

**EFFECT OF COSTING MODELS ON FINANCIAL PERFORMANCE OF
CEMENT MANUFACTURING INDUSTRY IN KENYA**

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of the Requirement for the Award of Master's Degree in Business Administration to**

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DECLARATION & RECOMMENDATION

I declare that this thesis is my original work and has not been submitted for a degree award in any University.

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DEDICATION

I dedicated this research to Almighty God for the gift of life and my family my parents Farhia Hashi Gedi and Ahmed Abdilahi Abdi my sister Nimo Ahmed Abdilahi, my classmate Najat Hussein for financial and moral support.

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ABSTRACT

In East Africa, particularly in Kenya, the cement industry holds a prominent position both in production and consumption. Kenya boasts approximately eight cement companies, three of which are publicly traded on the Nairobi Securities Exchange (NSE): East Africa Portland Cement Limited, ARM Cement Limited, and Bamburi Cement. The rest of the businesses are privately held and include Mombasa Cement, Savannah Cement, and National Cement. The real estate industry's increasing dynamics of supply and demand have made the competitive scene within the cement manufacturing sector more intense. As a result, in order to maintain or grow their market share, businesses are concentrating more and more on assessing their financial positions. Unlike in the past when Kenyan cement manufacturers were able to make good profits now they are struggling to make a profit due to the low demand for building materials and the high levels of importation of cheaper cement from Asian countries. The purpose of this study is to establish the impact of various costing techniques on the financial planning of the manufacturing sector in Kenya. The specific research question of the study is therefore; what is the comparative effect of Activity-Based Costing (ABC), standard costing, and target costing and marginal costing on the financial performance of the Kenya's cement manufacturing industry? The study employs both quantitative and qualitative research methods to ensure the credibility of the findings. The target population is comprised of 100 middle-level management personnel. The method of data collection is survey interviews, and the data collected is of a quantitative nature, analyzed using descriptive statistic and presented in the form of percentage, Mean Standard Deviation and frequency using SPSS. The research thus concludes that there is a positive correlation between financial performance and the various costing techniques namely, the activity based costing, the target costing and the marginal costing while the standard costing has little or no impact on the performance. Notably, ABC, target costing, and marginal costing are found to positively impact performance. In conclusion, standard cost accounting proves valuable for managers seeking precise budget planning. ABC is particularly beneficial for cement manufacturing firms, as it facilitates cost reduction, thereby contributing to increased profits and overall organizational performance. Further research is recommended across manufacturing firms in different regions and sectors to generalize these findings. Additionally, exploring the frequency of adoption of management accounting practices in diverse industries would enrich future studies.

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LIST OF ABBREVIATIONS AND ACRONYM

ABC	Activity Based Costing
AICPA	American Institute of Certified Public Accountants
BEP	Breakeven Point
CA	Cost Accounting
FC	Fixed Cost
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
ICS	Internal Control System
KNBS	Kenya National Bureau of Statistics
R&D	Research & Development
S&GA	Sales and General Administration
SGR	Standard Guard Railways
WIP	Work in Progress

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Managerial accounting, as described by Palmer et al. (2018), is a valuable tool for businesses, as it integrates cost accounting data with financial and nonfinancial information to support managers in overseeing and guiding organizational activities. It involves providing essential information to managers to help achieve the organization's goals, making it an integral part of the management process (Parmar & Shukla, 2021).

Hilton and Platt (2015) emphasize the importance of managerial accountants serving as strategic allies within both domestic and international management teams of an organization. Whittington et al. (2019) elaborate on how management accounting aids managers in overseeing, assessing, and communicating both financial and nonfinancial data to guide decisions in line with company objectives. Bösch et al. (2018) highlight the crucial role of management accounting in assisting organizations with decision-making, future planning, control, and troubleshooting.

Ricke et al. (2018) contends that both large and small organizations require sophisticated management accounting approaches and systems to successfully manage limited resources and maximize company value. This has led to a move from conventional to modern management accounting procedures to address the rising requirement for strategic decision-making assistance.

The manufacturing industry significantly contributes to the industrial sector in developed countries. Shazeer and Stern (2018), the United States' manufacturing sector contributes

35 percent of the global value added in high-technology production. Additionally, it maintains a trade surplus in terms of cash generated from production processes and technological royalties. According to Hayes (2017), manufacturing production made a £162 billion (10%) contribution to the UK economy in 2016. This sector employed 2.4 million individuals, accounting for 8% of the total employment. The industrial sector is also an important driver of growth in Africa. Baumers et al. (2016) find that manufacturing employment and value-added have expanded continuously across Africa, contributing to GDP growth. The Giustiziero (2021) claims that manufacturing contributes for 14% of Kenya's GDP.

Wood III et al. (2015) describe management accounting as the process of providing managers and staff with appropriate financial and nonfinancial information to make decisions, allocate resources, and monitor, assess, and reward performance. This comprises information on product costs, service delivery costs, activity or business process expenses, as well as measurements relating to customer happiness, process quality, innovation, and staff motivation (Mohammadi & Taherkhani, 2017).

The funds or resources needed for a transaction, purchase, or other operation are referred to as costs. Depending on the type of output and the nature of manufacturing, various industries apply varied approaches in determining the costing their products. Various types of costs, including fixed, variable, overhead, activity-based, marginal, full, traditional, absorption, incremental, and sunk costs, among others, are present in accounting (Bösch et al. 2018).

In today's era of international rivalry, industrial firms must implement current management accounting techniques to achieve a competitive advantage, enabling them to

grab markets and attain customer satisfaction. This requires a concentrated effort to decrease costs and position products successfully in terms of quality, innovation, and pricing in both local and worldwide markets. Consequently, there is a demand for the establishment of cost systems that are addressed with honesty and scientific rigor to support well-informed and logical price decisions (Armitage et al., 2016).

Even when the production process functions efficiently, it is vital to keep rigorous control over the expenditures incurred by the organization. Failure to make efforts in decreasing manufacturing costs might lead to a rise in total expenses (Oyewo & Ajibolade, 2019). Thus, the deployment of target costing, a process comprising forecasting market pricing and aligning expenses appropriately, becomes crucial for complete cost management, supporting firms in reaching their aims of maximizing profitability. According to Fatihudin, D. (2018), target costing is acknowledged as a crucial component of cost reduction. Target costing, according to them, is the process of determining a product's expected cost based on price competition to ensure the product achieves the desired profit margin (Abdel-Basset et al., 2020).

Target costing comprises assessing and attempting to reduce a product or service's total cost throughout the course of its entire life cycle. Businesses may use target costing to determine product prices based on customer affordability (Blocher et al., 2019). In order to meet both financial and non-financial objectives and maintain competitiveness, target costing (TC) aims to accurately estimate a product's cost, design, and development. TC is seen as an approach to leadership that combines value analysis, profit optimization, cost control, as well as value engineering (Fouad & Nassar, 2021). Implementing TC in complex supply chain systems demands more coordinated efforts compared to other

management accounting techniques. All actors in the supply chain must seek cost-saving techniques in component invention, manufacture, and distribution (Milan et al., 2017).

Standard costing is a performance evaluation approach that evaluates actual performance versus specified standards across all operational areas within an organization. This evaluation entails meetings with several leaders of organizational segments (Hilton & Platt, 2020). When real performance happens, statistics are compared with standards; any disparities between actual outcomes and standards are evaluated to find the reasons. Variations from standards are characterized as 'variance', which can be 'favorable' or 'adverse' for the company (Kristan et al., 2016). Cost control comprises giving clear information on the planned expenses, real costs incurred, difference between planned and actual costs, causes for inconsistencies, and necessary corrective measures to align actual outcomes with the intended ones. Standard costing acts as a baseline for assessing performance and is vital for measuring resource acquisition and utilization efficiency for delivering a specified product level (Phillips, & Phillips, 2016).

Zhang and Pan (2015) research reveals that Supply Chain Management (SCM) is vital for organizations to acquire competitive advantages in modern and more competitive marketplaces. An SCM system is a series of decisions, actions, and research that a business does in order to create and maintain a competitive edge. SCM's core function is to help management in producing products or services more effectively and efficiently by using a variety of tools to gather information for planning, decision-making, and control (Zhang & Pan, 2015).

The study conducted by Serra and Kunc (2015) aims to examine the relationship between financial success and execution and structural cost control. They evaluated the link

between SCM and financial outcomes, concentrating especially on environmental expenditures. Their results imply that monitoring environmental expenses favorably improves financial performance. Moreover, they indicate that both execution cost management and structural cost management undoubtedly affect financial performance (Serra & Kunc, 2015).

According to the Institute of Cost and Management Accountants London's nomenclature, cost cutting alludes to achieving regular and actual declines in the unit costs of manufactured things without sacrificing their appropriateness for their intended purpose (Areena, 2019). The requirement for cost reduction emerges when raising profit margins without a growth in sales turnover is essential; consequently, expenses must be decreased for the same amount of sales. Therefore, promoting cost consciousness largely requires lowering expenses at all levels and highlighting the responsibility and responsibilities of every person within the firm (Bazrafshan & Karamshahi, 2017).

Standard costing is one of the approaches that enable cost reduction as it identifies the relative costs of materials, labor, and overheads before the manufacturing process begins. This strategy also permits optimizing productivity with lowest expenses and decreasing waste during production (Kaiser et al., 2015). Material costs can be decreased by utilizing fewer materials or obtaining cheaper material prices through bulk discounts and other trade partnerships. Labor expenditures can be decreased by lowering overtime, limiting or eliminating idle time, and boosting worker supervision and incentives. When cost reduction is accomplished, it is frequently reflected in the profitability of the manufacturing firm (Phillips & Phillips, 2016).

The relationship between competitive strategies and production cost control in small industrial businesses is examined by Oyewo and Ajibolade (2019). Using quantitative techniques, they conducted a descriptive survey. According to the results, there are benefits to integrating cost control and competitive strategies, especially for small industrial businesses that prioritize strategic initiatives like cost containment and product uniqueness. Moreover, the amalgamation of cost management and competitive strategy yields competitive advantages using both cost reduction and differentiation strategies (Kerzner, 2017).

A fixed cost remains consistent regardless of the amount of products produced or sold, while variable costs change dependent on the volume of goods or services produced (Sanchez & Terlizzi, 2017). Variable costs fluctuate depending on a company's output level, with variable expenses usually rising as production levels grow. Equally, variable costs are likely to shoot up whenever there is a decrease in volume (Demirkesen, & Ozorhon, 2017). Fuel expenditures, electricity, natural resources form the list of the primary cost factors involved in the production of cement. A third of cements upon selling goes toward energy expenditures, which are significant expenses. Power and gasoline costs therefore significantly affect a company's spending. The price of natural resources is a significant consideration in the manufacture of cement. The major raw material used is limestone is the main raw material utilized. The expenditure on sales is made up of 30% to 40% raw materials. Employee costs, administrative expenditures, and repair and maintenance fees are examples of additional costs. 15% to 20% of the cost of the sale is made up of these (Williams, 2016).

Calculating the information, underlying principles, presumptions, and equations that enable the conversion of resources or qualities into costs is known as cost modeling. The most frequent processes in cost modeling are determining the scope, or the expenditures that must be separated into distinct types and modelled, and determining the foundation for allocating overhead costs. Calculating cost functions and the connection between product parameters and costs (Quesado & Silva, 2021)

In the field of cost management, putting Activity-Based Costing (ABC) into practice is a critical strategic move. Even with the bright future that Cuypers et al. (2021) have explained, there is still a significant gap between what ABC can achieve and how widely it is used in the business world. The authors Almeida and Cunha (2017) elucidated the voluntary aspect of system acceptance, emphasizing the tendency of resistance among those who are hesitant to accept change. As Jalalabadi, et al. (2018) have shown, when adoption is made mandatory, the consequences of a lackluster response are increased rates of mistakes, intentional subversion, and higher employee attrition. According to a number of academics, such as Almeida and Cunha (2017), this resistance combined with low user adoption might undermine the expected advantages of innovative systems such as ABC and lead to less than ideal resource usage in businesses.

According to Elkington, 2018), the capacity for effective cost control to bring about transformation depends on how well related activities are optimized. Their finding is noteworthy since they demonstrate that around half of Pakistani manufacturing companies have incorporated ABC into their operations; industries with especially high adoption rates of variable costing methods include cement and textiles (Bazrafshan & Karamshahi, 2017). Additionally, companies who are proficient in implementing

management accounting strategies like activity-based management and target costing have shown significant improvements in profitability, as seen by actual data showing gains of 6.4% and 8.2%, respectively (Bazrafshan & Karamshahi, 2017).

Beyond mere cost allocation, ABC fosters enhanced coordination across diverse units and departments within an organization. Unlike traditional cost allocation methods tethered solely to single cost drivers like direct labor or machine usage, ABC affords more precise unit cost calculations, thereby mitigating the impact of seasonal fluctuations. Hoozée and Hansen (2018) emphasize the critical role ABC plays in providing precise cost data that is essential for guiding strategic decisions that include pricing mechanisms, process improvement, product mix optimization, sourcing strategies, and comprehensive business performance assessments.

The relationship between product diversification, the use of advanced manufacturing technology, and the adoption of ABC, as explained by Griffin & Hammond, (2019), highlights several fascinating aspects. Their research reveals a positive association that displays an inverted U-shaped pattern between product diversity and the likelihood of ABC adoption and usage. This relationship sheds light on the intricate nature of organizational decisions related to ABC integration.

Different approaches surface as effective instruments for solving mathematical puzzles in the field of cost modeling, with cost models emerging as a reliable fixture. The basic idea behind cost modeling is that an organization's expenses should be fairly distributed among designated cost bearers, who are usually its products. Priyatmo and Akbar (2019) explains that these models, which are painstakingly constructed from an extensive array of industry data, financial journals, and government databases, encompass a

comprehensive range of cost components, from direct materials and labor to indirect costs, sales expenses, general and administrative outlays, R&D expenditures, and profit margins (Tan, & Ferreira, 2016).

In the conventional cost accounting approach, only direct materials and labor expenses may be directly assigned to the product (Jeyaraj, 2015). Activities may be separated into additional value and non-value-added categories by using the ABC technique. The system tries to boost performance by removing non-value-added operations. While giving the advantage of presenting specific prices, this strategy takes more time and money in gathering the essential information for analysis. Nevertheless, an efficient design tool may expedite the modeling process and overcome the issues involved with building a cost model (Al-Dhubaibi, 2021). To reach 5 billion tons by the year 2020, the international demand for cement is anticipated to increase by 4.5% annually. Gains in construction activity in developing nations across the Asia/Pacific, Africa, and Middle East areas will continue to be driven by health improvements (Al-Dhubaibi, 2021)

In 2020, the east African cement market was worth US\$2.53 billion. Cement is a cost-effective, high-quality material that is extensively used in the global building sector. It is created by burning a combination of limestone and clay in high heat to create a fine powder. In the building sector, cement is combined with water and utilized as a binding substance. Depending on its capacity to set in the presence of water, it can be divided into hydraulic and non-hydraulic categories. Due to a number of encouraging government initiatives and investment from new market entrants, the cement sector in East Africa is expanding favorably (Jourdain et al., 2021).

