

# Effect of Cost Accounting Techniques on Financial Performance of Small and Medium Enterprises in Kigali, Rwanda

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## ABSTRACT

The global economy's highly advanced period has an impact on the increasingly harsh economic competition that happens. Cost accounting, with its marginal costing technique, assists management in profit planning. Despite the cost accounting processes put in place for a majority of manufacturing organizations, commercial success is slow and insignificant. As a result of poor performance, several industrial enterprises have even gone bankrupt. The general objective of this study was to examine the effect of cost accounting techniques on financial performance of small and medium enterprises in Kigali, Rwanda. The study used descriptive research design. The target population consisted of 393 small and medium enterprises operating in the industry sector in Kigali City. A sample size of 393 was. Descriptive and inferential statistics was used to analyze the data. Results of the study were that there was a statistical significant effect of cost accounting techniques (absorption costs, marginal costs, budgetary control costing) on financial performance of SMEs as evidenced by findings strong positive correlation coefficients additionally multiple linear regressions measured how much variability in the dependent variable (that is, Financial Performance of SMEs in Kigali City) the predictors (absorption costing, marginal costing, and budgetary control) accounted for. This implied that use of cost accounting technique explained about 88.2% of the variation of financial performance of SMEs in Kigali City. It was therefore concluded that continual use of cost accounting techniques (absorption costing, marginal costing and budgetary control) helps in decision making, to achieve high standard of accounting procedure, leads to cost effective procurement, save cost, increase profit margin, increase business growth and among others. The study therefore recommends that SME's owners are encouraged continual use of cost accounting techniques. The SMEs owners also have to provide special training to the employees on cost accounting and accounting to enhance the employees' performance. Government of Rwanda should also encourage SMEs to work professionally so that even those which left behind of keeping accounting records they can adapt them.

## GENERAL INTRODUCTION

### Introduction

This section discusses the background of the study, problem statement, research objectives, and research hypothesis and significance of the study.

### 1. Background of the study

The global economy's highly advanced period has an impact on the increasingly harsh economic competition that happens. Every organization will strive to be the best. The company will make every attempt to succeed. The company's purpose is to grow and become a market leader in comparison to competitors. To fulfill the company's objectives, the correct must be planned and implemented. Each

corporation has its own strategy, which will always alter depending about the global economy. Company management will pay close attention to all aspects that can serve as the foundation for implementing the plan. The company's management will pay close attention to the implementation of the strategy that will be used (Ertugrul *et al.*, 2017).

Cost accounting emerged as an advanced phase of accounting science, attempting to compensate for the shortcomings of financial accounts. It is essentially a twentieth-century invention. The costs of a product, service, or activity are accounted for in cost accounting. It is preoccupied with actual expenses incurred and the prediction of future costs. Cost accounting is a deliberate and systematic technique used by accountants to accumulate costs and allocate them to certain goods or departments for successful management action. Cost accounting, with its marginal costing technique, assists management in profit planning, as does another technique (Yaser *et al.*, 2023).

Cost accounting seeks to provide cost information to cost objects. The term cost is defined as the cash or noncash assets sacrificed for goods and services that are expected to bring a current or future benefit to the organization for most companies, the benefits represent the revenues in an organization. Whenever costs are used to provide revenue, the costs expire are called expenses. Ultimately, expenses are deducted from the revenue of a company to provide insight into the profit of the business. The costs that do not expire represent the assets of the company (Kwan, 2011).

Cost accounting is the activity of gathering, assessing, summarizing, and evaluating various alternatives. Its mission is to advise management on the best course of action based on cost efficiency and capabilities. Its purpose is to advise management on the best course of action based on cost efficiency and capabilities. Accounting for costs gives detailed cost information that management requires to govern present operations and plan. The SMEs sector has been acknowledged globally for its contribution to economic growth in a variety of ways, including wealth creation, job creation, and poverty alleviation. Small and medium-sized businesses are an essential element of the economic fabric in most emerging countries, and they play a critical role in promoting growth, innovation, and prosperity(Imo, 2022).

Globally, research in the area continues to be reported Biadacz, (2020) examined quality cost management in the SMEs of Poland and established that SMEs still make little use of modern cost accounting variants. The study did not disclose the impact on the financial performance of SMEs. In China Gao,( 2021) investigated on cost Control of small and Medium-sized Enterprises under the background of Internet take Company T as an example , the study findings shows that T Company lacks a specialized cost control organization and the cost control system is not perfect. The study recommend that The company shall improve the company's cost control systems and recommend that the cost control system should be in the company set up under the transition cost control committee, the board of directors consists of the cost control centers, including research and development centers, procurement cost control center, control production cost control center and sales cost control center and warehouse cost control center, in order to achieve a good cost control effect.

In Africa , Man *et al.*, (2022) studied cost accounting techniques and financial performance of small and medium scale enterprise in rivers state in Nigeria, the study establishes that that there is a significant relationship between Cost Accounting Techniques and Financial Performance of SMEs.

Doe & Anyamadu, (2016) did A Survey of Costing Practices of SMEs in the Informal Sector: Koforidua, Ghana According to the findings, most SMEs document and cost customer orders using the customer's face and name rather than the traditional job card. It also implies that the greater the educational level, the more importance SMEs in the informal sector place on paperwork. Respondents who have minimal accounting knowledge are more likely to prepare job/batch cards. Customers are charged overheads by SMEs in the NJM. However, the method or approach for treating overhead and allocating it to customers by SMEs has

yet to be determined.

In Rwanda, only a few studies on the subject have been published, demonstrating the need for additional research. These studies of a similar nature in Rwanda only looked at large industries. Murungi, (2016) studied on cost control and profitability of manufacturing companies in Rwanda, a case study of BRALIRWA Ltd. The findings establish the existence of positive association between cost control and profitability of manufacturing company. IYAKAREMYE,( 2014) reported cost information system and financial performance of manufacturing companies: a case study of SULFO ltd, Rwanda revealed a positive and significant relationship between cost information system implementation and the level of financial performance of SULFO Ltd while regression analysis showed that cost information system contributes 90% to financial performance. This study seeks to fill the missing gap of cost accounting techniques and financial performance of small and medium enterprises.

In Rwanda, The National Strategy for Transformation (NST1 2017-2024) focuses on three primary pillars, including economic change. The Economic Transformation Pillar outlines a strategy for accelerating private-sector-led economic development and productivity gains. When we talk about private sector development around the world, SMEs spring to mind first since they are the primary drivers of job creation and economic transformation. Statistics in Rwanda are comparable. According to the Rwandan Ministry of Trade and Industry, 98% of enterprises are classified as SMEs, accounting for 41% of all private-sector jobs in the country(RDB, 2020).

One of the major objectives of development policies is to build more efficient, strong, and deeper financial systems which can support the growth of private sector enterprises both in urban and rural areas in Rwanda by improving blameworthiness allocation and increasing antagonism resulting from the liberalized exit. Small and medium enterprise in Rwanda like in any other part of the world plays a major important role in the growth of the nation and have been organized and registered under the sunshade of Rwanda private sector federation (BDF, 2013). Despite government efforts to support SMEs through various initiatives, small and medium enterprises (SMEs) in Rwanda face various challenges in sustaining their businesses.

## **2. Statement of the problem**

Small and medium enterprises play a unique role in the economy, their role in terms of production, employment generation, contribution to exports and facilitating equitable distribution of income is very critical as in many low-income countries. However small and medium enterprises faces some market challenges such as Rwanda is landlocked, and import and export transportation costs are among the highest in the world. Small and medium-sized businesses (SMEs) span the entire spectrum of economic activity across all sectors, and they all share a number of issues that prevent them from performing well. These issues include limited access to credit markets, poor information flow, difficult access to land, weak connections between various sectors, weak operational capabilities in terms of skills, knowledge, and attitudes, and insufficiency infrastructure facilities, among others. Poor management skills, which include the capacity to solve accounting problems, are another factor in SMEs failing. Small and medium-sized businesses have trouble obtaining equity funding from financial institutions or private investors. All of factors contribute to the sector having insufficient capital, which results in bad financing (ITA, 2022).

Cost accounting is one of several aspects that contribute to a company's financial performance. Companies want greater cost information as they enter a more competitive global arena. This is made possible by implementing an efficient cost accounting system. Cost accounting advancements have resulted in instruments that management can use to acquire better information. A good cost accounting system enables a company to obtain "accurate product and service costing for pricing, determining optimal product or service mixes, determining preferred channels of distribution, targeting activities for process improvement, and making investment or disinvestment decisions (FELEKE, 2019). Businesses must adopt and use cost

accounting procedures that completely recognize costs and enable for information sharing inside the company. Despite the cost accounting processes put in place for a majority of SMEs, commercial success is slow and insignificant. As a result of poor performance, several industrial enterprises have even gone bankrupt. The researcher interested to carry out a study, to examine the effect of cost accounting techniques on financial performance of small and medium enterprises in Kigali, Rwanda.

