EFFECT OF COST ACCOUNTING TECHNIQUES ON FINANCIAL PERFORMANCE OF MANUFACTURING INDUSTRIES IN NORTH RIFT ECONOMIC BLOCK, KENYA

BY

HELEN ADHIAMBO OTIENO

A THESIS SUBMITED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS MANAGEMENT (ACCOUNTING OPTION) TO THE SCHOOL OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF ELDORET, KENYA

SEPTEMBER, 2023

DECLARATION

Declaration by the student

This thesis is my original work and has not been presented for a degree in any other University. No part of this thesis may be reproduced without the prior written permission of the author and/or University of Eldoret.

_____ Date _____

Otieno Adhiambo Helen

SBUS/BBM/M/009/16

Declaration by the supervisors

This thesis has been submitted for examination with our approval as University supervisors

_____ **Date _____**

Dr. Caroyline Ayuma
Senior Lecturer,
University of Eldoret, Kenya

_____ **Date _____**

Dr. Christine Ngari
Senior Lecturer,
University of Eldoret, Kenya

DEDICATION

I do set apart this piece of work to all powerful God the author of knowledge and understanding, To my Spouse Dr. Philip Otieno Nyawere for moral, material and financial support, To my Daughters Shemida and Elisheba, my Son Shimron for their patience and support during the entire academic journey.

ABSTRACT

Current manufacturing industries are struggling with challenges like low productivity rate and high cost of production which leads to low profitability. This study intended to evaluate the effect of cost accounting techniques on financial performance of manufacturing industries in North Rift Economic Block, Kenya. Specific objectives were to examine the effect of marginal, standard, activity based and target costing on financial performance of manufacturing industries. The current study was guided by Theory of constraints, Resource based view theory and Contribution Theory. The study adopted explanatory research design and stratified random sampling techniques for data collection from a sample size of 220 from 48 manufacturing industries. Similarly, self-administered questionnaire with closed ended questions. Cronbach's alpha and factor analysis were applied to test for reliability and construct validity respectfully. Multiple linear regression model was applied in establishing the effect of independent variables on the dependent variable. The study findings established that marginal Costing ($\beta = 0.424$, $P > 0.000$), Standard Costing ($\beta = 0.216$, $P > 0.000$), Activity Based Costing ($\beta = 0.187$, $P > 0.000$), Target Costing ($\beta = 0.146$, $P > 0.008$) with Average $R^2 = 0.662$ have positive significant effect on financial performance of Manufacturing Industries. The study further revealed that ABC is the most influential variable in prediction of outcome of financial performance of manufacturing Industries. The Study concluded that Cost Accounting is an essential practice in any manufacturing Industries and cannot be excluded from basic activities in manufacturing Industries. This study recommends that further study on this area should be done on service industries and application of non- financial performance measurements to establish whether the study would yield same results.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

COGM   Cost of Goods Manufactured

DER   Debt on Equity Ratio

KMA   Kenya Manufacturers Association

RBV   Resource Based View

ROA   Rate on Asset

ROE   Rate on Equity

ROI   Rate on Investment

GDP   Gross Domestic product

TOC   Theory of Constraints

VIF   Variance Inflation Factor

OPERATIONAL DEFINITIONS OF TERMS

Leverage Ratio: This ratio is used to determine how much capital is acquired through debts. In this study, the ability of manufacturing industries to their financial obligations is an indication of good financial performance.

Profitability Ratio: The ratio normally evaluates how much excess revenue an organization is able to generate from available resources. In this study, the effectiveness of a company in using its assets to create profit and also measure its financial performance.

Standard Costing: This is a method of costing that compares original cost and expected cost. This study evaluated financial performance of manufacturing industries by the overall cost of standard direct material, labor and manufacturing overhead.

Target Costing: This technique deals with life cycle of a product and how much it will cost for development of a particular product in order to make profit. Financial performance in this study depended on cost reduction, target selling price and production volume.

Marginal Costing: This is a costing tool which furnishes a company with costing information on fixed and variable cost that assist in decision making. In this study, the amount of direct material, direct labor and administrative overhead would determine the profit generated by manufacturing industries.

Theory of Constraints: The theory is a method of detecting limiting factors that prevent Manufacturing industries from achieving their goals. It underpins both marginal and activity based costing in this study.

Production Theory: This theory covers the process of converting input into output. It underpins standard and activity based costing technique in the current study.

Activity Based Costing: This tool usually evaluates how effective activities in terms of costs and resources used to offer product and services. In this study activity based costing avail important information applied by managers in monitoring different activities and controlling cost.

Manufacturing:
Industries: These are companies involved in processing and production of goods. In this study, they are the companies that apply costing techniques in their daily activities.

Financial Performance: It is the overall measure of a company's financial health. Financial performance depended on the type of costing tool applied by manufacturing industries.

Efficiency Ratio: This is a financial performance determinant that measures the efficiency of a company to manages its resources. This is one of financial performance determinants in this study.

Liquidity Ratio: This ratio gauges how quickly a business entity is able to pay its day to day expenditures. In this study liquidity ratio show how stable manufacturing industry is financially.

ACKNOWLEDGEMENT

CHAPTER ONE

INTRODUCTION

1.0 Overview

The section entails the background, statement of the problem, objectives, hypotheses, significance and scope of the study.

1.1 Background of the Study

Imo, Chukwu & Ukehinakachi, (2022) defines financial performance as an overall determinant of a company's general financial well-being in a specific period of time. Financial performance measures are usually very important to business organization and profit is the most famous measure of all. Ratios are important financial performance techniques as they are simpler to observe changes over a period of time by doing a comparison of ratios over a certain period with another corresponding ratio over financial period.

Accounting has got key financial performance indicators known as Financial KPIs which various manufacturing industries can use in measuring its financial health. These are categorized in terms of ratios which are profitability, liquidity, efficiency and leverage ratios. These ratios clearly express the relationships among financial statements items and also give historical data which point out at the internal strength and weakness of companies (Stobierski, 2020).

Market globalization has given rise to new environment for business. Competition in the world environment put to account that as fundamental cost accounting work become more and more demanding in stockholders. Optimization requirements of financial performance of organization are rapidly increasing (Stefanovic,2010). It is evident that during the decade of the 1980s manufacturing firms worldwide have been undergoing major restructuring process in response to

increasing competition on an international basis (Hill, 2017). Genesis of cost accounting goes back to the 1800s due to emerging big enterprises including retail textile mills, steels and railroads companies. Indirect cost allocation has been a prolonged challenge for production department (Taylor, 2000). Costing for these manufacturing steps involves consideration of the three main types of costs responsible in manufacturing of finished goods which are direct materials, direct labor and manufacturing overheads (Skousen, Smith & Wright, 2009). Estimation of how much a particular product may cost in production is one of the function of costing. Assigning of raw materials which are direct cost are easy while assigning direct labor may be a bit difficult especially when laborers produce product of more than a single type (Hopp & Spearman, 2008). It is evident that during the decade of the 1980s, manufacturing firms worldwide have been undergoing major restructuring process in response to increase competition on an international basis (Hill, 2017).

 Globally, America various businesses are in a dispensation of significant transformation of manufacturing operations, as they pursue to be globally relevant manufacturers to overcome completion. To successfully compete ceaselessly, U.S manufacturers are required to be profitable Howell & Soucy, (1987). Globally and historically, even before world war two, Japan got great influence of European through U.K and Germany. People may be astonished why cost accounting for Japan seems to be very personal with others globally. This has been clarified through transfiguration of European intergral forces of Japanese community over time (Monden & Kosuga 2007). Malaysia industrial revolution led to improvement of economic manufacturing society being basic stakeholders and economic life wire, they are expected to become proactive in taking their role in controlling cost. Unfavorable environment cost has led to some industries closing up (Okafor, 2018).

In Africa, Nigeria has had a concern on usage of equipment methods which are obsolete due to factories inability to access to new technology Too much competition has resulted to poor sales with the consequences of this being poor finance. This makes it difficult to overcome competition. On the contrary, Obara & Nangih, (2017) argues that the present value of costing in the informal Nigerian business appears to be accurate without implication. Similarly, South Africa manufacturing industries are commonly falling behind others in social corporate channels of entrepreneurialism at several levels in the organization. The pressure of sustainability globally via international bottleneck and parent companies has driven this country's companies in changing production Methods and practice of management. (Brent, Erck & Labuschghe, 2015). Likewise, in Kigali Rwanda, Application of cost accounting practices has shot up rapidly. Manufacturing industries has been on the move to identify need for cost accounting profession. This in return has benefited large industries to put up costing segments in finance department (Kayitesi,2012)

Constantly, Kenyan manufacturing sector has been perceived to be a pillar of vast economic development process and a diversity from agricultural dependency. Kenyan manufacturing industries tend to lack strength in capital equipment area. Kenya has been expressingly behind in developing capacity of manufacturing adequate to penetrate world market which are advanced industrially far above many of its neighbors in Africa. (Ferrand,1999). Financial performance of manufacturing firms is influenced by two important factors which are risk and growth. Company's size has got positive impact on its financial performance as big companies may exploit the opportunity to acquire financial advantages relating to business factors of production like human resources can be easily accessed by large firms (Gichaaga, 2013).

In East Africa, Kenya is above all other countries in the region in terms of industrial development. However, there is not sufficient result compared to its potential (Kamau,2013). Kenya association of manufacturers (KAM) is a representation of manufacturing industries in Kenya. It aims at promoting investment and trade together with encouragement of formulation and enactment of policies which sound and in order to reduce cost of facilitation (Tipape & Jagongo, 2019). Being one of the significant players in the economy, manufacturing sector has experienced performance shortcomings with most of them recording low profits (Adembesa and Ombaba, 2020). Organizations that manufacture goods encounter several accounting issues. Various models which are commonly used by manufacturing firms are associated with methods of accounting (Hopp & Spearman,2008). To add on the normal accounting matters related to selling and administrative activities, a manufacturer must deal with accounting concerns in relation to acquiring and processing inputs into outputs. Accumulation and determination of product or activity cost is known as cost accounting. It's referred also as the process of incurring and controlling cost division into classes, analyzation and interpreting cost are all entailed in cost accounting. Costing accounts for data provision cost, document and management decision making report (Ajaero & Atoma, 2022). Costing for these manufacturing steps involves consideration of the three main types of costs responsible in manufacturing of finished goods which are direct materials, direct labor and manufacturing overheads (Skousen, Smith & Wright, 2009). Estimation of how much a particular product may cost in production is one of the function of costing. Assigning of raw materials which are direct cost are easy while assigning direct labor may be a bit difficult especially when laborers produce product of more than a single type (Hopp & Spearman, 2008). It is evident that during the decade of the 1980s, manufacturing firms worldwide have been undergoing major restructuring process in response to increase competition on an international basis (Hill, 2017).

In Kenya, manufacturing industries grew by 3.2% in 2014 and 3.5% in 2015. This contributed to gross domestic product (GDP) of 10.3% Since then the manufacturing sector has had a sluggish frequency of growth lower than the economy which increased to 5.6% in 2015. This has indicated that this country is still undergoing deindustrialization prematurity as these industries still remain under in development (KNBS, 2016). According to a report by Economic Survey 2019, there was economic growth by 6.3% in 2018, mostly brought about by agriculture, manufacturing and transport sectors. Out of this manufacturing industries had 4.2% growth in 2018 which showed an increase of 0.5% growth in 2017. There has been specific move directed at increasing manufacturer's contribution to GDP through revival of Rivatex one of the ancient textile companies in Eldoret town. The cost of power has remained an issue that increases unit cost of manufacturing and therefore this has been a concern to the manufacturing sector (Deloitte, 2021). North Rift Economic Block (NOREB) consist of 8 Counties in the rift valley part of Kenya with its head office in Eldoret town. These counties include Uasin Gishu, Nandi, Baringo, Transzoia, West Pokot, Turkana, Samburu and Elgeyo Marakwet. NOREB aims at leveraging economies of scale and expand market across these counties. This is seen as an effort in assisting companies like manufacturing industries in cutting down the cost of doing business. It also seeks to abolish double taxation between the member counties (NOREB,2019). In North Rift Economic Block manufacturing sector is made up of steel and timber, Agri processing, textile, chemical, food and beverage processing. There are about 48 Manufacturing industries within the region (Kenya Association of Manufacturers, 2020). North rift region manufacturing industries are struggling with poor productivity growth because of very minimal investment that takes place at in their companies. (Sankai, 2020). Though economic block has brought together different stake holders, there is more to be done to boost productivity and financial performance. (Were, 2016).

There are several cost accounting tools but this study has covered four techniques (marginal, standard, activity and target costing). This is because the techniques are interconnected and therefore marginal and standard costing consist of the inputs. Activity based costing entails the process of converting input into inputs. Target costing looks into development and designing model of products to enhance cost reduction. (Ajaero & Atoma, 2022), (Kinney & Raiborn, 2011), (Diouf & Lambin, 2001).

1.2 Statement of the Problem

Basically, Kenyan manufacturing industries have faced poor productivity growth because of very minimal investment that takes place at firm and national level (Chege, Wang & Suntu,2020). Productivity in Kenya is generally worrying and World Bank current reported that when compared with other parts of the world, Kenyan productivity is so wanting (Were, 2016). Primary objective in manufacturing goods and products is generally to minimize unit cost while at the same time meeting particular quantity specification. Any product may be manufactured by use of substitute or alternative inputs at the same time give similar output of the same quality. Choices taken affects the standard which is already set (Kinney & Raiborn,2011).

Up to date manufacturing industries have been seeking for effective costing methods which can be used to minimize cost of production, maintain and improve efficiency at their plants. However, the end result is reduction in profitability due to dissatisfaction of customers who stop purchasing their products due to quality compromise. Another challenge faced by the manufacturing sector is the bad economy which has affected the purchasing power of consumers thus reducing return on investment (ROI) of many manufacturing companies due to low sales. This raises concern how this sector can survive during hard market conditions. (Chege *et al,* 2020). In Kenya, manufacturing industries grew by 3.2% in 2014 and 3.5% in 2015. This contributed to gross

domestic product (GDP) of 10.3% Since then the manufacturing sector has had a slower rate of growth than the economy which increased to 5.6% in 2015.

Generally, existing literature tends to major so much on profitability as financial performance measurement and leaving out other determinants such as liquidity ratio, efficiency ratio and leverage ratio which to large extent determines the financial strength of manufacturing industries in terms of assets, equity ratio and ability of the firm to settle debts. Poor productivity growth which is most likely to be as a result of mismanagement of production cost and reduction on return on investment raises concern over economic future of manufacturing industries. It is therefore in response to this that current study intended to fill the gaps by examining the effect of cost accounting techniques on financial performance of manufacturing industries in the North Rift Economic Block in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

This study sought to establish the effect of cost accounting techniques on financial performance of manufacturing industries in North Rift Economic Block.

1.3.2 Specific Objectives

The specific objectives of this study were: -

i.   To evaluate the effect of marginal costing on financial performance of manufacturing industries in North Rift Economic Block.

ii.   To determine the effect of standard costing on financial performance of manufacturing industries in North Rift Economic Block.

iii.   To examine the effect of activity-based costing on financial performance of manufacturing industries in North Rift Economic Block.

iv.   To establish the effect of target costing on financial performance of manufacturing industries in North Rift Economic Block.

1.4 Hypotheses of the Study

The hypotheses of the study were four as listed down.

H_{01}: Marginal costing has no significant effect on financial performance of manufacturing industries in North Rift Economic Block.

H_{02}: Standard based costing has no significant effect on financial performance of manufacturing industries in North Rift Economic Block.

H_{03}: Activity based costing has no significant effect on financial performance of manufacturing industries in North Rift Economic Block.

