Regression Analysis

Regression analysis is the statistical technique that identifies the relationship between two or more quantitative variables: a dependent variable, whose value is to be predicted, and an independent or explanatory variable (or variables), about which knowledge is available. Regression analysis is used to understand the statistical dependence of one variable on other variables.

Table 4.8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.911[a]	.830	.742	.19661

a. Predictors: (Constant), Activity based costing, Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method

In this case, the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R2 equals 0.830, that is, Activity based costing, Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method explain 83 percent of the variance in financial performance amounts.

Table 4.9: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	.013	8	3.57	3.101	.001[a]
1	Residual	.004	8	3.97		
	Total	.017	16			

a. Dependent Variable: financial performance

b. Predictors: (Constant), Activity based costing, Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method

In this case, the significance value of the F statistic is 0.001 indicating that all the predictor variables (Activity based costing, Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method) explain a variation in financial performance and that the overall model is significant.

Table 4.10 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.788	.222		.670	.001
	Activity based costing	0.745	0.136	.545	.422	.000
	Step-Down Allocation Method	0.559	0.251	.521	.339	.000
	Reciprocal Allocation Method	0.449	0.389	.443	.491	.000
	Traditional allocation Method	0.661	0.371	.396	.223	.000
	Leverage	0.552	0.299	.430	.671	.031
	Size	0.571	0.305	-.483	.398	.025
Dependent variable: financial performance						

Table 4.10 presents results of the multivariate regression of overhead allocation techniques on financial performance of manufacturing companies in Kenya.

From the finding in the above table the study found that holding Activity based costing, Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method, Leverage and Size constant financial performance will

be 0.788, the study also found that a unit increase in Activity based costing will cause a 0.745 increase in financial performance, further it was established by the study that a unit increase in Step-Down Allocation Method will lead to an increase in financial performance by 0.559, it was also found that a unit increase in Reciprocal Allocation Method will lead to an increase in financial performance by a factor of 0.449, it was additionally found by the study that a unit increase in Traditional allocation Method will lead to an increase in financial performance by a factor of 0.661, a unit increase in Leverage will further lead to an increase in financial performance by a factor of 0.552 and a unit increase in Size will further lead to an increase in financial performance by a factor of 0.571.

This infers that the overhead allocation techniques significantly predicted the financial performance of manufacturing companies in Kenya as compared to the Control variable. Activity based costing contributes the most to the financial performance of manufacturing companies in Kenya followed by Traditional allocation Method. At 5% level of significance and 95% level of confidence, Activity based costing; Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method were all significant overhead allocation techniques on financial performance of manufacturing companies in Kenya.

4.5 Summary and Interpretation of Findings

The study established that Activity based costing; Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method explain 83 percent of the variance in financial performance amounts. This is line with the significance

value of the F statistic is 0.001 indicating that all the predictor variables (Activity based costing, Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method) explain a variation in financial performance.

The study also found out that a combination of the overhead allocation techniques (Activity based costing, Step-Down Allocation Method, Reciprocal Allocation Method and Traditional allocation Method) and the control variables (Leverage and Size) explain 78.8% of the variance in financial performance.

The study finally revealed that the overhead allocation techniques significantly predicted the financial performance of manufacturing companies in Kenya as compared to the Control variable. Activity based costing contributes the most to the financial performance of manufacturing companies in Kenya followed by Traditional allocation Method, size, Step-Down Allocation Method, Leverage and Reciprocal Allocation Method respectively.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

The study revealed that majority of the manufacturing companies' percentage of overhead costs to the total project costs were from 5% to less than 10% and all these companies have adopted various overhead allocation techniques. The study also established that various overhead allocation techniques are used in the manufacturing companies mostly for cost management.

Activity based costing was found to be most widely used due its conceptual and practical simplicity and that this method doesn't require the prediction of the usage of support department services by other support departments. It was also found to provide timely and quality cost information, provide a translation between the general ledger accounts, which are required by generally-accepted accounting practices (GAAP) for external reporting, and overhead resources representing work activities .

 Other dependent variable were also found to significantly affect the financial performance of the manufacturing companies as outlined against each section mentioned in chapter four.

5.2 Conclusions

The study concludes that overhead allocation techniques significantly predicted the financial performance of manufacturing companies in Kenya. Activity based costing contributes the most to the financial performance of manufacturing companies in Kenya followed by Traditional allocation Method, size, Step-Down Allocation Method, Leverage and Reciprocal Allocation Method respectively.

The study also concludes that Activity based costing Overhead Allocation Techniques have been adopted manufacturing companies in Kenya mainly because of providing timely and quality cost information. Step-Down Overhead Allocation Techniques have been adopted in the manufacturing companies in Kenya mainly because its application requires the support departments to be sequenced in order for it to proceed. Reciprocal Overhead Allocation Techniques have been adopted in the manufacturing companies in Kenya mainly because its application requires the support departments to be sequenced in order for it to proceed. Traditional Overhead Allocation Techniques have been adopted in the manufacturing companies in Kenya are mainly used when customers, customer demands, and marketing channels are homogenous.