Empirically, it has been demonstrated that SMEs can increase their performance by implementing cost accounting techniques. The studies were conducted globally, Africa as well as locally but very few have been found in Rwanda. Unfortunately, these studies of a similar nature in Rwanda only looked at large industries. Therefore, this study seek to fill the missing gap of cost accounting techniques and financial performance of small and medium enterprises in Kigali City, Rwanda by addressing Absorption costing, Marginal costing, Budgetary control costing. This study will examine the effect cost accounting techniques on financial performance of manufacturing industries in Rwanda.

### **3. Objectives of the study**

#### **a) General objective**

The general objective of this study was to examine the effect of cost accounting techniques on financial performance of small and medium enterprises in Kigali, Rwanda.

#### **b) Specific objectives**

- i. To examine the effect of absorption costing on financial performance of small and medium enterprises in Kigali, Rwanda.
- ii. To analyses the effect of marginal costing on financial performance of small and medium enterprises in Kigali, Rwanda.
- iii. To evaluate the effect of budgetary control costing on financial performance of small and medium enterprises in Kigali, Rwanda.

### **4. Research Hypothesis**

H<sub>0</sub>1: absorption costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda.

H<sub>0</sub>2: marginal costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda.

H<sub>0</sub>3: budgetary control costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda.

### **5. Scope of the study**

This study was limited to content scope, time scope and Geographical scope.

#### **a) Content scope domain**

The study sought to examine the effect of cost accounting techniques on financial performance of small and medium enterprises.

## **b) Geographical scope**

This research has been conducted in Kigali city, Rwanda.

## **c) Time scope**

This research was limited in the period of 2020 up to 2022, this helped researcher to put attention to a limited period and go deep to a specified period to evaluate the required information.

## **6. Significant of the study**

Given the context of the study, the research is useful on the community, to the researcher and to the scholars.

### **a) Significant to the community**

The study findings are very important for SMEs owners/managers as well as employees because they will understand the significance of cost accounting techniques on financial performance of small and medium enterprises. The findings therefore will also inform the Rwandan government about the contributions of SMEs in manufacturing to the country's economy and how to implement policies that encourage business.

### **b) Researcher**

This work is conducted to fulfill academic requirements for the award of Degree of Master of science in Finance. Furthermore, the study is a reference to the researcher to get knowledge related to the effect of cost accounting techniques on financial performance of small and medium enterprises in Kigali, Rwanda

### **c) Scholars**

These study findings are a foundation for future academicians.

### **d) Policy makers**

The findings of the study inform policymakers in SME sector about the predicted role of cost accounting techniques on financial performance of small and medium enterprises, supporting them in formulating suitable regulations.

## **LITERATURE REVIEW**

### **Introduction**

This part includes conceptual review, theoretical review, empirical review, conceptual frameworks and research gaps.

### **Conceptual Review**

#### **1. Cost accounting techniques**

The process of determining and accumulating the cost of a product or activity is known as cost accounting. In other words; it is an accounting system that gives information on the determination and control of product or service costs. It assesses the enterprise's operational efficiency. It is an internal feature of the company. Cost accounting is cost accounting that provides cost data, statements, and reports for managerial decision making. In the widest usage, it embraces the preparation of statistical data, application of cost control

methods and the ascertainment of profitability of activities carried out or planned. Costing techniques are methods for ascertaining cost for cost control and decision-making purposes. They can be applied to make-or-buy decisions, negotiation, price appraisal and assessing purchasing performance (Lysons, K. and Farrington, 2006). Costing techniques is the process of ascertaining cost. These techniques consist of principles and rules which govern the procedure of ascertaining cost of products or services. The techniques to be followed for analysis of expenses and the processes of different products vary from industry to industry.

## 2. Absorption costing

Absorption post processes practice of combining all costs associated to a particular product during the production process. The techniques considers charging all types of costs, be it direct materials, direct labor, direct expenses and overheads on a particular product (Mbuval, 2023).

Absorption costing is a managerial accounting cost method of expensing all costs associated with manufacturing a particular product and is required for generally accepted accounting principles (GAAP) external reporting. Some of the direct costs associated with manufacturing a product include wages for workers physically manufacturing a product; the raw materials used in producing a product; and all of the overhead costs, such as all utility costs, used in producing a good, (Lysons, K. and Farrington, 2006). Absorption costing includes anything that is a direct cost in producing a good as the cost base. Absorption costing entails allocating fixed overhead costs across all units produced for the period. Variable costing, on the other hand, lumps all fixed overhead costs together and reports the expense as one line item. Variable costing does not determine a per-unit cost of fixed overhead while absorption costing does. Variable costing will yield one lump-sum expense for fixed overhead costs when calculating net income. Meanwhile, absorption costing will result in two categories of fixed overhead costs: those attributable to cost of goods sold and those attributable to inventory. Absorption costing is a method for accumulating the costs associated with a production process and apportioning them to individual products. This type of costing is required by the accounting standards to create an inventory valuation that is stated in an organization's balance sheet. A product may absorb a broad range of fixed and variable costs. These costs are not recognized as expenses in the month when an entity pays for them. Instead, they remain in inventory as an asset until such time as the inventory is sold; at that point, they are charged to the cost of goods sold.

## 3. Marginal costing

Marginal costing: is a procedure of ascertaining variable cost only which is affiliated to specific product or unit during the production process. The techniques considers charging all types of variables costs be it indirect materials, direct labor, direct expenses or overheads on a particular product as long as it is variable in nature (Mbuval, 2023).

Marginal costing also known as variable costing and direct costing may be defined as the technique of presenting cost data where in variable costs and fixed costs are shown separately for managerial decision-making. It is a principal costing technique used in decision making because it allows management attention to be focused on the changes which result from the decision under consideration. It is a useful technique for short-term decisions such as Make or Buy, Accepting or Rejecting a Special Order, Deleting a line of business or segment and outsourcing among others. Marginal costing may be defined as the technique of presenting cost data wherein variable costs and fixed costs are shown separately for managerial decision making. It should be clearly understood that marginal costing is not a method of costing like process costing or job costing. Rather, it is simply a method or technique of the analysis of cost information for the guidance of management which tries to find out an effect on profit due to changes in the volume of output (Lysons, K. and Farrington, 2006).

#### 4. Budgetary control costing

Budgetary control costing is a technique of presenting costs and statement to the management in a manner that comparison is possible between departments or organization hence, the technique entails presentation of both estimated and actual results of a department, a company or organization (Mbuval, 2023). Common program cost control KPIs include budget variance (BV), schedule variance (SV), cost variance (CV), schedule performance index (SPI), cost performance index (CPI), and benefit-cost ratio (BCR). BV is the difference between the planned and actual budget for the program or a project, while SV is the difference between the planned and actual schedule

Budgetary control is how organizations, including those in the SMEs sector, seek to address operational hurdles towards the attainment of a concurrently defined overall business objective by planning resource allocations to the different functional components deemed necessary for attainment of such an objective and monitoring actual performance towards the plan, and through feedback systems undertaking measures to redress reported deviations from the plan (Halwiindi & Mwanza, 2022).

In the same vein arising from the capital intensive nature of the industry, measures of finance, there are different philosophies and approaches to budgeting and budgetary control in organizations, each with its own merits and demerits (Khan, 2006). At the core of these different approaches and philosophies, the key issues that distinguish the different approaches according to the literature are; 1) how they deal with the considerable resource and time input required to prepare the budgets and use them as the basis for effective budgetary control; 2) how they create legitimacy around the budget and budgetary control processes as well as 3) the extent to which they are likely to secure buy-in from and ensure motivation of employees and budget holders towards the attainment of their objectives also referred to in the literature as the behavioral implications of budgeting and budgetary control (Khan, 2006).

#### 5. Financial performance

Financial performance is a subjective measure of how successfully a company can utilise assets from its principal mode of operation to create income (Mills, 2008). The term is also used as a general measure of a firm's overall financial health during a specific time period, and it can be used to compare similar enterprises within the same industry as well as to compare industries or sectors in aggregate. According to the performance measurement idea, employees can raise the value of a corporation by raising the size of its future cash flows, expediting their receipt, or making them more certain or less risky (Bragg & Wiley, 2012).