The manufacturing sector's main goals in supporting Kenya's Vision 2030 are to raise GDP contribution by at least 10% yearly, create employment, and produce wealth. In order to enhance Kenya's prosperity and global competitiveness, Vision 2030 lays out objectives such as increasing R&D outputs, developing specialized products for both new and existing markets, increasing domestic production capacity and local content, and increasing the region's market share from 7% to 15% (Leshore, & Minja, 2019). Establishing Industrial and Technology parks, promoting small- to medium-sized businesses (SMEs) and industrial manufacturing clusters, building an Integrated Steel Mill to develop the Steel and Iron sector, enhancing technical human resource skills in manufacturing, modernizing SME products, commercializing research and development outcomes, and luring strategic investors into important sectors like motor vehicle assembly, agro-processing, and the iron and steel industries are some of the specific initiatives being undertaken to support these goals (Griffin & Hammond, 2019).

Producing and distributing cement-based building products, Bamburi Cement Limited is a major participant in the Kenyan and Ugandan construction markets. Their goods are shipped to a number of countries, such as Reunion, Uganda, and Mayotte. They sell precast concrete paving blocks under the Bamburi Blox brand as well as names like Powermax, Powercrete, Nguvu, Supaset, Multipurpose, Powerplus, and Roadcem at their retail store. Furthermore, the business offers ready-mix cement and precast molded cement solutions for edge restraints, drainage, fencing, and walling, as well as precast concrete pavement blocks under the Bamburi Blox brand (Henri & Journeault, 2010).

Savannah Cement, on the other hand, is thought to be worth KES 10 billion and is solely controlled by Kenyan investors. With an annual production capacity of two million tons

and an ecologically sustainable cement grinding plant, Savannah Cement is dedicated to being the leader in environmentally friendly and productive cement manufacturing in East Africa. The firm, which is made up of local investors, wants to transform environmental management techniques in the region's cement sector in addition to using green technologies. Savannah Cement is ideally situated to satisfy the expanding need for cement products in the area since it is close to Nairobi, which uses cement for 50% of Kenya's total cement consumption.

Kenya's emphasis on large-scale infrastructure projects and its huge housing demands have been attributed to the country's notable rise in the building sector during the last ten years. Due to this growth, more cement makers have chosen to enter the Kenyan market, increasing the number of top cement producers in the country to six (Keinan & Karugu, 2018). Due to infrastructure developments, the country's demand for cement increased by 26.6% in the first five months of 2021. The Kenya National Bureau of Statistics reports that local cement consumption rose from 2.60 million tonnes to 3.30 million tonnes between January and May of last year. As producers scrambled to satisfy the rising demand, production surged by 27.3% to 3.38 million tonnes from 2.65 million tons at the same period in 2020 (Mutegi et al., 2023).

1.2 Problem Statement

During the second quarter of 2018, Kenya reported a fall in cement usage of 1.4 million tons, reflecting lackluster activity in the real estate industry. Cement usage in the first three months of the current year amounted at 1.5 million tons, or 15.7% of total consumption. According to the Kenyan National Bureau of Statistics (KNBS), there was a 15.7% fall in cement imports and an 8% decrease in cement clinker imports during this

time. As also reported by KNBS that, a 4.9% decline in imports of building goods, including iron and steel bars and rods. Despite the completion of the standard gauge Railway (SGR) in 2016, the fall in cement consumption begun (Okumu, 2018). Kenyan cement makers are battling with issues due to sluggish demand for their product and heightened competition from cheaper imports from Asia. Although most local cement businesses are not compelled to disclose their financial statements as they are not listed on the Nairobi Securities Exchange, the underperformance of listed companies provides a grim image for this vital economic sector (Marangu, 2020).

The competitive strategy provides a substantial challenge for top cement businesses in Kenya. Among the leading cement producers in Kenya are East African Portland Cement, Bamburi Cement, and Rhino Cement from Athi River Mining. These enterprises must fight for limited market resources and a constricted consumer base to fulfill their aims (Shyamal & Ghosh, 2019).

Focused costing, in terms of cost components and liquidity variables, has been stressed, forgetting considerations such as ABC costing, standard costing, Marginal costing, and Target costing. This mistake has attracted attention to the vacuum left behind, motivating this study to fill that gap by investigating the influence of alternative costing models on the financial performance of cement manufacturing enterprises. This study intends to completely investigate how ABC Costing, Standard costing, Target costing, and Marginal costing impact the performance of the manufacturing business, notably within the cement manufacturing sector.

1.3 General Objective

This study's main goal was to ascertain how costing methods affect the financial performance of Kenya's cement manufacturing business.

1.3.1 Specific Objective of the Study

- To evaluate effect of Activity based costing on financial performance of cement manufacturing industry in Kenya.
- To assess effect of standard costing on financial performance of cement manufacturing industry in Kenya.
- To determine effect of target costing on financial performance of cement manufacturing industry in Kenya.
- To examine effect of marginal costing on financial performance of manufacturing industry in Kenya.

1.4 Hypothesis of the study

- **H₀₁:** Activity based costing has no significant influence on the financial performance of cement manufacturing industry in Kenya.
- **H₀₂:** standard costing has no significant influence on the financial performance of cement manufacturing industry in Kenya.
- **H₀₃:** Target costing has no significant influence on the performance of cement manufacturing industry in Kenya.
- **H₀₄:** Marginal costing has no significant impact on financial performance of cement manufacturing industry in Kenya.

1.5 Significance of the study

Infrastructure development is a stronghold of Kenya's vision 2030, and the \$3 billion construction industry's contribution to the country's GDP over the past three years was 4.8%. Real estate is one of the main sectors bringing international investors to the country. The primary construction projects are in real estate, energy and electricity, and transportation, and Kenya has maintained its position as the country with the most projects in east Africa for four years in a row. The government of Kenya is reportedly investing billions of dollars in transportation projects as the country is positioned to become the logistical center of East Africa, according to other sources. Continued expansion in the industry is projected since the Kenyan government wants to build 500,000 homes by 2022 and is lowering corporate taxes for developers who build at least 400 units annually. Therefore, the study will help cement industry companies as well as real estate Companies to forecast the demand of cement in the market and the efficiency of cement Industries in preparing actual financial data that helps marketers, government, real estate Industries, shareholders, investors, customers get fair, easy and understandable financial data.

Managers of Cement Industries

Through the use of factors including budgeting, standard costing, and other costing methods, managers evaluating this study may be able to control and reduce costs to maximize profits for shareholders and minimize losses.

Policy Maker s in Cement Industry.

The findings of this research may inform policy strategist in mechanism to control, minimize, losses and estimate costs, profits by using budgets and standard costing.

Academician

To academicians and students of finance and accounting, this research may assist in building knowledge base in the discipline in addition to the existing literatures on costing and performance of cement industries. The academicians will use the research as source of reference.

1.6 Scope of Study

The study focused on evaluating the impact of different costing models, such as traditional costing, activity-based costing, and throughput costing, on the financial performance metrics of cement manufacturing companies in Kenya. Key financial performance indicators, such as profitability, cost efficiency, and return on investment, were analyzed to assess the effectiveness of different costing models in optimizing financial performance. The study also concentrated on cement manufacturing companies operating within the borders of Kenya. This included both domestic cement manufacturers and multinational companies with manufacturing facilities in Kenya. The study was conducted during the month of June 2023. This timeframe allowed for a comprehensive analysis of financial data and performance metrics over a specified period, enabling researchers to capture trends, patterns, and fluctuations in financial performance associated with different costing models within the cement manufacturing industry in Kenya.

1.7 Limitation of the Study

The availability and quality of financial data from cement manufacturing companies in Kenya varied, potentially affecting the accuracy and reliability of the research findings. To mitigate this limitation, researchers endeavored to obtain comprehensive and reliable

financial data through collaboration with industry stakeholders and adherence to rigorous data collection and analysis protocols. The study also relied on historical financial data, which limited its ability to capture real-time changes and developments within the cement manufacturing industry in Kenya. To address this limitation, researchers supplemented historical data analysis with qualitative interviews and surveys to gather insights into current industry trends and practices. The study further focused on the Kenyan cement manufacturing industry, which limited the generalizability of the findings to other industries or geographic regions. To enhance the applicability of the research findings, researchers conducted a comparative analysis with similar studies conducted in other countries or industries to identify common trends and patterns. The study encountered challenges in isolating the causal relationship between different costing models and financial performance metrics due to confounding variables and external factors. Researchers employed statistical techniques, such as regression analysis and control variables, to mitigate the influence of confounding factors and enhance the validity of the research findings.

1.8 Definition of Operational Terms

Cost Modelling: Cost estimating is therefore the act of evaluating and determining the cost that is likely to be incurred in an activity, project or operation of an organization. Its purpose is to forecast and analyze the costs that are likely to be incurred, by means of mathematical and statistical models, with the purpose of making a proper choice of resource allocation, cost setting, and budgeting (Hilton & Platt, 2015).

Manufacturing Overhead: Manufacturing overhead on the other hand is the cost that cannot easily be traced or identified with the units of the product. Such costs consist of

rental expenses, energy costs, depreciation of factory assets, fees for maintenance, and indirect labor costs (Henri & Journeault, 2010).

Budget: is employed to project an entity's financial status and performance for the future (Jeyaraj, 2015).

Internal Control System: is a set of guidelines, policies, and practices that an organization uses to give direction, boost productivity, and ensure that policy is followed (Kamil, & Abu, 2018).

Activity Based Costing: It is a method of allocating overhead costs to activities in an effort to better assign them to certain usages (Kerzner, 2017).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The significance of the literature review of this study was on the concept of costing, ABC costing, Standard costing, Target costing and Marginal costing, nature of costing of the cement industry, also this special section looked at some major theories in costing particularly these theories cost benefit analysis, transaction cost theory, standard costing theory.

2.2 Theoretical Literature Review

This area elaborates theories guiding the study throughout the completion of the study it consisted of some theories that guided and governed the achievement of cement manufacturing industries in their operation. This especial section looked at some common theories particularly those mentioned above.

2.2.1 Theory of Cost

The theory of cost was introduced by various economists throughout history, with significant contributions from Adam Smith, David Ricardo, and Alfred Marshall. However, it was predominantly formalized by Marshall in his seminal work "Principles of Economics" published in 1890. Marshall's theory of cost aimed to analyze how production costs are determined by factors such as inputs, technology, and market conditions. It laid the foundation for understanding cost behavior and decision-making in production processes (Krosnick, 2018).

Activity-based costing (ABC) is a management accounting tool that was designed to establish the cost of an activity in relation to how much of a resource it has consumed. Specifically, in the cement manufacturing industry that has been studied by Baumers et al. (2016) ABC is a tool that can help in presenting a clearer picture of overhead costs and their relation to particular activities.

The theory of cost is useful in filling the gap left by prior research regarding the impact of ABC on financial performance in the cement manufacturing industry as it offers a theoretical foundation to examining costs. Due to detailed cost allocation, ABC makes it easy to compare the costs of activities and thus make the necessary changes to optimize profits. According to the theory, cost control is a crucial aspect of decision making and how acquiring more knowledge about costs can help in the enhancement of organizational performance (Cooper et al., 2017).

Furthermore, the role played by ABC is in determining cost drivers, which are those factors that have a direct impact on the cost of carrying out production activities. Thus, by identifying these drivers, companies can target and allocate their resources and efforts towards the most effective and cost efficient. This is in line with the theory of cost, and which posits that it is important to comprehend the various factors that define the cost of production (Dikko, 2016).

According to economists, cost is what has to be sacrificed to get the other thing or to put it more specifically cost is a sacrifice made to achieve a certain goal. Financial resources have to be channeled towards establishing a factory so as to manufacture commodities, therefore if such resources are consumed they cannot be employed for other purposes. These raw materials include items such as the structure of the plant which encompasses

the buildings, the apparatus required for the production process, and the wages paid to the employees (Cuypers et al., 2021). In cost theory, it is possible to understand the concept of production costs and get the lowest costs and increase sales (Shahab, 2022). Expenses are a major factor in business decision-making. Manufacturing expenses are the basis for pricing choices. It helps managers make well-informed decisions about pricing strategies, adding or removing products from a current product line, moving forward with a certain input order, and other relevant issues. Costs are an organization's monetary outlays incurred during the course of manufacturing (Hait, et al., 2020).

The expenses incurred by an organization are dependent on the volume of goods or services produced. Variable costs vary according to the degree of output at a company; they may go up when production levels go up or down when production levels go down (Mitnick, 2019).

Power is a necessary component for the manufacturing of cement, and the cost of power and utilities makes up 30% of the cost of cement. As a result, the company's operating expenditures are greatly impacted by fuel and electricity bills. The kiln is normally fired with coal, and the clinker is crushed in the kiln using a variety of fuels, including diesel, pet coke, and lignite. Energy requirements for cement factories vary depending on the heat treatment technique employed; typically, they require 60–70 kilowatt hours (KWH) of energy for every pound of clinker produced (Giustiziero, 2021). An economic entity's financial performance is crucial to assessing its viability and can be a sign of how sustainable the business is. Cost is still a crucial factor in this calculation as rising prices and expenses may result in lower sales income and even liquidation.

Theory of cost defines all cost and explains their usage in financial matters in the research.

2.2.2 Cost Benefit Analysis Theory

Cost-benefit analysis (CBA) theory has roots in the works of economists such as Jules Dupuit in the 19th century and gained prominence in the mid-20th century with contributions from economists like Irving Fisher and Alfred Marshall. However, it was during the 20th century that CBA became a widely recognized method for evaluating the economic efficiency of projects and policies. Its formalization and widespread adoption occurred notably after World War II (Giustiziero, 2021).

CBA theory helps to justify the study of the influence of standard costing on the financial performance of cement manufacturing industry by highlighting the costs and benefits of developing and using standard costing models. Standard costing is a system of cost control whereby a predetermined cost is fixed for production activities while actual costs incurred are compared with these standards to determine variances (Hayes, 2017).

The theory of cost-benefit analysis asserts that decisions should be made based on whether the benefits outweigh the costs. In the context of standard costing in the cement industry, CBA enables companies to assess the costs associated with implementing and maintaining standard costing systems against the benefits derived from improved cost control, variance analysis, and decision-making (Jensen & Meckling, 2019).

Furthermore, CBA allows for the consideration of both tangible and intangible benefits, such as improved decision-making accuracy and better resource allocation. Jeyaraj (2015) conducting a cost-benefit analysis of standard costing, cement manufacturers can

determine whether the potential benefits, such as reduced production costs and enhanced profitability, outweigh the implementation and maintenance costs of the standard costing system (Zevin, 2020).

