

**EFFECT OF STRATEGIC MANAGEMENT ACCOUNTING
TECHNIQUES ON INVESTMENT DECISIONS AMONG
MANUFACTURING FIRMS IN KENYA**

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DECLARATION

I declare that this research proposal is my original work and has never been presented to any other University for assessment or award of degree.

Signed 

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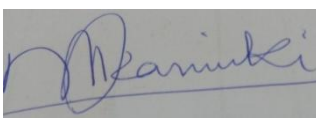
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DEDICATION

I dedicate this project to my family as they have been instrumental in holding my hand through this journey and have kept me inspired with positive energy. To my Dad Evans, my mum Anne, my siblings, Brian, Val and Angie and to my personal friend Eddie who walked this journey with me.

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ABBREVIATIONS

ABC	Activity Based Costing
ABM	Activity-Based Management
AMATs	Advanced Management Accounting Techniques
BSC	Balanced Scorecard
CIMA	Chartered Institute of Management Accounting
EU	European Union
GDP	gross domestic product
IRR	Internal Rate of Return
JIT	Just in Time
MAPs	Management Accounting Practices
MTP	Medium Term Plan
NSE	Nairobi Securities Exchange
RRC	Relative Replacement Cost
SACCOs	Savings and Credit Co-operative
SMA	Strategic Management Accounting
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for the Social Sciences
TMATs	Traditional Management Accounting Techniques

ABSTRACT

The investigation aimed to examine the influence of effect of strategic management accounting techniques on investment decisions among manufacturing firms in Kenya. Target costing, balanced scorecard, and just in time were the explanatory variables of the study which represented SMATs whilst the response variable was investment decision of manufacturing firms. The study adopted the descriptive research design which was cross-sectional as the information collected was done in a defined period. The target population of the study was 691 manufacturing firms from which a sample size of 69 finances managers, production mangers, production supervisors, or accounting managers from sampled firms which was 10 % of the population. A structure questionnaire adapted from past studies was designed to collect the information and the instrument was administered using the drop and pick method so as to avoid personal contact with respondents as per the COVID-19 guidelines of limiting physical contact. descriptive, correlation, and regression analysis was used to analyse the data from which the findings show that target costing and balanced scorecard had a positive and meaningful impact on investment decisions whilst there was no effect of just in time production on manufacturing firms' investment decision. The study concluded that target costing and balanced scorecard had a positive impact on investment decisions and just in time production did not have any effects. The study recommends that manufacturing firms should adopt target costing approach to help them manage production such that they reduce the costs of products which has a direct effect on investment decision of manufacturing firms. Manufacturing firms should enhance the adoption balanced scorecard principles in their operations and let their stakeholders be aware of their strategy while also defining their strategic goals in a clear and understandable manner. Manufacturing firms should strive to just in time production such as continuous improvement, controlling material flow and production scheduling that can help firms reduce cost whilst increasing productivity and improving quality due to the ever rising costs of production such as raw materials, labour and operating materials in Kenya. The study used quantitative methods and there is need for future studies to include qualitative methods so as to get more in-depth information on how balanced scorecard and target costing have contribute to investment decisions among manufacturing firms.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The process of making decisions is an important part of the day to day for managers and firms in every hierarchy of an organization so as to realize the objectives and survival of the organization. The turbulent economic environment requires that managers are able and capable of making decisions that navigate organizations through these challenges and lead them to reaching their objectives, mission, and vision (Al Shra'ah, 2015). The success of firms depends on sound financial management of working capital investment, investment decisions, and financing decisions (Bulle & Omagwa, 2017). These decisions require the information that is in the hand of accountants to arrive at an acceptable answer.

This means that managers in the organisation should exploit the diverse tools that guarantee that accounting information is generated and analysed to meet the needs of management (Pylypiv & Piatnychuk, 2018). The environmental factors can influence any decision making and this means that the manager and firm must consider these contingencies before making an investment decision and thus contingency theory of management accounting (Petera & Šoljaková, 2020). Firms face constraints which limit their investment decision making and managers must find an equilibrium between making an investment with the resources that they have and this is the context in which the theory of constraints is introduced in the study (Majerčák, Cisko, & Majerčáková, 2013).