There are numerous ways to measure financial performance, but all measures should be aggregated. Return on equity, liquidity ratios, asset management ratios, profitability ratios, leverage ratios, and market value ratios are some financial performance metrics. Carreta.S&Farina,C. (2010) argue that the use of financial performance can still be acceptable since it reflects what managers genuinely consider to be financial performance, even if this is a combination of other measures such as accounting profits, productivity, and cash flow. Profit or value added; sales, fees, budget; costs or spending; and stock market indicators (e.g., share price) and autonomy define financial performance. Proxies for financial success also include accounting performance measures such as return on equity (ROE) and return on asset (ROA).

Profit earned from all phases of the business, including interest and taxes, is referred to as net profit. This is the "bottom line" that receives the most attention when discussing a company's profitability. The net profit margin (net margin) compares net income to net sales in such a way that: Net profit margin = sales minus net income after taxes. A company with a continuously high net margin is frequently suggestive of one or more competitive advantages. Furthermore, a high net margin provides a cushion for a company during business downturn.

.Profitability in the business world refers to the extent to which a corporation adds value in its field of business. Profitability is commonly used to gauge an organization's ability to stay in business. The fundamental issue in determining an organization's profitability is its profit performance. Profit has numerous definitions; an investor sees it as a measure of return on investment. Economists see it as a compensation for taking risks in entrepreneurship. Profit, according to an accountant, is the excess of income/revenue over expenses incurred in creating that revenue (Anwuli *et al.*, 2004).

Ahmed (2013) stated that, Return on Assets (ROA) is a profitability ratio that measures a company's net income in relation to its total assets. It indicates how efficiently a company is using its assets to generate profits. ROA is calculated by dividing a company's net income by its total assets. Profitable companies are believed to pay bigger dividends, implying a positive association between profitability and absorption and marginal costing. This relationship agrees with the resource base theory (John & Williams, 1985), which states that highly profitable companies are more inclined their production cost to their shareholders in order to communicate their superior financial performance. When their counterpart firms with weaker financial positions are unable to match such levels, this serves as a signal of a company's performance to the market.

High-levered companies frequently pay no or modest dividends because they prefer to use their internal resources to satisfy their obligations and minimize external borrowing costs rather than providing cash to shareholders (Oguntodu, F. & Taiwo, 2018). The quantity of debt has no effect on dividend behavior, but a higher level of debt will eventually increase the volume of dividend decreases.

## **Theoretical Review**

There many theories related to cost accounting and performance, but this study will focus on resources-based theory since they addressed the key variables used in this study and a business's performance can be improved by utilizing cost accounting, according to the theories.

### **1. Resource based view theory**

Resource-Based View (RBV) Theory was first put forward by Penrose (2009), who proposed a model on the effective management of firms' resources, diversification strategy, and productive opportunities. This will be the main theory of this study. Penrose's publication was the first to propose conceptualizing a firm as a coordinated bundle of resources to address and tackle how it can achieve its goals and strategic behavior (Penrose, 2009; Penrose, 2009). The RBV began to take shape in the 1980s. The antecedent of RBV was the Theory of the Growth of the Firm. Later, during the 1990s, Jay Barney's work was critical to the emergence of RBV and became the dominant paradigm in strategic management and strategic planning.

The resource-based view (RBV) theory is based on the idea that a company's assets, organizational processes, expertise and capabilities can strengthen its position in the market. This theory highlights the need for a fit between a company's strategic resources and the external market rather than focusing solely on its external competitive environment.

The desire to understand the effect of firm's characteristics on financial performance has been so controversial in the research field. One side argues that the firm financial performance is influenced by structural characteristics of the industry (Bain, 1954-1959) and on the other hand others argue that it is influenced by firm specific resources. Recently much focus has been given to firms level characteristics as opposed to the industry level characteristics since it forms the basis upon which the firms compete. For the purpose of this study cost accounting technique was the main focus since they are part of structural characteristics of firms. The theory which explains the effect of firm's characteristics which are internal factors to the organization with respect to financial performance is the resource-based view (RBV)



## 2. Stakeholders' theory

The constituencies that a firm serves are viewed broadly in stakeholder theory. The theory argues that a firm should create value for all stakeholders, not just shareholders. In 1984, R. Edward Freeman originally detailed the Stakeholder Theory of organizational management and business ethics that addresses morals and values in managing an organization. A stakeholder is any individual or entity with a vested interest in a company's success or failure. Stakeholders can have a substantial impact on an organization's operational and financial decisions. According to stakeholder theory, corporate managers must consider the needs of all stakeholders, not only shareholders. This point of view indicates that a company must maximize the complete well-being of everyone and everything affected by it, which might be interpreted to mean that the company has an obligation to transfer its earnings to any disadvantaged stakeholders (Freeman *et al.*, 2021).

## Empirical review

### 1. Absorption costing and financial performance.

Ali-Momoh, B.O., *et al* (2022) examined the effect of absorption and marginal cost on corporate performance in Nigeria the population of the study consisted of twenty-one (22) manufacturing companies listed on the Nigeria exchange group, however, eighteen (18) samples were selected from the population. A total number of 540 were randomly sampled from the companies in the samples. Data were collected with the use of questionnaire. Collated data were analyzed using descriptive method of analysis. Result revealed that to a large extent the absorption costing has significant and positive effect on corporate performance of the selected companies in Nigeria.

Celestin,(2022) did a research on cost behavioral analysis and financial performance of manufacturing industries in Rwanda, According to the results in interpretation of mean and standard deviation on Perceptions of respondents on effect of overheads cost analysis has presented strong effect on financial performance of manufacturing industries in Rwanda; this means that there is realistic mean and the evidence of existing fact and heterogeneity of responses stated that manufacturing overheads like electricity and other utilities required to run equipment in the factory augment profitability of Bralirwa Plc; overheads cost analysis like depreciation of manufacturing equipment strengthen liquidity of manufacturing company; analysis of factory supplies for manufacturing processes increases performance of company; administrative overheads analysis in product quality inspectors, and managers for the factory increase financial performance of company; overheads cost analysis in maintenance workers and repair parts for the equipment increase performance; material handlers, such as forklift operators is overheads cost analysis of Bralirwa Plc; and property taxes and insurance on the facilities and equipment are among overheads cost analysis encourage Bralirwa Plc

Man *et al.*, (2022) studied cost accounting techniques and financial performance of small and medium scale enterprise in rivers state in Nigeria, the study establishes that that there is a significant relationship between Cost Accounting Techniques and Financial Performance of SMEs

Doe & Anyamadu, (2016) did A Survey of Costing Practices of SMEs in the Informal Sector: Koforidua, Ghana According to the findings, most SMEs document and cost customer orders using the customer's face and name rather than the traditional job card. It also implies that the greater the educational level, the more importance SMEs in the informal sector place on paperwork. Respondents who have minimal accounting knowledge are more likely to prepare job/batch cards. Customers are charged overheads by SMEs in the NJM. However, the method or approach for treating overhead and allocating it to customers by SMEs has yet to be determined.

### 2. Marginal costing and financial performance

Ali-Momoh, B.O., *et al* ( 2022) undertook a study in Nigeria on effect of absorption and marginal costing on

corporate performance in Nigeria the population of the study consisted of twenty-one (22) manufacturing companies listed on the Nigeria exchange group, however, eighteen (18) samples were selected from the population. A total number of 540 were randomly sampled from the companies in the samples. Data were collected with the use of questionnaire. Collated data were analyzed using descriptive method of analysis. Result revealed that result reflected that there is evidence across the manufacturing that marginal costing has positive and significant relationship with corporate performance of selected manufacturing in Nigeria.

According to Celestin,( 2022) , Findings on Effect of Material Cost Analysis on the Financial Performance of Bralirwa PLC: According to the findings from perception of respondents on the effect of material cost analysis has presented higher influence on financial performance of Bralirwa PLC; this means there is reasonably mean and evidence of presence of the fact and heterogeneity of responses. After planning and implementing material cost analysis, people in manufacturing company is responsible for the single production process that should start with the analysis of data and develop the necessary actions to improve the process. Some changes in the process can be made without much coordination; the improvement measures were executed directly after the material cost analysis, and this influenced the manufacturing performance.

IYAKAREMYE,( 2014) reported cost information system and financial performance of manufacturing companies: a case study of SULFO Ltd, Rwanda revealed a positive and significant relationship between cost information system implementation and the level of financial performance of SULFO Ltd while regression analysis showed that cost information system contributes 90% to financial performance. This study seeks to fill the missing gap of cost accounting techniques and financial performance of small and medium enterprises.