Firms tend to apply cost-benefit analysis processes in the evaluation of events. Here, there is the addition of the positives of a situation then a deduction of the cost of the undertaking. In some instances, analysts develop systems putting financial value on physical assets. Normally, leaders will undertake a cost benefit analysis towards assessing every profit and cost a firm could generate from an investment. The investigation's determinations will decide if the investment is productive economically or if the firm ought to proceed with on with a separate goal (Fouad & Nassar, 2021).

An approach to project selection called a cost-benefit analysis uses a standard metric to assess the costs and benefits of a project. The cost-benefit analysis is performed by contrasting the project's net present value of expenses and benefits (Fouad & Nassar, 2021). When an investment is made with the expectation of a return, classic investment analysis asks: what happens if the return is of an intangible nature or does not create revenue stream (in full or in part)? To establish an apples-to-apples comparison and support the project's viability, the return in this scenario needs to be measured in other terms in order to be compared with the money spent to pay for it. This is where cost benefit analysis comes into play. For instance, initiatives like constructing a road, improving or repairing the environment, creating a safety program, or doing research do not produce a revenue stream and hence cannot be examined using investment return metrics (Brent & Maschi, 2018).

Cost Benefit Analysis (CBA) is a method of evaluating an investment decision's economic benefits or drawbacks by weighing its costs and advantages in order to determine how the welfare of society is likely to shift based on the determination. The analytical framework makes reference to the following list of fundamental concepts: Opportunity cost is the potential gain from the best alternative forgone when a decision must be made between numerous mutually exclusive options. Long-term outlook Depending on the area of intervention, a long-term outlook is adopted, with a minimum of 10 years and a maximum of 30 years or more (Schroeder et al. 2022).

According to Willis (2019) studies on the correlation between ABC implementation and manufacturing performance. Their research sought to determine how ABC affected the use of top-tier manufacturing techniques and manufacturing output. They discovered that businesses using the ABC method are more likely to employ best-in-class manufacturing techniques, and those that do so had greater levels of product quality, shorter manufacturing cycles, shorter customer lead times, and lower manufacturing costs, excluding purchasing costs.

According to research by Schmidt and Wagner (2019), banks can use competitive, competitive, and practical methods to survive in the high-tech banking environment. Cost benefit analysis is a common technique for assessing the effectiveness of planned initiatives, but gains from risk mitigation investments are by their very nature unknown, which presents a significant challenge (Schmidt & Wagner, 2019).

The purpose of cost-benefit analysis (CBA) is to assess the feasibility of an investment, whereas activity-based costing (ABC) is a method of allocating costs that helps companies better understand the true costs associated with manufacturing their products

or services. The primary goal of a cost-benefit analysis is to ascertain if it is feasible to start a project or endeavor, which requires obtaining information on the costs and benefits that will be involved. Management utilizes the results of the cost-benefit analysis to determine whether the project yields more advantages or disadvantages for the company.

2.2.3 Transaction Cost Theory

Transaction cost theory was introduced by Ronald Coase in his seminal paper "The Nature of the Firm" published in 1937 and further developed by Oliver E. Williamson in the 1970s and 1980s. Coase and Williamson explored how transaction costs, such as negotiation, information gathering, and enforcement, influence the choice between market transactions and hierarchical governance structures within firms (Kaiser et al., 2015).

Transaction cost theory provides a framework for understanding how firms make decisions regarding the internal organization of production and the use of external markets. In the context of the cement manufacturing industry, target costing is a management accounting technique that aims to manage costs by setting targets for the cost of a product or service based on market conditions and desired profit margins (Leshore & Minja, 2019).

The theory of transaction costs supports the study of the effect of target costing on the financial performance of the cement manufacturing industry by emphasizing the importance of reducing transaction costs associated with sourcing raw materials, production processes, and distribution channels. Target costing helps cement manufacturers align their production processes with customer demands and market

conditions, thereby reducing the need for costly renegotiations and adjustments (McLeod, 2018).

Moreover, by setting cost targets upfront, target costing encourages proactive cost management and efficiency improvements throughout the production process, minimizing the need for costly transactional interventions later on. This aligns with the transaction cost theory's argument that firms seek to minimize transaction costs by internalizing production activities or adopting governance structures that facilitate efficient coordination and information exchange (Ottonello, & Winberry, 2020).

TCE has developed over the course of its history, which now spans more than five decades, to establish its status as a leader in management principles, tackling a company's institutional design, corporate leadership apart from its size and scope. Thus, TCE is a framework that encompasses not just the enterprise but also management and governance (Milan et al., 2017).

The costs associated with delivering certain goods and services through the market are what is referred to as transaction costs in transaction cost theory. In other words, the operational cost of the market might equal the transaction cost. The running costs associated with buying or selling products and services are addressed by transaction cost theory (Roeck et al., 2020).

The term "transactions" refers to the direct and indirect costs associated with negotiating, monitoring, and enforcing explicit and tacit exchanges between the firm and the client. Pecuniary transaction costs, such as those associated with travel, missed opportunities, and administrative hassles, can be distinguished from non-pecuniary transaction costs,

which include a variety of prerequisites for using financial services, including a minimum deposit amount with drawl fees, opening fees, and other conditions (Schneiberg & Hollingsworth, 2019).

The theory of transaction costs, which serves as both the foundation for modern economics and the economics of transaction costs, presents a succession of works that have been combined to form the basis of modern economics. The study of transaction costs in economics examines how much it costs to exchange goods and services between market participants. The economics of transaction costs has developed into a useful instrument that can be used to study the challenging types of issues in various scientific fields (DeMiguel, et al., 2020).

Teece (2019) state that the goal of their study was to examine how transaction costs affected the producers' determination on marketing systems and the number of mash rooms they were able to sell in Swaziland. Results show that producers are less likely to participate in lucrative markets as a result of their inability to easily acquire market information and their weak negotiating position.

The fees paid when taking part in any kind of economic transaction are referred to as transaction costs. Transactional costs are associated with all market-related operations and include the expenditures necessary to enable the exchange of goods and services. Transaction cost theory states that companies always try to bring down these expenses, whether by outsourcing services or managing resources in-house (Shahab, 2022).

2.2.4 Agency Theory

Agency theory was introduced by economists Jensen and Meckling in their influential paper "Theory of the Firm: Oliver Williamson defines the concept of agency cost in his paper "Managerial Behavior, Agency Costs and Ownership Structure," published in 1976 (Meckling & Jensen, 1976). The theory deals with the principal-agent problem which occurs when one individual or organisation (principal) grants an authority to another individual or organisation (agent) to make decisions for or on behalf of the principal. However, there is a likelihood of agency costs due to conflict of interest given the difference in goals and with the availability of different information between the principal and the agent (Palmer et al., 2018).

In relation to the manufacturing industry, marginal costing is the technique of ascertaining how much it will cost to produce one extra unit of output provided that the variable cost per unit of output is known. Marginal costing remains useful for decision-making because it helps understand the effect of producing more units on profit (Quesado & Silva, 2021). Agency theory supports the study of the effect of marginal costing on financial performance by highlighting how it aligns incentives between managers (agents) and owners (principals). Rhodes (2010) focusing on variable costs, marginal costing provides managers with clear incentives to optimize production efficiency and resource utilization to maximize profitability, thus reducing agency costs stemming from potential conflicts of interest between managers and shareholders.

Moreover, marginal costing facilitates performance evaluation by providing a clear link between production decisions and financial outcomes, enhancing transparency and accountability in managerial decision-making. This aligns with agency theory's argument

that effective monitoring and alignment of incentives are essential for mitigating agency problems and improving organizational performance (Vitolla, et al., 2020).

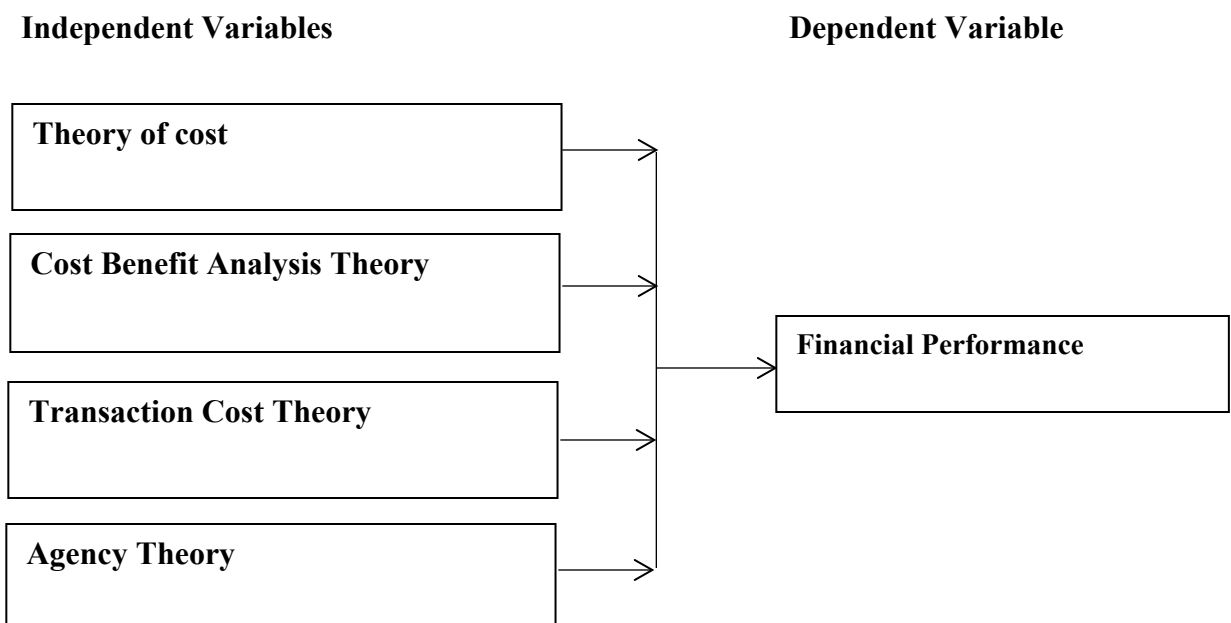
In accordance with a predetermined price schedule, one individual, referred to as the agent, is engaged by another person, and referred to as the principal, to act on his or her behalf. This situation is referred to as an instance of agency theory. Incentives difficulties may arise as a result of the presumption that both people are utility maximizers who are motivated by both monetary and non-monetary reasons, especially in conditions of uncertainty and information asymmetry. In other words, the agent might do anything that endangers the main benefits (Jensen & Meckling, 2019).

Two essential behavioral concepts form the basis of agency theory. According to the first principle, people should work to maximize their utility, but according to the second, they may take advantage of any holes or weaknesses in contracts. When it comes to ethical issues in particular, agency partnerships are usually more complex and less clear-cut than contractual ties (Jensen & Meckling, 2019). As per the accepted interpretation of agency theory, the agent has the responsibility of functioning in the principal's best interest and may encounter moral quandaries while carrying out their duties within the agency partnership (Quinn, & Jones, 2018). With the rising volatility of markets, it is imperative to protect the interests of the firm and its shareholders, which is why the agency theory in corporate finance is becoming more and more popular. Trusting the company's management is essential, and shareholders should try to comprehend the decisions that the management makes regularly. According to Hussain et al. (2018), management needs to give priority to the true proprietors of the company.

The administrative expenditures ratio, which is calculated as the percentage of general expenses to sales, is closely associated with agency costs. This metric was used by Hussain et al. (2018) in their previous study. Administrative expenses are costs incurred by a business that are not directly tied to certain operations, such as manufacturing, sales, or production. These costs include basic office maintenance and repairs as well as standard service charges like accounting and information technology. Additionally, managers have the ability to manipulate administrative expenses to their own advantage often by inflating them (Shahab, 2022). The margin of profit after tax falls as administrative expenses rise. Managers may resort to inflating expenditure estimates if they feel that the bonding cost allocated to them is insufficient or if they lack the necessary motivation. Bonding costs are expenditures made to give managers rewards for actions that promote shareholder-beneficial behavior.

Figure 2. 1:

Theoretical Framework



2.3 Empirical Review

Areena (2019) made an effort to examine the costs associated with the top five cement producers in India, namely Gujarat Aumboja cement LTD (GALL), Dalmia Cement Ltd (DCL), Madras cement LTD (MCL), Indian Cement LTD (ICL), and Shree cement ltd (SCL). The full cost component has been estimated as a percentage of net sales for the purpose of cost component analysis. According to his categorization of the total cost under different headings, like natural resources, recurrent expenditure, government taxation, among others, GACL's average cost was closer to the industry average. Purchasing, selling, and distributing raw materials, as well as other charges, made up 19.27% and 16.69% of the total cost, while power and fuel costs accounted for 21% of the total. The study above ignored cost control, which has a connection to the consumption of produced products, because it concentrated mostly on cost components. As a result, this study will concentrate on cost control strategies required for goods manufacturing.

Quinn and Jones (2018) conducted research on the enhancement of financial performance related to ABC consumption. Data were acquired from Jordanian shareholding companies through a mail survey of financial managers who provide information on the monetary results of their firms. The findings demonstrate that financial managers have a high level of awareness of employing ABC, but that adoption of ABC is low. It was also discovered that there is a strong correlation between ABC and an increase in ROA. The efficiency of the manufacturing process, cost benefits, and product planning knowledge are all strongly and favorably correlated with the success of activity-based costing (ABC)

(Yang & Chang, 2018). Cost advantages also have a strong and positive correlation with financial performance.

In order to save 19.2 million yuan (NT\$) annually, the senior leadership plans to use the knowledge gained from this study to bargain with suppliers to lower the moisture content of natural utilities by 8%. Furthermore, 240 million yuan (NT\$) in procurement expenditures for natural utilities in accordance with product objectives are highlighted in the case firm (Yang & Chang, 2018).

2.3.1 ABC Costing System

Activity-Based Costing (ABC) is a management accounting method that assigns costs to products or services based on the activities required for their production or delivery. Unlike traditional costing methods, ABC acknowledges the various activities that consume resources and distributes costs accordingly. It links costs to activities and then assigns them to products or services based on the resources each activity uses. By identifying cost drivers—factors that affect the cost of activities—ABC measures their usage to allocate costs more precisely. This approach captures the intricacies of modern business operations, providing insights into the true costs of products or services, which aids in better decision-making and resource allocation.

A major impact of ABC on financial performance is its ability to improve cost transparency. Traditional costing methods often distribute overhead costs using volume-related measures, which can distort product costs, particularly for complex or customized products. ABC, however, allocates costs based on the activities that generate those costs, offering a more accurate representation of product costs. This transparency helps organizations identify cost inefficiencies, prioritize cost-reduction efforts, and enhance overall cost management, thereby positively affecting financial performance.

ABC also improves resource allocation by matching costs with the activities that incur them. By pinpointing activities that add value to products or services, organizations can allocate resources more effectively, concentrating on activities that significantly contribute to customer satisfaction and profitability. Additionally, ABC identifies non-value-added activities, helping organizations streamline processes, eliminate waste, and

boost productivity. Through better resource allocation and efficiency improvements, ABC enhances financial performance by reducing costs and increasing profitability.