H_{04}: Target costing has no significant effect on financial performance of manufacturing industries in North Rift Economic Block.

1.5 Significance of the Study

Results of this study will be valuable in many areas such as Theory, literature, policy and management, and finally further studies.

This study will review existing theories in accounting discipline by evaluating issues pertaining to this area of study which may bring out critical thinking for the sake of learning. It will be a source of empirical literature cited by scholars.

The study stands to help regulatory bodies of the government in policy formulation towards facilitation of productive economic activities and also play a role in sustaining financial stability

in the country's economy. Companies especially those in manufacturing sector can apply the study recommendations to improve on their productivity and finally increase profit.

Research gaps in this study will formulate the basis for further studies in the area of cost accounting and cost management.

1.6 Scope of the study

The current study sort to establish effect of cost accounting techniques on financial performance of manufacturing industries in 8 Counties of North Rift Economic Block, Kenya. Cost accounting techniques are many but the study focused on marginal, standard, activity-based and target costing. These techniques were chosen because they covered the entire process of production. manufacturing industries within North Rift Economic Block which included Metal works industries, food industries, textile industries and sugar factories, tea factory plastic industries. Self-administration of questionnaires was used to obtain primary data by respondents from finance department of the concerned manufacturing industries. Data collection took a period of 2 months from 5th December, 2021 – 10th February, 2022.

1.7 Limitations of the Study

Private manufacturing companies were not ready to provide information because they considered nature of the information sort as sensitive, however this was surmounted by introducing a letter from the institution and also they were given assurance the all information give will be for academic purpose. Some employees were unable to participate in this study because of schedule of their work. Issue of biasness also affected how the respondents answered the questions.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The section discusses literature review, theoretical framework, conceptual frame work and empirical review.

2.1 Theoretical Frame Work

The current study was guided by theory of constraints, contribution and Production theory

2.1.1 Theory of Constraints

Innovation of this has been credited to Eliyahu.M. Goldratt, who is an Israeli physicist. He turned his focus on the world of business, through media, seminar and voluminous books as cited by Mabin,2016, (MC Mullen, 1998). Theory of constraints however is not considered as part of the literature systems strives to make sure that any undertaken changes will be part of ongoing improvement process that benefits the entire system and not a portion of the system (Mabin,2016). It also entails maximization of operating profit where one is faced with bottleneck and non-constraints operation (Goldratt & cox,1992).

TOC is a new technique that gives an organization an explicit theory of management that assist in running its activities. It consists of two main components one of them being philosophy underpinning work principle of progressive improvement. The second one is generic approach that investigate, analyses and finally come up with solutions regarding a problems known as thinking process (Rahman & Ur, 1998). Previous years has revealed that frequent constraints in an organization has been managerial policies. TP therefore helps in these scenario. Thinking process

is made up of logical diagram or "trees" which gives direction for change. This is done by looking into basic three questions regarding what needs to be changed, change to what and how change should be implemented. The main focus of thinking process is factors currently responsible in blocking the system in goals achievement (Tulasi & Rao, 2012).

TOC focus on dealing with bottleneck that slow down production processes and promoting efficiency on methods and model of manufacturing process. This underpin the third independent variable (activity based costing) which deals with activities (activity object, cost drivers and cost pool). The theory ensures that there is availability of raw materials, labor and overheads that contributes to inputs.

2.1.2 Production Theory

This theory was invented by scholar known as Couse. His assumption states that production occur whenever the allocation of resources is done. A firm getting involved in production is not new to production function because it deals with manufacturing of goods (Bylund,2015). This theory is supposed to cover all cruicial production areas, especially design of production and physical production. It should therefore provide improvement of systems of production design and control. The absence of organization in purchasing will result in work in progress occupying space awaiting material which was overlooked. Badly organized stores leads to time loss of space and capital whereby money is held up in stores (Koskela,2000). Basically production factor which are inputs goes to a production company, where actual production resulting to end product or outputs is done (Emerson et al, 2013). Set of physical technology defined by function of transformation is the traditional beginning stage of production theory. This theory helps parrarel firm's operation process which seeks to meet its objectives at the same time subject to constraints of its technology and economic environment. Production theory is in two main parts. First is theoretical analysis

regarding cost, profit and production. Secondly is the empirical application in regard to the spirit of work (Melvyn et al, 1978). Production theory underpin three independent variables (marginal, standard and activity based costing). According to this theory, productivity margin equation to ascertain the real rate of wages. Secondly, it is assumed that there is similarity margin of productivity equation for capital together with labor force which determines exact rental per unit period of stock. This theory covers the process of production aligned to activity based costing and inputs of production (Raw material, labor cost and overhead) which forms the contrasts for both marginal and standard costing. Production activities entails cost of labor and manufacturing cost.

2.1.3 Contribution Theory

The works of Weetman (2006) marks the genesis of contribution theory who suggested that contribution to profit is as a result of break-even point of a company which involves sales of extra unit brought about by adoption of business strategy. High profit generation by a firm at any specific level of activity relies on higher contribution for each product sold. Profit increment of a firm goes beyond break-even level of an organization through market expansion (Etale & Ayunku,2016). It also assumes that cash flow for the future is fixed unless otherwise. Another assumption is that if returns are uncertain and degree of uncertainty of returns are not indifferent, then it implies that future returns and rate of discount automatically incorporate distribution of profitability (Ball & Brown). This theory focuses on profit generation related to one of the contrast/measurement of financial performance (profitability). Comprehensive formula of loss and profit comes about given by this theory. Basically, it gives an entire method of presentation of application of statement of financial position. Variable cost normally is added or substrate from revenue to acquire contribution margin The theory assists companies in looking at future uncertainty and gauging whether it's making profit.

2.2 Financial Performance

Imo, Chukwu & Ukehinakachi, (2022) defines financial performance as an overall determinant of a firm's general financial well-being in a specific period of time. Financial performance measures are usually very important to business organization and profit is the most famous measure of all. Ratios are important financial performance techniques as they are simpler to observe changes over a period of time by doing a comparison of ratios over a certain period with another corresponding ratio over financial period. (Mahan, 2011). It is normally very important to apply ratio of measurement in determining the firm's value when assessing financial performance (Daryanto et al, 2020).

As cited by Orayo and Ombaba, (2018) noted that financial performance measurements comprise among them ROE, income, cash flow and ROA. Ratios can also be used to determine an organization's financial performance The other name for these is performance ratios. They are a comparison of profit at various levels with figures and are calculated in form of percentage (Sultania, 2008). Profitability ratio evaluates the ability of the firm in making profits in business operation. Liquidity ratio will measure firms' capability in repaying current liabilities and cash flows (Daryanto et al, 2020).

Efficiency ratio is also known as assets ratio because it gauges efficiency of the management of assets which include current and non-current assets (Sultania, 2008). It provides helpful information for managers. Liquidity ratio on the other hand is also known as solvency ratio. It measures the ability of a business entity in paying or settling its payables in the short term (Ashish, 2008). Leverage ratio is the level of how much the company owes compared to its size or whether it is sinking deeper into more debts than making its debt status better. When an organization is getting only a modest profit before tax and has heavy debts, there will be little excess left for

shareholders after interest have been settled. (Acca Approved, 2011). Effective managing of cost is crucial to financial performance of any business firm's ownership should adapt method of balancing debt, expenses and income to ensure financial sustainability and expansion of an organization (Okello,2011). There was economic growth by 6.3% in 2018, mostly brought about by agriculture, manufacturing and transport sectors. Out of this manufacturing industries had 4.2% growth in 2018 which showed an increase of 0.5% growth in 2017 in North Rift Economic Block Kenya as a whole (Deloitte,2021).

2.3 Empirical Literature Review

Current section reviewed studies done by other scholars relevant to this area of study including their findings and recommendations. Marginal, standard, activity-based and target costing which are independent variables was the area of focus.

2.3.1 Marginal Costing

Marginal costing is a technique that present costing information whereby fixed cost and variable cost are separately shown for the purpose of making decision by management. It is simply a technique of cost analysis information that gives guidance to management when it comes to profitability effect as a result of volume of output changes (Ajaero & Atoma,2022). It is a management accounting technique applied when providing management with cost, volume and profit relationship information in a way that is simple to understand. This tool assists in cost management or control and profit planning (Glautier & Under down, 2001). This type of costing method is that process of identifying, determination, accumulation analysis, getting ready, explaining and information communication applied by management in planning, evaluating and controlling an entity. By assuming appropriate application and accountability for resources.

Marginal costs simply a transfer of cost observed when there is increment or reduction in production by one unit above a specific level of production (Venkatesan, 2013).

Oden, (2021) carried out a study in Africa on assessment of association between Marginal costing and financial performance of brewery firms in Nigeria. The study evaluated the relationship between raw material cost and return on investment. It examined the association between overhead cost and return on investment of brewery companies in Nigeria. Secondary data was used by the researcher from five terms annual reports and accounts of two target population of breweries companies. The findings showed significant association between direct overhead and return on investment.

Locally, Kipkurui, (2005) carried out a study on practices of allocation of cost for manufacturing firms in Kenya. Descriptive survey design was applied which sought to establish how Kenya manufacturing companies do apportion the fixed overheads. A sample size of 50 companies out of target population of 475 were selected by use of stratified sampling technique. Corporate finance managers, management accountants filled the questionnaires. This study found out that majority of industries apply actual activity level to ascertain an overhead adoption rate and that challenges of handling overheads is not common in Kenya.

2.3.2 Standard Costing

This technique represents important segment of management accounting. Standard costing will involve system budgeting and accounting statement responsibility (Abdullahj, Oni, Ahmeb & Shakur, 2015). In manufacturing industry, standard overhead allocation is used to evaluate the total cost of product, to make comparison of alternative course of action in management purposes (Kinney and Raiborn, 2011). Standard costing has its origin from comparison of estimates versus actual cost. Standard costing practices in listed pharmaceutical chemical industries in Bangladesh

(Rashid, Samad, Gafur, Qadir & Chowdhury, 2016). It is an assessment tools for performance which is used to do a comparison between actual performance and standard covering every area of operations within the company (Adinoyi, 2019).

This technique provides methods of cost planning, actual costs acceptability measurement and control costs information steps to be followed. Standard costing is preferred to be appropriate where identical units of huge volumes are produced by firms in need of standard product of actual similar labor input, raw material and other production requirement in the entire process of production standard (Lee, 2002). Aim of standard costing tool is to provide useful and relevant information for cost control and enhancing areas such as preparation of budget, pricing of product and performance divisional measurements (Sil,2021). As many scholars were engaged in pointing out standard costing weakness, some observed that this technique of accounting continued to be applied worldwide. Studies carried out in countries which are developed revealed that it was rated among companies in UK as high as 73% and in Japan 86% (Marie, Cheff, Jean & Rao, 2010).

Adinoyi, (2019) did a study in Africa on standard costing impact on Manufacturing Companies profitability in Edo State Nigeria. The study population were from selected manufacturing industries in Benin City. Primary data collection method was used to get information needed while questionnaire was the data collection instrument. The formulated hypotheses were tested using Z-test statistics at 5% alpha level. The study results established that there is significant positive impact of standard costing towards cost reduction. It was also observed that the more manufacturing firms applied standard costing technique, the more profit increased.

2.3.3 Activity Based Costing

Activity based costing is thought in terms of costs and benefits. It is argued by the contributor that application of ABC benefits is not measurable in terms of their flow of product/services,

understanding of where about of cost and accuracy of product costing (Drury, 2013). Categories

of overhead costs are divided using activity based costing which attributes to clear understanding

and finally cost reduction (Hopp & Spearman, 2008). Activity based costing came out in an

escalating complicated environment resulting to higher costs of overhead. It is a system of

costing which is refined to enable classifying much costs to be direct. Secondly, it allows for the

expansion of pools of indirect cost known as activities with the use of cost drivers. This is the

ground of costs assignment to cost object like services or products (Wegmann & Gregory,2008).

Cagwin and Bouwman, (2002) did a study on relationship between ABC and financial

performance improvement. Research design was survey and research instrument was the

questionnaire distributed to a sample size of 1,058. The results showed that there was a positive

association between activity based costing and ROI improvement.

In Africa, a study carried out on methods of costing applied by service and manufacturing firms in

Nigeria by Nasieku, and Oluyinka, (2016), showed that tools frequently applied are target and

activity based costing. Similarly, Al-Khadash and Mahmoud, (2010) carried out a study on

application of ABC and financial performance of industries shareholders' companies in Jordan.

Data collection instrument was cross-sectional survey mail. Financial managers were the target

population from shareholders' companies in Jordan. Improvement of return on asset was tested

using regression analysis. Positive relationship between activity based costing and improvement

of ROA was evident in the result of the study. Likewise, a study done by Ogbuu and Nweke,

(2018) on the effect of ABC on manufacturing industries in Nigeria and revealed that the use of

ABC considerably affects the amount of earnings, return, and turnover of these companies.

 In Kenya, Waiheya, (2018) conducted a study on managerial accounting practices and it impact

on financial performance of manufacturing industries in Nairobi. One objective of the study was

to investigate the effects of ABC on financial performance of manufacturing firms specifically in industrial area Nairobi. Researcher applied descriptive research design and target population was 183 firms. The researcher distributed a total of 54 questionnaires where 42 out of the total was filled and returned. The study found out that companies applied activity-based costing as management accounting practice. It was also established that ABC assist to apportion more resources on profitable products.

2.3.4 Target Costing

This is a process of designing and improvement of entire current model in order to support the reduction of cost (Diouf & Lambin, 2001). It is customer-based technique largely applied in companies of Japan and has lately been adopted by United States of America companies and Europe (Drury, 2008). As noted by Collier and Agyei (2009), this technique deals with managing the entire life costs during the design phase. This technique is usually applied in product modification at the early stage of development of product and also in the entire product manufacture where production process becomes the area of focus (Ballard and Reiser, 2004).

Target costing concentrate on development of new products and determination of product cost at the time of designing and planning. TC also explains the application of relevant teams consisting of industrial marketers, designers, cost accountants, price determination and product features that are likely to be appealing to potential buyers. After deduction of profit margin desired from projected sales price, costing expert will develop product element estimates that will contain costs of product design (Gagne & Discenza, 1995).

Globally, Neralla, (2020) did research on adoption of target costing versa analysis of performance: Evidence from Automobile industry in India. This study applied convenience sample of top ten automobile companies listed in the BSC of India. Pearson's correlation revealed a negative

relationship between the two. At the same time, target costing impact on Return on sales examined by multiple regression analysis established that there is positive correlation.

In Africa, Imeokparia and Adebisi, (2014) carried out research study on target costing and manufacturing firms' performance in south west Nigeria Performance was applied in terms of profitability, return on capital employed and decrease in cost of production. The study applied survey research tool so research and structured questionnaire was administered in collection of data from sample size which represent s all manufacturing firms in Southwest Nigeria. Result of the study revealed that the level of application of target costing by these manufacturers is low in Nigeria. It was also established that there is positive association between adoption of target costing and increase in ROI and reduction in cost.