### **3. Budgetary control and financial performance**

Chaudhary, (2018) did research on budgetary control and financial performance: a case study of Nepal oil corporation, The main purpose of this paper is to examine the relationship between budgetary control and financial performance of Nepal Oil Corporation (NOC) while presenting the real scenario of the organization. Therefore, to test the practice of budgetary control and financial performance, a descriptive survey design, as a sample of the study, was used to gather data through structured questionnaire distributed to 60 respondents from Account, Finance, Administration, Engineering and Project Department. The findings of this study emphasize that a practice of budgetary control leads to increased profitability but for that management commitment is indispensable. The study concludes that budgetary control process shows a significant positive bearing on the financial performance of NOC through the influences on financial objectives, allocation of funds as well as investment ventures.

According to the study done by Halwiindi & Mwanza,( 2022) on The Effect of Budgetary Control on Financial Performance: A Case Study of a Mining Company in Zambia, budgetary control had a positive effect on financial performance for First Quantum Minerals. This study aimed to establish the effect of budgetary control on financial performance of First Quantum Minerals. The study used a mixed method approach using both quantitative and qualitative data. Data was collected from both primary and secondary sources that included financial reports for First Quantum Minerals and a sample of 98 employees at First Quantum Minerals using questionnaires and informal interviews. Data analysis was done using financial ratios, SPSS, correlation analysis and content analysis. In Rwanda ,Harelimana, (2017) conducted a research on The Effect of Budgetary Control on Financial Performance of Kigali Serena hotel in Rwanda . The review utilized both essential and auxiliary information and interred into SPSS and after that examined utilizing graphic insights for fluctuation examination. An organized poll was given to a specimen of 25 representatives drawn from an aggregate populace of 52 workers. Basing

on information, the review uncovered that, there is a solid positive relationship between budgetary control system and monetary execution with connection coefficient,  $r=0.752$  and  $p=0.01$ . Since  $r>0.1$ , consequently, monetary execution as measured by ROA is emphatically impacted by budgetary control methods.

Biadacz, (2020) examined quality cost management in the SMEs of Poland and established that SMEs still make little use of modern cost accounting variants. The study did not disclose the impact on the financial performance of SMEs. In china Gao,( 2021) investigated on cost Control of small and Medium-sized Enterprises under the background of Internet Take Company T as an example , the study findings shows that T Company lacks a specialized cost control organization and the cost control system is not perfect. The study recommend that The company shall improve the company’s cost control systems and recommend that the cost control system should be in the company set up under the transition cost control committee, the board of directors consists of the cost control centres, including research and development centers, procurement cost control center, control production cost control center and sales cost control center and warehouse cost control center, in order to achieve a good cost control effect.

In Tanzania Mang’ana *et al.*,( 2023) investigated Financial management practices and performance of agricultural small and medium enterprises in Tanzania, According to the findings of the study, working capital management practices and financing management practices have a significant positive influence on the financial and organizational performance of the surveyed agro enterprises, whereas accounting, financial reporting practices, and capital budgeting management practices have an insignificant influence on the performance of agri-SMEs. SMEs do not just need general accounting, but they also need to incorporate other accounting practices such as cost accounting into their operations.

Murungi, (2016) studied on cost control and profitability of manufacturing companies in Rwanda, a case study of BRALIRWA Ltd. The findings establish the existence of positive association between cost control and profitability of manufacturing company.

### Conceptual framework

According to the research of Adom *et al.*, (2018), a conceptual framework is a technique for looking at a topic from various perspectives. It is the researcher’s explanation of how the study topic will be addressed. This study draw upon a conceptual framework to guide its exploration of the independent variable cost accounting techniques (Absorption costing, Marginal costing, Budgetary control costing) and dependent variable financial performance (ROE, ROA, Net profit) and their presumed relationships.

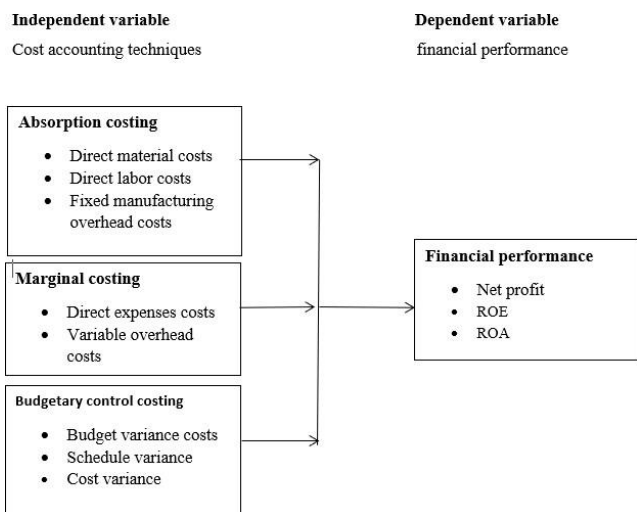


Figure 2.1 Conceptual framework

Source: (Researcher conceptualization 2023)

## Research Gap

There are various gaps identified from previous research on the subject matter. For example, Soa, (2019) undertook a study in Vietnam to explain the Demand for Cost Management Accounting Information: The Case of Vietnamese Construction Firms the study is research design is not clear and it focused on construction firm , the current study is on SMEs in manufacturing sector in Rwanda . Imo, (2022) studied a similar topic to this only that the study was restricted to Rivers states in Nigeria unlike the current one which is targeting small and medium enterprises in Kigali Rwanda. FELEKE,( 2019) undertook an assessment of cost accounting practice in case of national alcohol and liquor factory in An Addis Ababa, Ethiopia the study focused on the following cost accounting techniques Standard costing Budget control, Quality control, Target costing, Activity based costing while the current study is limited to absorption costing, marginal costing and budgetary control.

Yvonne, (2012) in Rwanda studied cast accounting and business success in selected manufacturing industries in Kigali, Rwanda the study looked at larger industries while the current study focuses on SMEs. IYAKAREMYE, (2014) undertook a study on cost information system and financial performance of manufacturing companies: a case study of sulfo ltd, Rwanda this study also look at large industry which has different characteristics to SMEs which is the main focus of the current study. Celestin, (2022) did a study on cost behavioral analysis and financial performance of manufacturing industries in Rwanda This was done employing the methodology of cross-sectional survey design with Target population of 201 employees in management team in charge of cost behavior analysis and financial performance of Bralirwa the current study however is targeting both senior and junior staff for a more holistic view by using correlational and descriptive research design.

The studies were conducted globally, Africa as well as locally but very few have been found in Rwanda. It has been demonstrated that SMEs can increase their performance by implementing cost accounting techniques. Unfortunately, these studies of a similar nature in Rwanda only looked at large industries. The examined literature had not focused on effect of cost accounting techniques small and medium enterprises in Kigali, Rwanda. More research on the variables needs to be done which is the aim of the current study.

## RESEARCH METHODOLOGY

### Introduction

This chapter outlines research design, study population, sampling procedure, simple size, data collection methods and instruments, data processing, data analysis, limitation and ethical considerations.

### Research Design

A research design is the overall approach that a researcher takes to coherently and logically integrate various research components in order to effectively address the research problem(mertler, 2019). This study adopted Correlational research design in addition to descriptive research design . Correlational research design, on the other hand, is used to investigate the relationship between two or more variables without manipulating them (Johnson, 2020). The researcher used a correlational research design in this study to investigate the relationship between cost accounting techniques and financial performance of small and medium enterprises in Kigali, Rwanda. This design is appropriate because it allows the researcher to determine the strength and direction of the variable-variable relationship.

The researcher used a descriptive survey because it is appropriate for collecting data in social research that is concerned with describing a state of the study variables and describing things that have already occurred.

Mertler (2019) and Punch and Oncaea (2014). According to Sabana (2014), this strategy is most recommended since it allows researchers to obtain quantitative data that can be easily evaluated quantitatively utilizing descriptive and inferential analysis. In this study, the researcher chooses this descriptive approach since it allows for the collection of more trustworthy information while also illustrating and explaining the effect of cost accounting techniques on financial performance of small and medium enterprises.

### Study Population

Study Population refers to an entire collection of individuals or elements who share at least one characteristic. Additionally, the term population refers to the wider group from which a sample is drawn (Jackie, 2017). The phrase target population refers to the group of people to whom the researcher wishes to generalize the findings of his study (A. Mugenda & Mugenda, 2012).

In Rwanda small and medium enterprises are categorized into different sector such as commerce and services, professional services, arts and crafts, industry, financial services, tourism, Agriculture, and livestock. This study focused on SMEs in industry sector which comprise 393 small and medium industries in Kigali city (MINICOM, 2022). Respondents were taken purposively from different departments such as the accounting department.