Moreover, ABC allows organizations to more accurately analyze the profitability of products and customers. By assigning costs to specific activities, ABC provides insights into the cost drivers of various products or customer segments. This enables organizations to identify highly profitable products or customers and focus resources on maximizing their profitability. Conversely, ABC helps recognize unprofitable products or customers, aiding in informed decisions regarding pricing, product mix, or customer segmentation. By optimizing product and customer profitability, ABC contributes to improved overall financial performance.

Finally, ABC supports strategic decision-making by offering a comprehensive understanding of cost structures and profitability drivers. Managers can use ABC data to assess the impact of strategic initiatives, such as product diversification, process reengineering, or outsourcing, on costs and profitability. ABC helps evaluate the long-term effects of strategic decisions, enabling organizations to prioritize investments that enhance value creation and sustainable competitive advantage.

For their research on cost management techniques in India, Quesado and Silva (2021) gathered data from 53 CFOs of Indian companies. The study aimed to document the evolution of standard costing, overhead accounting, and budgetary control in Indian corporate practices. Additionally, the 15-question survey sought to identify significant differences in management motivation between activity-based cost management (ABCM) and traditional costing systems regarding the use of standard costing as a control tool.

The findings indicated that companies could effectively use existing ABC systems to extract cost and profit data for supply chain and value chain analysis.

Al-Dhubaibi (2021) conducted a study on the implementation of activity-based costing in Nigerian manufacturing firms. The primary reason for adopting ABC was the inadequacy of traditional cost methods in providing relevant cost information. The research found that the adoption of ABC was positively correlated with factors such as the level of customization, competitive pressure, organization size, and the ratio of overhead to total cost. However, none of these correlations were statistically significant at the 10% level.

The concept of ABC emerged in the 1980s when traditional cost techniques struggled to keep pace with economic and technological changes. A major issue with traditional methods was the use of arbitrary allocations for indirect costs, leading to misallocations. According to Areena (2019), ABC addresses both resource-intensive and consumption-based goods, creating costs closely related to the production processes needed to meet consumer demands.

ABC assigns costs to each stage of producing goods or services to determine the cost of resources for specific processes. Initially, costs are assigned to utility events, followed by product events. Hoozée and Hansen (2018) advocate for having dual reporting systems within companies, as cost drivers determine expense distribution in both scenarios.

Abu et al. (2018) reviewed literature to identify cost accounting techniques used in manufacturing and service sectors. The analysis suggested that manufacturing firms could use most tools suitable for service firms. Popular methods in manufacturing include Just in Time (JIT), Life Cycle Costing, Target Costing, Kaizen Costing, and Throughput

Accounting, whereas ABC is more commonly used in the service sector. However, both sectors frequently use traditional costing, cost-volume-profit analysis, budgetary control, and ABC.

Ostadi et al. (2019) examined the application of cost and management accounting methods in Bangladesh's cement industry. They used a standardized questionnaire to survey professionals in the accounting and finance departments of 23 cement companies. Their study proposed a conceptual framework outlining five aspects of cost and management accounting practices in the industrial sector. Cement companies extensively used value chain analysis for strategic analysis, while Cost Volume Profit (CVP) analysis was the most commonly used tool for decision-making.

Allin et al. (2020) analyzed the use and procedures of target costing for product development, cost management, and product planning through a case study of a chicken processing company producing home meal replacements for supermarkets. Their research indicated that target costing improved product and production planning, leading to increased profitability and productivity.

Yang et al. (2020) assessed the use of Supply Chain Management (SCM) techniques by Albanian commercial companies to identify the most popular and frequently used tools. Through literature review, interviews, and surveys, they found that SCM is a well-established concept in Albania and that businesses have successfully implemented its techniques. The respondents indicated that the most commonly used SCM tools were target costing, customer accounting, strategic pricing, and benchmarking. These findings suggest that Albanian businesses have effectively employed strategic cost management strategies to enhance their market competitiveness.

A 2018 study examined how small and medium-sized enterprises (SMEs) in India are adopting Strategic Cost Management (SCM) techniques and the impact on business performance. The literature review concluded that incorporating strategic cost management tools can help address budgetary constraints, improve cost-effectiveness, and enhance market competitiveness. Kamil et al. (2018) found that performance analysis facilitated by executional cost management influences structural cost management and the development of cost structures. Based on data from 319 manufacturing companies, their research confirmed that monitoring environmental expenses within strategic cost management improves financial performance. The study suggests that while there may be a direct relationship between financial performance and cost system design, there could also be an indirect relationship mediated by organizational activities. The inconsistent results in past studies might be attributed to a lack of focus on structural cost management.

Martin et al. (2018) discussed hospital strategic management accounting, which involves monitoring and evaluating the resources, expenses, and services provided by a medical facility. This framework, designed primarily for hospitals but adaptable to other service organizations, is used for regular management control and cost-productivity analysis, focusing on cost centers.

Cidav et al. (2020) concluded that accurate cost identification and profitability assessment of hospital units are achieved through the appropriate costing system (Marginal Costing, Full Absorption Costing, Standard Costing, and Activity-Based Costing). The findings indicate that strategic management accounting enhances the

accounting information of costing systems, aiding decision-making processes in the healthcare sector.

Defourny et al. (2019) proposed adapting Strategic Management Accounting (SMA) to meet the needs of any service organization by integrating intellectual capital (IC) with the Balanced Scorecard (BSC) method. This approach aims to assess, disclose, and strategically manage the intellectual capital of travel and leisure companies listed on the Egyptian stock market. Intellectual capital is defined as the difference between an organization's market value and book value. The study examined the relationship between IC disclosure in annual reports, intellectual capital, and profitability measured by ROE and ROA. Using an exploratory strategy and secondary data analysis from annual reports, the study analyzed 13 Travel & Leisure companies listed on the EGX 30. Additionally, an assessment determined the extent to which the proposed Intellectual Scorecard (ISC) model enhances performance. The results suggest that the ISC model leads to increased profitability and productivity in Egypt's tourism and leisure sectors, demonstrating the rationale behind its development.

Nikkeh et al. (2022) explore the Strategic Management Accounting (SMA) paradigm's applicability across various service businesses. Their empirical study indicates that combining the balanced scorecard method (BSC) with the intellectual capital concept (IC) is the best approach for evaluating, reporting on, and strategically managing intellectual capital in Travel & Leisure companies listed on the Egyptian stock market. This exploratory research examines the relationship between intellectual capital, IC disclosure in annual reports, and company performance, measured by ROA and ROE, for 13 Travel & Leisure enterprises listed in the EGX 30. They also conducted a survey to

evaluate the performance improvements attributed to the proposed Intellectual Scorecard (ISC) model. The findings show increased profitability and productivity for Egyptian travel and leisure businesses, supporting the rationale behind the ISC model.

Bauer-Nilsen et al. (2018) report that Activity-Based Costing (ABC) has been successful for product and service firms. They propose a unique ABC-based model for the purchasing departments in the service sector to optimize buying activities' performance. Using the Statistical Package for Social Sciences (SPSS), they surveyed 300 purchasing managers and staff from five-star hotels in Greater Cairo. The findings suggest further research is needed to understand the specific causal links between recommended performance indicators and strategic goals.

Makina and Oundo (2020) aims to understand how cost management affects the performance of Kenyan agribusiness firms. Using a descriptive panel research approach, the study examines secondary data from four agribusiness firms, involving 1,245 farmers in Homabay, Bungoma, Busia, and Siaya counties, over a ten-year period from 2019 to 2020. Despite challenges like high illiteracy rates among members, the results indicate that cost management significantly impacts financial performance, as measured by return on investment, with statistical significance confirmed.

Okumu (2018) builds on previous research on Happy embroidery machines to find ways to maximize economic activity by optimizing equipment operation. The proposed approach uses cost computation to allocate expenditures precisely to the product, outperforming traditional cost measuring techniques. The ABC approach is suggested for assessing business performance through detailed cost analysis and computation.

Weygandt et al. (2020) investigate how perceived environmental uncertainty affects the pricing system variable when analyzing changes in cost accounting and their impact on manufacturing companies' financial performance. Using partial least squares structural equation modeling (PLS-SEM) with data from 80 manufacturing firms listed on the Tehran Stock Exchange, the study concludes that changes in cost accounting significantly and positively affect financial performance, despite a negative impact from changes in the pricing system. The perceived level of environmental uncertainty moderately influences the relationship between changes in cost accounting, adjustments to the pricing system, and financial performance.

Elkington (2018) examines the relationship between corporate financial performance and the adoption of ABC in the Czech Republic. Using normalized Return on Assets data from 2005 to 2011 and an empirical survey of 548 medium-sized and large Czech enterprises from various industries, the study finds that companies using ABC perform similarly or even worse financially than those not using it, despite comparable growth rates to surrounding nations.

Quesado and Silva (2021) highlight that ABC allows managers to easily see revenue generation and resource consumption linked to specific goods, customers, infrastructure, and distribution routes. This insight helps managers optimize activities based on profitability derived from ABC analysis.

Almeida and Cunha (2017) note that costing information is used for decision-making, performance assessment, and inventory valuation in various organizational and management scenarios. Since each company uses a unique framework based on its goals,

a consistent approach to costing systems may not be reliable, leading to significant variation in costing systems' features and qualities.

Saeed et al. (2023) describe ABC as a cost and management accounting technique that improves organizational performance by providing managers with critical information for controlling expenses, managing resources, maximizing value, and making strategic decisions. However, Al-Halabi et al. (2018) found that the use of ABC did not significantly increase profitability or Return on Assets (ROA) compared to firms not using ABC, indicating a departure from earlier studies.

Bloomfield and Fisher (2019) investigate the impact of ABC implementation on the profitability of Jordanian manufacturing enterprises. Using 72 observations from financial records of 12 industrial enterprises in Jordan from 2000 to 2011, the study uses a paired t-test to assess differences before and after ABC implementation. Post-implementation results show improvements in operating margin ratio (OM), net profit margin ratios (ROS), return on assets (ROA), and return on equity (ROE) for most enterprises, although gross profit margin (GP) ratios declined for many.

Originally designed to monitor product activity costs accurately, the ABC system has evolved beyond a standard cost accounting tool. Wahjudi (2020) observes changes in business operations due to the inclusion of manufacturing overhead expenses in the ABC system. Khan et al. (2021) identify the top five cost drivers in an ABC application within a Chinese oil well cementing firm as water points, oil field distances, and tonne-kilometers. These findings suggest that fuel cost distribution among individual wells is more accurate when ABC is used with weight and distance as cost drivers.

2.3.2 Standard Costing System

The standard costing system is a commonly used management accounting approach that establishes predetermined standards for costs and performance levels. It provides a framework for evaluating actual performance against these predetermined benchmarks, allowing organizations to manage costs, enhance efficiency, and improve financial performance. Standard costing entails setting standard costs for various inputs like materials, labor, and overheads, based on anticipated levels of efficiency and resource utilization. These standards serve as benchmarks against which actual costs and performance are measured, with any variances analyzed to identify areas for improvement and cost control measures.

Cost control is a primary way in which the standard costing system influences financial performance. By setting predetermined standards, organizations can monitor and manage costs more effectively. Variances between standard and actual costs pinpoint inefficiencies or deviations from expected performance levels, prompting corrective actions. Through continuous monitoring and analysis of cost variances, organizations can minimize wastage, optimize resource utilization, and enhance overall cost efficiency, thereby improving financial performance.

The standard costing system also facilitates performance evaluation by providing objective benchmarks against which individual and organizational performance can be assessed. Performance metrics such as material usage variance, labor efficiency variance, and overhead cost variance enable managers to evaluate departmental, team, and individual performance. Furthermore, standard costing aligns incentives with performance by linking rewards or bonuses to the attainment of predetermined cost and

performance targets, motivating employees to strive for efficiency and productivity, thereby contributing to improved financial performance.

In budgeting and planning processes, the standard costing system plays a crucial role. By establishing predetermined standards for costs and performance, organizations can develop more accurate budgets and forecasts. Standard costs form the basis for preparing flexible budgets that reflect expected levels of activity and resource utilization, enabling effective resource allocation, anticipation of potential cost overruns, and informed decision-making to achieve financial objectives. Additionally, standard costing facilitates variance analysis, allowing organizations to adjust plans and strategies in response to changing market conditions or operational challenges, thus enhancing financial performance.

Moreover, the standard costing system influences product costing and pricing decisions by providing insights into the cost structure of products or services. Assigning standard costs to individual products enables organizations to accurately calculate production costs and determine appropriate pricing strategies. Standard costing identifies cost drivers and factors affecting product profitability, enabling organizations to set competitive prices that maximize revenue and profitability. Furthermore, by analyzing variances between standard and actual costs, organizations can identify opportunities for cost reduction or process improvement, thereby enhancing financial performance.

Hussain et al. (2018) investigated the impact of standard costing on bottom-line results using a stratified sample strategy and an explanatory study design. Their research, involving 220 participants from 48 industrial businesses, found a significant correlation between standard costing and financial performance. Similarly, Olanrewaju et al. (2020)

examined the effect of standard costing procedures on the financial performance of Nigerian listed consumer goods businesses. Their study, based on secondary data from annual reports and financial statements, demonstrated a considerable beneficial impact of standard costing methods on the return on assets (ROA) of listed consumable products businesses in Nigeria.

Practical cost projections founded on investigations on prevailing and future operational expenditures is what forms standard costing. The major cost elements offering an accepted performance basis include; evaluation of real results, an evaluation of accepted and real results. In the calculation of direct cost, direct labor, and overhead elements of a product's cost, standard costing diligently uses expected costs (Brent & Maschi, 2018).

The major justification for the urgent requirement for standard costing is the inadequacy of data on managerial actions that managers require when depending solely on actual expenses. Standard costing, in general, aims to provide cost information about cost control, simple and quick production cost computation, corporate budget preparation, product pricing, and performance evaluation of division managers (Miller & O'leary, 2019).

When the same items are produced often in manufacturing businesses, standard costing is highly helpful. Several industries include those involved in petroleum refinery, chemical and pharmaceutical, automobile, canned fruit and vegetable, and fast-food industries. Several service businesses and charitable organizations employ standard costing in addition to these sectors (Garrison et al., 2010). The lack of management action data that managers need when relying on actual spending is the main argument for the urgent need for standard costing. Standard costing generally aims to provide cost information about

cost control, simple and quick production cost computation, corporate budget preparation, product pricing, and performance evaluation of division managers (Garrison et al., 2010).

Additionally, the study shows that standard pricing considerably lowers the usual losses in manufacturing processes. This research examined the impact of standard costing on a few industrial enterprises' profitability. The findings demonstrate that standard costing greatly reduces expenses and raises gross profit. Additionally, the study shows that standard pricing considerably lowers usual manufacturing process losses. This research examined the impact of standard costing on a few industrial enterprises' profitability. The findings demonstrate that standard costing greatly reduces expenses and raises gross profit. Additionally, the study shows that standard pricing considerably lowers the usual losses in manufacturing processes. It has been shown that manufacturing companies using standard costing see a large increase in profitability (Elkington, 2018).