2.4 Summary of Literature and Research gaps

At the end of literature review on the subject related to effect of cost accounting techniques on financial performance of manufacturing industries, some gaps in the study carried out by other scholars were presented on the **Table 2.1.**

Table 2.1 Summary of Empirical Review and Knowledge Gaps

Author	Topic	Methodology	Findings	Knowledge Gaps
Ngozi, (2013)	Effect of standard costing on profitability of manufacturing companies in Nigeria.	Descriptive survey design with sample size of 52.	Adoption of standard costing is significant On profitability of Manufacturing Companies.	The reviewed study was done in Nigeria, and sample size was 52. Current study was carried out in Kenya, sample size was 220. The researcher has focused on profitability as the only performance measurement

Gichaaga, (2014)	Effect of management practice on Financial performance of Manufacturing companies' in Nairobi, Kenya.	Descriptive survey Design with 455 Target population	Management accounting has a Joint significance on firms financial performance .	The study reviewed was carried out In Nairobi, target population was 455. Current study was done in North rift part of Kenya, target Population was 490. He has focused on qualitative research design.
Njeri, (2019)	Effect of cost management on Financial performance of Agribusiness enterprises in Kenya	Descriptive panel Design and census Sampling technique With secondary data	Cost management has significant effect On ROI	The reviewed study was done in Bungoma, Busia and Siaya Counties. Census sampling tool was used to collect Secondary data. This study was done in the North Rift Economic block consisting Of 8 counties while primary data Was collected. Return on investment is inadequate to measurement financial performance.
Waiheya, (2018)	Effect of managerial accounting application on financial Performance of manufacturing Firms in Nairobi.	Descriptive Design and used a target population of 183	ABC apportions More resources on product that makes Profit.	Reviewed study was done in Nairobi target population of 183. Current study was done in the North Rift part of Kenya, with Target population of 490.The study is concerned in pumping more resources rather than cost control.
Adinoyi,(2019)	Impact of standard costing on Profitability of manufacturing Companies in Nigeria.	Used primary data with Sample size of 100 Manufacturing firms.	There is positive Significant effect of Standard costing on	The reviewed study was done in Nigeria with Z – test for

		Tested hypothesis by use of Z- test.	Cost reduction.	Measuring hypothesis. Current Study was done in Kenya and Regression analysis was applied to test hypothesis. The study looks at one aspect of cost control which is cost reduction.
Imekpovia and Debisi, (2019)	Target costing and performance of manufacturing companies' in Nigeria.	Descriptive research and Cluster sampling method. Sample size was 50 Manufacturing company.	There is strong Positive relationship Between adoption of target costing and Reduction in cost.	Reviewed study was carried out In Nigeria and cluster sampling Was adopted with sample frame of 50 companies. This study was conducted in Kenya with sample Size of 220. Stratified sampling Technique was applied. Target costing has several construct.
Clue, (2021)	Effect of standard costing on Profitability of manufacturing Companies in Nigeria.	Explanatory design, Stratified sampling Techniques with a sample Size of 100 companies.	Standard costing Affect profitability.	

2.5 Conceptual Framework

Variables in current study were adopted from Mohan, Senthi & Vinodh, (2017) and Stobierski, (2020) with modification to fit the study. While there are several accounting techniques, this study focused on four (marginal, standard, Activity based and target costing) which are the independent variables. conceptual framework consisted of independent variables including marginal costing with constructs such as direct material, direct labor and overhead, likewise standard costing and activity-based costing with constraints like direct labor costs, direct material costs and activity object, activity cost drivers, activity cost pool respectively. Target costing included constructs such as target cost reduction, target production volumes and target selling price. The dependent variable was financial performance which has different measurements. This study focused on measurements known as key financial performance indicators (Financial KPIs) which various manufacturing industries can use in measuring their financial health. These are categorized in terms of ratios which are profitability, liquidity, efficiency and leverage ratios. These ratios clearly express the relationships among financial statements items and also give historical data which point out at the internal strength and weaknesses of companies (Stobierski, 2020). This information is consolidated in **Figure 2.1**

Independent Variable

Dependent Variable

Marginal costing
- Direct material
- Direct labor
- Overhead

Standard costing
- Direct labor costs
- Direct material costs
- Manufacturing overhead.

Activity based costing
- Activity cost pool
- Activity cost drivers
- Activity objected

Target costing
- Target production volumes
- Target selling price
- Target cost reduction

Financial performance
- Leverage ratio
- Liquidity ratio
- Efficiency ration
- Profitability ratio

Figure 2.1 Conceptual frame work

Source: Mohan, Senthi & Vinodh, (2017) and Stobierski, (2020).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

Current section covered research design, study area, target population, sampling size and sample technique, research study variables, validity of the instrument, data collection instrument and ethical considerations.

3.1 Research Design

Kothari, (2010), suggest that this is a frame work and process for research that comes from a wide assumption of detailed methodology of collection of data and analysis. Research design is assumed to be research structure which brings together all essential part of research projects. It is also an organization of requirement collection of data and analysis in a manner that focus on purposes and relevance of research (Griffins & Akhatar, 2016). The study adopted an explanatory design as it is appropriate where a study has an intention to establish the cause effect association between predictor and response variable (Jackson, 2009). This study intended to determine the effect of cost accounting techniques (marginal, standard, activity based and target costing) on financial performance of manufacturing industries.

3.2 Study Location

This research study was conducted in North Rift Economic Block located in Rift Valley part of Kenya. NOREB is made up of 8 counties namely Uasin Gishu, Nandi, Transzoia, Baringo, Turkana, Samburu, West Pokot and Elgeyo Marakwet. This block was chosen as place of research because of their shared objectives in leveraging economies of scale and easing cost of

transportation of goods and raw materials. This means that apart from some of these Counties being agriculture based they are more concerned in making sure that businesses in these Counties thrive. manufacturing industries included Uasin Gishu which had the largest number of manufacturing Industries totaling to 27, Elgeyo Marakwet with 10, Transzoia with 7, Nandi, West Pokot and Baringo with 5 each, Turkana and Samburu with 4 Manufacturing industries each. (NOREB, 2020).

3.3 Target Population

Kenya Association of Manufacturers website, (2020) indicated that there are a total of 67 manufacturing industries in North Rift Economic Block. These included production and processing industries such as grain millers, steel millers, Dairy processors, wood and plastics, beverages and water, textile and leather, building and construction, Animal feeds, cosmetics, paint, iron sheets, sugar and tea factories with respondents being auditors and accountants This study involved 118 auditors and 372 accountants adding to a target population of 490. Target population distribution are listed on the **Table 3.1**.

Table 3.1 Categories of manufacturing industries and target population

Strata	Target population
Grain Millers	40
Steel Millers	14
Textile and Leather	12
Plastic	50
Wood	70
Beverage and Drinks	100
Animal feeds	75
Dairy products	20
Paints	15
Cosmetics	14
Building and Construction	30
Sugar	15
Tea	25
Iron Sheet	10
Total	**490**

Source: North Rift Economic Block (NOREB, 2020)

3.4 Sampling Technique and Sample Size

Current study applied stratified sampling technique to suit population target which is heterogeneous. Sherri, (2009), asserts that this technique ensures that all strata in the population are fully represented. Stratified sampling is where the population is first splitted into groups known as strata on the ground of some known pattern (Hanneman,2013). This population was divided into homogeneous groups referred to as strata. These are industries producing the same type of products. This study involved a sample size of 220 derived from a target population of 490 consisting of 53 auditors and 167 accountants from 48 manufacturing industries in North Rift Economic Block Appropriate sample size is usually acquired using various methods or formulae and in this case the researcher applied the Israel formula to get sample frame:

n=N/ [1+N (e) ^{2}]

Where n = Sample size

N = Population size

e = confidence level (0.05)

Thus n = 490/ [1+490(0.05)^2] =220

The sample frame for each strata was derived by multiplying the proportion for each stratum by sample size of the total population and dividing it by the number of total target population (Hanneman et al, 2015). These results are presented on the **Table 3.2.**

Table 3.2 Categories for manufacturing industries and Sample size

Strata	Target population	Sample Size $n_i = \dfrac{(n \, N_I)}{N}$
Grain Millers	40	18
Steel Millers	14	9
Textile and Leather	12	5
Plastic	50	23
Wood	70	31
Beverage and Drinks	100	45
Animal feeds	75	34
Dairy products	20	9
Paints	15	5
Cosmetics	14	6
Building and Construction	30	14
Sugar	15	6
Tea	25	11
Iron Sheet	10	5
Total	**490**	**220**

Source: Adopted from NOREB Website, (2020)

3.5 Measurement of Variables

Quinlan, Babin, Griffin & Zikmund, (2015), defines Likert scale as a measure of altitude of respondents which allow them to give their opinion on how they strongly agree or disagree with a statement carefully constructed which ranges from very negative or very positive altitudes about a specific matter or some object. Schindler, (2022) argues that Likert scale questions provides a larger volume of data above many other scales therefore it is more reliable. A 5-point Likert scale was applied in seeking opinion of respondents' concerning a series of statements. The research instrument was constituted using measurements from previous studies with modifications suiting the current study. These are presented in **Table 3.3.**

3.6 Research Study Variables

A Critical step when commencing a research study is to define the variables in the study. The researcher must state the meaning of all variables that are measured (dependent variable) and those that are modified or manipulated (Independent variables) (Sherril,2009). Leech, Barrett & Morgan, (2005), Defines variables as features of participants or given circumstance that has distinct value in the study. This research study consisted of response and predictor variables.

3.6.1 Dependent Variable

Hanneman, Kposowa & Riddle, (2012), defines a dependent variable as a unit that a research study desires to unfold or predict. This study dependent variable was financial performance adopted from previous study in its original form. Financial performance indicators are ratios (profitability, liquidity, efficiency and leverage) known as key performance indicators (KPIs) adopted from Stobierski, (2020) and modified to suit this study.

3.6.2 Independent Variables

This variable is used to predict variation in the dependent variable (Hanneman et al, 2012). The first variable marginal Costing has 4 items adopted from Mohan *et al,* (2017) with modifications to fit the study. Standard Costing has 4 items, 2 items adopted from Sulaiman *et al*, (2005) while other 2 items were adopted from illiema *et al,* (2019) with few modifications. Likewise, activity based costing has 3 items adopted from Brierley et al, (2008) & Kinney et al, (2019), with modifications. Finally, target costing has 4 items, the first 2 items adopted from Imeokparia and Adebisi, (2014) in original form while the other 2 items were adopted from Kozakai and Tasaka, (2019) with minimal modifications to suit current study. This results are illustrated on **Table 3.3**

Table 3.3 Summary of Measurements of Variables

Variables	No. of Items	No. of Items Per Variable	Source
Financial Performance	10	2 items	Stobierski, (2020)
		3 items	Daryanto *et al*, (2020)
		3 items	Nandy, (2021)
Marginal Costing	4	4 items	Mohan *et al,* (2017)
Standard Costing	4	2 items	Sulaiman *et al*, (2005)
		2 items	Illiema *et al,* (2019)
Activity Based Costing	3	2 items	Brierley *et al,* (2008)
		1 item	Kinney *et al*, (2019)
Target Costing	4	2 items	Imeokparia &Adebisi, (2014)
		2items	Kozakai & Tasaka, (2019)

3.7 Data Collection Instrument

Strategies are important feature of research methodology and design which should be put into account during the initial stages of conceptualizing design (Marczyk, Matteo Festinger,2005). Accuracy in data collection is critical in sustaining integrity of a research in that Selection of appropriate data collection techniques and following defined guidelines appropriately minimize the potential of possible errors cropping up in the final stage of result analysis (Simiyu, 2019). The study used primary data as a way of acquiring information. Data collection instrument was questionnaires composed of closed ended questions guided by the objectives of the study and adopted from previous studies. The study adopted 5-point Likert scale in expressing the opinion

of the respondent concerning the items on the questionnaire. Quinlan *et al,* (2015) notes that with Likert scale, participants give their opinion on how strongly they agree or disagree with statements on the data collection instrument. In this case the respondent's opinion ranged from 'Very large extent, Large extent, Moderate extent, Little extent and not at all'.

The study adopted measurements from previous studies (Ngozi,2013) with modifications. Section A consisted of demographic information while Section B contained statements on the dependent and Independent Variables. The questionnaires were self-administered by the respondents who were companies' accountants and auditors. The researcher explained to the respondents the purpose of the study and found out that majority of them were well conversant with the term in the questionnaire which assured the accuracy of the data collected.

3.8 Pilot Test

Pilot study is usually carried out to determine whether the researcher should proceed with a particular study by validating its feasibility before carrying the main study. It is usually the beginning of research guidelines which assist in organization and modification of the core research (Thabane et al, (2010). Pretest is normally conducted using a small number of respondents, these respondents should be alike to the actual respondents in this research study, however they should not be the respondents in current study. The intention of pretesting the questionnaire was to establish how the respondents would give their feedback to the questionnaire. This would determine if they are clearly conversant with each item on the research instrument (Zikmund *et al,* 2015).

Pilot study was done in Nakuru County because its manufacturing industries share same characteristics (Industrial and production of similar products) as the ones for NOREB. 22

questionnaires which is 10% of the sample size was administered to accountants and auditors from 5 manufacturing industries. Some of the items in the questionnaire were modified which boosted validity of research instrument. Average Cronbach Alpha value of 0.601 was obtained that proved the research instrument was reliability and acceptability

3.9 Reliability and Validity of the Instrument

Reliability is the consistency of measuring tool which means that the researcher should get the same result each time the instrument is used. Validity is the degree of truthfulness and trustworthiness of an instrument (Sherri,2009)

3.9.1 Instrument Validity

Validity is how logical or truthful and reasonable and valuable data collection instrument is (Quinlan et al, (2015). Content validity of the instrument was checked through consultation with the study supervisors and experts in this area of study (Jackson, 2009). Construct validity was achieved through factor analysis; all values of factor loading was above 0.5 standard value as expressed in **Table 4.9.**

3.9.2 Reliability of the Questionnaire

Griffin *et al,* (2015), states reliability in research as the dependability and consistency of instrument of research to a degree to which the study can be done again and again while getting the similar results. Reliability is the consistency of measuring tool which means that the researcher should get the same result each time the instrument is used. Testing of questionnaire was done using Cronbach's alpha and value > 0.7 was acceptable, while values < 0.5 was unacceptable and not reliable. The 10 items on the questionnaire were tested and found to be consistent with a value of 0.702 which upheld reliability of the instrument.

3.10 Data Analysis

It is a procedure involving application of interpretations in order to have an understanding of the collected data. In simple form, analysis may consist of evaluating consistent model and summarizing the relevant details uncovered in the research (Zikmund et al, 2015). Interpretation of data with the aim of giving a reasonable argument about a research problem can be done well with data analysis knowledge (Marczy, 2005). Data collected was coded then analysis of data was done using Statistical Package for Social Science (SPSS Version 23).

3.10.1 Analytical Model

This study adopted inferential statistics which is Multiple linear regression to explain the overall behavior of study population. According to Quinlan et al, (2015) Multiple linear regression model measures how accurately several independent variables can foretell the value of a dependent variable. This measure was used to determine any correlation between the predictor and the response variables.

This formula of regression model was applied: -

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where Y = Financial performance

X_1 = Marginal costing

X_2 = Standard costing

X_3 = Activity based costing

X_4 = Target costing

ε = Error of prediction

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Regression coefficients of independent variables.

3.10.2 Multiple Linear Regression Assumptions

If regression assumption fails to meet the threshold, then it means that the result may fail to be accurate and reliable therefore an error of type1 or type 11 may result or wrong estimation of significance or magnitude of effects. These assumptions were utilized to examine independent and dependent variables relationship.

Linearity assumption anticipates that two variables are related in a linear or a straight line. If variables are plotted in a scatterplot, the data will automatically fall on a straight line to meet linearity assumption. consequently, if the variables are non-linear, the plot may look curved. In search instance, data can be transformed to make the variables to be linear related (Leech *et al,*2005).

Multicollinearity arises where there is high correlation between independent variables. It can be identified by use of variance inflation factors, standard errors model increase and F significance model (Gordon, 2015). VIF scores and the tolerance scores guided the researcher in establishing level of correlation between the independent variables. Variance inflation factor (VIF factor), value $<= 4$ suggests that there is no Multicollinearity whereas VIF value of $>= 10$ suggests that there is serious Multicollinearity.