This study finally concludes that various overhead allocation techniques are used in manufacturing companies for the ultimate goal of improving the financial performance of the organizations.

5.3 Recommendations to Policy and Practice

The study recommends that the manufacturing companies implement the ABC system as it assigns overhead costs more accurately than other cost accounting system from a cost management perspective. Adopting this system will yield: a) a better understanding of those business processes that drive costs, b) an improved methodology for recognizing those productivity enhancements that upgrade service delivery, and c) a clear identification of the performance measures that improve cost control. These are essential components of continuous improvement and total quality management programs integral to an organization's attainment of its objectives, goals and ultimately financial performance.

The study recommends that companies and management should use various overhead allocation techniques for cost management in order to attract new investors and also retain existing ones.

The study further recommends that policy makers in other industries such as Service industries and Non-Governmental Agencies borrow from this study to determine which guidelines can be developed to optimize the allocation of shared cost within such organisation. This is also in line with the finding of the study that points out that the application of various allocations techniques will not be universal across all industries and sectors thus would need to be considerate of this fact.

5.4 Limitations of the Study

The researcher used questionnaires with both closed and open ended questions to collect data. Closed ended questions have the disadvantage of limiting the responses whereby the respondent is compelled to answer questions according to the researcher's choice. However to mitigate this limitation the researcher ensure that the questions were well thought out and comprehensive enough to cover all important aspects of the study objectives.

The study focused on some of the very busy staff members and scheduling appropriate timings was a challenge, in some instances we had to keep rescheduling the meeting. However, the study eventually managed to obtain information from the key decision makers of the manufacturing firms.

The sample size was small and response bias cannot be eliminated due to the unwillingness of the respondents to share the accurate information.

The measures studied may not be exhaustive thus, limiting the findings of the study. In addition, it is possible that the effect of contextual factors used in this study yield different results for other types of industries i.e service etc. Finally, there can be other variables that may be added to the theoretical framework to enhance its explanatory power.

5.5 Suggestion for Further Studies

This study was a survey on the relationship between overhead allocation techniques and financial performance of manufacturing companies in Kenya; where the use of questionnaires limited the respondents in expression. Thus, there is a need to conduct a similar study using an interview schedule and focusing on all the manufacturing firms in order to carry out an in-depth analysis.

The study suggests that further research to be done on the factors affecting overhead allocation techniques implementation in order to give both negative and positive sides that can be reliable.

The study also suggests further research to be done on impact of overhead allocation techniques and financial performance by focusing on other sectors other than manufacturing sector in order to depict reliable information that illustrates real situation across all sectors.

Finally, further research is necessary as the findings were based on a relatively small sample that may have influenced the nature of results that were obtained. There is need to expand on the sample size.

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APPENDICES

LETTER OF INTRODUCTION

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MSC FINANCE PROGRAMME

Telephone: 020-2059162 Telegrams: "Varsity", Nairobi Telex: 22095 Varsity	P.O. Box 30197 Nairobi, Kenya

DATE. 10 · 09 · 2014

TO WHOM IT MAY CONCERN

The bearer of this letter ... FRED RWANJEU NJUE ....

Registration No.... D63/67782/11 ....

is a bona fide continuing student in the Master of Science (Finance) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a finance problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

PATRICK NYABUTO
FOR: MSC FINANCE CO-ORDINATOR
SCHOOL OF BUSINESS

(University of Nairobi, School of Business stamp dated 10 SEP 2014, P.O. Box 30197 – 00100, Nairobi)

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APPENDIX I: QUESTIONNAIRE

PART A: Background Information

1. Name of the respondents (optional)…………………………………...

2. How many employees does the organization have? _____

3. How many branches does the company have? _____

4. What is your current Average annual turnover between 2009 and 2013?

_____

PART B: Overhead allocation techniques adopted by the manufacturing companies in Kenya

5. What is your organization's average overhead cost in the last 5 years (Kshs)?

□ Less than 1 million   □ From 1 to less than 5 millions

□ From 5 to less than 10 millions   □ 10 million and more

6. What is the percentage of overhead costs to the total project costs?

□ Less than 5%   □ From 5% to less than 10%

□ From 10% to less than 15%   □ From 15% to less than 20%

□ More than 20%

7. a) Has the organization adopted various overhead allocation techniques?

Yes [ ]   No [ ]

8. If yes, to what extent are the following various overhead allocation techniques adopted in your company? Use a scale of 1-5 where 5-To a very great extent, 4-To a great extent, 3-To a moderate extent, 2-To a little extent, and 1-To no extent.