The study is also based on the performance feedback theory which emanates from the need for manufacturing firms to improve their performance from feedback they get from the market to make investments to improve on this production (Şimşita, Günayb, & Vayvayc, 2014). The manufacturing sector in Kenya is an important contribution to national development and is among the four pillars in the government's "Big Four" agenda to achieving Kenya's Vision 2030 (Kivisi, 2019). The manufacturing sector performance has stagnated over the last decade contributing average of 10 % of gross domestic product (GDP) which is less than the anticipated contribution of the sector to 15 % of GDP. The functions of investment decisions are performed by the hierarchy of management level in the organization as they are also responsible to performance the roles of financial management (James & John, 2010).

1.1.1 Strategic Management Accounting Techniques

Simmonds is credited to coming up with the strategic management accounting concepts in the early 1980s by stating that strategic management accounting is analysis and provision of information by the firm to be able to measure and monitor the costs of the strategy that a firm adopts to compete in the market (Nuraliati, 2018). According to Ma and Tayles (2009), the management accounting discipline main concern is to provide information that is strategically oriented for making decisions and control. Strategic management accounting techniques are fitting for service firms and also manufacturing firms. However, there are techniques that are more dominant in some industries than others. In the manufacturing sector, activity based costing, life cycle costing, just in time, and target costing are more present (Nuraliati, 2018).

There are different version and definitions of strategic management accounting techniques and practices. Adler, Waldron, and Everett (2004) categorised SMATs into two categories: advanced management techniques and traditional management accounting techniques. back flush costing, throughput accounting, strategic management accounting, cost modeling, target cost planning, life cycle costing, economic value added, value added accounting, cost of quality, target costing, kaizen costing, activity-based costing, and activity-based management are the advanced management accounting methods. Job order costing, process costing, standard costing, and full costing are described into the traditional management accounting techniques. The different conceptualizations that have been used means that area still warrants more research to determine the mix of SMA variables.

The SMA variable has been measured using different dimensions in the manufacturing literature. Alkaraan and Northcott (2006) used benchmarking, value chain analysis, technology road mapping, balanced scorecard, and real options analysis as indicators of SMA. Bawaneh (2018) used costing system practices, budgeting, performance evaluation practices, and strategic analysis as proxies for SMAs. Jbarah (2017) adopted balanced scorecard, just in time production system and target costing were proxies for SMATs. This study adopted Jbarah's measurement of SMATs that include target costing, just in time production, and balanced scorecard.

1.1.2 Investment Decisions

Making decisions is a notable crucial role of managers in the organization where major decisions are made (Omarli, 2017). The selection of a course of action from two or more possible choices to select one answer to a problem is referred to as decision making. Although investment decisions involve making decisions related to financial resources, there is a developing concern that they can also be presented as non-financial decisions (Turner & Coote, 2018). The investment decision of an organization can either be replacement modernization, acquisition, and expansion of long term assets (Kemuma, 2014). Investment decisions are those that are made by a firm based on which investments to make on their current and long-term assets which are aimed to increase benefits and value to a firm.

Investment decisions need more scrutiny as they determine the growth of the firm, are risky, are difficult, involve large volume of funds, and are often irreversible. Deciding on where to channel firm resources when it comes to investment is a vital aspect that affects economic growth from a micro and macro perspective (Pandey, 2008). Investment decisions are critical for the growth of a single firm as such a decision can impact the production efficiency and reduce the unit production expenses which forms the micro perspective impact. From a macro perspective, investment decisions are explain the most of change in a nation's Gross Domestic Product (GDP) and their effect is used as an indicator of economic performance (Perić & Đurkin, 2015). The impact of investment decisions in manufacturing firms is an area which has not been fully explored.

Musau (2016) conceptualized investment decision into four categories: replacement decision, expansion decision, renewal or modernization decision, and research and development decision. Muraguri, Irura, and Kyaloteresia (2014) measured investment decision as capital budgeting. Doust and Pakmaram (2015) used three aspects of managers' investment decisions which were investment policy, dividend policy, and financing policy. In their research, Osoro, Nyang'au, and Nyarige's (2015) measured investment decisions as internal rate of return (IRR) and profitability index. Jbarah (2017) measured investment decisions by seven statements on a five point liker scale. The study used these statements to measure investment decisions as the data was collected from a sample of respondents.