Homoscedasticity assumption argues that remaining variance should be the equal for all values of X, that is error term, are the similar in all independent variables (Springer, 2013). Scatter plot was applied to test whether the data collected were homoscedastic. If heteroscedasticity is detected, then a non-linear correction is used to fix this issue.

In normality assumption, (Springer, 2013) asserts that where X and Y values are fixed, it is assumed that they are normally distributed. Zach, (2020) noted that remains in linear regression are ordinarily distributed. According to Lund research Ltd, (2018) normality can be tested

graphically and numerically. The researcher used the histogram to establish the position of the mean, median and mode to test for normality. The range between values of skewness and the value of kurtosis also tested this assumption.

3.11 Ethical Considerations

The researcher obtained a letter from University of Eldoret, School of Business and Management science, department of Business Management. The letter assisted the researcher in obtaining permission from NACOSTI and member counties of North Rift Economic Block. According to Creswell, (2001), during data collection process, the researcher is required to respect the participants' right and also site where research is to done. Authorization of data collection was sought from manufacturing industries management. During distribution of the questionnaires, the respondents' consent was sought and thereafter they were assured of confidentiality and privacy of any information provided.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSIONS

4.0 Introduction

Current section discusses processing of data, response rate missing data, demographic characteristics, descriptive statistics, reliability tests, factor analysis, correlation, assumptions of regression analysis and finally Hypotheses testing.

4.1 Data Processing

Prior to data analysis editing must be done to ensure uniformity across respondents and to identify and fix errors and omissions. This process fixes error, increase legibility and make clear ambiguous or unexpected answers or replies. As data are processed by SPSS software, codes assigned to each data unit decreases responses to more manageable data (Schindler, Benemann, Dietze & Kruger, 2022). Data processing consist of distribution into groups and compilation of data so as to make them manageable when doing analysis. It involves identifying the available data and deciding on which tools are suitable in making response on area of interest and adopting it, then examining, summarizing and finally conveying the results (Simiyu, 2019). Data processing basically starts with editing and coding of the data. Editing entails checking data gathering forms for omissions and consistency in distribution of groups or classification (Zikmund *et al,* 2015). In this case process began by numbering the questionnaires, then numerical codes were assigned to each item on the questionnaire. Data file was created followed by entering the data, editing of the data was done to fix any errors, the next stage was to check for the missing data and finally data units were chosen for data analysis.

4.2 Response Rate

This accounts for the number of valid responses received from data collection process, these are the number of fully completed and returned questionnaires. The higher the response rate the better because if every member of the sample size responds then the research study will have a complete data set (Griffin *et al.* ,2015). The researcher personally distributed the questionnaires to accountants and auditors of manufacturing industries in their respective member counties of NOREB. Data collection took a period of 2 months from 5th December, 2021 – 10th February, 2022. Total of 232 questionnaires were distributed but only 220 of them were completed. These questionnaires were distributed randomly and finally sorted out to identify the number of auditors and accountants who filled the questionnaires The number of returned questionnaire translated to 95% response rate. This implied that there was adequate representation of the research study population (Simiyu,2019).

4.1 Analysis of Response Rate

Response	No. of questionnaires	Percentage % rate
Returned	220	95%
Unreturned	12	5%
Total	**232**	**100%**

4.3 Missing Data

According to Schindler, (2022), missing data may happen because of researcher error, malfunctioning of software, data files which are corrupted or when data are dropped and sometimes added. Quinlan *et al*, (2015) Asserts that request for frequencies in SPSS program will automatically produce frequencies on every variable in the data set. The researcher used

descriptive statistics in identifying missing data in this study. The frequencies of each variable was generated and therefore the questionnaires were checked and missing data filled.

4.4 Demographic Data

This information consisted of designation of respondents categorized into accountants and auditors, education background and the tenure. The result is presented in **Table 4.1**. This information assisted in understanding the characteristics of respondents employed in the area of study and therefore gauging the reliability of information acquired.

4.4.1 Respondent's Designation

Respondents in this study were accountants and auditors. Study findings revealed that majority of respondents were accountants with 75.9% while auditors were 24.1% of total number of respondents. This results implied that respondents were professionals and therefore assured the researcher of the reliability of data acquired.

4.4.2 Education Level of Respondents

Academic qualification according to the finding were as follows, respondents with diploma were 19.1%, undergraduate were 49.1%, master's level were 7.7% and finally those with other credentials were 24.1%. The results are clear indication that respondents were learned and well conversant with costing techniques, therefore boosting the reliability of the data.

4.4.3 Respondent's Tenure at Work

This study sort to establish number of years' respondents had worked for manufacturing industries in the 8 counties. The finding indicated that 5.5% had worked for less than a year, 29.5% for 1 to 5 years, 51.4% had worked for 6 to10 years, lastly above 10 years scored 13.6% of the respondent.

This indicated that the respondents are experienced enough to give a reliable data to the questionnaire. This data is well illustrated on the **Table 4.1**.

Table 4.1 Demographic Characteristics of Respondents

Demographic items		No. of Respondents	% No. of Respondents
Designation	Accountants	167	75.9
	Auditors	53	24.1
	Total	**220**	**100**
Education	Diploma level	42	19.1
	Undergraduate	108	49.1
	Masters level	17	7.7
	Others	53	24.1
	Total	**220**	**100**
Tenure	Less than a year	12	5.5
	1 to 5 years	65	29.5
	6 to 10 years	113	51.4
	Above ten years	30	13.6
	Total	**220**	**100**

4.5 Descriptive Statistics for Variables

Quinlan *et al,* (2015) asserts that descriptive statistics is the fundamental transformation of data in a pattern which explains essential elements such as variability, distribution and central tendency According to Jackson, (2009), descriptive statistics are measures in numerical that elaborate a distribution by giving the central tendency information on distribution, shape and also width of distribution. Hanneman *et al*, (2012) states that descriptive statistics are instruments which are utilized to summarize and list various ideas concerning the variation in the distribution of scores of issues on variables.

4.5.1 Descriptive Statistics for Financial Performance Measurements

Financial Performance is the Dependent Variable which was measured using 10 items on 5- Likert Scale. The measurements for this variable were Profitability Ratio (2 Items), Liquidity Ratio (3 Items), Efficiency Ratio (3 Items) and finally Leverage Ratio (2 Items). Previous literature has indicated that Key Performance Indicators known as financial KPIs are categorized in terms of ratios as already listed above. And that ratios are important financial performance techniques as they are simpler to observe over a period of time by doing a comparison of ratios over a certain period with another corresponding ratio over financial period. Testing of each item was done with results showing that the respondent s majority agreeing that a good liquidity indicates that the company is in good health scoring mean of 4.62 with Standard deviation value of 0.626 and range between 3 to 5.

The study further revealed That the respondents fully agreed that high debt or equity ratio decreases financial performance and this is evident with highest mean value of 4.62 and standard deviation value of 0.626 scored by this item. Item 4 (Higher liquidity ratio enables the company to get finances from creditors and lenders.) and item 6 (High inventory turnover increases financial performance) followed closely scoring Mean of 4.50 with SD of 0.705 and mean of 4.54 with SD of 0.742 respectively. Likewise, it indicated that majority of respondent agreed that two items adequately measured financial performance. The respondents further agreed that profitability ratio is used to evaluate efficiency of investment and that ability to acquire loans and service the loan shows that a company financial position is stable. The two items scored the same mean of 4.40 with Standard Deviation of 0.643 and 0.883 respectively. Items (2.7,8,9) also received almost same opinion implying that statements were fully supported by the respondents. This results are clearly shown on the **Table 4.2**.

Table 4.2: Mean & Standard Deviation for Financial Performance

Constructs/Items	Min	Max	M	SD
It is used to evaluate the efficiency of the investment of the company.	1	5	4.40	0.643
It is used to measure how effective the company uses its assets to create profit.	1	5	4.35	0.821
A good liquidity ratio indicates that the company is in good financial health.	3	5	4.62	0.626
Higher liquidity ratio enables the company to get finances from creditors and lenders.	3	5	4.50	0.705
Ability to acquire loans and service the loan shows that a company financial position is stable.	2	5	4.40	0.883
High inventory turnover increases financial performance.	2	5	4.54	0.742
Too low accounts receivable turnover decreases financial performance.	2	5	4.05	0.957
High accounts payable turnover decreases financial performance.	2	5	4.02	1.083
Ability of a company to meet its financial obligations indicate good financial performance.	2	5	4.30	0.926
High debt or equity ratio decreases financial performance	3	5	4.62	0.557
Average Value	**2**	**5**	**4.38**	**0.794**

4.5.2 Descriptive Statistics for Marginal Costing

Marginal Costing is the first variable in this study having a total of 4 items. Descriptive statistics revealed that respondents moderately agreed that increase in direct material and low administrative overhead enhances and increases financial performance with these items scoring a mean of 3.97 with SD of 1.062 and mean of 3.95 with SD of 0.978 respectively. Equally, the results also indicate that labor cost to little extent influences financial performance with a score of 3.99 with SD of 1.081. Finally, the respondents were not for the opinion that direct labor would reduce financial performance scoring a mean of 2.98 with SD of 1.334.

This study further revealed that majority of respondents agreed that the four variables would predict the outcome of the response variable. This information is well illustrated on the **Table 4.3**.

Table 4.3: Mean and Standard Deviation for Marginal Costing

Constructs/Items	Min	Max	M	SD
Increase in direct material enhances financial performance.	1	5	3.97	1.062
Low administrative overhead increases financial performance.	2	5	3.95	0.978
Direct labor cost improves financial performance.	1	5	3.99	1.081
Direct labor cost reduces financial performance.	1	5	2.98	1.334
Average Value	**1**	**5**	**3.72**	**1.114**

4.5.3 Descriptive Statistics for Standard Costing

This is the second independent variable which had 4 items in the 5-Likert Scale. According to result of this study, respondents agreed that High cost of manufacturing overhead and low cost of direct material would have an effect on financial performance. The items scored a mean of 4.15

with Standard Deviation of 1.101 and a mean of 4.11 with standard deviation of 1.047 respectively

as illustrated in **Table 4.4**.

Table 4.4: Mean and Standard Deviation for Standard Costing

Constructs/Items	Min	Max	M	SD
Low cost of direct material increases financial performance.	2	5	4.11	1.047
High cost of direct material reduces financial performance.	1	5	3.96	1.236
Direct labor cost reduces financial performance.	1	5	3.25	1.394
High cost of manufacturing overhead reduces financial performance.	1	5	4.15	1.101
Average Value	**1**	**5**	**3.87**	**1.195**

4.5.4 Descriptive Statistics for Activity Based Costing

Third variable had 3 items in the 5- Likert Scale whereby respondents' majority agreed that cost

drivers had an effect on financial performance as it had highest mean of 4.32 with SD of 0.739.

This implied that Activity cost drivers is an important element in cost control. Likewise, the study

shows that high cost pool and low cost pool scored a mean value of 3.96 with SD value of 0.760

and mean value of 3.90 with SD of 1.121 respectively. The results showed that respondents

moderately agreed with the two statement and that Activity Based Costing would give the most

effective prediction on dependent variable. This support the literature that Activity Based Costing

is the most referred as a driving power behind extraordinary performance of firms which adopt it

(Kennedy, 2007). **Table 4.5** presents mean and deviation for Activity Based Costing.

Table 4.5: Mean and Standard Deviation for Activity Based Costing

Constructs/Items	Min	Max	M	SD
Activity cost drivers directly affects financial performance.	1	5	4.32	0.739
High activity cost pool reduces financial performance.	3	5	3.96	0.760
Low activity cost pool increases financial performance.	1	5	3.90	1.121
Average Value	**2**	**5**	**4.06**	**0.873**

4.5.5 Descriptive Statistics for Target Costing

Target costing is the fourth independent variable with 4 items in the 5-Likert scale. The researcher ran a descriptive statistics test on each item and study result indicate that majority of respondents concurred that cost reduction and target production volume increases and enhances financial performance. This is evident by score of a mean of 4.24, Standard deviation of 1.055 and mean of 4.21, Standard deviation of 0.901 respectively. Similarly, High target price and High buying price had moderate mean of 3.97 with 1.055 and 3.02 with SD of 1.298. This indicated that respondents moderately agreed that this two constructs affects financial performance as shown in **Table 4.6**

Table 4.6: Mean and Standard Deviation for Target Costing

Constructs/Items	Min	Max	M	SD
Cost reduction increases financial performance	1	5	4.24	1.055
High target selling price increases financial performance.	1	5	3.97	0.936
High target buying price reduces financial performance.	1	5	3.06	1.298
Target production volume enhances financial performance.	1	5	4.21	0.901
Average Value	**1**	**5**	**3.87**	**1.048**

4.6 Research Instrument Reliability Test

It's simply consistency or stability of research instrument. This means that the instrument should receive the same results each time the instrument is used (Sherri, 2009). Babbin *et al.,* (2015) defines research instrument reliability as the dependability of the research to the extent to which the research can be repeated and the same results obtained. According to Griffin *et al,* (2015), Reliability in research study is the dependability of research instrument to the extent in which a study can be repeated while getting the same results. Reliability is the consistency of measuring tool which means that the researcher should get the same result each time the instrument is used. Cronbach's alpha was applied to test the questionnaire any Cronbach's alpha. value >0.7 was acceptable, while values < 0.5 was unacceptable and not reliable (Hanneman *et al*,2012).

4.6.1 Reliability Test for Financial Performance

The Dependent Variable had 10 items on a 5-Likert Scale whose determinants were profitability, liquidity, efficiency and leverage ratio with average Cronbach Alpha of 0.702 above the standard measure of 0.7. This value suggested that the variable was reliable and acceptable therefore all the items were retained for further analysis.

4.6.2 Reliability Test for Marginal Costing

This variable had 4 items on the subscale with constructs such as direct material, administrative overhead and labor cost. The 5-point Likert scale was used to seek the opinion of the respondents on what extent they agreed with the statements. Cronbach alpha value was 0.746 above standard value indicating that internal consistency of this variable is acceptable and reliable. All items for this variable were therefore retained.

4.6.3 Reliability Test for Standard costing

This variable contained 4 items on the subscale. The constructs used in the statements were direct material, labor cost and manufacturing overhead. Likewise, 5-point Likert scale was applied to get the opinion of the respondents. The study showed that value of Cronbach alpha was 0.810 indicating that internal consistency of this variable is acceptable and reliable therefore this items were all retained for further analysis.

4.6.4 Reliability Test for Activity Based Costing

Activity Based Costing had 3 items with constructs such as Activity cost drivers and Activity Based Cost pool. Application of 5-point Likert scale sort the opinion of the respondent. This variable had Cronbach alpha value of 0.782 implying that internal consistency was acceptable for analysis hence all the items were retained.

4.6.5 Reliability Test for Target Costing

The variable contained 4 items in the subscale and constructs used in the statements were cost reduction, target selling, target production volume and target price. Like other variables 5-point Likert scale was used in seeking opinion of respondents concerning relationship between this variable and financial performance of manufacturing industries. Cronbach alpha value was 0.841 indicating that internal consistency of this variable is acceptable and therefore retained for analysis. **Table 4.7** gives results of reliability test for this variable.

Table 4.7 Results of Reliability Test for Variables

Variables	Number of items	Cronbach Alpha Value
Financial performance	10	0.702
Marginal Costing	4	0.746
Standard Costing	4	0.810
Activity Based Costing	3	0.782
Target Costing	4	0.841
Average Value	**5**	**0.776**

4.7 Factor Analysis

This technique assists researcher in representation for large number of associations among connected variables in a simple way. This statistical method allows SPSS program to determine variance which have common score (Leech *et al,* 2005). The researcher applied Principal Component analysis in extracting maximum variable and placing them on factors.