Sumantri, (2019) examined the impact of Strategic Cost Management (SCM) tools on the financial performance of public-private partnership (PPP) projects using a data content analysis of 31 articles. These studies examined how various cost instruments, including traditional and SCM tools, affected PPP project efficiency and financial performance. 21 studies—14 foreign and 7 domestic—of the reviewed literature demonstrated how SCM approaches might successfully raise the standard and profitability of PPPs. The most widely used SCM tools were listed and chosen by the researchers based on the assessed studies. The findings emphasized the value of Benchmarking and Activity-Based Costing (ABC) methods, which greatly contributed to PPP projects' overall profitability improvement, cost reduction, and improved product quality.

2.3.3 Target Costing System

This paper aims at identifying the nature of target costing as well as outlining its benefits and limitations in managing costs during the development of products. This means fixing a cost which is expected by the market and the preferred profit margins, and then manufacturing the product to this cost. Target costing is a cost management strategy that centers on cost aspect taking into consideration designs and development of the product. It begins with establishing the right price that must be charged for the product by considering several factors like market research and customer preferences. From this, the target cost is deduced by netting the profit from the selling price. The cross functional teams then formulate the product or the service offering that would effectively meet the target cost and the quality and functionality requirements.

Among the most evident effects of target costing on the financial performance is that the emphasis is made on the continuous monitoring of costs during the entire lifecycle of the product. By adopting this approach, organizations can be in a position to effectively manage costs and achieve their desired goals in terms of cost without having to spend much more money than they planned for. There are cross-functional teams in organizations that take time to analyze cost drivers associated with the products and come up with strategies that help the organization to minimize the costs of production but at the same time ensuring that the quality of the products is not affected. These cost-saving strategies help organizations to have increased levels of operating profits and overall financial performance.

Target costing shifts the focus from cost reduction to value creation by aligning product features with customer preferences. Cross-functional teams collaborate to understand

customer needs and preferences, ensuring that the final product delivers value at the target cost. By incorporating customer feedback into the design process, organizations can create products that meet market demands while remaining profitable. This customer-centric approach enhances competitiveness and financial performance by driving sales and customer satisfaction.

Target costing enables organizations to respond quickly to changes in market conditions and customer preferences. By continuously monitoring market trends and competitive dynamics, organizations can adjust their target costs and product designs accordingly. This flexibility allows organizations to capitalize on emerging opportunities and mitigate risks, thereby improving financial performance. Additionally, the ability to adapt to changing market demands enhances customer satisfaction and brand loyalty, further contributing to financial success.

Target costing encourages collaboration with suppliers to achieve cost savings and efficiency gains. By involving suppliers early in the product development process, organizations can leverage their expertise and negotiate favorable terms. Suppliers may offer cost-effective materials, components, or manufacturing processes that help meet the target cost without sacrificing quality. This collaboration fosters long-term partnerships and ensures a reliable supply chain, ultimately enhancing financial performance through cost savings and improved operational efficiency.

Amidst increasing competition and market dynamics where supply surpasses demand, target costing emerges as a crucial concept (Hilton & Platt, 2020). This approach becomes essential for achieving cost reduction goals and maintaining competitive prices (Sumantri, 2019). By minimizing overall costs and considering all product expenses

throughout its lifecycle, target costing enables businesses to deliver products and services that meet customer satisfaction and profit objectives. According to Azudin and Mansor (2018), to optimize revenues or profits, a target costing approach that reduces manufacturing costs is necessary. Employing target costing is imperative for enhancing manufacturing cost efficiency and overall profitability. To thrive and effectively compete in the market, businesses must adapt their strategies to operations and management practices. Organizations striving for expansion or survival must have the capability to produce a large quantity of superior goods (Amann et al., 2011).

Companies utilize target costing to determine the life-cycle cost of a product, ensuring it meets quality and functionality standards and achieves the desired profits (Giustiziero, 2021). In the context of Indian Railways, Hussain et al. (2018) utilized target costing and found that variables such as population density, regional considerations, and government subsidy programs influence pricing decisions alongside target costing. This research fills a gap and addresses the limitations of previous studies by extensively employing target costing methodologies to examine cost leadership and assess firm performance.

Originating in Japan in the 1960s alongside just-in-time inventory, target costing is extensively utilized by over 80% of assembly industry businesses and more than 60% of processing industry businesses. Target costing employs specialized methodologies like functional analysis, valuation, value evaluation, and interdepartmental collaboration to achieve desired outcomes. Collaborating experts from strategy, planning, marketing, engineering, finance, and manufacturing can yield positive results (Ostadin et al., 2019).

Target costing achieves its objectives by informing suppliers and product designers about the competitive challenges faced by the business. It establishes a common language

among various departments involved in product development and launch, including marketing, product engineering, procurement, and production (Khan et al., 2021). It assists in developing products with the right utility, quality, and price. Value engineering, a multidisciplinary approach to product design that maximizes consumer value by increasing utility and quality while reducing costs, is closely related to early cost commitment in product development (Elkington, 2018).

While target costing and strategic cost management are debated topics, it is generally acknowledged that a product's or service's cost is determined by its financial performance. Target costing aims to deliver cost-competitive products or services, provided that the price aligns with the anticipated profit (Martin et al., 2018).

In industries like cement, operating in competitive markets necessitates precise commercial strategies. Many factories have adopted and implemented management accounting tools and techniques, including target cost-based costing, in response to cost reduction imperatives (Yang et al., 2020).

2.3.4 Marginal Costing

Marginal costing, a vital management accounting technique, evaluates the impact of producing an additional unit of a product or service on overall costs and profitability. Its significance in financial performance lies in its ability to illuminate cost behavior, guide pricing strategies, and aid decision-making processes. Industrial entities confront heightened competition due to technological advancements, evolving business environments, and the emergence of large firms through substantial mergers, limiting their control over prices. To remain viable, these companies must prioritize offering high-quality, competitively priced goods (Rifkin, 2014). Additionally, the diminishing product

lifecycle places profit opportunities predominantly in the design and development phase, emphasizing the need to control costs during product development. Arkolakis (2010) conducted a survey of research on product interconnections, focusing on techniques like component similarity, modular design, and product platforms, which aid in cost management for complex interdependent projects. They addressed the challenges faced by companies in efficiently managing costs to offer a diverse range of final goods to customers.

Marginal costing categorizes costs into fixed and variable components, empowering managers to make informed decisions. Variable costs fluctuate with production levels, while fixed costs remain constant. This distinction facilitates better cost control and resource allocation by revealing how changes in production volumes impact costs and profitability.

A pivotal impact of marginal costing on financial performance is its role in decision-making. Managers leverage marginal costing to assess product profitability, make pricing decisions, and determine optimal production levels. For instance, when evaluating whether to accept a special order at a discounted price, managers utilize marginal costing to ascertain if the incremental revenue surpasses the incremental costs, thereby positively impacting the organization's financial performance.

Marginal costing forms the basis of Cost-Volume-Profit (CVP) analysis, which examines the relationship between costs, volume, and profits. Employing marginal costing principles, organizations identify their breakeven point—the level of sales where total revenues equal total costs. Understanding the breakeven point aids in setting sales targets, devising pricing strategies, and evaluating the impact of cost fluctuations on profitability.

A fundamental concept in marginal costing is the contribution margin, representing the difference between sales revenue and variable costs. Contribution margin per unit signifies the amount available to cover fixed costs and generate profits. By prioritizing maximizing contribution margin, organizations enhance financial performance, ensuring efficient resource allocation and positive contributions to overall profitability.

Marginal costing influences pricing strategies by emphasizing covering variable costs and contributing to fixed costs and profits. Organizations adopt various pricing methods, such as cost-plus pricing or target costing, based on marginal costing principles. Moreover, marginal costing enables managers to assess the impact of pricing decisions on profitability, aiding in formulating competitive pricing strategies that enhance financial performance.

Flexible budgeting is facilitated by marginal costing, enabling organizations to adjust budgets based on activity level fluctuations. By segregating fixed and variable costs, organizations create flexible budgets reflecting the dynamic nature of operations. This flexibility fosters better cost control and ensures financial performance alignment with organizational objectives, even amidst market fluctuations.

The marginal cost of production denotes the overall change in production costs resulting from adding a new unit to a system. Calculating marginal cost involves dividing the change in production expenses by the change in quantity. Marginal cost analysis aims to identify the scale at which a business can achieve economies of scale, enhancing productivity and overall effectiveness. Profitability can be attained if the cost per unit is lower than the marginal cost of producing an additional unit (Ottonello & Winberry, 2020).

Marginal costing serves as a key decision-making tactic. Despite being a relatively recent accounting area, its popularity is rapidly growing. It involves allocating expenses based on receipts, facilitating the calculation of recurring income and the assessment of profit changes due to output volume or type variations. It is essential to note that marginal costing is not a costing system like process or task costing but rather a technique for presenting accounting data to aid management (Arkoulakis, 2010).

Marginal costing is widely regarded as the most popular and useful tool for supporting managerial decision-making. It illustrates the relationship between cost, volume, and profit in various scenarios, aiding profit forecasting, determining selling prices, selecting optimal production volumes, and applying cost variability-focused marginal costing, while avoiding overhead apportionment. Its versatility makes it applicable in diverse scenarios to address a range of challenges.

Employing existing methodologies in a specific manner, marginal costing highlights the connection between profit and output volume. It is not a distinct costing approach but rather one that differentiates between variable and fixed costs to determine marginal or variable costs and their impact on profit due to changes in production volume or type. Any costing method, including historical, standard, marginal, and work costs, can be employed using the marginal costing technique (Wahjudi, 2020).

2.4 Research Gap

Based on the previously stated literature, it is evident that the majority of research has examined costing from the perspectives of cost component, liquidity factor, and cost design. As a result, additional aspects such as costing models, target, standard, and ABC costing as well as marginal costing have been overlooked. The analysis will so provide

light on the gap that was left behind. Operating costs are, in general, the out-of-pocket expenses made during routine business operations that allow acquired items intended for sale to be converted into actual sales profits. These costs cover a range of goods, including worker compensation and storage charges. Cost behavior is the study of how costs vary or stay the same in response to shifts in the levels of organizational activity, according to Maryrose and Ifeanyi (2021), on the other hand, characterizes costs as outlays made in the process of making money. Effective cost control, however, is essential to guaranteeing enough profitability in company operations.

According to Bechlioulis et al. (2014), controlling the expenses, performance, and quality of a business's goods and services is now crucial to its existence. They observe that cost containment is essential because shareholders want a satisfying return on their investments and customers consistently seek high-quality goods and services with exceptional performance at fair pricing. Producing goods or rendering services within a reasonable budget is the difficult part. To improve profitability and survival, Bechlioulis et al. (2014) suggest that cost management is a continual process that is improved over time inside the organization.

Profit, as defined by Henri and Journeault, (2010), is the difference between the money received from output sales and the total potential cost of the inputs utilized in production. They stress that a farm's profitability is determined by the amount and quality of sweet potatoes it produces. Cost containment is the main goal of financial management techniques, according to recent empirical research that have shown a uniform correlation between them. Effective signals on cost-cutting measures are sent by well-functioning

markets, which impact the incentives for investments made by businesses, individuals, and labor unions and increase their productivity and prospects.

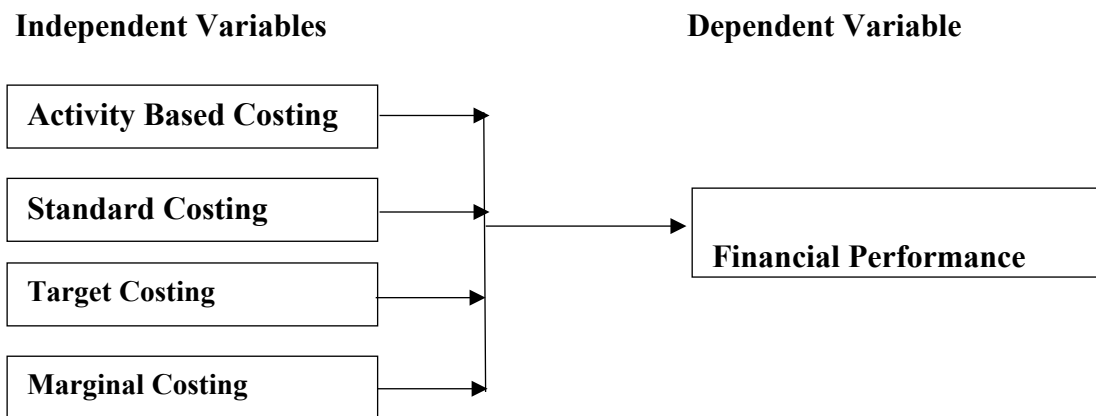
Although there are obstacles in developing nations, especially in sub-Saharan Africa, like high prices for agricultural inputs, outputs, and financing, along with inadequate infrastructure (both "hard" like roads and "soft" like information and telecommunications), Sumantri (2019) points out that these problems can be lessened by healthy markets. High transaction costs and hazards, however, might deter farmers from producing for the market by distorting their crop selections and drastically lowering their rewards from participating in the market.

2.5 Conceptual Frame Work

The conceptual framework depicts the links between variables, whether favorably or negatively. In this research, the variables consist of independent and dependent variables. Independent variables are those that stand alone and are employed to analyze their influence on the dependent variable, examining and evaluating their reactions to the experiment to establish survey findings. The independent variables in this study include activity-based costing, standard costing, target costing, and marginal costing. The purpose is to examine their influence on the financial performance of cement enterprises in Kenya, whether adversely, favorably, or both. Conversely, the dependent variable is what we assess in our experiment (financial performance) and is modified during the experiment, responding to the independent factors.