1.1.3 Strategic Management Accounting Techniques and Investment Decisions

This section of the study presents research that has explored SMATs and investment decisions. A Chartered Institute of Management Accounting (CIMA) survey on use of several investment decision making tools and established that respondents only used three to four of the ten tools (CIMA, 2009). Jbarah (2018) conducted an investigation into outcome of investment decision as influenced by SMATs and found that just in time production, balanced scorecard system, and target costing determined investment decision making among managers in industrial firms.

In their study on the management accounting strategies used in the making of investment choices in the European Union, Pylypiv and Piatnychuk (2018) selected customer accounting, competitor accounting, strategic decisions, evaluation of effectiveness, monitoring, and used cost accounting; planning as indicators of SMATs but the study failed to show the impact of these tools on firms' investment decisions. Rogerson's (2008) study on investment decisions and intertemporal cost allocation relationship found that using relative replacement cost (RRC) can play a useful role in guiding investment decisions. Altin, Akgün, and Kasimoğlu (2020) identified the components of SMATs as JIT, BSC, and cost targeting. United Kingdom, Alkaraan and Northcott (2006) described benchmarking, technology road mapping, BSC, value chain analysis, and real options analysis as management accounting techniques.

Bawaneh's (2018) research among Jordanian manufacturing companies established that management accounting practices provided pertinent data for capital investment decisions. Soh, Carr, Kinder, Lin, and Mousavi (2015) found that financial techniques were not used by managers to make investment decisions owing to preference for tangible results, reliance on intuitive knowledge, speedy decision making, lacking the knowledge, and no need of the techniques. Zheng (2012) study in China found that application of capital investment decision analysis and applications and management analysis and in other areas was limited.

1.1.4 Manufacturing Sector in Kenya

Kenya's manufacturing sector is mostly comprised of multinationals' subsidiaries. The manufacturing firms fall into different categories as grouped by the Kenya Association of Manufacturers (KAM). These groups consist of rubber, plastics, tobacco, textiles, chemical and allied, leather products, medical and pharmaceutical equipment, wood products, paper

board and paper, food and beverages processing listings (Gichaaga, 2014). The import substitution policy (1967) resulted in the development of the manufacturing sector which transformed into an industrialization policy which is export-oriented. The industry is depends heavily on consumer goods production and the government's participation in the sector is limited in comparison to that of the private sector owing to the policy of privatization (Aduda & Ndaita, 2013).

Kariuki and Kamau (2016) reported that manufacturing firms adopted benchmarking, assessment of the competitor costs, customer accounting practices, monitoring of the competitors position, and competitor performance appraisal were the prevalent SMA practices. Whilst activity based costing, target costing and life cycle costing adoption rank low amongst Kenya's manufacturing firms. Bulle and Omagwa (2017) showed that investment decisions played a role in Kenya's manufacturing firms' performance which was supported by Koroti (2014) who showed that there was a direct link between investment decisions and financial performance of Kenya's sugar factories. Nyale (2010) found that thirty six percent of firms quoted in the NSE engaged in diversification investment decisions. The research on investment decisions and management accounting has been fragmented and this study aims to look at the relationship between these variables.

1.2 Research Problem

The top leadership mandated to make strategic decisions that include making investments in restoration old and purchasing new equipment and this requires information that is prepared by accountants to enable them to arrive at viable solutions. So, it is pertinent that a variety of tools are used to make sure that analytical and accounting information is generated that meets the needs of management (Pylypiv & Piatnychuk, 2018). The importance of Kenya's manufacturing sector to the nation's economic development is great. However, the performance of the sector has stagnated in the last ten years and improved performance is only attainable by increase in profits from the industry which depend on all factors that can impact profits of an organization. Investment decisions have been shown to influence performance of manufacturing firms in past studies (Bulle & Omagwa, 2017; Mweresa & Muturi, 2017) in Kenya.

Several studies conducted around the world show management accounting practices do indeed influence investment decisions in manufacturing firms. These include Atkinson et al's. (2012) study on how management accounting data was used for strategy execution and decision making. Atrill and McLaney (2009) conducted a study on management accounting for decision makers. Myrelid (2013) did an essays on manufacturing-related management accounting. These studies indicated evidence that management accounting data enhances the quality of decisions reached by the manufacturing industry and this increases firm performance. Other studies (Nixon, 1995) found no relationship between management accounting and investment decisions of firms.