4.7.1 Assumptions of Factor Analysis

Sample size is the first assumption which states that factor analysis reliability depends on sample size of the study (Field, 2009). Pallant, (2001) states that appropriate sample size for factor analysis should be 150 and above. The current study had a sample size of 220 (53 auditors and 167 accountants) therefore it was suitable for factor analysis.

Correlation matrix between variables states that highly correlated variables is not suitable for factor analysis thus they should be excluded from the process. They usually make it difficult to conduct factor analysis because of the problem when it comes to getting contribution of variables

(Field.2009). Too high correlation is likely to cause some challenges when solving factor analysis problem (Leech,2005). Multicollinearity test for the four predictor variables resulted to variance inflation factor (VIF) below 4.0 standard value and therefore the variables proceeded for factor analysis.

Linearity assumption assumes that relation between variables is linear (Pallant,2009). Model summary indicated a joint association between predictor and response variables with R squared of 0.662 implying that variables were fit for factor analysis.

Outliers in the cases make factor analysis impossible therefore they need to be removed or recoded to values which are less extreme (Pallant,2001). Outliers in this study were deleted thus factor analysis was conducted for all variables.

4.7.2 Factor analysis for Financial performance

Financial Performance is independent variable with total of 10 factors but only 4 factors were retained for factor analysis. Kaiser Mayer Olkin (KMO) and Bartlett test of sphericity was applied to test whether set of data is suitable for factor analysis. Result revealed that KMO value is 0.594 which is slightly above expected minimum value of 0.5. Bartlett of sphericity test yielding chi square = 1319.941 with *df* of 45 and a significant level of *P* = 0.000. These values suggested that factor analysis would yield a satisfactory outcome. Principal component analysis extraction method was applied proportionally to reduce large quantity of variables that captured the same information (Leech et al, 2005). Eigenvalues assisted in the selection of factors to be carried forward for further analysis thus the retained factors achieved a loading of 11.428%, 19.669%, 15.343% and 35.673% accounting for 82.111% of the total variance. Component 1 which is leverage ratio had the highest variation of 35.673%, followed by component 2 (efficiency ratio)

with variation of 19.669%, component 3 (liquidity ratio) commanded 15.343 % and finally component 4 (profitability ratio) with a variation of 11.143%. Similarly, final rotated component matrix after factor analysis showed that variation for the four components had increased from 35.673% to 26.790%, 19.669% to 19.873%, 15.343% to 19.579% and a reduction in component 4 from11.428% to 15.870% respectively. **Table 4.8** below gives summary of eigenvalues and variance for retained items.

Table 4.8: Variance and Eigenvalues for Retained items

Component	Total Variance	Initial Eigenvalues	Cumulative %
Leverage Ratio	3.567	35.673	35.673
Efficiency Ratio	1.967	19.669	55.341
Liquidity Ratio	1.534	15.343	70.684
Profitability Ratio	1.143	11.428	82.111

Leech *et al,* (2005), asserts that Rotated Component Matrix consist of loadings for every factor and that rotation assist in making sure that analysis interpretation made simpler. The table 4.3 below explain that Profitability Ratio items are loaded on factor 4 while Liquidity Ratio items are loaded on factor 3. Similarly, Efficiency Ratio item 1 and 2 are loaded on factor 2 while item 3 is loaded on factor 1 and 2. Finally, leverage ratio items are loaded on factor 1. This information is illustrated on **Table 4.9.**

Table 4.9: Rotated Component Matrix for Financial Performance.

Kaiser-Meyer-Olkin Measures of Sampling adequacy				0.594
Bartlett's Test of Sphericity Approximation	Chi Square			1319.94
	df			45
	sig			0.000
Variable &Measurement items (Note 1-4	**1**	**2**	**3**	**4**
Component 4- Profitability Ratio				
It is used to evaluate the efficiency of the investment of the company				0.885
It is used to measure how effective the company uses its assets to create profit.				0.888
Component 3 – Liquidity Ratio.				
A good liquidity ratio enables the company is in good financial health.			0.822	
Higher liquidity ratio enables the company to get finances from creditors and lenders.			0.957	
Ability to acquire loans and service the loan shows that a company financial position is stable	0.759			
Component 2 – Efficiency Ratio				
High inventory turnover increases financial performance		0.859		
Too low accounts receivable turnover decreases financial performance.		0.803		
High accounts payable turnover decreases financial performance.	0.575	0.711		
Component 1 – Leverage Ratio				
Ability of a company to meet its financial obligations indicate good financial performance.	0.837			
A high debt or equity ratio decreases financial performance.	0.900			

4.7.3 Factor Analysis for Cost Accounting Techniques

These are the independent variables consisting of marginal, standard, activity based and target costing. Factor analysis was done to decrease items in questionnaire for cost accounting techniques so as to come up with correct measure for Kaiser Mayer Olkin (KMO) and Bartlett test of

sphericity and also total sum variance explained by this component. Kaiser Mayer Olkin (KMO) and Bartlett test of sphericity was applied to measure the appropriateness of research data for factor analysis commencement. Study result indicated that KMO value is 0.725 which is above standard minimum value of 0.5 (Pallant, 2001). Barlett test of sphericity showed value of chi square to be 1095.290 with *df* of 105 and significance level of p=.000. These results suggested that factor analysis would give suitable outcome.

To establish the number of factors that exhibit the correlation between cost accounting techniques constructs, the research study adopted variance percentage method (Hair *et al,* 2014). The percentage for marginal, standard, activity-based and target costing constructs were computed with each of the 4 factors achieving a loading (Eigenvalues) of 19.436%,16.702%, 15.111%, 13.595% respectively accounting for 64.844% of the total variance. Seemingly, rotated component matrix after factor analysis indicated that variation for components had changed from 19.436% to 18.188%, 16.702% to 17.149%, 15.111% to 15.289%, 13.593% to 14.219% respectively. **The table 4.10** present eigenvalues and variance for retained items.

Table 4.10: Variance and Eigenvalues for Retained items

Component	Total Variance	Initial Eigenvalues	Cumulative %
Target Costing	2.915	19.436	19.436
Standard Costing	2.505	16.702	36.138
Marginal Costing	2.267	15.111	51.249
Activity based Costing	2.039	13.595	64.849

Rotated component matrix table consist of the rotated factor loadings which shows the way variables are weighted including correlation between the variables and factors. Correlation probability ranges from -1 to +1(Hanneman *et al*, 2013). This process entails reducing the number of factors under investigation which have high loadings. Varimax with Kaiser Normalization was employed to identify which variable measures which factor. The results from the study revealed that marginal costing constructs loaded on factor 3, Standard costing constructs loaded on factor 2. Activity Based Costing Constructs loaded on factor 4 and finally Target costing constructs loaded on factor 1 as illustrated on **Table 4.11.**

Table 4.11 Rotated Component Matrix for Cost Accounting Techniques.

Kaiser-Meyer-Olkin Measures of Sampling adequacy				0.725
Bartlett's Test of Sphericity Approximation				
	Chi Square			1095.25
	df			45
	sig			0.000
Variables & Measurement Item (Note 1 -4,Component 1 to 4)				
	1	**2**	**3**	**4**
Component 3– Marginal Costing				
Increase in direct material enhance financial performance.			0.789	
Low administrative overhead increases financial performance.			0.780	
Direct labor cost improves financial performance			0.762	
Direct labor cost reduces financial performance.			0.680	
Component 2-Standard Costing				
Low cost of direct material increases financial performance.		0.772		
High cost of direct material reduces financial performance.		0.821		
Direct labor cost reduces financial performance.		0.841		
High cost of manufacturing overhead reduces financial performance.		0.751		
Component 4– Activity Based Costing				

Activity Cost drivers directly affects financial performance.		0.855
High activity cost pool reduces financial performance.		0.855
Low activity cost pool increases financial performance.		0.781
Component 1– Target Costing		
Cost reduction increases financial performance.	0.861	
High target buying price reduces financial performance.	0.833	
High target price reduces financial performance.	0.791	
Target production volume enhances financial performance.	0.798	

4.8 Transformation of Data

This is the initial state to the format which is appropriate for conducting data analysis that will meet research objectives (Quinlan *et al* 2015). Marczyk *et al,* (2015) notes that a researcher is usually required to do certain data conversion before data analysis. This was done after factor analysis in order to transform nonlinear data to linear. Extraction methods used was principal component analysis while Normalization was applied for rotation method. The dependent and independent variables on the questionnaire were measured using multiple items. Financial performance has 10 items (PR1+PR2+LR1+LR2+LR3+EFR1+EFR2+

EFR3+LER1+LER2)/10, marginal costing has 4 items (MC1+MC2+MC3+MC4)/4, standard costing has 4 items (SC1+SC2+SC3+SC4)/4, activity based costing has 3 items (ABC1+ABC2+ ABC3)/3 and target costing has 4 items (TC1+TC2+TC3+TC4)/4 as postulated on **Table 4.12.**

Table 4.12 Results for Loaded Items

No of Items	Variables	Items Loaded
10	Financial Performance	PR1+PR2+LR1+LR2+LR3+EFR1+ EFR2+EFR3+LER1+LER2
4	Marginal Costing	MC1+MC2+MC3+MC4
4	Standard Costing	SC1+SC2+SC3+SC4
3	Activity Based Costing	ABC1+ABC2+ABC3
4	Target Costing	TC1+TC2+TC3+TC4

4.9 Outliers Analysis.

Outliers are values or data points that lie a distance from other values on variable. They are usually considered as values whose standard deviation is 2 above or below the mean (Gordon, 2015). These variables were deleted

4.10 Testing Assumptions of Regression Analysis.

Regression analysis is one of technique determining linear relationship between dependent and independent variable (Quinlan *et al,* 2015). According to Simiyu., (2019), the moment regression assumption fails to meet the threshold then it means that the result may fail to be accurate and reliable. There are several assumptions but researcher focused on the major ones which can be easily tested by SPSS (IBM Version 23).

4.10.1 Testing for Assumption of Linearity

This is where it is assumed that there is linear or straight relationship between two variables. If variables are plotted in a scatterplot, the data will automatically fall on a straight line to meet the

linearity assumption. On the other hand, if the variables are non-linear, the plot may look curved.in this case data can be transformed to make the variables to be linear related (Leech et al, 2005). Schindler et al, (2022) affirms that linear relationship will typically form a straight line while nonlinear relationships will have curvilinear or smooth curve and sometimes parabolic or U-shaped curve. According to Hanneman *et al*, (2012), A predictive relationship between two variables need not always follow a linear or straight line. Linearity states that linear and additive relationship should be there between dependent variable and independent variables.

Linearity was tested by use of multiple regression analysis and after inspection of model summary table from the regression results, it was revealed that Coefficient of correlation R = 0.807, R square = 0.662 which implied that independent variables (marginal, standard, activity based and target costing) in this study accounted for 66.2% of the variance on dependent the variable of manufacturing industries in the North Rift Economic Block. Coefficient of determination is a measure of quantity of variance in one variable that is taken into account by another variable (Sherri, 2009). Hanneman, (2013) states that coefficient of determination reveals whether relationship between X and Y is strong, Weak or moderate. Adjusted R squared is the coefficient of determination $R^2 = 0.645$ and standard residual of estimate = 0.59557438. This result indicated a joint strong relationship between predictor and response variables as coefficient of correlation value is above significant level of 0.05. Linearity result is well shown on **Table 4.12**.

Table 4.12 Results for linearity

R	R Square	Adjusted R Square	Std Error of Estimate
0.807	0.662	0.645	0.59557438

4.10.2 Testing for Assumption of Normality

Skewness and Kurtosis was applied in testing normality assumption. Results of the study on the table below shows skewness lying between -0.302 to -0.608 and kurtosis between -0.484 to -0.773 which falls within the desired range of -3 to +3 and -10 to +10 respectively according to (Brown,2006). This assumption was also tested by examining the histogram. This indicated that the value of the variables is symmetric or normally distributed therefore satisfying normality assumption (Jackson, 2009). This is illustrated on both **Table 4.13** and **Figure 4.1.**

Table 4.13: Normality Test Results.

Variables	Mean	Standard deviation	Skewness	Kurtosis
Financial Performance	3.5130	1.0184	-0.302	-0.710
Marginal Costing	3.8055	0.8779	-0.491	-0.484
Standard Costing	3.8368	0.8990	-0.310	-0.773
Activity Based Costing	4.0041	0.81418	-0.608	-0.76
Target Costing	3.8406	0.8584	-0.353	-0.575
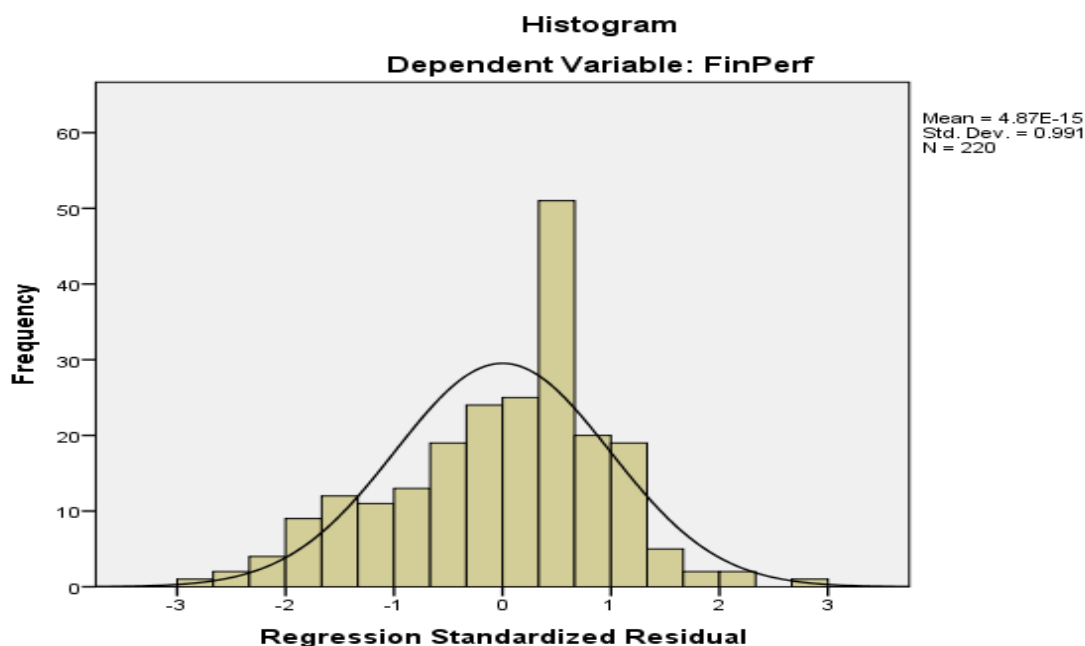
Figure 4.1 Histogram for Normality Test.