Table 3. 1: Number of SMEs in industry sector

	District	Small	Medium	Total
<b>Kigali City</b>	Gasabo	35	198	233
	Kicukiro	4	85	89
	Nyarugenge	0	71	71
	<b>Target Population</b>	<b>39</b>	<b>354</b>	<b>393</b>

(Source: (MINICOM, 2022))

### Sample Size and Sampling Techniques

This study targeted SMES in the manufacturing sector (industry sector). This study used nonprobability sampling where purposive sampling was used based on Respondents who are strategically involving costing accounting techniques and performance of SMEs. The study

Used 393 SMEs as sample size.

### Data Collection Instruments

Primary data was collected by using structured questionnaires based on a five-point likert scale that captured all statements from the study’s construct on the effect of cost accounting techniques on financial performance of small and medium enterprises in Rwanda. This study used closed ended. Closed ended question it meant that the questions accompanied by a list of all possible alternative from which respondent selected the answer that best describe their situation (O. Mugenda & Mugenda, 2003). They can be carried out face to face, by telephone, computer, or post. Questionnaires are commonly used in market research as well as in the social and health sciences (Bhandari, 2023). Questionnaires are research tools in which respondents are asked to answer comparable questions about the same topic in a pre-determined order

(Ormord, 2010). The questionnaires created from the study’s objectives comprised closed-ended questions

on a five-point Likert scale.

## **Data processing**

Data processing was done by using statistical package of social science (SPSS). The results are in the form of tables, figures, charts, and graphs and based on research objectives.

### **1. Coding**

Coding refers to the process of assigning numerals or other symbols so that response can be put into a limited number of categories or classes such classes should be appropriate to reach problem under consideration.

### **2. Editing**

After receiving all questionnaires from respondents, editing was done to clarify accuracy, uniformity, consistency in data collection as well as elimination of error and unrelated response to get response free from errors.

### **3. Tabulation**

Tabulation is the process of placing classified data into tabular form to facilitate the meaning of data to be more precise, easy to read, interpret and understandable.

## **Pilot study**

The study use Pilot study to validate and ensure that the developed study questionnaire was reliable to collect data from the field during main study. A. Mugenda & Mugenda, (2012) suggested that pilot study to verify if a research tool is valid and reliable should not be carried out on the same population that the main study could be carried on. Therefore, the researcher sought to obtain pilot sample on SMES outside the sample size.

### **1. Validity**

To establish the validity of research tools, the researcher ensured both their content and construct validity. The purpose of content validity was to ensure that the test items adequately and sufficiently cover the study's substance. Fraenkel & Wallen (2009) assume that the instrument should be handed to an entity capable of making an intelligent determination about the instrument's suitability. Before the instrument is administered, it is updated in accordance with university supervisors' views and recommendations.

Taherdoost,(2016) defines construct validity as the purity or operationalization of the concept being observed, that is the extent to which a test measures what the concept it is intended to measure. Kaiser-Meyer-Olkin (KMO) test of the sampling adequacy and Bartlett's test of sphericity, factor analysis with Varimax rotation were employed to ensure construct validity. According to (Kang,2013), factor analysis is regarded as one of the most powerful methods for establishing construct validity and is the most frequently employed way for establishing construct validity of a research instrument.

Bartlett's Test of Sphericity was used to test if the correlation matrix for the observed variables was statistically different from the identity matrix. Principal component factor analysis was used to identify and compute composite scores for the factors underlying our 5-point Likert scale that was used in the study questionnaire. Communalities were conducted to check if all the items within a common construct variable actually shared a common variance that can be explained by the factors, and a value of 0.3 is considered as a

minimum threshold (Watson, 2017).

Table3. 2: KMO Measure of sampling adequacy and Sphericity Test results

Variables	Kaiser-Meyer-Olkin measure of sampling adequacy	Bartlett's test of sphericity	
		Chi-Square	Sig.
Absorption costing	0.7390	454	0.0000
Marginal costing	0.9661	323	0.0000
Budgetary control	0.8906	334	0.0000
Financial performance	0.8329	381	0.0000

Source: Researcher 2023

From the table above the results shown that the measure for sampling adequacy for absorption costing was 0.7390, Marginal costing was 0.9661; budgetary control was 0.8906 and financial performance was 0.8329. These results indicated acceptable degree of sampling adequacy for all the factors. All the variables' KMO results for sampling adequacy were above 0.5 minimum threshold values as established by Shrestha, (2021). Bartlett's test of sphericity values were all statistically significant testing at 5% significance level. This indicated that variables were not correlated at 95% confidence level and therefore the collected data was considered valid for analyses.

Therefore the significant results for both KMO and Bartlett's test of sphericity indicate that this indicated that data was appropriate for analysis and collected data were considered valid.

## 2. Reliability

Reliability is a term that refers to a measure's consistency(A. Mugenda & Mugenda, 2012). Reliability means consistency in responses to the questions (Mitchel, 1996). The internal consistency method was used whereby a comparison of responses to similar questions was done.

Table 3. 3: Reliability statistics

Variables	Number of Observations	Cronbach's Alpha
Mean (standardized items : absorption costing, marginal costing, Budgetary control and financial performance )	20	0.7381

Source: Field data 2023

In this study, Cronbach's alpha coefficient, which is a measure of internal consistency, was used to assess reliability. Although there is no set interpretation as to what an acceptable alpha value is, Robinson (1991) assert that, an alpha coefficient above 0.80 is "exemplary", in the range between 0.70 and 0.79 is "extensive", whereas coefficients in the range between 0.60 and 0.69 indicate a "moderate" level of internal consistency. However, Cronbach's alpha values are quite sensitive to the number of items in the scale. It is common to find quite low Cronbach's values when the number of items is less than 10 (Pallant, 2005). Despite this, this study had 0.7381 of Cronbach's alpha and the value that were more than 0.7 as shown in

Table 3.2. This suggested acceptable levels of internal consistency and therefore this gave the green light for the use of the instrument for actual data collection.

## Data Analysis

Data analysis method is the process of deducing and making judgments by the methodical use of mathematical or logical methods and analysis of outcomes (Shamoo & Resnik, 2009). Analysis of patterns in the studies and descriptions of answers was done using descriptive statistics, such as central tendency median (mean), or variance (standard deviation). When investigating the cause-and-effect relationship between the variables under study, this study used inferential statistics by employing linear regression and moderation analysis. The research analyzed Qualitative data thematically.

The correlation analysis involved Pearson Correlation Coefficient ( $r$ ) was employed to assess the direction and strength of the correlation between level of cost accounting techniques and performance among SMEs in Kigali city, Rwanda. The range of the Pearson Correlation Coefficient values is within -1 and +1. The sign indicates the direction of the relationship such that negative sign (-) indicates a negative correlation while a positive sign (+) indicates a positive direction. A Pearson Correlation Coefficient value approaching 1 indicates a strong relationship between two variables, while a Pearson Correlation Coefficient value approaching 0 indicates no relationship between two variables (Bryman, 2003). According to Malhotra *et al.* (2006), Pearson correlation coefficient is significant when the level of significance is very small (in our research context, less than 0.05).

Multiple linear regressions analysis was used in this study to assess partial influence of cost accounting techniques variables (absorption costing, Marginal costing, and budgetary control) on financial performance of small and medium Enterprises in Kigali city Rwanda. This also enables the researcher to compare the strength of accounting techniques variables on financial performance of small and medium enterprises in Kigali city, Rwanda. The following multiple linear regression model was used.

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

Where:  $\beta_0$  is a constant,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , are regression coefficients,  $X_1$  = Absorption costing,  $X_2$  = Marginal costing,  $X_3$  = Budgetary control,  $Y$  = Financial Performance of small and medium enterprises, and  $\varepsilon$  = Error term in the model.

## Limitation of the study

The research effort was expected to face significant challenges because of staff resistance to share accurate information. To combat this, ethical concerns were noted by guaranteeing the confidentiality and anonymity of the information provided by respondents. In addition, they were told that the information was for academic use only. Additionally, some respondents did not react as expected, which led to the researcher aimed for a sizable sample size of 393, from which a pool of 381 responses were generated, representing an appropriate response rate of 96.9 %.

## Ethical Considerations

Ethical issues were observed by ensuring anonymity and confidentiality of the information provided by respondents. Additionally, they were informed that the material provided was for academic purposes only as an introduction letter from university was presented to the respondents to ensure that the information to be collected will be used academically only. The thesis report was submitted to the University for Plagiarism Check as a precautionary measure to ensure that the report is free of unauthorized script or phrases.