Locally, Bulle and Omagwa (2017) sought the effect of investment decisions on financial performance of companies listed at the NSE whose operations focused on the manufacturing and allied sector and found that investment decision did impact the financial performance. Mweresa and Muturi (2017) assessment on effects of investment decisions on public sugar companies performance in Western Kenya revealing positive relationship between investments in production and financial performance. Musau (2016) deduced the influence of investment choices on financial performance finding that research and development decisions positively contributed to performance. Koroti's (2014) examined effects of financing and investment choices on financial performance of Kenyan sugar companies and found out that investment decisions positively affected financial performance.

The studies that have explored strategic management accounting techniques in Kenya's manufacturing sector. Aduda and Ndaita (2013) investigated on management accounting systems practices and changes applied by big manufacturing companies. Gichaaga's (2014) study on management accounting on manufacturing firms' financial performance. Waihenya (2019) study on the impact managerial accounting methods had on manufacturing organizations financial performance. The goal of this study is to deduce if SMATs have any effects on investment decisions among Kenya's quoted manufacturing firms.

1.3 Research Objective

This study aims to determine effects of strategic management accounting techniques on investment decisions among manufacturing firms listed in the NSE, Kenya.

1.4 Value of the Study

The study is of value as it aims to contribute to the literature and theory on the influence of SMATs on investment decision making in manufacturing firms an area which has received less academic research as impact of strategic management accounting techniques has dominantly been measured against performance of the firm. There is less academic research that supports or goes against the existing theoretical framework on the nexus between management accounting and investment decisions.

The study is of importance and significance to the policy direction and formulation. Manufacturing is one of the four pillars for the government's development agenda and this study inform policy makers on the importance of management accounting methods on the investment decisions that manufacturing firms make in the pursuit of increasing the contribution of the sector to the nation's GDP.

The study helps the managers and leaders in the manufacturing sector as it aims to identify which SMATs have the greatest effect on investment decision making and thus make recommendations for adoption of these techniques in the sector. The research makes a vital contribution to the literature on use of accounting information in making investment decisions in Kenya's context where this literature is less available in the academic literature.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature on the topic under study and consists of the theoretical review, an empirical review of strategic management accounting techniques and investment decisions, conceptual framework, and a summary and research gap of literature review.

2.2 Theoretical Review

The section thus presents theories relatable to the study to generate understating of SMATs and investment decisions.

2.2.1 Theory of Constraints

Proposed by Goldratt (1984), theory of constraints (TOC) is a management focused philosophy where the focus is on the weakest parts of a supply chain to enhance performance of a system. In its formative years, the TOC was adopted in planning the production process and the allocation of resources but it was modified as technology evolved and competition became fierce between competitors in the global market. Today, TOC is used in philosophy of management combined with cost accounting system (Şimşita, Günayb, & Vayvayc, 2014).

The theory of constraints (TOC) shows managers where and how to focus resources of the company so that there was a maximum return on investment. It also provides guidance on how to monitor and measure processes and communicate with the rest of the organization in order to get on the path of continuous improvement (Rahman, 1998). The TOC has been adopted widely ranging from marketing and sales, development and research, accounting, project management, distribution, supply chain, logistics, and production (Şimşita et al., 2014).

According to Cox and Spencer (2000), TOC creates flow accounting one of the three main branches of TOC performance measurement system, thinking process tools and operation strategy tools. The last branch of TOC is made up Five Focusing Steps and VAT Analysis. The performance measurement tools consist of inventory dollar days, throughput dollar days, operating expense, inventory, throughput, cash flow, return on investment, and net profit. The thinking process tools consist of audit guidelines/processes and tree diagrams (Majerčák, Cisko, & Majerčáková, 2013).

The theory has received considerable criticism. One of the criticisms is that TOC has been criticized owing to the argument it proposes that it creates the best schedule and the idea that the algorithm on which it was created from has not been presented in the literature. The TOC has been criticized for emphasizing on short-term tools of decision making and the concepts of the theory can be justified in the supply chain from support and resources, production, management which relies on circumstances. The TOCs operating expenses are identified as fixed which naïve in the perspective of its critiques.

The TOC is adopted in this study as it integrates the importance of improving performance systems by exploiting the management accounting system and information of the firm. The TOC is relevant to the study as the processes it suggests in its explanations can be used by firm managers to make investment decisions in the company to improve performance. Moreover, the TOC is relevant as it is a theory that was developed for the industrial and manufacturing sector in explaining process and product improvement. The focus of this study is manufacturing firms and the investment decisions they make and thus the theory is useful in this study.