Figure 2. 2:

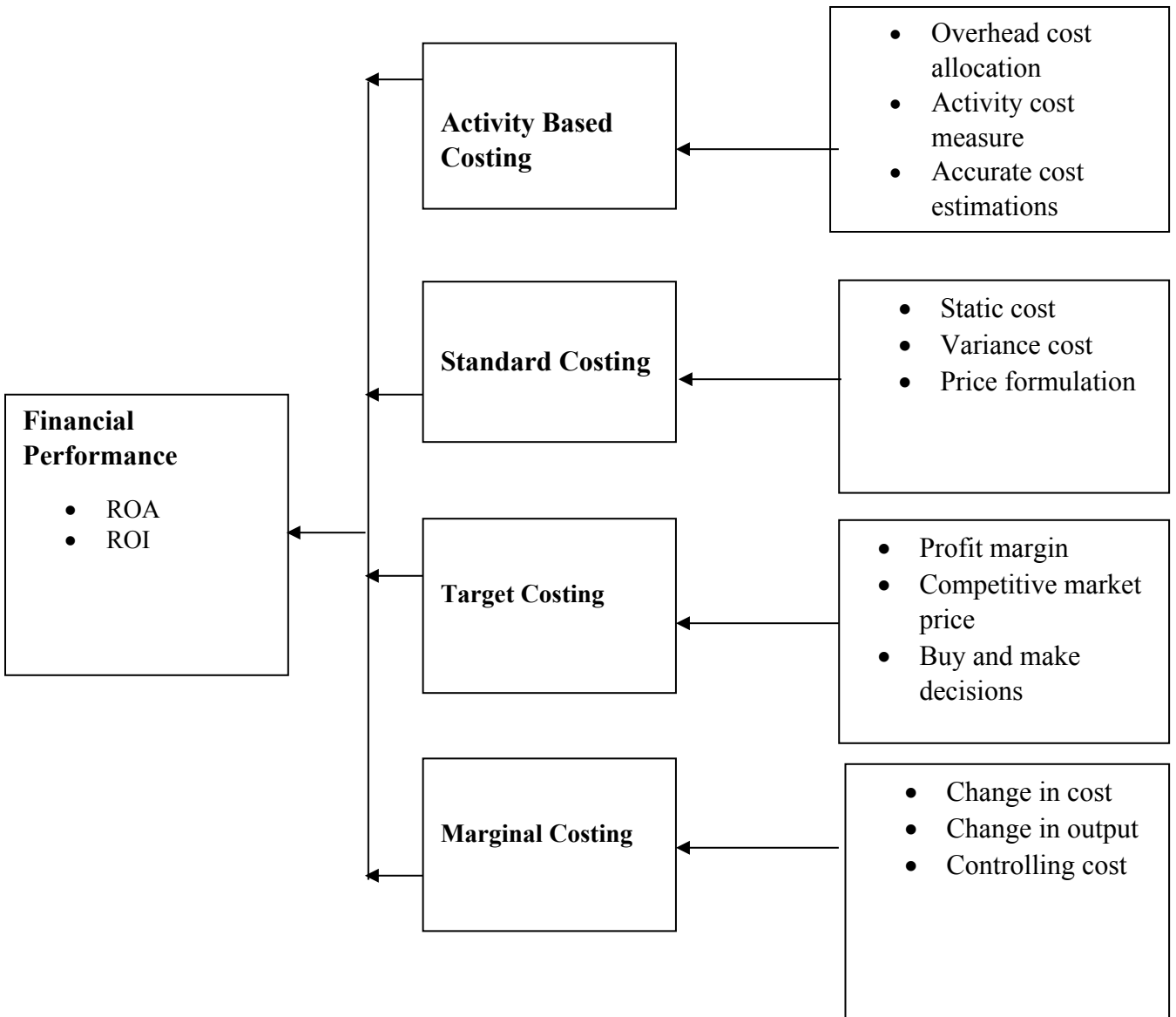
Conceptual Framework



2.6 Operational Frame Work

Figure 2. 3:

Operational Framework



Dependent Variable

Independent Variables

Parameters

Source: Author (2023)

The conceptual frame work shown above predicts that costing influence the financial performance of cement industry. The independent variables that include ABC costing, through two indicators overhead cost allocation, activity cost measure, Standard costing through indicators static cost, and variance cost, Marginal costing through indicators change in cost and change in output, Target costing through indicators profit margin and competitive market price are thought to affect how the dependent variable changes (financial performance). The criteria variable is another name for the dependent variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The next chapter discusses the research methods followed in this study. It describes the design, target population, and sample size, along with sampling methodologies, the reliability and validity of instruments, methods of data collecting and processing, and the ethical issues driving the study.

3.2 Research design

The phrase "research design" comprises the framework adopted by a researcher to explain the methodology and processes of a study. This framework helps researchers to focus on and carry out effective investigations using methodologies appropriate to their discipline. The nature of the research problem encountered by a corporation drives the research strategy, rather than the reverse. The selection of tools and their utilization is determined upon during the design phase of the study (Hilton & Platt, 2020). This study was directed by a descriptive research approach, which was acceptable since it allowed for the collecting of exact information about occurrences without modification. Furthermore, this technique enables the examination of diverse experiences, perspectives, and attitudes from a large sample of participants, guaranteeing that the results produced accurately reflect the viewpoint of the target group as a whole (Asenahabi, 2019). Its applicability in this study is further bolstered by its capacity to convey the genuine perceptions of respondents about the study's independent variables.

3.3 Targeted Population

The target population will be 100 respondents as follows

Table 3. 1:

<i>Target Population</i>			
No	Section	Target Group	Sample population
1	Management department	100	60
2	Finanace department	80	40
	Total	180	100

3.4 Sampling Procedure

As per Bloomfield and Fisher (2019), sampling involves the process of choosing individuals, events, or documents that can be utilized in a survey, providing a pool from which a researcher can gather data. In order to collect relevant data without studying the entire population, researchers frequently use sampling. It is the cornerstone of any study design because it is also a cost- and time-effective tactic (Bloomfield, & Fisher, 2019).

3.4.3 Sample Size

Sampling formula = $N / [1 + N(e)^2]$

n represents the sample size,

N represents the population size

e represents the error term (0.05)

Thus, $n = 180 / [1 + 180(.05)^2] = 124$

Table 3. 2:

<i>Target Population</i>			
Target Population	Frequency	% sample	Sample Size
Management Department	100	69%	69
Finance Department	80	69%	55
Total	180	69%	124

3.5. Data Collection Instrument and Procedure

To address specific research questions, formulate hypotheses, and evaluate results, data collection involves the systematic and organized collection and evaluation of relevant variable information. In every academic field, including the sciences, gathering data is a standard procedure (Krosnick, 2018).

3.5.1 Questionnaire

The basic instrument employed in survey research for data collecting is the questionnaire. Essentially, a questionnaire includes standardized questions, referred to as items, constructed within a systematic framework to gather precise information on one or more specialized themes. Occasionally, questionnaires are mistaken with interviews. However, a questionnaire really incorporates a separate sort of interview - a formal discussion in which the location and wording of questions inside the tool impact the flow of the conversation (McLeod, 2018).

3.6 Data Analysis and Presentation

The filled form will undergo a thorough accuracy and consistency assessment before the results are processed. Quantitative data will be presented as percentages, means, standard deviations, and frequencies after analysis with descriptive statistics and SPSS. The data

will be presented using textual language and visual aids including pie charts, bar graphs, and par charts. We will do content analysis on qualitative data, which includes information from open-ended questions. The subsequent model was used to carry out the analysis.

Where;

Y = Financial performance

C = Constant term,

X_1 = ABC costing,

X_2 = Target costing,

X_3 = Marginal costing,

X_4 Standard costing and Error term

3.6.1 Assumption of Linear Regression

At a 95% confidence level, the F-test and t-test will be used to evaluate statistical significance. The statistical significance of the regression equation will be determined using the F-statistic, and the research coefficients' significance will be assessed using the t-statistic. Cronbach's alpha will be used to evaluate the research instrument's dependability, which gauges its capacity to precisely identify the subject matter it is intended to examine. Using graphical representations of normality, the normality assumption—which examines whether the response variable's residuals are normally distributed around the mean—was assessed.

For multiple linear regressions to be performed, the error terms must have homoscedasticity, or uniform variance. The Modified Wald test will be used to determine if the error term exhibits heteroscedasticity, which is indicated by the lack of constant variance. When two or more independent variables have a nearly perfect or exact linear connection, this is known as multicollinearity. The degree of multicollinearity will be shown by the calculation of Variance Inflation Factors (VIF) (Schmidt & Finan, 2018)

3.7 Pilot Testing

It's a representation of the larger study. A pilot study is carried out prior to the actual study to help establish how reliable and good a data collection will be. The pilot study was done on 10% of the sample size as recommended by Das and Das (2019). The pilot study checked for both validity and reliability of the instrument.

The selection of iron sheet manufacturing industry for the pilot study was deliberate, as it shares both geographical location and similar challenges with the cement manufacturing industry under primary investigation. Following Creswell's guidance from 2012, a pretest approach was adopted. This involved administering the instrument to gauge the consistency of collected data. High reliability is indicated when the instrument consistently yields comparable data. To ascertain instrument reliability, data were analyzed, and a reliability threshold above $r=0.7$ was deemed indicative of strong reliability, as stated by (Williams et al., 2019).

3.7.1 Validity

According to Ross (2019) a research instrument's validity is determined by its capacity to collect information that is essential, transferable, and ultimately dependable. Taherdoost

(2016) state that fulfilling predefined criteria validates a research instrument's validity. By obtaining expert advice from supervisory professors about the appropriateness of the questionnaires for data collection, validity was guaranteed. In order to guarantee the gathering of relevant and high-quality data, they analyzed the items and made improvements suggestions (Sahin, 2018). To foresee potential research-related dangers, a pilot study with 13 people chosen from the sample will be carried out. The results of this pilot research will not be included in the full study.

Table 3.3:

<i>Pilot Results</i>			
Determinant	No of items	Cronbach's	Verdict
ABC costing	8	. 738	Reliable
Target costing	9	. 801	Reliable
Standard costing	10	. 778	Reliable
Marginal costing	10	. 978	Reliable
Financial performance	6	. 712	Reliable

Source: Research Data (2023)

3.7.2 Reliability of Instrument

Bolarinwa (2015) highlights that pre-testing or pilot testing the questionnaire with a sample of participants who share features with the population of interest is necessary to ensure validity and reliability. When evaluating internal consistency using Cronbach's Alpha, the dependability levels have to be more than 0.7.

3.8 Ethical Consideration

The work complied with ethical norms for research (Rhodes, 2010). First, letters of authority were acquired for study approval from the appropriate authorities, KEMU and

NACOSTI. Secondly, prior to data collection, all information sources were duly acknowledged in order to prevent plagiarism. The survey only included respondents who gave their assent, guaranteeing their privacy by promising to keep the information they submitted private. Thirdly, participants were told that the data would only be used for academic reasons and that they would be notified of the study's conclusions.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The findings of the main data source information are presented in this section. It also provides a thorough synopsis of the participants' traits and viewpoints on how costing approaches affect the cement industry's financial performance in Kenya. The purpose of the study was to look at how Kenya's manufacturing industry's financial performance was affected by activity-based costing, standard costing, target costing, and marginal costing. The researcher utilized tables to condense the replies from the respondents in order to simplify the presentation.

4.2. Response rate

The intended recipients of the study were the management and finance departments. More precisely, the study aimed to involve 124 finance managers. Among the 124 questionnaires distributed, 98 were filled out and returned, yielding a response rate of 79.03%.

4.3 Reliability Analysis

The reliability assessment, performed with Cronbach's Alpha to assess internal consistency and ascertain whether certain sections of a scale correspond to a related concept's validity, confirmed the dependability of the research tools. As per Taherdoost, (2016), the recommended threshold for an ideal Alpha value is 0.7. As depicted in Table 4.1 below, the five scales are considered reliable as their reliability scores exceed the 0.7 benchmark. This highlights the trustworthiness of the research instruments employed in the study.

Table 4. 1:

<i>Reliability Analysis</i>			
Determinant	No of items	Cronbach's	Verdict
ABC costing	8	.910	Reliable
Target costing	9	.916	Reliable
Standard costing	10	.876	Reliable
Marginal costing	10	.783	Reliable
Financial performance	6	.793	Reliable

Source: Research Data (2022)

Due to the fact that all values are higher than the cutoff value of 0.7, the aforementioned Cronbach's Alpha results show that the data gathering tool has consistency

4.4 Participant's General Information

In this investigation, participants were queried about basic details, including their years of experience, level of education, and their role within the cement manufacturing industry in Kenya.

4.4.1 Working Experience in the Company

They were asked the period they had worked for the firm. The findings are presented in Table 4.2.

Table 4. 2:

<i>Working Experience in the Cement Manufacturing Industry</i>		
Age brackets	Frequency	Percentage
Below 1 yr	24	24.5
3 – 5 yrs	14	14.3
5 – 10 yrs	48	49.0
10 yrs and above	12	12.2
Total	98	100.0

Source: Research Data (2022)

Table 4.2's results indicate that 49% of respondents have been employed by their organizations for five to ten years, 14.3% for three to five years, and 24.5% for less than a year. These findings are significant as they demonstrate that respondents possessed sufficient work experience, understood the impact of target costing on financial performance, and recognized the importance of examining the effects of marginal costing on Kenya's manufacturing sector's financial performance. Consequently, they provided valuable insights for the study.

4.4.2. Education Level

Participants were requested to indicate their highest educational achievement. The outcomes are illustrated in Table 4.3 in the following manner.

Table 4. 3:

<i>Education Level</i>		
Certification	Frequency	Percentage
Diploma	2	2.0
Degree	60	61.2
Master	36	36.7
Total	98	100

Source: Research Data (2022)

Based on the findings, 2% of respondents possessed a diploma, 36.7% had completed a master's degree, and 61.2% had earned an undergraduate degree. This suggests that the participants had sufficient education to understand and address the objectives of the study, ensuring the collection of well-informed data.

4.4.3 Designation

Finding out how the respondents were categorized was the study's main objective. Table 4.4 below compiles the findings.

Table 4. 4:

Designation of the Respondents

Age brackets	Frequency	Percentage
Manager	60	61.2
Finance officer	24	24.5
Accountant	12	12.2
Marketing manager	1	1.0
Operational manager	1	1.0
Total	98	100

Source: Research Data (2023)

The majority of respondents, comprising 61.2%, held managerial positions. Finance officers represented 24.5% of the sample, with accountants accounting for 12.2%. These results illustrate the specific managerial roles responsible for financial decision-making regarding costing.

4.5 Descriptive Analysis

This section delineates the study's independent variables, encompassing ABC costing, target costing, standard costing, and marginal costing, alongside the dependent variable, financial performance. Moreover, it presents descriptive analysis results related to these variables.

4.5.1 Financial Performance

The study participants were asked to rate their agreement or disagreement with the financial performance figures. Table 4.5 presents the findings.

Table 4. 5:

Descriptive Statistics for Financial Performance

	N	Mean	Std. Deviation
The number of employees has grown over the past five years.	98	3.76	.83
Our organization has expanded by opening new branches to enhance customer service.	98	4.61	.48
There has been a rise in tourist arrivals.	98	2.59	1.12
Profits have seen an upward trend over the past three years.	98	3.85	.79
Revenues have experienced growth over the past three years.	98	4.63	.69
Our destination image has drawn in more clients over the last five years	98	4.37	.69
Valid N (list wise)	98		

Source: Research Data (2023)

With mean scores of 3.63 and 0.66, respectively, most survey respondents agreed that their destination's reputation had drawn more visitors during the previous five years, according to the information in Table 4.7. Similarly, the mean score for respondents who reported a growth in the number of employees over the same period was 3.42, with a standard deviation of 1.14. Similarly, the mean score of 2.94 with a standard deviation of 1.10 was reported by those who recognized an increase in visitor arrivals. Respondents gave financial performance a mean score of 2.84 with a standard deviation of 1.02, noting an improvement in revenues over the previous three years. On the other hand, earnings had a standard deviation of 1.02 and a mean score of 2.89.