## DATA ANALYSIS, INTERPRETATION, AND DISCUSSION

### Introduction

This chapter dealt with data analysis, presentation and discussion which were discussed under the study objectives. The areas of study included absorption costing, marginal costing, and budget control costing on the relationship between financial performance of small and medium enterprises in Kigali City, Rwanda

### Response rate

Response return rate is a key variable in analysis since it determines the quality of data collected and significance of the study findings. This study distributed 393 questionnaires to the study respondents who were from the accounting department for each sampled SMEs. Therefore, this study analyzed the response return rate and presented it in Table 4.1.

Table 4.1: Response rate

	Number	Percentage
Returned questionnaires	381	96.9
Not returned questionnaires	12	3.1
<b>Total</b>	<b>393</b>	<b>100</b>

Source: Field data 2023

Results from Table 4.1. Revealed that there was a return rate of 96.9%. A total of twelve questionnaires were not returned constituting 3.1 %. According to Mugenda and Mugenda (2012), a response rate of 50% is appropriate, and a response rate of more than 70% is exceptional for any academic report study and presentation.

### Demographic Description of Respondents

The demographic attributes of the respondents are paramount parameters in research since they determine the nature of the results. Therefore, this study evaluated some key demographic variables as outlined below.

#### 1. Gender of the Respondents

Gender of the respondents was sought since its findings would assist the study categorize respondents based on gender. The findings are as shown in Table 4.

Table 4. 2 : Gender of the Respondents

Gender	Frequency	Percent
Male	266	69.8
Female	115	30.2
Total	381	100.0

Source: Field data 2023

From Table 4.2, Majority 69.8% of the respondents were male while 30.2% on the other hand were female.

The findings showed that there were more male than female respondents. This study concluded that gender parity was observed in the study.

## 2. Education Level of respondents

Table 4.3: Education Level of respondents

Education level	Frequency	Percent
Diploma	115	30.2
Bachelor	190	49.9
Masters	76	19.9
PhD	0	0
Total	381	100.0

Source: Field data 2023

The Results in Table 4.3. Shows that majority of SMEs' respondents were represented by 30.2% who had diploma qualification, 49.9% had bachelor, 19.9% had masters. These findings proved that the respondents in the study had good academic qualification and therefore were more likely to give informed opinion on the effect of cost accounting techniques on financial performance of small and medium enterprises in Rwanda.

## 3. Age of respondents

The age distribution of the respondents was analyzed, and the findings are as shown in Table 6.

Table 4. 4: Age of respondents

Age in years	Frequency	Percent
Below 27	77	20.2
28-37	76	19.9
38-47	114	29.9
above 47	114	29.9
Total	381	100.0

Source: Field data 2023

From table 4.4, most respondents (29.9%), were aged between 38-47 years and above 47, followed by 20.2% for those in the age bracket below 27 years, 19.9% (28-37 years). The findings showed that there were more mature respondents engaged in the SMEs who could respond to the questionnaires objectively on the effect of cost accounting techniques on financial performance of small and medium enterprises in Rwanda.

## 4. Working experience of respondent

Table 4. 5: Working experience.

Work experience	Frequency	Percent
less than 2 years	77	20.2
3-6 years	190	49.9
7-9 years	114	29.9

Above 10 years	0	0
Total	381	100.0

Source: Field data 2023

Table 4.5. Illustrated that most of the respondents (49.9%), had a working experience that ranged between 3 years to 6years, 29.9% of the respondents had 7-9 years and 20.2% of the respondents had less than 2 years of work experience although there was no one who had above 10 years of working experience. Therefore as respondents working experience is ranged below 2 years and 7-9 years this implied that the respondents had sufficient knowledge on the effect of cost accounting techniques on financial performance of small and medium enterprises.

**Descriptive statistics**

**1. To examine the effect of absorption costing on the financial performance of small and medium enterprises.**

Descriptive summary analysis was used to evaluate the effect of accounting techniques on performance of Small and Medium Enterprises in Kigali, Rwanda. Each statement was rated using mean and standard deviation as shown in the table 4.6

Table 4. 6: Descriptive Statistics on absorption costing

Statements on absorption costing	Mean	Std dev
Absorption costing has significant impact in decision making of our company	3.96	1.24
Helps makes computing net profit and gross profit separately in the income statement much easier.	4.07	1.16
Absorption costing method has significantly increased the level of our financial leverage and achieving high standard accounting procedure	4.04	1.26
Absorption costing method has significantly increased the level of their growth rate of our production	3.86	1.36
Absorption method assisted to achieve our business growth in determining the expenses spent in the manufacturing of goods.	4.13	1.21
<b>Mean rating of absorption costing use</b>	<b>Mean 4.052</b>	

Source: Field data 2023

Table 4.6 shows that absorption costing has significant effect on financial performance of SMEs in Kigali, Rwanda. The findings are supported by a high mean between 3.86 and 4.13 where on overall, absorption costing use in SMEs operation had a mean rating of 4.052. This was an indicator that quite SMEs do use absorption costing, and this had some effect on the financial performance of the SMEs in Kigali City, Rwanda.

**2. To examine the effect of marginal costs on the financial performance of small and medium enterprises.**

Table 4.7: Descriptive Statistics on marginal costs

Statements on Marginal costing	Mean	Std dev
Marginal costing has significantly increased the firm size	<b>4.06</b>	<b>1.31</b>

Marginal costing has effect on our business growth	4.09	1.32
Marginal costing has significantly affected the profitability	3.49	1.61
Helps management with adequate information appropriate enough for making vital business decisions	4.03	1.38
Marginal costing has significantly increased the level of our company financial leverage	3.76	1.52
Mean rating of Marginal costing	<b>Mean 3.913</b>	

Source: Field data 2023

The statement Marginal costing has significantly increased the firm size had mean of 4.06 and standard deviation of 1.31 an indication that indeed marginal costing helps in increase in firm size. On the other hand, the statement Marginal costing has effect on business growth had mean of 4.09 agreement and standard deviation of 1.32. The statement Marginal costing had significantly affected the profitability had mean of 3.49 and standard deviation of 1.61 this shows that marginal costing had significantly affected the profitability. Therefore, they were significant mean values, which range from 3.049 to 4.09. Additionally, the responses show heterogeneity, as shown by the standard deviation range of 1.31 to 1.61. On Average, the overall level responses on the questions asked on the marginal costing in relation to the financial performance of SMEs in Kigali city, Rwanda was had overall (mean=3.913). This was an indication that majority of the SMEs in Kigali City made use marginal costing technique in their operating and it has significant effect of SMEs performance.

### 3. To examine the effect of budgetary control on the financial performance of small and medium enterprises.

Descriptive analysis was also used to evaluate the effect of budgetary control on financial performance of SMEs in Kigali City, Rwanda. The results of the rating were displayed in Table 4.8.

Table 4. 8 : Descriptive Statistics on budgetary control

Statements on Budgetary control	Mean	Std dev
Budgetary control has leads to cost effective procurement, thus surplus revenue.	3.71	1.48
Fitness of budgetary control to our organization’s situation saves cost.	3.39	1.78
Accurate budget prediction through budgetary control increases net profit margin	3.68	1.48
Budgetary control provides cash expenditure tracking and reduces operational cost.	4.08	1.38
Budgetary control influence profit plan of our organization	3.93	1.49
Mean rating of Budgetary control	<b>Mean=3.854</b>	

The findings of Table 4.8 revealed that budgetary control costing has significant mean values, which range from 3.39 to 4.08. Additionally, the responses show heterogeneity, as shown by the standard deviation range of 1.38 to 1.78 .On the overall, budgetary control on performance of SMEs in Kigali city, Rwanda was mean=3.854. This was an indication that majority of the SMEs in Kigali City were using budgetary control technique in their cost accounting operations.

#### 4. Rating of financial Performance of Small and Medium Enterprises.

Table 4. 9: Performance of Small and Medium enterprises

Statements on financial performance	Mean	Std dev
Our company's revenue has been increased	3.96	1.48
Our profitability increased	3.73	1.37
Our Production growth rate has increased	3.72	1.53
Our ROA has exceeded the cost of borrowing funds and ROE has increased	3.44	1.82
Our Operational efficiency has been enhanced	3.98	1.49
Overall Mean	<b>Mean 3.831</b>	

Source: Field data 2023

Results from Table 4.9 indicate that most of the cost accounting techniques has significant effect of financial performance of SME's as it had contributed to the increase of SME's revenues, profitability production growth operation efficiency increase in ROE as well as ROA. This has been proven by statistically significant mean values, 3.049 to 4.09, are present. The responses are also heterogeneous, as evidenced by the 1.37 to 1.49 standard deviation range. On Average, the overall level of performance of SMEs in Kigali city, Rwanda was mean=3.831. This was an indication that the performance of SMEs was good given the use of cost accounting techniques such as absorption costing, marginal costing, and budgetary control.