4.10.3 Testing for Assumption of Homoscedasticity

Scatterplot of the residuals was utilized to test this assumption. A scatterplot is a diagram illustrating the association between two variables whereby it portrays a correlation coefficient (Sherri, 2009). The regression assumption result from the study showed a scatterplot of dependent variable with no sign of a cone shaped variance or spread of residuals. As illustrated by scatterplot on **Figure 4.2**, the spread of the residuals is unchanged across the plot. This suggested that assumption of homoscedasticity was not violated.
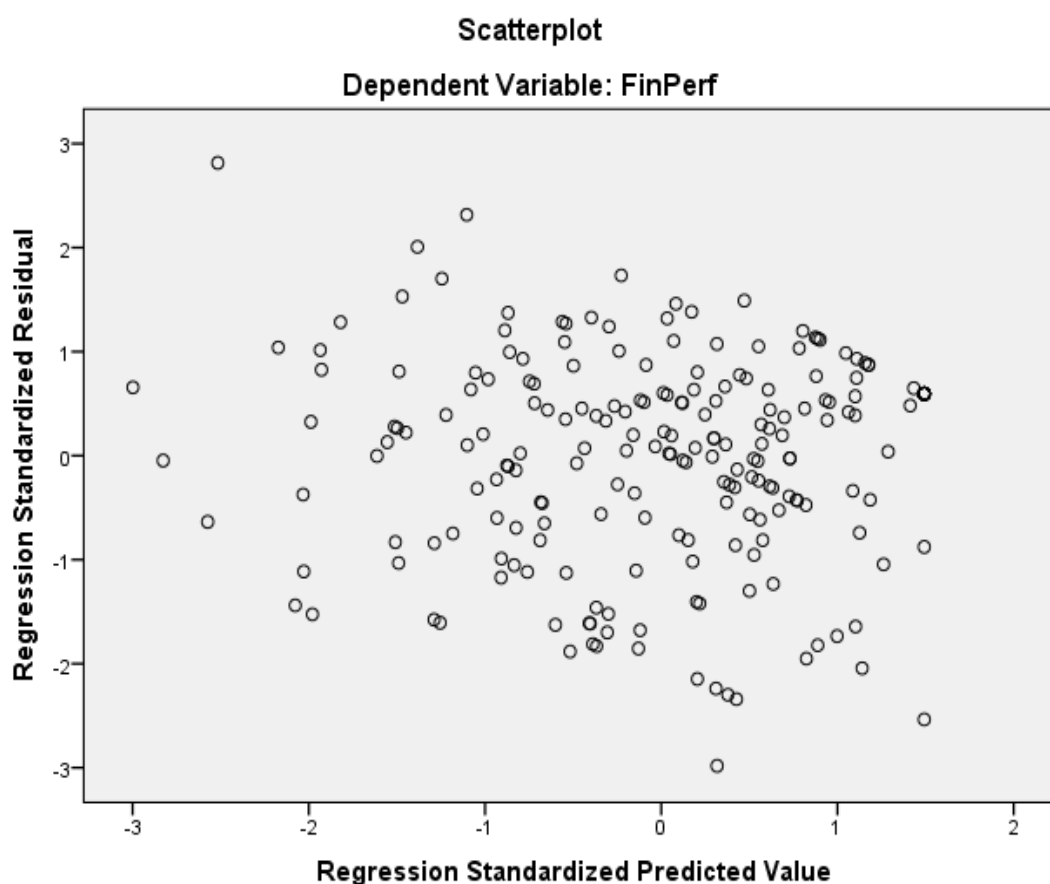
Figure 4.2 Scatterplot for Homoscedasticity Test.

4.10.4 Testing for Assumption of Multicollinearity

Tolerance and Variance Inflation Factor (VIF) were adopted by the researcher to test for any correlation between the independent variables. Upon the Inspection of coefficients on **table 4.13,** it is evident that collinearity statistics for VIF is below 4.0 and tolerance scores is above 0.2. This implies that there is no correlation between predictor variables. Results further indicated that behavior of one independent variable cannot be applied in prediction of behavior of another independent variable on dependent variable.

Table 4.13 Multicollinearity Table

Variable	Collinearity Statistics	
	Tolerance	**VIF**
Marginal Costing	0.432	2.313
Standard Costing	0.573	1.746
Activity Based Costing	0.667	1.500
Target Costing	0.554	1.805

4.11 Testing Data Independence

Leech *et al* (2005) states that this assumption assumes that there is no relationship among scores of one variable and those of another variable. This test was done by examining Durbin Watson statistic to establish whether the values of the residuals or error terms are independent. The test showed a statistical value of 1.665 which lies below 2.0. Result suggested that data independence assumption has been met as presented on **Table 4.14.**

Table 4.14 Results for Data Independence

Model	R Square	Adjusted R Square	Std Error of Estimates	Durbin Watson
1	0.807	0.645	0.60653	1.665

4.12 Correlation Analysis

Hanneman et al, (2013) defines Correlation as a statistical tool that display how strongly two variables are associated. Correlation coefficient measures the range of relationship in-between two types of variable. This can change with time between -1.00 and +1.00. The higher the relationship between variables the closer coefficient will be nearer the coefficient will be to either -1.00 or +1.00. The lower the association between variables, the nearer coefficient will be to zero. Basically, a correlation will indicate that there is a weak, moderate, or strong relationship which are either positive or negative or no relationship at between the two variables or parameter (Sherri,2009).

In this case the study applied Pearson's coefficient to evaluate linear association between two variables in the population. Correlation result for the study demonstrated that Marginal costing versus financial performance had the highest positive correlation of r= 0.749** followed by Standard costing versus financial performance- r = 0.638**, Target costing versus financial performance r = 0.607** and finally Activity Based costing versus financial performance with r = 0.576** all the variables having a moderate positive correlation (Sherri, 2009). **The table 4.15** presents a summary of correlation results from this study showing Pearson's correlation values of variables in this study.

Table 4.15 Results for Pearson's correlation

Variable (N = 220)	1	2	3	4
Financial Performance	1			
Marginal Costing	0.749^{**}	1		
Standard Costing	$0..638^{**}$	0.629^{**}	1	
Activity Based Costing	0.576^{**}	0.511^{**}	0.472^{**}	1
Target Costing	0.607^{**}	0.642^{**}	0.456^{**}	0.484^{**}

4.13 Testing Hypothesis

Core idea behind testing statistical hypothesis is to determine whether sample of data is atypical or typical in comparison to population where it is assumed that hypothesis which was formulated about the population is actually true. A quantitative statement formulated about a value of statistical test is known as hypothesis (Streib & Dehmer, 2019). Coefficients informs you about the changes while P-value will tell you whether these coefficients are significantly distinct from zero (Batali, Frost, Lebrilla, Risten, Part & Guinard, 2020). In this case the researcher employed P-value to determine whether independent variables have any association with dependent variable. P-value is usually the evidence against the null hypothesis in that if the P-value is smaller than significance level of 0.05, then the null hypothesis should be rejected (Jackson,2009). **Table 4.17** output from SPSS revealed that Marginal Costing has the highest statistical significance of $P = 0.000$ and Coefficient change of $\beta = 0.424$, Standard costing ($\beta = 0.216$, $P = 0.000$), Activity Based Costing ($\beta = 0.187$, $P = 0.000$) and lastly Target Costing ($\beta = 0.146$, $P = 0.008$). P-value and

Coefficients satisfies the expected significant level thus suggesting that Null Hypothesis in this study should be rejected.

Likewise, R squared in the **table 4.17** shows the goodness of fit with $R^2 = 0.662$ which indicates 66.2% of the variance explained by independent variables in dependent variable suggesting that there is strong relationship between independent variables (Marginal, Standard, activity based and target Costing) and dependent variable (Financial Performance). On the other hand, F- Statistics shows joint effect of variable and must always be combined with *P*-value. F = 100.602 greater than zero implying that the model has a predictive capability, thus it is able to determine the relationship between dependent and independent variables.

Table 4.17 Regression Results

Variables	β- Coefficient	P-values
Marginal Costing	0.424	0.000
Standard Costing	0.216	0.000
Activity Based Costing	0.187	0.000
Target Costing	0.146	0.008
R^2	0.662	
F- Statistics	100.602	0.000

NOTE: Dependent Variable- Financial Performance.

4.13.1 Effect of Marginal Costing on Financial Performance.

Hypothesis H_{01} stated that marginal costing has no significant effect on financial performance. Table 4.18 shows that marginal costing has β value of 0.424 and *P*-Value of 0.000 which is less

than significance level of 0.05 this indicated that marginal costing positively and significantly affect financial performance.

4.13.2 Effect of Standard Costing on Financial Performance.

Hypothesis H_{02} states that standard costing has no significant effect on financial performance. According to table 4.18, findings reveal that standard costing has positive and significant effect on financial performance with β coefficient of 0.216 and $P> 0.000$ below significance level of 0.05. Null hypothesis therefore was rejected by the study.

4.13.3 Effect of Activity Based Costing on Financial Performance

Hypothesis H_{03} postulated that activity based costing has no significant effect on financial performance. Table 4.18 shows that activity based costing has β coefficient of 0.187 and $P> 0.000$ thus indicating that there is significant effect of activity based costing on financial performance. Decision rule suggested that null hypothesis should be rejected.

4.13.4 Effect of Target Costing on Financial Performance.

Hypothesis H_{04} postulates that target costing has no significant effect on financial performance. The findings on the table 4.18 reveal that β value is 0.146 and $P> 0.008$ less than significant level of 0.05. This implies that target costing significantly and positively affects financial performance hence null hypothesis was rejected by the study.

4.14 Hypothesis Testing Conclusion

According to (Hanneman, Kposowa & Riddle, 2012), A null hypothesis is an opinion of what is anticipated when we examine the data and the theory wrongly. Null Hypothesis for this study states that cost accounting techniques has no significant effect on financial performance of

manufacturing industries in North Rift Economic Block. The **Table 4.18** present information for 4-null hypothesis.

Table 4.18 Hypotheses Testing Results Summary

H_{0n}	Null Hypothesis	β	P-Value	Decision
H_{01}	Marginal Costing has no significant effect on financial performance of manufacturing industries in North Rift Economic Block.	0.424	0.000	**Rejected**
H_{02}	Standard Costing has no significant effect on financial performance of manufacturing industries in North Rift Economic Block.	0.216	0.000	**Rejected**
H_{03}	Activity Based Costing has no significant effect on financial performance of manufacturing industries in North Rift Economic Block.	0.187	0.000	**Rejected**
H_{04}	Target Costing has no significant effect on manufacturing industries in North Rift Economic Block.	0.146	0.008	**Rejected**

4.15 Discussion of the findings

The aim of this study was to establish the effect of cost accounting techniques on financial performance of manufacturing industries in North Rift Economic Block (NOREB). Similarly, the study sort to determine the effect of marginal, standard, activity based and target costing on financial performance of manufacturing companies. The finding of the study revealed that marginal costing (β = 0.424, *P*> 0.000), standard costing (β = 0.216, *P*> 0.000), activity based costing (β = 0.187, *P*> 0.000), target costing (β = 0.146, *P*> 0.008) all have positive significant effect on financial performance.

The study revealed that Marginal Costing had the highest significance effect on financial performance of manufacturing industries. This result supports previous study done by Oluwagberiga *et al,* (2013), which revealed a positive relationship between profitability and direct material cost. His finding is in agreement with the first construct of the first independent variable which states that increase in direct material increases financial performance. Similarly, results of this study back a study conducted by Oden, (2019) on evaluation of relationship between marginal costing and financial performance of brewery firms in Nigeria. This study revealed that there is significant association between direct overhead and return on investment. Finding is also in agreement with the second construct of marginal costing which states that low administrative cost increases financial performance.

Finally, this study finding showed that target costing has moderate positive effect on financial performance of manufacturing industries in North Rift Economic Block. Neralla, (2020) came up with two conflicting findings in that target costing impact as shown by Pearson's correlation revealed negative association with performance analysis. On the contrary, another finding on target costing effect on return on sales examined by multiple regression analysis established that there is a correlation which is positive. Finding of this study is supported by Imeokpavia and Debisi, (2014) which established that there is a strong positive relationship between adoption of target costing and improvement in ROI and reduction of cost.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This section consists of conclusion of the research study, summary and recommendations.

5.1 Summary of the Findings

This study sought to establish the effect of cost accounting techniques on financial performance of manufacturing industries in the North Rift Economic block. Sample size was 220 (53 auditors and 167 accountants). Four objectives were answered including the effect of marginal, standard, activity based and target costing on financial performance of manufacturing industries. The finding of the study revealed that marginal costing ($\beta = 0.424$, $P> 0.000$), standard costing ($\beta = 0.216$, $P> 0.000$), activity based costing ($\beta = 0.187$, $P> 0.000$), target costing ($\beta = 0.146$, $P> 0.008$) all have a positive significant effect on financial performance.

5.1.1 Effect of Marginal costing on financial performance.

The study revealed that Marginal Costing had the highest significance effect on financial performance of manufacturing industries. finding is also in agreement with the second construct of marginal costing which states that low administrative cost increases financial performance.

5.1.2 Effect of Standard costing on financial performance.

The findings of the study indicated that standard costing is statistically and positively significant on financial performance. It further revealed that Low cost of standard direct material and labor will increase financial performance of manufacturing industries. Likewise, High cost of raw material and direct labor reduces financial performance.

5.1.3 Effect of Activity Based costing on financial performance

Descriptive results showed that activity cost drivers are important elements in cost control. Activity based costing was considered to give the most effective prediction on dependent variable. Regression results indicated that activity based costing has a positively significant effect on financial performance.

5.1.4 Effect of Target costing on financial performance

The findings imply that cost reduction and target production volume enhances financial performance. Similarly, high target price and high buying price moderately affect financial performance. Inferential statistics revealed that target costing has a moderate positive effect on financial performance.

5.2 Conclusion of the Study

Result of this study indicate that there is significant correlation between cost accounting techniques and financial performance, therefore manufacturing industries should consider investing more in adoption of cost accounting techniques (marginal, standard, activity based and target) costing. Similarly, the results indicated that one unit change in marginal, standard, activity based and target Costing results to change in financial performance. This implies that any change in cost accounting techniques would affect financial performance of a company. It was observed that there is no collinearity between independent variables (marginal, standard, activity based and target costing). This implicated that one independent variable cannot be used to predict the behavior of another independent variable on dependent variable.

5.3 Theoretical Implication of the Study

The current study findings support theories and also inputs existing literature in that it backs what other researchers done that marginal, standard, activity based and target costing positively and significantly affect financial performance. Resource based theory explains how a company can utilize its resources (Manufacturing overheads, physical resources and raw materials). This theory is directly related to the constructs of marginal and standard costing (direct materials, direct labor and manufacturing overheads) which significantly affects financial performance.

5.4 Policy Implication of the study

This study finding stands to assist regulatory bodies of the government (Energy Regulatory Commission of Kenya and Public Procumbent Regulatory Authority) in policy formulation towards facilitation of productive economic activities and also play a role in sustaining financial stability in the manufacturing industry sector and country's economy at large.

5.5 Management Implication of the Study

Recommendations from current findings may be adopted by manufacturing sector management to boost their financial performance. This study revealed that cost accounting techniques affect financial performance. Cost control and cost reduction plays a very big role on manufacturing industries' financial performance therefore there is need for heavy investment on costing methods in Kenyan manufacturing industries and the world as a whole. The findings of the study if adopted manufacturing industries will assist the managers in making quality managerial decisions in terms of evaluation of cost and profitability. Current results if adopted manufacturing industries will assist the managers in making quality managerial decisions in terms of evaluation of cost and profitability.

5.6 Recommendations

Proper cost accounting records should be kept in manufacturing industries so as to adequately measure financial performance of the companies. Activity based costing is the most influential cost control technique therefore manufacturing industries should invest more on cost drivers and cost pool because they determine production cost which are finally used in setting the selling prices of different kind of products. Likewise manufacturing companies should adopt Activity based

costing techniques because it will yield maximum profit. Management of manufacturing industries should embrace costing tools that minimizes resources as well as maximizing profitability.

5.6.1 Recommendations for Further Study

Current study has focused on four cost accounting techniques; further study should consider utilizing other tools. Scope of the study was limited to manufacturing industries hence future studies should focus on service industries to see whether the scenario may be different. Use of non- financial performance measure such as Just in time, Quality management and meeting customer expectation is recommended for further study.