4.5.2 ABC Costing and Financial Performance

Participants were requested to indicate their level of agreement or disagreement with statements concerning the influence of ABC costing on financial performance. The results are depicted in table 4.7.

Table 4. 6:

ABC Costing and Financial Performance

	N	Mean	Standard deviation
ABC cost easy in forecasting Total cost	98	3.11	1.16
ABC costing reduces the time of planning complex calculations	98	2.86	1.16
ABC costing explains more indirect costing.	98	3.23	.97
ABC costing provides accurate cost estimations.	98	2.98	1.22
ABC costing enhance benchmarking products sales.	98	3.35	.99
ABC costing enhances competitive advantage	98	3.33	1.33
ABC costing is cost saving method.	98	3.72	1.20
ABC costing increase performance.	98	4.20	1.01

Source: Research Data (2022)

The study found that the financial performance of Kenya's cement manufacturing companies was significantly impacted by ABC costs. As shown in Table 4.8, the majority of respondents (mean score = 3.23, standard deviation = 0.97) agreed that ABC costing improved performance. These respondents were also the ones with the lowest standard deviation and the highest mean score. In addition, indirect costing ranked second with a mean of 3.72 and a standard deviation of 1.10, indicating that most respondents thought ABC costing was a method of decreasing costs. A mean of 3.35 and a standard deviation of 0.99 indicated that respondents were likewise confident in the improvement of utilizing ABC costing to benchmark product sales. Yang and Chang (2018) assert that an organization's performance is significantly impacted by ABC's perspective on strategic

cost allocation, increased effectiveness, and efficiency. According to their results, financial success, cost-benefit analysis, product planning expertise, and manufacturing process efficiency are all positively correlated with ABC effectiveness. The results of the analysis indicate that senior leadership might utilize this information to pressure suppliers to reduce the 8% moisture content of natural utilities, potentially saving 19.2 million yuan (NT\$) annually. Additionally, 240 million yuan (NT\$) could have been avoided from the example firm's furnace slug purchase, which comprised costs associated with natural utilities procurement events pertinent to product goals (Quesado, & Silva, 2021).

4.6 Target Costing and Financial Performance

A call was made to the participants to state individual levels of agreement or disagreement with statement related to target costing. The outcomes are displayed in Table 4.8.

Table 4. 7:

Target Costing and Financial Performance

	N	Mean	Standard Deviation
Target costing generates accurate revenues as opposed to concentrating on expenses.	98	3.12	1.05
Target costing takes profits and costs into consideration.	98	3.37	1.23
Is target costing an effective method for analyzing product lines?	98	2.77	1.40
Does continuous target costing help those in charge make decisions?	98	3.62	1.32
Does accounting for all expenses through target costing lead to better cost control?	98	3.00	1.40
Target pricing is a great tool for determining the exact price.	98	3.63	.99
Target costing facilitates decision-making and purchase	98	3.85	.60
Target costing simplifies processes and helps with the time factor	98	3.24	1.20
Target costing generates accurate revenues as opposed to concentrating on expenses.	98	3.24	1.08

Source: Research Data (2023)

Target costs is acknowledged as one of the elements impacting cement manufacturing companies' financial success. As demonstrated by the data shown in Table 4.8 below, which has a mean of 3.85 and a standard deviation of 0.60, respondents claim that target pricing helps with decision-making for both making and purchasing. With a mean of 3.63 and a standard deviation of 0.99, target costing makes it much easier to determine the precise price. Target costing, with a mean of 3.37 and a standard deviation of 1.23, guarantees that all income and costs are included. As seen by means of 3.24 and 1.08 for the time element and operations, respectively, target costing also helps to streamline operations.

The research outcomes also validate that different industries, such as the cement sector, function within a competitive market, hence requiring entities to choose specific commercial approaches. In a market with so much competition, consistent growth is obviously a critical requirement for consumers. Many manufacturers have adopted and implemented management accounting techniques and technologies, target cost-based costing being one of them, in response to cost reduction (Al-Dhubaibi, 2021).

4.7 Influence of Standard Costing on Financial Performance

A call was made to the participants to state individual levels of agreement or disagreement with statements regarding standard costing. The outcomes are displayed in Table 4.9.

Table 4. 8:

Standard Costing on Financial Performance

	N	Mean	Standard Deviation
Standard costing help cost reduction in product	98	3.25	1.08
Standard costing is easier in inventory measurement	98	3.00	.87
Standard costing helps in inventory costing	98	2.98	1.41
Standard costing is helping in price formulating	98	3.13	1.26
Standard costing facilitates co-ordination among product line	98	3.36	1.31
Budgeting control improves decision making.	98	2.74	1.38
Budgeting control helps in controlling cost	98	2.88	1.53
Budgeting control reduces cost	98	3.26	1.55
Budgeting control improve overall production	98	1.88	1.28
Budgeting control acts as means of communication	98	2.88	1.26

Source: Research Data (2023)

Standard costs are recognized as one of the factors influencing the financial performance of cement manufacturing enterprises. The majority of respondents agreed that budgeting control reduces costs, with a mean score of 3.36 and a standard deviation of 1.31, and that standard costing contributes to cost reduction for products, with a mean of 3.25 and a standard deviation of 1.31. Simplifying inventory measurement, standard costing was rated favorably with a mean of (3.00) and a standard deviation of (0.87). Furthermore, in estimating inventory costs, standard costing was perceived as helpful, with a mean score of 2.98 and a standard deviation of 1.41.

Standard costing requires producing exact cost forecasts based on study into past, present, and future operating expenditures and circumstances. It focuses on three essential pricing elements: defining a performance standard or level, monitoring actual performance, and assessing the variation between standard and actual performance. Standard costing rigorously employs expected expenditures to establish the direct cost, direct labor, and overhead components of a product's cost (Miller & O'leary, 2019).

The major justification for the quick adoption of standard costing stems from the absence of management action data that managers need when depending simply on real expenditures. Standard costing strives to give cost information essential to expenditure control, supporting the rapid and easy calculation of production costs, development of company budgets, product pricing, and assessment of division managers' performance (Hilton & Platt, 2020).

Azudin and Mansor (2018) used the contents of data analysis to investigate the impact of Strategic Cost Management (SCM) technologies on the financial results of public-private partnership (PPP) projects. The researchers came to the conclusion that 21 studies supported the impact of SCM tools on PPP quality and profitability after analyzing 31 studies on the impacts of cost tools, including conventional and SCM tools, on the quality and profit of PPP projects. These studies—14 international and 7 domestic—showed that benchmarking and ABC methodologies were the most appropriate, highlighting their significant influence on lowering costs, improving product quality, and increasing PPP profit.

4.8 Marginal Costing on Financial Performance

A call was made to the participants to state individual levels of agreement or disagreement with statements about marginal costing. The outcomes are displayed in table 4.10.

Table 4. 9:

Influence of Marginal Costing on Financial Performance

	N	Mean	Standard Deviation
Marginal costing help cost evaluation in cement production.	98	3.26	.83
Marginal costing simplifies in inventory control of cement.	98	3.48	.72
Marginal costing helps in stock evaluation and cost tracking cement units produced.	98	2.97	1.13
Marginal costing is budget control method in production of numbers of cement units required for sale in market.	98	2.73	.68
Marginal costing facilitates estimations of units required and units produced in predetermine demands.	98	3.61	.51
Marginal costing enhances decision making in estimation of demand and supply of cement units in market.	98	2.37	.85
Marginal costing helps in controlling cost of unnecessary expenses in producing cements.	98	2.98	.73
Marginal costing curbs redundancy cost	98	2.75	.45
Marginal costing improves overall production capacity of cement organizations.	98	2.63	.70
Marginal costing control acts as means of communication through demand and supply of cement units in market.	98	3.14	.60

Source: Research Data (2023)

Marginal costing is identified as a significant factor affecting the financial performance of cement manufacturing enterprises. Analysis from Table 4.11 indicates that the majority of respondents, with a mean score of 3.61 and a standard deviation, agreed that marginal costing facilitates the estimation of units required and units produced to fulfill

predetermined demands (0.51). Cement inventory management is streamlined through marginal costing, with a mean of 3.48 and a standard deviation of 0.72. Additionally, marginal costing aids in stock valuation and cost tracking for cement units produced, with a mean of 2.97 and a standard deviation of 0.83, and assists in cost assessment in cement production, with a mean of 3.26 and a standard deviation of 0.83 (1.14). Furthermore, with a mean of 2.98 and a standard deviation, marginal costing contributes to reducing unnecessary expenses in cement production (0.73).

Marginal costing serves as a crucial decision-making strategy, gaining increasing prominence within the accounting field. It entails aligning costs with revenues to compute periodic income, assessing the impact of changes in output volume or type on profit by segregating fixed costs from variable expenses. It's essential to note that marginal costing is utilized as a tool for presenting accounting data in a management-friendly format rather than as a costing system like process or task costing (Saeed et al., 2023).

Widely recognized as the most popular and effective tool for managerial decision support, marginal costing elucidates the relationship between cost, volume, and profit in various scenarios. It aids in profit forecasting, determining selling prices, selecting optimal production volumes, and applying cost variability-focused marginal costing while avoiding overhead apportionment. Due to its versatility, decision-makers across diverse settings utilize it to address multifaceted challenges.

Marginal costing, although not a distinct cost determination approach, utilizes existing methodologies to highlight the relationship between profit and output volume. By distinguishing variable and fixed costs, it establishes marginal or variable costs and

examines the effects of production volume or type changes on profit. Any costing method, including historical, standard, marginal, and work costs, can be applied within the marginal costing framework (Al-Halabi & Shaqqour, 2018).

4.9 Hypothesis Testing

The study's findings on regression, variance analysis, and co-efficient of determination are presented in this section.

Relationship between Independent Variables

Table 4. 10:

Relationship between Independent Variables

		Correlations				
		Financial Performance	ABC costing	Target costing	Standard Costing	Marginal costing
Organization Performance	Pearson	1				
	Correlation					
	Sig. (2-tailed)					
ABC costing	N	98				
	Pearson	-.071	1			
	Correlation					
Target costing	Sig. (2-tailed)	.485				
	N	98	98			
	Pearson	.678**	.143	1		
Standard Costing	Correlation					
	Sig. (2-tailed)	.000	.161			
	N	98	98	98		
Marginal costing	Pearson	.531**	.107	.715**	1	
	Correlation					
	Sig. (2-tailed)	.000	.296	.000		
	N	98	98	98	98	
	Pearson	-.066	-.429**	.083	-.151	1
	Correlation					

Source: Research Data (2023)

According to the table 4, Concerning the negative correlation, there is an average of -7 in the 11th. A significant relationship was established between the amount of ABC costing

applied in cement manufacturing businesses and their financial performance with a correlation coefficient of 0. 01% as shown below: This correlation is statistically significant at the 0. 05 level ($p < 0. 05$ level. On the other hand, the same data provides a positive relationship between target costing and financial performance of cement production enterprises in China at the 0. 05 level. In addition, the results show a positive significant relationship with cement production enterprises financial performance to a lesser extend with coefficient 53. 1% on average. However, that is an average negative correlation of - 6. 6% between the financial performance of cement production and the 0. 05 level.

Relationship between Dependent and Independent Variables

Table 4. 11:

Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733 ^a	.537	.517	.23558

b. Dependent Variable: Financial Performance.

Source: Researcher (2023)

According to the results displayed in Table 4.13 of the study, the R Square value is 0.537, suggesting that when considering ABC costing, standard costing, target costing, and marginal costing together, they account for 53.7% of the variability in financial performance among cement manufacturing enterprises, with 46.3% remaining unexplained. This indicates that the overall regression model demonstrates significant explanatory power. Thus, future research endeavors should delve into additional factors beyond ABC costing, standard costing, target costing, and marginal costing to

comprehend the remaining 46.3% of influences on the financial performance of cement manufacturing businesses.

Table 4. 12:***Relationship between independent variables***

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.989	4	1.497	26.977	.000 ^b
	Residual	5.161	93	.055		
	Total	11.150	97			

Source: Researcher (2023)

As a probability value, 0 was used. 00 shows that regression connection play a significant role in determining how the Cement manufacturing industry financial performance is impacted by ABC costing, Standard costing, Target costing, and Marginal costing.

Table 4. 13:***Relationship between dependent and independent variables***

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.162	.314		13.262	.000
1 ABC costing	-.108	.031	-.284	-3.527	.001
Target costing	.279	.040	.746	6.899	.000
Standard costing	-.004	.040	-.010	-.096	.924
Marginal costing	-.248	.083	-.251	-2.987	.004

Source: Researcher (2023)

Target costing, in conjunction with standard costing, ABC costing, and Marginal costing, has the most substantial positive impact on financial performance. The t-test was employed to evaluate the individual significance of each predictor variable. The results indicated that ABC costing, target costing, and marginal costing each displayed a statistically significant association with financial success (p-value 0.05). The findings from Table 4.14 revealed that the constant term, encompassing standard costing, ABC

costing, target costing, and marginal costing, was 4.162 due to variance. A change of one unit in target costing, while keeping the coefficients of other independent variables at zero, would result in a 0.247-factor increase in financial performance among cement manufacturing firms; likewise, a one-unit alteration in organizational structure, with other coefficients held constant, would lead to a 0.108-factor change in financial performance among these firms. Additionally, a unit change in information and communication technology, with all other independent variables unchanged, would bring about a 0.248-factor shift in the financial performance of cement manufacturing companies. The established regression model, utilizing the beta coefficient, is presented below:

$$Y = 4.162 + .108 X_1 + .279 X_2 + .248 X_3 + \epsilon$$

Where;

Y= Financial performance **0.877**= Constant term, **X₁** = ABC costing, **X₂** = Target costing, **X₃**= Marginal costing and **ε** = Error term

The findings indicated significant statistical associations between ABC costing, Target costing, and Marginal costing, each with a p-value of 0.05, regarding financial performance. Consequently, all hypotheses were invalidated.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study's summary, conclusions, and suggestions in this chapter are consistent with the research's findings and calculations. The researcher also offers ideas for investigating novel study subjects. The chapter ends with suggestions for changing practices and policy based on the findings of the research.

5.2 Summary of the findings

In line with the research objectives, the following research question was used: Which of the costing methodologies have the most favorable effect on the financial performance of the cement manufacturing firms in Kenya? In this context, the study sought to assess the impact of standard costing, marginal costing, target costing, and activity-based costing (ABC) on financial performance of the Kenyan manufacturing firms. The conclusion of the study is provided below in the following subheadings:

5.2.1 ABC and Financial Performance

In this study, the following objectives were set; to analyze how Activity-Based Costing (ABC) affect the financial performance of Kenya's cement manufacturing sector. The results highlighted that most of the participants appreciated the increased awareness of ABC in determining the financial performance. Therefore, the study found a positive and significant relationship between ABC implementation and financial performance. This was also seen to have a relation with the ABC model in that it affected the variation in

financial performance metrics. Therefore, the study provides evidence that the ABC model is instrumental in increasing the financial performance of the Kenyan cement industry.