#### Inferential statistics

##### 1. Correlation Test

Correlation is a statistical measure that expresses the extent to which two variables are linearly related. This test was carried out to determine the association and direction of the independent variables (absorption costing, marginal costing, and budgetary control costing) and dependent variable (financial performance). The study utilized Pearson Correlation coefficient to assess the strength and direction of the association. The findings were as shown in table 4.10.

Table 4. 10: Correlation Matrix

Correlations						
		Absorption costing	Marginal costing	Budgetary control	Financial Performance of SMEs	
Absorption costing	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	381				
marginal costing	Pearson Correlation	.393**	1			
	Sig. (2-tailed)	.000				
	N	381	381			
Budgetary control	Pearson Correlation	.544**	.655**	1		
	Sig. (2-tailed)	.000	.000			

	N	381	381	381	
	Sig. (2-tailed)	.000	.000	.000	
	N	381	381	381	
Financial Performance of SMEs	Pearson Correlation	.580**	.747**	.918**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	381	381	381	381
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Field data 2023

The range for correlation coefficients lies between positive 1 and negative 1. Results in Table 4.10 found out that there was correlation ( $r = 0.580^{**}$ ,  $<0.01$ ) between financial Performance of SMEs and cost accounting techniques. Similarly, there was strong positive correlation between financial Performance of SMEs and marginal costing where the correlation coefficient was  $0.747^{**}$  which was statistically significant testing at 1% significance level. The study results also revealed that there was strong positive correlation between Performance of SMEs and budgetary control with correlation coefficient 0.918 which was statistically significant testing at 5% significance level.

According to Gujarati and Porter (2009), a correlation coefficient of +1 implies that there is perfect positive correlation and a value of -1 show that there is perfect negative correlation. A value of 0 implies no correlation at all while values between 0.5 and 1 show high positive correlation and values between -0.5 and -1 shows high negative correlation. Similarly, coefficient values between 0 and 0.5 show low positive correlation while coefficients between 0 and -0.5 show low negative correlation.

### Testing of the Study Hypothesis

This study adopted linear regression to test the hypothesis and determine if there was statistical effect of cost accounting techniques on the financial performance of SMEs.

#### 1. Multiple Linear Regression of the effect of cost accounting techniques on financial performance of small and medium enterprises in Kigali, Rwanda.

Multiple linear regression models were adopted in this study to determine the greatest predictor of financial performance among cost accounting techniques (absorption cost, marginal costing and budgetary control, the findings discussions multiple linear regression analysis were as shown in table 4.11.

Table 4. 11: Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.939 <sup>a</sup>	0.882	0.88	0.28954

Source: Field data 2023

1. Predictors: (constant) absorption costing, marginal costing, budgetary control
2. Summary from table 4.11. Had  $R^2$  value of 0.882  $R^2$  measured how much variability in the dependent variable (that is, Financial Performance of SMEs in Kigali City) the predictors (absorption costing, marginal costing, and budgetary control) accounted for. This implied that use of cost accounting

technique explained about 88.2% of the variation of financial performance of SMEs in Kigali City. The remaining percentage of 11.8% explained variations in financial performance of SMEs in Kigali City could be attributed and accounted for by other factors that influence financial performance of SMEs.

Table 4. 12: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	123.081	3	30.772	366.335	.000 <sup>b</sup>
	Residual	16.465	379	.084		
	Total	139.546	382			

Source: Field data 2023

1. Dependent variable: Financial performance
2. Predictors : (constant) absorption costing, marginal costing, budgetary control

ANOVA test results were found statistically significant with an  $F(3,379) = 366.33, p = 0.000 < 0.05$ . This indicated that the linear regression model had good fit and was appropriate in determining the linear association between effect of cost accounting techniques (absorption costing, marginal, budgetary control) and financial performance of SMEs in Kigali city, Rwanda.

Table 4. 13: Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.676	.285		3.948	.000
	Absorption costing	.202	.051	.264	4.037	.000
	Marginal costing	.311	.060	.274	5.18	.000
	Budgetary control	.221	.376	.246	.586	.000

Source: Field data 2023

1. Dependent Variable: Financial performance of SMEs in Kigali City
2. Predictors: (Constant), absorption costing, marginal costing, budgetary control

The study observed that the three cost accounting techniques variables had a significant influence in predicting the financial performance of SMEs in Rwanda as indicated by the unstandardized beta coefficients. The results revealed that absorption costing had  $\beta = 0.202, t = 4.037, p\text{-value} = 0.000 < 0.05$ , marginal costing  $\beta = 0.311, t = 5.180, p\text{-value} = 0.000 < 0.05$  and budgetary control had  $\beta = 0.221, t = .586, p\text{-value} = 0.000 < 0.05$ . This implied that, besides absorption costing, marginal costing and budgetary control positively affecting performance of SMEs, there were other factors not included in this linear regression model that could affect performance of SMEs.

This led to the rejection of the null hypothesis that stated:  $H_01$ : absorption costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda,  $H_02$ : marginal costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda and  $H_03$ : budgetary control costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda. To predict the financial

performance of SMEs in Kigali City, Rwanda, this study adopted the following linear regression model:

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

The model becomes:

$$Y = 1.676 + 0.202 \text{ absorption costing} + 0.311 \text{ marginal costing} + 0.221 \text{ budgetary control}, \text{ where } Y \text{ is the financial performance of SMEs in Kigali, Rwanda}$$

These findings are in agreement with Ali-Momoh, B.O., (2022) who concluded that absorption costing has strong statistical relationship with the corporate performance of selected manufacturing companies in Nigeria. The findings concurred with earlier study findings by Chaudhary, (2018) in his study involving Nepal oil corporation. The study concludes that budgetary control process shows a significant positive bearing on the financial performance of Nepal oil corporation through the influences on financial objectives, allocation of funds as well as investment ventures.

The findings concurred with earlier study findings by Chaudhary, (2018) in his study involving Nepal oil corporation. The study concludes that budgetary control process shows a significant positive bearing on the financial performance of Nepal oil corporation through the influences on financial objectives, allocation of funds as well as investment ventures.

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### Introduction

This chapter looks at the summary of findings based on the study objectives, study conclusions, recommendations, and suggestions for further study.

### Summary of Findings

The results on the effect of accounting techniques on financial performance of small and medium enterprises in Kigali city, Rwanda were summarized based on the research objectives as illustrated in the subsequent sub-sections.

#### 1. Absorption costing and financial performance of small and medium enterprises in Kigali, Rwanda

This study finding on descriptive statistics revealed that absorption costing they were significant mean values, which range from 3.049 to 4.09. Additionally, the responses show heterogeneity, as shown by the standard deviation range of 1.31 to 1.61. On Average, the overall level responses on the questions asked on the marginal costing in relation to the financial performance of SMEs in Kigali city, Rwanda was 78.26% (mean=3.913). This was an indication that majority of the SMEs in Kigali City made use marginal costing technique in their operating and it has significant effect of SMEs performance.

Additionally, ANOVA test results were found statistically significant with an F value of 364.33 (3,379) and p-value of 0.00. This indicated that the linear regression model had good fit and was appropriate in determining the multiple linear regression association between effect of cost accounting techniques and financial performance of SMEs in Kigali city, Rwanda.

This study findings revealed that absorption costing had  $\beta = 0.202$ , t value = 4.037, p-value = 0.000 was statistically significant at p-value of <0.05. These coefficients implied that a unit change in absorption costing use would result in 20.2% increase in financial performance of SMEs in Kigali City, Rwanda. This implied that, besides absorption costing positively affecting performance of SMEs, there were other factors



not included in this linear regression model that could affect performance of SMEs.

This led to the rejection of the null hypothesis that stated: *absorption costing has no statistically significant effect on financial performance of small and medium enterprises in Rwanda*. The study therefore concludes that absorption costing has statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda.

## **2. Marginal costing and financial performance of small and medium enterprises in Kigali, Rwanda.**

Descriptive analysis findings showed that the statement Marginal costing has significantly increased the firm size had mean of 4.06 and standard deviation of 1.31 which is an indication that indeed marginal costing helps in increase in firm size. On the other hand, the statement Marginal costing has effect on business growth had mean of 4.09 and standard deviation of 1.32. The statement Marginal costing had significantly affected the profitability had mean of 3.49 and standard deviation of 1.61 this shows that marginal costing had significantly affected the profitability. Therefore, they were significant mean values, which range from 3.049 to 4.09. Additionally, the responses show heterogeneity, as shown by the standard deviation range of 1.31 to 1.61.