REFERENCES

Abdullahj, S. R., Oni, I., Ahmeb, M. D., & Shakur, F. I. (2015). Effects of standard costing on the profitability of telecommunication companies (study of MTN Nigeria). *Arabian Journal of Business and Management Review (OMAN Chapter)*, *5*(1), 1.

Akhtar, D. M. I. (2016). Research design. *Research Design (February 1, 2016)*.

Ball, R., & Brown, P. (1969). Portfolio theory and accounting. *Journal of Accounting Research*, 300-323.

Barney, J. B. (2001). Is the resource-based "view" a useful perspective for strategic management research? Yes. *Academy of management review*, *26*(1), 41-56.

Brierley, J. A., Cowton, C., & Drury, C. (2008). Investigating activity-based costing in manufacturing industry. *Cyprus International Journal of Management*, *13*(1), 21-33.

Burkert, M., Fischer, F. M., & Schäffer, U. (2011). Application of the controllability principle and managerial performance: The role of role perceptions. *Management accounting research*, *22*(3), 143-159.

Brent, A.C, Van Erck, R.P.G, Labuschghe, C. (2005) Accessibility, sustainability Performance of industries in South Africa, Vol 13, Journal of cleaner production.

Bylund, P. L. (2015). *The problem of production: A new theory of the firm*. Routledge. P4.

Okelo, C. A. (2015). *Determinants of financial risk of listed companies on the Nairobi Securities Exchange in Kenya* (Doctoral dissertation).

Concibido, M. B. (2021). NIA Region IV Employees Multi-Purpose Cooperative Marketing Strategy Implementation and Its Profitability: Basis for Marketing Plan. *NIA Region IV Employees Multi-Purpose Cooperative Marketing Strategy Implementation and Its Profitability: Basis for Marketing Plan*, *80*(1), 14-14.

Collier, P. M., & Agyei-Ampomah, S. (2009). *CIMA official learning system performance strategy*. Elsevier.

Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods* (Vol. 9, pp. 1-744). New York: McGraw-Hill.

Cox III, J. F., CFPIM, C., & Schleier Jr, J. G. (2010). *Theory of constraints handbook*. McGraw-Hill Education.

Chege, S. M., Wang, D., & Suntu, S. L. (2020). Impact of information technology innovation on firm performance in Kenya. *Information Technology for Development*, *26*(2), 316-345.

Cruz, A. M., Haugan, G. L., & Rincon, A. M. R. (2014). The effects of asset specificity on maintenance financial performance: An empirical application of transaction cost theory to the medical device maintenance field. *European Journal of Operational Research*, *237*(3), 1037-1053.

Diouf, A., & Lambin, E. F. (2001). Monitoring land-cover changes in semi-arid regions: remote sensing data and field observations in the Ferlo, Senegal. *Journal of Arid Environments*, *48*(2), 129-148.

Daryanto, W. M., Wijaya, J., & Renatauli, R. (2020). Financial Performance analysis of PT. Ace Hardware Indonesia, TBK. Before and after the launch of Rupa Rupee Com. *International Journal of Business, Economics and Law*, *23*(1), 288-297.

Debnath, G. C. (2012). Influence of cost accounting techniques on performance improvement: An empirical study on manufacturing organizations in Bangladesh. *The Cost & Management*, *40*(2), 22-24.

Drury, C. M. (2013). *Management and cost accounting*. Springer.

Batali, M. E., Frost, S. C., Lebrilla, C. B., Ristenpart, W. D., & Guinard, J. X. (2020). Sensory and monosaccharide analysis of drip brew coffee fractions versus brewing time. *Journal of the Science of Food and Agriculture*, *100*(7), 2953-2962.

Emmert-Streib, F., & Dehmer, M. (2019). Understanding statistical hypothesis testing: The logic of statistical inference. *Machine Learning and Knowledge Extraction*, *1*(3), 945-962.

Etale, L. M., & Ayunku, P. E. (2016). The relationship between interest rate and economic growth in Nigeria: An Error Correction Model (ECM) approach. *International Journal of Economics and Financial Research*, *2*(6), 127-131.

Field, A. (2009). Discovering statistics using SPSS, third edition.

Ferrand, D. V. (1999). *Discontinuity in development: Kenya's middle-scale manufacturing industry* (Doctoral dissertation, Durham University).

Fleischman, R. K., Boyns, T., & Tyson, T. N. (2008). The search for standard costing in the United States and Britain. *Abacus*, *44*(4), 341-376.

Gagne, M. L., & Discenza, R. (1995). Target costing. *Journal of Business & Industrial Marketing*, *10*(1), 16-22.

Gordon, R. A. (2015). *Regression analysis for the social sciences*. Routledge.

Guilding, C., Lamminmaki, D., & Drury, C. (1998). Budgeting and standard costing practices in New Zealand and the United Kingdom. *The International Journal of Accounting*, *33*(5), 569-588.

Halibauer, Rosalie C. (1978) "Standard costing and scientific management," Accounting Historians Journal: Vol. 5: Iss. 2, **Article** 3.

Hanneman, R. A., Kposowa, A. J., & Riddle, M. D. (2012). *Basic statistics for social research* (Vol. 38). John Wiley & Sons.

Harney, B. (2016). Contingency theory. In *Encyclopedia of Human Resource Management*. Edward Elgar Publishing Limited.

Hayes, A. (2019). R-squared definition. *Corporate Finance & Accounting Financial Analysis. Retrieved from: https://www. investopedia. com/terms/r/r-squared. asp*.

Hopp, W. J., & Spearman, M. S. (2008). The lenses of lean: Visioning the science and practice of efficiency. *Journal of Operations Management*, *67*(5), 610-626.

Howell, R. A., & Soucy, S. R. (1987). Cost Accounting in the New Manufacturing Environment [2]. *Strategic Finance*, *69*(2), 42.

Emerson, J. B., Andrade, K., Thomas, B. C., Norman, A., Allen, E. E., Heidelberg, K. B., & Benfield, J. F. (2013). Virus-host and CRISPR dynamics in Archaea-dominated ` hypersaline Lake Tyrrell, Victoria, Australia. *Archaea*, *2013*.

Hill, T. (2017). *Manufacturing strategy: the strategic management of the manufacturing function*. Macmillan International Higher Education.

JU, C., Ajaero, J. O., & Atoma, C. N. (2022). Socio-economic effects of covid-19 pandemic on rural farm families' well-being and food systems in Imo State, Nigeria. *Journal of Sustainability and Environmental Management*.

Jackson, S. L. (2009). *Research methods and statistics*. Wadsworth, Cengage Learning.

Kayitesi, Yvonne. "Cost Accounting and Business Success in Selected Manufacturing Industries In Kigali, Rwanda." PhD diss., Kampala International University, College of Economics and management., 2012.

Kalkhouran, A. A., Nedaei, B. H., & Rasid, S. Z. A. (2017). An exploratory investigation of an integrated model of costing practices in small and medium-sized enterprises. *International Journal of Managerial and Financial Accounting*, *9*(4), 338-360.

Kamau, I. N. (2013). *Buyer-supplier relationships and organizational performance among large manufacturing firms in Nairobi, Kenya* (Doctoral dissertation, University of Nairobi).

Kolk, A., & Rivera-Santos, M. (2018). The state of research on Africa in business and management: Insights from a systematic review of key international journals. *Business & Society*, *57*(3), 415-436.

Koskela, L. (2000). *An exploration towards a production theory and its application to construction*. VTT Technical Research Centre of Finland.

Kinney, M. R., & Raiborn, C. A. (2011). Cost accounting. *South-Western, Mason, OH*.

Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners*. Sage.

Langat, B. K. (2005). *A survey of cost allocation practices of manufacturing companies in Kenya* (Doctoral dissertation).

Leech, N. L., Barrett, K. C., & Morgan, G. A. (2005). SPSS for intermediate statistics use and interpretation. Job Characteristics and Organizational Commitments of Taiwanese Expatriates Working in Mainland China Li-Fen Tsai 180 Mahwah. *Lawrence Erlbaum, USA. Levesque, TJ, & McDougall, GH (1996). Customer dissatisfaction: the relationship between types of problems and customer response. Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, *13*(3), 264-276.

MacArthur, J. B. (1993). Theory of constraints and activity-based costing: Friends or foes. *Journal of Cost Management*, *7*(2), 50-56.

Mabin, V. J., & Balderstone, S. J. (2020). *The world of the theory of constraints: a review of the international literature*. CRC Press.

Maher, M. W., Stickney, C. P., & Weil, R. L. (2006). *Managerial accounting: An introduction to concepts, methods and uses*. Rob Dewey Matambele, K., & van der Poll, H. M. (2017). Management Accounting Tools for Sustainability Information Decision-making and Financial Performance. *Alternation Journal*, (20), 189-213.

Mitchell, A., Sikka, P., Christensen, J., Morris, P., & Filling, S. (2002). No accounting for tax havens. *Basildon, Essex: Association for Accountancy & Business Affairs*.

Miransyah, G. G., & Dempo, S. R. S. (2021). Profitability Ratio Analysis at PT. Medikaloka Hermina, TBK. *Bina Bangsa International Journal of Business and Management*, *1*(1), 60-67.

Miller, D. J. (2006). Technological diversity, related diversification, and firm performance. *Strategic Management Journal*, *27*(7), 601-619.

Mohan, N., Senthil, P., Vinodh, S., & Jayanth, N. (2017). A review on composite materials and process parameters optimization for the fused deposition modelling process. *Virtual and Physical Prototyping*, *12*(1), 47-59.

Molloy, G. N., Genot, S., Ciechomski, L., & Bryant, D. (2001). SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS Julie F. Pallant (2001). Allen & Unwin. 304 pp. 88.70 (hardcover). *Behaviour Change*, *18*(1), 58-62Mirzazadeh, F. (2022). A descriptive analysis of sport nationalism, digital media, and fandom to launch the Canadian Premier League.

Mukherjee, S. P. (2019). *A guide to research methodology: An overview of research problems, tasks and methods*. CRC Press.

Mudiri Sydney Adembesa M.Sc., Mwengei K. B. Ombaba (2020). Budgeting Planning Practices and Performance; Empirical Evidence from Manufacturing ...

Mugure, M. N. (2016) Selected Macroeconomic Variables and their impact on the financial performance of the manufacturing sector in Kenya.

Nandy, M. (2022). Evaluation of Financial Performance in Global Context. In *Relationship between R&D and Financial Performance in Indian Pharmaceutical Industry* (pp. 139-144). Palgrave Macmillan, Singapore.

Ng, K. Y., & Awang, N. (2018). Multiple linear regression and regression with time series error models in forecasting PM10 concentrations in Peninsular Malaysia. *Environmental monitoring and assessment*, *190*(2), 1-11.

Oluwagberiga, O. E., Olugbenga, O. M., & Zaccheaus, S. A. (2014). Cost management practices and firm's performance of manufacturing organizations. *International Journal of Economics and Finance*, *6*(6), 234-239.

Okafor, T. G. (2018). Environmental costs accounting and reporting on firm financial performance: A survey of quoted Nigerian oil companies. *International Journal of Finance and Accounting*, *7*(1), 1-6.

Otley, D. (2016). The contingency theory of management accounting and control: 1980–2014. *Management accounting research*, *31*, 45-62.

Orayo, J. A., & Ombaba, K. M. B. (2018). Empirical Analysis on Financial Performance of Listed Firms in Commercial and Service Sector in Kenya: Corporate Boards, Do They Matter? *Africa International journal of management education and Governance*.

Pallant, J. (2011). Survival manual. *A step by step guide to data analysis using SPSS*, *4*.

Prawirodipoero, G. M., Rahadi, R. A., & Hidayat, A. (2019). The Influence of Financial Ratios Analysis on the Financial Performance of Micro Small Medium Enterprises in Indonesia. *Review of Integrative Business and Economics Research*, *8*, 393-400.

Perčević, H., & Hladika, M. (2016). Movement from traditional to modern cost accounting methods in manufacturing companies. *Muhasebe ve Finans Tarihi Araştırmaları Dergisi*, (10), 155-180.

Park, R. S., & Scheeres, D. J. (2006). Nonlinear mapping of Gaussian statistics: theory and applications to spacecraft trajectory design. *Journal of guidance, Control, and Dynamics*, *29*(6), 1367-1375.

Pokorná, J. (2016). Impact of Activity-Based costing on financial performance in the Czech Republic. *Acta University agriculture et silviculturae mendelianae brunensis*, *64*(2), 643-652.

Quinlan, C., Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2015). Business research methods. ed. *Hampshire, UK: South-Western, Cengage Learning*.

Sachdeva, N. (2019). Factors Affecting the Profitability of Selected Public Limited Textile Mills–A Study of Textile Hub of India (Surat). *International Journal of Research in Engineering, Science and Management*, *2*(12), 586-591.

Schindler, D., Benemann, F., Dietze, S., & Krüger, F. (2022). The role of software in science: a knowledge graph-based analysis of software mentions in PubMed Central. *PeerJ Computer Science*, *8*, e835.

Shrivastava, A. K. (2019). Conference Review: 4th International Management Conference on Advances in Management Through Research, Innovation and Technology. *FIIB Business Review*, *8*(1), 29-31.

Sil, K. (2021). Scientific Application of Standard Costing Practices in Manufacturing Industries-A Case Study. *ComFIn Research*, *1*, 27-33.

Skinner, H., Hu, C., Tsakiridis, T., Santana-Davila, R., Lu, B., Erasmus, J. J., ... & Bradley, J. D. (2021). Addition of metformin to concurrent chemoradiation in patients with locally advanced non–small cell lung cancer: The NRG-LU001 phase 2 randomized clinical trial. *JAMA oncology*, *7*(9), 1324-1332.

Salisu, Y., & Abu Bakar, L. J. (2019). Technological capability, innovativeness and the performance of manufacturing small and medium enterprises (SMEs) in developing economies of Africa. *Journal of Business and Management*, *21*(1), 58.

Sadiq Rabin Abdullah, Iyanuoluwa oni, Muhammed Dahiru Ahmed, FarukImam. Shakur (2015).

Sherri, L. J. (2009). Research Methods and Statistics a Critical Thinking Approach.

Skousen, C. J., Smith, K. R., & Wright, C. J. (2009). Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle and SAS No. 99. In *Corporate governance and firm performance*. Emerald Group Publishing Limited.

Spencer, G. M., Vinodrai, T., Gertler, M. S., & Wolfe, D. A. (2010). Do clusters make a difference? Defining and assessing their economic performance. *Regional studies*, *44*(6), 697-715.

Stefanović, R. J. (2010). Cost accounting and company management in a world without walls. In *International Conference» A World Without Walls*.

Tabitha, N., & Oluyinka, I. O. (2016). Cost accounting techniques adopted by manufacturing and service industry within the last decade. *International Journal of Advances in Management and Economics*, *5*(1), 48-61.

Taylor, T. C. (2000). Current developments in cost accounting and the dynamics of economic calculation. *The Quarterly Journal of Austrian Economics*, *3*(2), 3-19.

Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Rios, L. P., ... & Goldsmith, C. H. (2010). A tutorial on pilot studies: the what, why and how. *BMC medical research methodology*, *10*(1), 1-10.

Thomas, J., Damarla, R., Industry, I., Ajgaonkar, M., Baul, U., Phadke, S. M., ... & Money, B. (2012). Official Organ of the Institute of Cost Accountants of India established in year 1944 (Founder member of IFAC, SAFA and CAPA). *Management Accountant*.