2.2.2 The Performance Feedback Theory

Rajes, Lechner, and Floyd (2013) posit that performance feedback theory is founded on the continuous standpoint of the firm where firm decision processes are described by the behavioural theory of the firm and this process can be understood from evaluating performance, searching for solutions, and decision making. The theory argues that members of the firm focus on particular firm goals which are reflected in the level of aspiration and seeking feedback from the environment to determine if a goal was realized or not. The lack of achieving a goal means that there is need for a search to find a solution. The empirical evidence indicates that the theory predicts environment behaviours as well and shows how firms influence growth of production assets.

A performance that is different from the level of aspiration has a negative impact on risk and search tolerance such that firms that have performance that is below their aspirations are more likely to renew or add production facilities that were assessed as acceptable risks. Equally, firms that have performance beyond their level of aspiration have less input in terms of

searching for means to enhance their production facilities and have more aversion to risk. Hence, performance comparative to a level of aspiration has a negative relationship to the level of asset growth. Simply, failure feed growth and success suppresses growth. This means that the organization investment choices are reached after considering the organization performance relative to the aspirations that the firm has and thus makes this theory relevant to the study (Rajes et al., 2013).

Some of the criticisms levels against performance feedback theory are that the performance feedback theory does not show the importance of intra-organizational processes or environmental factors but rather sees firm change as a result of their combination. Despite this criticism the theory is appropriate for the research as its shows the motivations towards investment decision making by attributing this process to the realization or a non-realization of the company goals. The poor performance of a manufacturing firms means that it is more likely to make investments and good performance will influence less investment decisions. Manufacturing firms have been performing poorly and are involved in making investment decisions which are evaluated in terms of their SMATs.

2.2.3 Contingency Theory of Management Accounting

Fred Edward Fielder is credited with the contingency theory of leadership in the 1960s. Otley (1980) applied the theory in management accounting by arguing that a contingency perspective must demonstrate the various accounting process parts that are related to specific situations and show a suitable match. The theory argues that firm systems and structures are a part of firm and environment specific factors (Cadez & Guilding, 2008). In contrast to best practice techniques, the contingency approach proposes that firm effectiveness comes from matching their management control system to a particular situation (Peters & Šoljaková, 2020).

The contingency theory and its link to firm accounting structure and organization gained traction in the accounting literature in the seventies. The contingency idea is founded on the firm theory that a company aims to maximize its competency between environment and structure (Dik, 2011). This means that a contingency approach must show the specific parts of

a system of accounting which are linked with particular circumstance that are defined and must show suitable matching (Islam & Hu, 2012).

The contingency theory has been critiqued as to having a limited scope in the explanation of how contingencies and peculiarities and how this influence the application of management accounting systems in the firm (Reid & Smith, 2000). This view of the theory has been contested by previous studies which posit that the management accounting systems can be determined and can influence contingencies and that the theory lacks specificity and clarity as its variables are poorly defined (Orja, 2014).

The theory is useful in this research as it shows the importance of matching the internal environment to the flexible external environment. The efficiency of the manufacturing sector can be enhanced by making investment decisions to increase their performance. The management accounting information is generated internally but can be used to chart the way forward for manufacturing firms to invest by increasing efficiency in investment decision making among top leadership in manufacturing firms.

2.3 Determinants of Investment Decisions in Manufacturing Firms

This section of the literature focuses on presenting evidence of studies and research have established the determinants of firm investment decision. An attempt is made to present this evidence in a systematic approach moving from global, regional, and local evidence.

2.3.1 Strategic Management Accounting Techniques

The strategic management approach was first used during the coming up with the various methods in the cost accounting and management disciplines whose aim was to reach the objectives stipulated by the modern business organization's strategic management. The strategic accounting management created several approaches and methods in strategic management accounting and strategic cost management that included the balanced scorecard, benchmarking, value chain, and ABC costing (AlMaryani & Sadi, 2012).

The purpose of strategic management accounting is to give data for the coming up with a firm's strategy and ensure its execution is successful by boosting a firm's culture that is relatable to the firm's strategy by applying accounting approaches aimed at cost reduction, evaluation of

performance, product quality improvement that contribute to the firm's strategy and to maintain the position of the firm competitively and proceed to operate in the changing market (AlMaryani & Sadi, 2012).