Further, the study findings revealed that marginal costing had  $\beta = 0.311$ ,  $t$  value = 5.18,  $p$ -value = 0.000 was statistically significant at  $p$ -value of  $<0.05$ . These coefficients implied that a unit change in marginal costing use would result in 31.1% increase in financial performance of SMEs in Kigali City, Rwanda. This led to the rejection of the null hypothesis that stated marginal costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda.

## **3. Budgetary control costing and financial performance of small and medium enterprises in Kigali, Rwanda.**

Budgetary control explained about 22.1% of the variation of financial performance of SMEs in Kigali City. The remaining 77.9% explained variation in financial performance of SMEs in Kigali City could be attributed and accounted for by other factors that affect financial performance of SMEs. The study concludes that budgetary control has statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda. As the linear regression unstandardized coefficient had a value of 0.221 and 2.46 standardized coefficient Beta with a  $t$  value of .586 which was statistically significant at  $p$ -value  $<0.05$ . These coefficients implied that a unit change in budgetary control use would result in 24.6% increase on financial performance of SMEs in Kigali City, Rwanda. This led to the rejection of the null hypothesis that stated budgetary control costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda. The study therefore accepts alternative hypothesis which state that budgetary control has statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda.

## **Conclusion**

### **1. Effect of absorption costing on performance of small and medium enterprises in Rwanda**

Since there was an established statistically significant effect of absorption costing on performance of small and medium enterprises in Rwanda as evidenced by multiple linear regression unstandardized coefficients of absorption costing had a value of 0.202, standardized coefficient Beta, (0.264) with a  $t$  value of 3.948 which was statistically significant at  $p$ -value of  $<0.05$ . These coefficients implied that a unit change in marginal costing use would result in 26.4% increase in financial performance of SMEs in Kigali City, Rwanda. Therefore, it was determined that regular utilization of absorption costing techniques it helps SMEs to

smooth decision making, increase level of financial leverage, achieve high standard of accounting procedure as well as increase growth rate of production.

## **2. Effect of marginal costing on performance of small and medium enterprises in Rwanda**

Linear regression unstandardized coefficients had a value of 0.311, standardized coefficient Beta, (0.274) with a t value of 5.18 which was statistically significant at p-value of  $<0.05$ . These coefficients implied that a unit change in marginal costing use would result in 27.4% increase in financial performance of SMEs in Kigali City, Rwanda. It was therefore concluded that marginal costing techniques help in profitability, business growth and increasing firm size. The study therefore concluded that marginal costing has statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda.

## **3. Effect of budgetary control costing on performance of small and medium enterprises in Rwanda**

Linear regression unstandardized coefficient had a value of 0.221, standardized coefficient Beta (0.274) with a t value of .586 which was statistically significant at p-value  $<0.05$ . These coefficients implied that a unit change in budgetary control use would result in 27.4% increase in on financial performance of SMEs in Kigali City, Rwanda. This led to the rejection of the null hypothesis that stated budgetary control costing has no statistically significant effect on financial performance of small and medium enterprises in Kigali, Rwanda. The study therefore accept alternative hypothesis which state that budgetary control has statistical significant effect on financial performance of small and medium enterprises in Kigali, Rwanda. The study therefore concluded that consistent use budgetary control technique influence profit plan, provides cash expenditure trucking and reduces operation cost, increase net profit margin, save cost and leads to cost effective procurement.

## **Recommendations**

As there was a significant statistical effect of absorption costing, marginal costing and budgetary control techniques on financial performance of small and medium enterprises, SMEs owners are encouraged continual use of cost accounting techniques in order to embrace its benefits. The SMEs owners also have to provide special training to the employees on cost accounting and accounting to enhance the employees' performance this will leads to the increase of the profitability of company. Government of Rwanda should encourage SMEs to work professionally.

## **Areas for Further Research**

Similar studies should be conducted in large enterprises and SMEs sector in Rwanda into a different sector such as commerce and services, professional services, arts and crafts, financial services, tourism, Agriculture, and livestock as this study looked at industry sector. Additionally Similar studies are needed in other countries to ascertain if consistent results could be obtained.

## **DECLARATION**

I declare that this dissertation is my original work and has not been presented in any other university/institution for consideration of any certification.

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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Reg. number: MSCF/21/09/6725

## **APPROVAL**

The undersigned certify that they have read and certified that all work has been done as per the guidelines; thereby recommended for approval by University of Kigali

Signature: \_\_\_\_\_ Date \_\_\_\_\_

Dr. Thomas Tarus

## **DEDICATION**

This work is dedicated to my family and friends.

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## **ABBREVIATIONS AND ACRONYMS**

BCR: Benefit Cost Ratio

BV: include budget variance

CPI: Cost Performance Index

CIMA: Chartered Institute of Management Accountants

CV: Cost Variance

GAAP: General Accepted Accounting Principles

KMO: Kaiser Meyer-Olkin

OCED: Organization for Economic Co-operation Development

RBV: Resource-Based View

ROA: Return on Asset

ROE: Return on equity

SMEs: Small and Medium Enterprises

SPI: Schedule Performance Index

SV: Schedule Variance

## DEFINITION OF KEY TERMS

**Financial performance:** Financial performance is a subjective measure of how successfully a company can utilize assets from its principal mode of operation to create income (Mills, 2008).

**Cost accounting techniques** are approaches or principles used to appropriately present cost data and statement to the management for evaluation and or for decision making.

**Absorption costing:** is a practice of combining all costs associated to a particular product during production process.

**Marginal costing:** is a procedure of ascertaining variable cost only which is affiliated to specific product or unit during the production process.

**Budgetary control costing:** It is a technique of presenting costs and a statement to the management in a manner that comparison is possible between department or organization.

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## APPENDICES

### Appendix 1: Questionnaire

This questionnaire aims to collect information on “The effect of cost accounting techniques on financial performance of small and medium enterprises in Kigali city, Rwanda” Unless otherwise noted, information should be entered into the spaces provided and the appropriate boxes should be checked. All information collected will be treated as confidential and will be used only for academic purposes.

#### SECTION A: BACKGROUND INFORMATION OF THE RESPONDENTS

1. Gender:

Male

Female

2. Education Level:

Diploma

Bachelor

Masters

PhD

3. What is your age bracket?

Below 27 years

28- 37 years

38-47 years

Above 47 years

4. Work experience

Less than 2 years

3- 6years

7- 9 years

Above 10 years

**Section B: To examine the effect of absorption costing on the financial performance of small and medium enterprises.**

*Notes Tick (√) where applicable according to your level of agreement beside the statements on accounting techniques and financial performance small and medium enterprises.*

*Scale for assessment: (SD= Strongly Disagree, D= Disagree, N= Neutral, 4= Agree, SA= Strongly Agree)*

**Absorption costing**

No	Statement	SD	D	N	A	SA
1.	Absorption costing has significant impact in decision making of our company					
2.	Helps makes computing net profit and gross profit separately in the income statement much easier.					
3.	Absorption costing method has significantly increased the level of our financial leverage and achieving high standard accounting procedure					
4.	Absorption costing method has significantly increased the level of their growth rate of our production					
5.	Absorption method assisted to achieve our business growth in determining the expenses spent in the manufacturing of goods.					

**Section C. To analyses the effect of marginal costs on financial performance of small and medium enterprises.**

**Marginal costing**

No	Statement	SD	D	N	A	SA
1.	Marginal costing has significantly increased the firm size					
2.	Marginal costing as a result of the effect on our business growth					
3.	Marginal costing has significantly affected the profitability					
4.	Helps management with adequate information appropriate enough for making vital business decisions					
5.	Marginal costing has significantly increased the level of our company financial leverage					

**Section D. To evaluate the effect of budgetary control on financial performance of small and medium enterprises.**

**Budgetary control**

No	Statement	SD	D	N	A	SA
1.	Budgetary control has leads to cost effective procurement, thus surplus revenue.					
2.	Fitness of budgetary control to our organization's situation saves cost.					
3.	Accurate budget prediction through budgetary control increase net profit margin					
4.	Budgetary control provides cash expenditure tracking and reduces operational cost.					
5.	Budgetary control influence profit plan of our organization					

**Section E. Financial performance of small and medium enterprises**

No	Statement	SD	D	N	A	SA
1.	Our company’s revenue has been increased					
2.	Our profitability increased					
3.	Our Production growth rate has increased					
4.	Our ROA has exceeded the cost of borrowing funds					
5.	Our Operational efficiency has been enhanced					

**DATA COLLECTION LETTER**