Tulasi, C. L., & Rao, A. R. (2012). Review on theory of constraints. *International Journal of Advances in Engineering & Technology*, *3*(1), 334.

R K Bharadwaj, Anuradha R Bharadwaj, Anuradha Chetiya and Kakali Majumdar (2017) Quantitative Techniques for Business Managers; ISBN 13: 9789350247297

Mamunur Rashid, M., Samad, S. A., Gafur, M. A., Qadir, R., & Chowdhury, A. M. (2016). Effect of reinforcement of hydrophobic grade banana (musa ornata) bark fiber on the physicomechanical properties of isotactic polypropylene. *International Journal of Polymer Science*, *2016*.

Rahman, S. U. (1998). Theory of constraints: a review of the philosophy and its applications. *International journal of operations & production management*, *18*(4), 336-355.

Rezanejad, N. (2017). *Approaching a Successful Interior Design Atmosphere for Retail Clothing Stores Case of Dereboyu Street, Lefkoşa* (Master's thesis, Eastern Mediterranean University (EMU)-Doğu Akdeniz Universities (DAÜ)).

Walther, L. M., & Skousen, C. J. (2009). *Managerial and cost accounting*. Bookboon.

Wegmann, G. (2008). The activity-based costing method: development and applications. *The IUP Journal of Accounting Research and Audit Practices*, *8*(1), 7-22.

Were, A. (2016). Manufacturing in Kenya: Features, challenges and opportunities. *International Journal of Science, Management and Engineering*, *4*(6), 15-26.

Zikmund, W. G., Babin, B. J., Carr, J. C., Adhikari, A., & Griffin, M. (2016). Business Research Method, Cengage Learning India Pvt. *Ltd. Delhi*.

APPENDICES

Appendix l: Questionnaire

Dear Respondent

I am a student of University of Eldoret, currently pursuing Masters in Business management (Accounting option). I am conducting an academic research which is a requirement of the above degree.

Kindly assist me in answering this questionnaire as honestly as possible. Any information provided in this questionnaire will be treated as private and confidential.

Please put your signature below as a sign of consent.

Thank you.

Helen Otieno (Researcher) _____

Respondent Signature _____

SECTION A: Background information_____

What is your designation? _____

1. For how long have you been working in this company? _____

   Less than a year   ()

  Between 1 and 5years   ()

  Between 6 and 10 years   ()

  Above ten years   ()

2. What is the level of your education

  Diploma level   ()

  Undergraduate   ()

  Masters   ()

  Other   ()

SECTION B: COST ACCOUNTING TECHNIQUES AND FINANCIAL PERFORMANCE OF MANUFACTURING INDUSTRIES IN UASIN GISHU COUNTY

Clearly tick the following questions using the Likert scale as indicated below.

Key:

Very large extent	(5 points)
Large extent	(4 Points)
Moderate extent	(3 Points)
Little extent	(2 Points)
Not at All	(1 Points)

5. To what extent do you agree with the following statements regarding the effects of marginal costing on financial performance of your company?

MARGINAL COSTING	Very large extent(5)	Large extent(4)	Moderate Extent(3)	Little extent(2)	Not at All(1)
Increase in direct material enhances financial performance					
Low administrative overhead increases financial performance					
Direct labor cost improves financial performance					
Direct labor cost reduces financial performance					

7. To what extent do you agree with the following statements regarding the effects of standard costing on financial performance of your company?

STANDARDING COSTING	Very large extent(5)	Large extent(4)	Moderate extent(3)	Little extent(2)	Not at All(1)
Low cost of direct material increases financial performance					
High cost of direct material reduces financial performance					
Direct labor cost reduces financial performance					
High cost of manufacturing overhead reduces financial performance					

9. To what extent do you agree with the following statements regarding the effects of activity based costing on financial performance of your company?

ACTIVITY BASED COSTING	Very large extent(5)	Large extent(4)	Moderate extent(3)	Little extent(2)	Not at All(1)

	Very large extent(5)	Large extent(4)	Moderate extent(3)	Little extent(2)	Not at All(1)
Activity cost drivers directly affects financial performance					
High activity cost pool reduces financial performance					
Low activity cost pool increases financial performance					

11. To what extent do you agree with the following statements regarding the effects of target costing on financial performance of your company?

TARGET COSTING	Very large extent(5)	Large extent(4)	Moderate extent(3)	Little extent(2)	Not at All(1)
Cost reduction increases the financial performance					
High target selling price increases financial performance					
High target price reduces financial performance					
Target production volume enhances financial performance					

15. To what extent do you agree with the following statements regarding profitability ratio as an indicator/measurement of financial performance in your company?

PROFITABILITY RATIO	Very large extent(5)	Large extent(4)	Moderate extent(3)	Little extent(2)	Not at All(1)
It is used to evaluate the efficiency of the investment of the company					
It is used to measure how effective the company uses its asset to create profit.					

16. To what extent do you agree with the following statements regarding liquidity ratio as an indicator/measurement of financial performance in your company?

LIQUIDITY RATIO	Very large extent(5)	Large extent(4)	Moderate extent(3)	Little extent(2)	Not at All(1)
A good liquidity ratio indicates that the company is in good financial health.					

Higher liquidity ratio enables the company to get finances from creditors and lenders.				
Ability to acquire loans and service the loan shows that a company financial position is stable				

17. To what extent do you agree with the following statements regarding efficiency ratio as an indicator/measurement of financial performance in your company?

EFFECIENCY RATIO	Very large extent(5)	Large extent (4)	Moderate extent (3)	Little extent (2)	Not at All (1)
High inventory turnover increases financial performance.					
Too low accounts receivable turnover decreases financial performance.					
High accounts payable turnover decreases financial performance.					

18. To what extent do you agree with following statements regarding leverage ratio as an indicator/measurement of financial performance in your company?

LEVERAGE RATIO	Very large extent (5)	Large extent (4)	Moderate extent (3)	Little extent (2)	Not at All (1)
Ability of a company to meet its financial obligations indicate good financial performance					
A high debt or equity ratio decreases financial performance					

THANK YOU FOR COOPERATION

Appendix II: List of manufacturing industries in the North Rift Economic Block

Uasin Gishu County	Tranzoia County
Maize Milling Company Ltd (Flour Mill)	Nzoia Sugar Company
Arkay industries limited – (Food Processing)	Kapsara Tea factory
Corn products Kenya limited – (Food Processing)	Kenya Seed Company
Lakrir plastic limited – (Plastic Fabrication)	Butali Sugar Mill
Rivatex East Africa Limited – (Textile Mill)	West Kenya Sugar Factory
Rotalink Engineering Company limited – (Water Works)	Shiv Construction Company
Raiply wood limited – (Wood Milling)	Kitale Flour Millers
Eldoret Grains limited – (Flour mills)	
Unga ltd Company – (Flour Millers)	
Sisibo Millers Limited – (Flour Millers)	
Ken Knit limited – (Garments)	
Jumbo north East Africa ltd (Scrape metal)	
Buffalo millers – (Animal feeds, Maize flour)	
Rupa mills – (Cotton materials)	
Kenya creameries company – (Milk processing)	
Steel mills (Steel)	
Moi's bridge dairy – (Milk products)	
MACE foods – (Processing of chilies and vegetables	
Coca Cola Rift valley bottlers Ltd- (Drinks)	
Mabati Rolling Mills Ltd – (Iron sheet)	
Eldoret Grains Ltd- (Flour	
Eldoret Steel Mills Ltd – (Metal Works)	
Royal Mabati factory (Iron sheets)	
Nia Cosmetics Eldoret – (Cosmetic products)	

Source: Uasin Gishu County and Tranzoia County Trade and Industrialization Website

Baringo County	Turkana County
Royal Mabati	Royal Mabati
Brozique Granule Bluttons	Zesta Industries Ltd
Riwo Building Constructors	Githima Saw Mill
Kabartonjo Timber and Sawmill	
Kerio Farms Ginnery	

Source: Baringo County and Turkana County Trade and Industrialization Website.

West Pokot	Elgeyo Marakwet County
School Dairy Farm	Elgeyo Sawmill (K) Ltd
Harre Constructions	Sate Light Printers
Gachara Contractors	Oasis Construction
Komal Textile	Crown Paint Ltd
Tamkal Grain Mill	Kokwet Moulders
Elimu Millers Ltd	Tamil Milling Ltd
Akton Ventures Ltd	
Shopping Bay Factory	
Sisibo Tea Factory	

Source: West Pokot County and Elgeyo Marakwet County Trade and Industrialization Website.

Nandi County	Samburu County
Chemomi Tea Factory	Amal Road and Building Ltd
Emrok Tea Factory	Argos Furnishers Ltd
Chebut Tea Factory	Mazakat Water and Sanitation
Mbogo Valley Tea Factory	
Sangalo Tea Factory	

Source: Nandi County and Samburu County Trade and Industrialization Website.

Appendix III: Factor Analysis

Factor Analysis for Financial Performance

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.594
Bartlett's Test of Sphericity	Approx. Chi-Square	1319.941
	df	45
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Squared Loadings Total	% of Variance	Cumulative %	% of Variance	Cumulative %
1	3.567	35.673	35.673	3.567	35.673	35.673	2.679	26.790	26.790	26.790	26.790
2	1.967	19.669	55.341	1.967	19.669	55.341	1.987	19.873	46.662	19.873	46.662
3	1.534	15.343	70.684	1.534	15.343	70.684	1.958	19.579	66.242	19.579	66.242
4	1.143	11.428	82.111	1.143	11.428	82.111	1.587	15.870	82.111	15.870	82.111
5	.672	6.723	88.835								
6	.435	4.354	93.189								
7	.262	2.616	95.805								
8	.206	2.060	97.865								
9	.125	1.250	99.116								
10	.088	.884	100.000								

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
PR1				.885
PR2				.888
LR1			.822	
LR2			.957	
LR3	.759			
EFR1		.859		
EFR2		.803		
EFR3	.575	.711		
LER1	.837			
LER2	.900			

Factor Analysis for Cost Accounting Techniques

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.725
Bartlett's Test of Sphericity	Approx. Chi-Square	1095.290
	df	105
	Sig.	.000

Rotated Component Matrix[a]

	Component			
	1	2	3	4
MC1			.789	
MC2			.780	
MC3			.762	
MC4			.680	
SC1		.772		
SC2		.821		
SC3		.841		
SC4		.751		
ABC1				.855
ABC2				.855

				.781
ABC3				.781
TC1	.861			
TC2	.833			
TC3	.791			
TC4	.798			

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings				
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	% of Variance	Cumulative %
1	2.915	19.436	19.436	2.915	19.436	19.436	2.728	18.188	18.188	18.188	18.188
2	2.505	16.702	36.138	2.505	16.702	36.138	2.572	17.149	35.337	17.149	35.337
3	2.267	15.111	51.249	2.267	15.111	51.249	2.293	15.287	50.625	15.287	50.625
4	2.039	13.595	64.844	2.039	13.595	64.844	2.133	14.219	64.844	14.219	64.844
5	.813	5.421	70.265								
6	.648	4.323	74.588								
7	.581	3.876	78.464								
8	.545	3.634	82.097								
9	.501	3.342	85.440								
10	.439	2.928	88.367								
11	.410	2.737	91.104								
12	.409	2.724	93.828								
13	.367	2.447	96.275								
14	.315	2.103	98.378								
15	.243	1.622	100.000								

Appendix IV: Correlations Results

Correlations

		Zscore(FinPerf)	Zscore(MargCost)	Zscore(StdCost)	Zscore(ActBstCost)	Zscore(TargCost)
Zscore (FinPerf)	Pearson Correlation	1	.749**	.638**	.576**	.607**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	220	220	220	220	220
Zscore (Marg Cost)	Pearson Correlation	.749**	1	.629**	.511**	.642**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	220	220	220	220	220
Zscore (StdCost)	Pearson Correlation	.638**	.629**	1	.472**	.456**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	220	220	220	220	220
Zscore (ActBstCost)	Pearson Correlation	.576**	.511**	.472**	1	.484**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	220	220	220	220	220
Zscore (TargCost)	Pearson Correlation	.607**	.642**	.456**	.484**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	220	220	220	220	220

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix V: Regression Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig.F Change	Sig. F Change
1	.807a	.652	.645	.59557438	.652	100.602	4	215	.000	.000

a. Predictors: (Constant), Zscore(TargCost), Zscore(StdCost), Zscore(ActBstCost), Zscore(MargCost)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.408E-15	.040		.000	1.000
	Zscore(MargCost)	.424	.061	.424	6.929	.000
	Zscore(StdCost)	.216	.053	.216	4.070	.000
	Zscore(ActBstCost)	.187	.049	.187	3.786	.000
	Zscore(TargCost)	.146	.054	.146	2.698	.008

a. Dependent Variable: Zscore(FinPerf)

Appendix VI: University Research Letter

University of
Eldoret
flame of knowledge and innovation

P. O. Box 1125 - 30100, Eldoret, Kenya
Tel: +254 53 2063257 / 2033712/13 Ext. 2352/3
Mob: 0736 493555; Fax: +254 53 206 3257
Website: www.uoeld.ac.ke

OFFICE OF THE DEPUTY VICE-CHANCELLOR (ASA)
SCHOOL OF BUSINESS AND MANAGEMENT SCIENCES
Department of Business Management

Ref: UOE/B/BBM/ATT/031   Date: 11th November, 2021

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: RESEARCH PERMIT- HELEN ADHIAMBO OTIENO (SBUS/BBM/009/16)

The above subject refers.

The above named is a Masters student in the school of Business and
Management Sciences, Department of Business Management. She successfully
defended her proposal titled, *"Effect of Cost Accounting Techniques on Financial
Performance of Manufacturing Industries in Uasin-Gishu County: Kenya."*

Any assistance accorded to her will be highly appreciated.

Yours faithfully,

UNIVERSITY OF ELDORET

11 NOV 2021
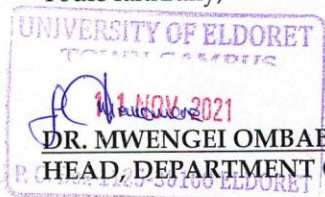
DR. MWENGEI OMBABA (PhD)
HEAD, DEPARTMENT OF BUSINESS MANAGEMENT

University of Eldoret is ISO 9001:2015 Certified

Appendix VII: Research License

REPUBLIC OF KENYA

NATIONAL SCIENCE, TECHNOLOGY &

Ref: 9444

Date of: 0/December02

RESEARCH

This is to Certify that Mrs. Helen Adhiambo Otieno of University of Eldoret, has been licensed to on the topic: Effect of cost accounting techniques on financial performance of manufacturing Kenya, for the period ending :

License NACOSTI/P/21/

9444

Applicant Identification

Director
NATIONAL COMMISSION
SCIENCE TECHNOLOGY
INNOVATIO

Verification QR

NOTE: This is a computer generated License. To verify the
Scan the QR Code using QR scanner

Appendix V: Similarity Report

University of Eldoret

Certificate of Plagiarism Check for Synopsis

Author Name	OTIENO ADHIAMBO HELEN SBUS/BBM/M/009/16
Course of Study	Type here...
Name of Guide	Type here...
Department	Type here...
Acceptable Maximum Limit	Type here...
Submitted By	titustoo@uoeld.ac.ke
Paper Title	EFFECT OF COST ACCOUNTING TECHNIQUES ON FINANCIAL PERFORMANCE OF MANUFACTURING INDUSTRIES IN NORTH RIFT ECONOMIC BLOCK, KENYA
Similarity	9%
Paper ID	978272
Submission Date	2023-09-21 13:12:12

Signature of Student   Signature of Guide

Head of the Department

* This report has been generated by DrillBit Anti-Plagiarism Software