Akbar and Tracogna (2018) pointed out that the way a company perceives ABC in terms of strategic cost allocation, efficiency and effectiveness of the proposed method has a direct impact on performance. Also, Fouad and Nassar (2021) noted that the impact of the ABC is directly related to financial performance, cost superiority, product knowledge and manufacturing.

5.2.2 Standard Costing and Financial Performance

The second goal of the research was to assess the impact of standard costing on the financial performance of the cement manufacturing industry in Kenya. The findings showed that most respondents believed that standard costing has an impact on the financial performance of the cement manufacturing sector. Furthermore, standard costing and the financial performance of the cement manufacturing company were shown to be positively correlated in a statistically meaningful way. Furthermore, standard costing plays a critical role in the financial performance of Kenya's cement manufacturing industry by influencing variations in financial performance, as the study showed. Standard costing is widely used by over 80% of enterprises in the assembly industry and over 60% of organizations in the processing sector. Target costing uses expert approaches to accomplish its goals, including value engineering, functional analysis, value analysis, and interdepartmental dynamics. Experts in strategy, planning, marketing, engineering, finance, manufacturing, and other fields can work together to produce successful results (Hayes, 2017). The evaluation of standard costing's effect on the financial performance of

Kenya's cement manufacturing sector was the study's second objective. The findings showed that most respondents believed that standard costing has an impact on the financial performance of the cement manufacturing sector. Furthermore, standard costing and the financial performance of the cement manufacturing company were shown to be positively correlated in a statistically meaningful way. Furthermore, standard costing plays a critical role in the financial performance of Kenya's cement manufacturing industry by influencing variations in financial performance, as the study showed. Standard costing is widely used by over 80% of enterprises in the assembly industry and over 60% of organizations in the processing sector. Target costing uses expert approaches to accomplish its goals, including value engineering, functional analysis, value analysis, and interdepartmental dynamics. Experts in strategy, planning, marketing, engineering, finance, manufacturing, and other fields can work together to produce successful results (Keinan & Karugu, 2018).

5.2.3 Target Costing and Financial Performance

The third purpose of the study is to analyze the influence of target costing on the financial performance of Kenya's cement manufacturing business. According to the investigation, target costing has an impact on financial results. Additionally, the information showed a strong and statistically significant positive correlation between target costing and the cement manufacturing company's financial performance. The study also discovered that target costing is the primary factor influencing differences in financial performance. Consequently, the study highlights how important target costing is to the financial viability of Kenya's cement manufacturing industry.

5.2.4 Marginal Costing and Financial Performance

The fourth aim of the research was to assess the impact of marginal costing on the financial performance of the cement manufacturing industry in Kenya. The results showed that most participants agreed that marginal costs had a big impact on financial success. Furthermore, a statistically significant substantial positive link between financial success and marginal costs was found by the study. Furthermore, it was discovered that marginal costs affect variances in financial performance. Hence, the results affirm that marginal costing plays a crucial role in the financial performance of the cement manufacturing industry in Kenya.

Marginal costing stands out as a widely used and valuable tool for aiding managerial decision-making. It elucidates the interplay among cost, volume, and profit across various scenarios, aiding in profit projection, determining selling prices, selecting optimal production volumes, and employing marginal costing principles that emphasize cost variability while avoiding the allocation of overheads. Its adaptability makes it applicable in diverse managerial situations, addressing various challenges effectively (Hilton & Platt, 2020).

Marginal costing represents a strategic adaptation of existing methodologies to highlight the connection between profit and output volume, rather than being a distinct approach to cost determination. It focuses on delineating variable costs and the impact of changes in production volume or type on profit by distinguishing between variable and fixed costs. Marginal costing methodology allows for the utilization of various costing approaches, including historical, standard, marginal, and work costs. (Griffin & Hammond, 2019).

Marginal costing is another technique used in cost analysis, which helps in managing changes in the cost relative to sales or output scale. It uses terms like marginal cost,

differential cost, or incremental cost to portray changes in total costs consequent to changes in production and sale volumes. Total costs are direct costs that represent the total at one level of output or sale less the total at another level; marginal costs represent future expenses (Jourdain et al., 2021).

Marginal costing in the contexts of managerial accounting and economics demonstrates how changes in the amount of goods or services produced affect the total cost of production depending on the need for additional resources to produce or deliver more units of goods or services. With the help of marginal cost, budget planning, profit evaluation, manufacturing cost control, production efficiency, and resource management and allocation can be easily done. This type of costing involves the identification of costs that occur at any level of production apart from overhead cost pricing and is widely used in the manufacturing industry to address issues of the economy of scales (Kerzner, 2017).

When a firm understands the relative value of marginal cost and marginal revenue for different products, it is in a position to direct its resources towards products that have wider differences. For example, by focusing on creating products that give back the highest possible returns, instead of focusing on those that only make slightly lower profits, firms can make the most of their capital. The optimal point where cost increases to a level where it becomes unfavorable to produce more units is crucial, because it impacts the decisions of where to allocate resources and when to invest in capital assets. If the marginal cost is higher than the marginal revenue, producing more units is not a financially feasible endeavor anymore (Maryrose & Ifeanyi, 2021).

5.3 Conclusions

5.3.1 Activity Based Costing and Financial Performance

As product ranges expand, competition intensifies, and overhead requirements increase for optimal performance, most manufacturing firms have adopted activity-based costing, standard costing, life cycle costing, and target costing. In this context, traditional variance analysis is combined with new methodologies, impacting the financial performance of these organizations. Research indicates that activity-based costing aids in identifying unproductive items, departments, and activities, enabling the reallocation of resources to more profitable products. Furthermore, there's a notable trend towards centralization and coordination in these firms. The adoption of activity-based costing leads to cost reduction, potentially resulting in significant profit growth and overall organizational performance improvement. Consequently, it is recommended that manufacturing organizations conduct thorough assessments of their fundamental cost information related to their products and activities.

5.3.2 Standard Costing and Financial Performance

Standard cost accounting offers significant advantages to managers aiming for more precise budgeting. Enhanced accuracy in budgets has the potential to result in a more profitable and streamlined business overall. This is due to the predictive nature of a standard costing system, which allows managers to anticipate spending costs. By establishing fixed standard costs for direct materials, labor, and overheads, managers can enhance production efficiency. Workers adhere to these standard costs during production, and subsequent comparisons between actual and standard costs enable managers to identify areas for cost reduction and improve worker efficiency. Standard costing also facilitates the effective utilization of resources.

5.3.3 Target Costing and Financial Performance

Most manufacturing companies face ongoing challenges in managing costs as part of their daily operations. Some organizations have responded by establishing dedicated departments, sometimes smaller in size, specifically tasked with addressing cost management issues. These manufacturing companies have recognized that target costing management significantly influences the financial performance of their organizations. These results are derived on the answers provided by the cost and management accountants working for particular cement businesses, who answered a questionnaire. The results of the study show several aspects of how much this industry uses cost and management accounting. Among the various cost accounting methods employed, process costing methods are widely favored by cement companies.

5.3.4 Marginal Costing and Financial Performance

Rising costs pose a challenge to organizations, leading to a decline in their financial performance. However, a wise organization proficient in managing its marginal costs can enhance its financial performance effectively. This study aimed to identify the cost management strategies employed by manufacturing companies in Kenya and their impact on financial performance. Specifically, the researcher sought to determine whether a correlation exists between these cost management strategies and financial performance.

5.4 Recommendations

The effect that activity-based costing has on the financial performance of industrial companies in Nairobi's Industrial Area has to be brought to light. Businesses should keep using the ABC approach to identify ineffective divisions, initiatives, and products so that resources may be reallocated to more lucrative ones. Additionally, institutions should

establish clear and specific goals and objectives to ensure the effectiveness of activity-based costing within the company.

Manufacturing firms ought to ensure active participation and control over budgeting processes to manage their financial performance effectively. Budget planning should be a priority, incorporating clear goals and objectives that involve stakeholders in the budgeting process. Approved budgets should be shared across all departments to foster synergy, and any deviations from budget targets should be communicated promptly to facilitate the adoption of corrective measures. Managers should also communicate the corrective actions taken in response to reported deviations, promoting continuous learning and improvement.

To enhance financial performance, manufacturing firms should focus on increasing sales volume and minimizing variable costs. Furthermore, executives should educate employees on the importance of Cost-Volume-Profit (CVP) analysis in understanding the relationships between sales volume, costs, selling prices, and profits. CVP analysis is crucial for effective planning and decision-making in manufacturing firms, and therefore, it should be integrated into their operational processes.

5.5 Suggestion for Further Studies

To enable the generality of the findings, more research in manufacturing enterprises across other countries and nations is needed. Furthermore, further study should be conducted on businesses in other industries to find out how they feel about the importance of management accounting techniques and how often they are used. It is crucial to conduct further research in countries with similar or nearly identical micro and

macroeconomic conditions for manufacturing firms. Such research outcomes would enable a comparative analysis of management accounting practices and their effects on financial performance across countries.

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Appendix 1: Research Question

Dear participants

I am Mahamud Ahmed Abdilahi a student at Kemu University pursuing a research on effect of costing model on manufacturing industry a case study of Bamburi cement limited your response will be confidential and will be used for academic purpose on my fulfilment of my research I will request you to pay attention and give a time to fill this questionnaire thank you.

Kindly answer all the question in the section provided. Answer by ticking inside the parentheses or selecting appropriately using a mark of your choice.

SECTION A: DEMOGRAPHIC INFORMATION

- **For how long have you been working at Bamburi cement industry?**

Less than 1 year [] 1 - 3 years []

3 – 5 years [] 5 – 10 years []

More than 10 years []

2. What is your Level of education?

Diploma [] Degree []

Master [] PhD []

- **WHAT IS YOUR POSITION IN THE ORGANIZATION?**

Manager []

Finance Officer []

Accountant []

Marketing Manager []

SECTION B TO DETERMINE EFFECT OF ACTIVITY BASED COST ON FINANCIAL PERFORMANCE OF CEMENT INDUSTRY.

Please indicate the extent to which ABC Costing influence performance of manufacturing industry use the following rating: tick appropriately. 1-Not used 2-Small Extent 3-Moderate 4- great extent 5- Very great extent.

	ABC costing	1	2	3	4	5
1	Is ABC cost easy in forecasting Total cost					
2	Does ABC costing reduce time of planning complex calculations?					
3	ABC costing explains more indirect costing.					
4	ABC costing provides accurate cost estimations.					
5	ABC costing enhance benchmarking products sales.					
6	ABC costing enhances competitive advantage					
7	ABC costing is cost saving method.					
8	ABC costing increase performance.					

Section three to determine effect of target costing on performance of cement industry in Kenya.

- Please indicate the extent to which target costing influence performance of cement industry use the following rating: tick appropriately. 1-Not used 2-Small Extent 3-Moderate 4- great extent 5- Very great extent

	TARGET COSTING	1	2	3	4	5
1	Target costing provides accurate profits rather than cost					
2	Target costing takes into account all profit and costs					
3	Is target costing good in analysis of product lines					
4	Does constant target costing benefit decision makers?					
5	Does target costing enhance cost control through inclusion of all cost?					
6	Target costing is help full in determining exact price					
7	Target costing help in buy and make decisions					
8	Does target costing assist in time element					
9	Does target costing simplify operations					

Section 4 four to determine Effect of standard cost on financial performance of cement manufacturing industry in Kenya.

In this section please tick (✓) the most appropriate response for each question in the table below with the following score in mind. Strongly Agreed (SA), Strongly Disagree (DA), Agree (AG), Neutral (NU);

	STANDARD COSTING	1	2	3	4	5
1	Standard costing help cost reduction in product					
2	Standard costing is easier in inventory measurement					
3	Standard costing helps in inventory costing					
4	Standard costing is helping in price formulating					
5	Standard costing facilitates co-ordination among product line					
6	Budgeting control improves decision making.					
7	Budgeting control helps in controlling cost					
8	Budgeting control reduces cost					
9	Budgeting control improve overall production					
10	Budgeting control acts as means of communication					

Section 4 four to determine Effect of Marginal cost on financial performance of cement manufacturing industry in Kenya.

In this section please tick (✓) the most appropriate response for each question in the table below with the following score in mind. Strongly Agreed (SA), Strongly Disagree (DA), Agree (AG), Neutral (NU);

	MARGINAL COSTING	1	2	3	4	5
1	Marginal costing help cost evaluation in cement production.					
2	Marginal costing simplifies in inventory control of cement.					
3	Marginal costing helps in stock evaluation and cost tracking cement units produced.					
4	Marginal costing is budget control method in production of numbers of cement units required for sale in market.					

5	Marginal costing facilitates estimations of units required and units produced in predetermine demands.					
6	Marginal costing enhances decision making in estimation of demand and supply of cement units in market.					
7	Marginal costing helps in controlling cost of unnecessary expenses in producing cements.					
8	Marginal costing curbs redundancy cost					
9	Marginal costing improves overall production capacity of cement organizations.					
10	Marginal costing control acts as means of communication through demand and supply of cement units in market.					

Appendix 2: University Letters of Authorization

	
KENYA METHODIST UNIVERSITY	
P. O. Box 267 Meru - 60200, Kenya Tel: 254-064-30301/31229/30367/31171	Fax: 254-64-30162 Email: deanrd@kemu.ac.ke
DIRECTORATE OF POSTGRADUATE STUDIES	
 October 14, 2022	
Commission Secretary, National Commission for Science, Technology and Innovations, P.O. Box 30623-00100, <u>NAIROBI.</u>	
Dear Sir/Madam,	
<u>RE: MAHAMUD AHMED (REG. NO. BUS-3-0311-1/2018)</u>	
This is to confirm that the above named is a bona fide student of Kenya Methodist University, in the Department of Business Administration, undertaking a Master's Degree in Business Administration. He is conducting research on: <u>"Effect of Costing Models on Financial Performance of Cement Manufacturing Industry in Kenya"</u> . We confirm that his research proposal has been defended and approved by the University.	
In this regard, we are requesting your office to issue a permit to enable him collect data for his research.	
Any assistance accorded to him will be appreciated.	
KENYA METHODIST UNIVERSITY P.O. Box 267 Meru - 60200, NAIROBI 14 OCT 2022  Dr. Dorothy Kirihi, PhD. Dean, School of Business & Economics	
Cc: Dean SBUE CoD, Business Administration Postgraduate Co-ordinator Supervisors	

Appendix 3: Research Question

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 297024	Date of Issue: 06/December/2022
RESEARCH LICENSE	
	
This is to Certify that Mr., MAHAMUD ABDILAH AHMED of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: EFFECT OF COSTING MODELS ON FINANCIAL PERFORMANCE OF CEMENT MANUFACTURING INDUSTRY IN KENYA for the period ending : 06/December/2023.	
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