2.3.2 Macroeconomic Factors

Bialowolski and Weziak-Bialowolska (2014) investigated the importance of certain external influencers of Polish firms investment choices and found legal and macroeconomic factors determined the investment decisions. Ulung, Mas'ud, and Nurpadila (2017) study on relationship between outside factors on investment decision of manufacturing firms in the Indonesia Stock Exchange (IDX) analyzing effects of interest rates, inflation, exchange rate and investment decisions and found that interest rate and inflation had negative effects on the investment decision, while the exchange rate favorably impacted on the investment decision.

2.3.2 Personal Factors

In a sample of individual investors and equity fund managers, Sajid (2015) examined the factors affecting investment decision making in Pakistan and concluded that practical problem solving, application of financial tools and level of corporate governance of the firm significantly and favorably influenced the making of investment decisions whilst risk aversion had significant negative effect. Qureshi, Rehamn, and Hunjra (2014) analysis of factors impacting investment choices made by fund managers in equity investment firms, commercial banks, and insurance firms established there was a significance positive association on application of financial tools, practical problem solving skills, corporate governance, risk aversion, and investment decisions. The findings indicated that corporate governance of the firm has a big effect on making investment decisions.

In a sample that consisted of SACCO board of directors in Kenya, Muraguri, Irura, and Kyalotesia (2014) analysed the determinants on SACCO funds investment decisions and established that financial literacy skills were important in making investment decisions. Still in Kenya, using a sample of finance managers from NSE listed organizations, Worzie (2020), analysed the factors affecting investment decisions finding that profitability of the company, financial market information, investment risk, and investor financial knowhow on investment decisions of NSE firms.

2.3.3 Firm factors

In a study conducted in Portugal, Pacheco (2017), investigated the investment determinants at the firm-level among industrial Small and Medium Enterprises (SMEs). The findings showed that firm-specific characteristics - profitability, liquidity, leverage, and size favorably and significantly impacted investment decisions of an SME. In a sample of Polish companies, Bialowolski and Weziak-Bialowolska (2014) investigated the significance of outside influences on investment choices and indicated that delays in payments had the greater impact on influencing investment decisions among companies in Poland.

Perić and Đurkin (2015) identified the major determinants that influence investment decisions of small firms in Croatia from which the results showed that most firms made investments in fixed assets that were targeted towards survival of the firm, that is, investment decisions were towards the replacement of worn-out equipment. In Ghana, Edusei-Mensah (2015) examined the factors that contributed to investment decisions of firms and found that resources, cash levels, exchange rates, fixed assets all influenced Ghanaian firms listed investment decisions.

2.4 Empirical Studies

The Chartered Institute of Management Accounting (2009) conducted a global research survey that asked 439 accounting managers to report about the current and intended usage of ten investment decision making tools. The survey covered ten groups of management accounting tools divided into strategic, managerial, and operational categories. The study found three or four tools were used in making investment decisions out of the ten listed with net present value (NPV) being the most applied tool for investment decisions.

In the United Kingdom, Alkaraan and Northcott (2006) study examined the relation between management accounting tools and capital investment decision using benchmarking, balanced scorecard, value chain analysis, technology road mapping, and real options analysis were proxies of MAPs management accounting techniques. The findings showed accounting rate of return (ARR), net present value (NPV), internal rate of return (IRR), and payback rule (PB) had a positive relationship with capital investment decision making. Jbarah (2017) evaluated the relationship between SMATs and investment decisions of industrial firms in Jordan adopting an analytical descriptive approach to the study. Balanced scorecard, target costing,

and Just in time production system were the SMATs were the indicators for the independent variable. The results show an impact of SMATs on making of investment decisions. The study was limited to industrial firms which possess different operational dynamics than manufacturing firms which this study aims to focus on. The study did not include control variables in its analysis which are introduced in the current study.

In Jordan, Bawaneh (2018) conducted a study on the importance and current application of MAPs among thirty manufacturing firms in Jordan. The independent variables were costing system practices, budgeting, performance evaluation practices, strategic analysis, and techniques for short-term decision-making. The findings revealed MAPs complemented the management accounting processes and firm structure. The study thus concluded that management accounting provided relevant information for capital investment decisions. In Turkey, Altin, Akgün, and Kasimoğlu (2020) measured effects of SMATs in a sample of SMEs operating in the manufacturing sector on their investment decisions. The components of SMATs were JIT, BSC, and cost targeting. The results indicated that SMATs applied by the manufacturing SME firms had a moderate effect on their investment decisions whilst JIT had highest rate of effect on efficiency of making investment decision followed by BSC and TC. This study was focused on a sample of SMEs which are relatively smaller from the sample of firms that this study aims to focus on.