	1	2	3	4	5
Activity based costing					
It is most widely used due its conceptual and practical simplicity.					
This method allocates the costs of support department directly to the operating departments					
This method doesn't require the prediction of the usage of support department services by other support departments					
Providing timely and quality cost information					
Activity-based costing provides a translation between the general ledger accounts, which are required by generally-accepted accounting practices (GAAP) for external reporting, and overhead resources representing work activities or functions of the firm					
Step-Down Allocation Method					
Allows for partial recognition of the services provided by support departments to other support departments.					
Its application of the step-down requires the support departments to be sequenced in order for the step-down allocation to proceed.					
Under the step-down method, once a support department's costs have been allocated, no subsequent support department costs are allocated back to it.					
The support department renders the highest percentage of its total services to other support departments					
Reciprocal Allocation Method					
The reciprocal allocation method allocates costs by explicitly including the mutual services provided among all support departments					
The method fully incorporates interdepartmental relationships into support department cost allocations					
The costs of a support department are allocated to other support and operating departments according to the services provided to those departments					
It allows allocating the complete reciprocated costs of each support					

	1	2	3	4
department to all other departments (both support departments and operating departments) on the basis of the usage percentages (based on total units of service provided to all departments				
Traditional allocation Method:				
Apply when Few very similar products or services are produced				
the allocation of manufacturing cost depends on the types of resources that the products consume.				
this system allows for cost distortions, which will be greater in business units with a higher proportion of overhead costs				
Applicable when pproduction and conversion processes are homogenous				
Used when customers, customer demands, and marketing channels are homogenous				

PART C: uses of overhead allocation techniques in manufacturing companies in Kenya

10. The following statements relate to the uses of overhead allocation techniques on financial performance. To what does each of them reflect your organization? Use a scale of 1-5 where 5-To a very great extent, 4-To a great extent, 3-To a moderate extent, 2-To a little extent, and 1-To no extent.

Uses of overhead allocation techniques	1	2	3	4	5
Cost management					
budget and budgetary					
Judge and control financial performance					
Co-ordination of the operations					
Performance evaluation					
Decision making					

Thank you for your time and participation

APPENDIX II: LIST OF MANUFACTURING FIRMS

1. Geomatic Services Ltd.

2. Abu Engineering Ltd

3. Acme Container Ltd

4. Adhesive Solutions Africa Ltd

5. Africa Kaluworks (Aluware) Division K

6. African Cotton Industries Ltd

7. Africa Oil Kenya B.V

8. Agni Enterprises Ltd

9. Ali Glaziers Ltd

10. Alpha Dairy Products Ltd

11. Alpha Fine Foods Ltd

12. Apex Steel Ltd

13. AquaSanTec

14. Aquva Agencies Ltd -Nairobi

15. Arrow Rubber Stamp Company Ltd.

16. Artech Agencies (KSM) Ltd

17. Ashut Quality Products

18. ASL Ltd – HFD

19. Athi River Mining Ltd

20. Atlas Copco Eastern Africa Ltd

21. Bamburi Special Products Ltd

22. Beta HealthCare

23. BIDCO Oil Refineries Limited

24. Bilco Engineering

25. biodeal laboratories ltd

26. blowplast

27. Blowplast Limited

28. Blue Ring Products Ltd

29. Blue Triangle Cement

30. Bobmil Industries Limited

31. Bogani Industries Ltd

32. Bosky Industries Ltd

33. British American Tobacco Kenya Ltd

34. C. Dormans Ltd

35. Chandaria Industries Limited

36. Chemplus Holdings LTD

37. Chevron Kenya Ltd

38. Chloride Exide Kenya Limited

39. Climacento Green Tech Ltd

40. Colgate-Palmolive(East Africa) Ltd

41. Collis F B

42. Commrecial Motor Spares Ltd

43. Cosmos Limited

44. Creative Fabric World Co Ltd

45. Creative Innovations Ltd.

46. Crown-Berger (K) Ltd.

47. Cuma Refrigeration EA Limited

48. Doshi Group of Companies

49. East Africa Glassware Mart Ltd

50. East African Breweries Limited

51. East African Cables Ltd.

52. East African Cables Ltd.

53. East African Portland cement

54. Eastern Chemical Industries Ltd

55. Eco Consult LTD

56. Ecolab East Africa (K) Ltd

57. Ecotech Ltd

58. Energy Pak (K) Ltd

59. Energy Regulatory Commission

60. Equatorial Tea Ltd

61. Eveready East Africa Limited

62. Excel Chemical Ltd.

63. Fairdeal Upvc, Aluminium and Glass Ltd

64. Famiar Generating Systems Ltd

65. Farmers Choice Ltd