Wu, Huang, and Brown (2013) examined the influence of target costing (TC) in real-estate industry investments using a case study approach. Target costing among real-estate investment firms was used for price dynamics and market orientation. The study adopted a qualitative research design which gave rise to the limitation of focusing the research on a small sample. The study was not in the manufacturing sector where this study aims to focus. Moreover, the research was limited to one SMA technique whilst this study aims to focus on three techniques. In the United States, Lyons, Gumbus, and Bellhouse (2003) conducted a study on alignment of capital investment decisions along with the BSC using a case study approach of Bridgeport Hospital. The findings show that U Bridgeport Hospital had been applying the BSC consistently over a three year duration to implement strategy into their operations. The hospital also linked the BSC to the capital budgeting process to make sure that resources were allocated

with the imperatives of the strategy. The realisation of allocation of resources and combination of strategy applying a matrix technique where strategy goals were allocated projects and weights were assessed on the ability of the project to influence the strategy goals listed in the scorecard. The study was limited to a hospital firm which is different from manufacturing firms' process and was further limited to the BSC as a management accounting technique whilst this study focuses on three SMATs.

In an assessment of financing and investment choices on financial performance of Kenyan Sugar companies, Koroti (2014) applied a non-probability sampling approach in which the sample was of 4 sugar companies from a population of 11 organizations. The research established that investment decisions had an effect on financial performance. The limitation from this study was that only sugar companies were included and although they are part of manufacturing firms in Kenya, but this study includes other companies of manufacturing definition. The study was limited to secondary data and lacked input from professionals on use of SMATs in making investment decisions a goal which this study aims to do. Amuko (2015) conducted a study on SMEs investment decisions by assessing the technology investments by SMEs in Nairobi, Kenya. The descriptive study used a population list comprising of 107 respondents from a sample of 53 companies. The study called for improved capital structure management for SMEs as it contributed to access to finance and investment decisions. The study sample was SMEs while this study focuses on large manufacturing firms in the NSE.

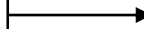
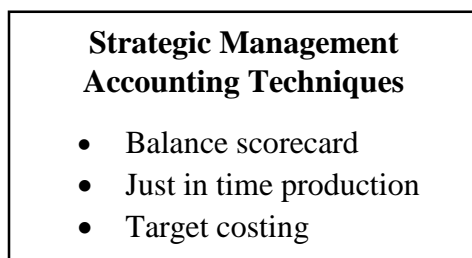
Musau (2016) investigated the outcome of financial performance from effects of investment decisions of SACCOs from Kitui Central Sub County using time series data covering a 10 year period (2006 - 2015) in a sample of 12 firms. The findings revealed that research and development, renewal decisions, and replacement decision had positive significant effects on financial performance (dividends) whilst negative effect was seen for expansion decision. Research and development decision, modernization decision, and expansion decision had resulted in an increase to financial performance (surplus or deficits) with replacement decisions had negative effects.

Bulle and Omagwa (2017) examined effects of investment decisions on financial performance of organization listed in the NSE whose operations were focused on manufacturing and allied sector. The sample of the study comprised of data on firms from 2011 to 2016. The study found that investment decision impacted the financial performance of any firm. This study used investment decisions as an explanatory variable whilst it is used as a response variable in this study. In an assessment of outcome of performance of public Kenyan sugar companies from investment decision in western Kenya, Mweresa and Muturi (2017) found that production investment had an impact on financial performance, distribution investment decisions had a moderate effect, and least impact was observed for financial asset investment. The study findings were restricted to sugar firms which are also part of the manufacturing and allied sector but not all firms are on the NSE which is the focus of this project. The study did not examine any relationships between investment decisions and SMATs which is the main objective of the study.

2.5 Conceptual Framework

The structure that an investigator believes can explain the natural progression of a research problem is referred to as a conceptual framework. This framework is connected to important theories, empirical results, and concepts which are applied to promote and systematize the knowledge adopted by a researcher (Adom, Hussein, & Agyem, 2018). The proxies for SMA techniques are variables are balanced scorecard, just in time production, and target costing with investment decisions as dependent variable.

Independent Variable



Dependent Variable

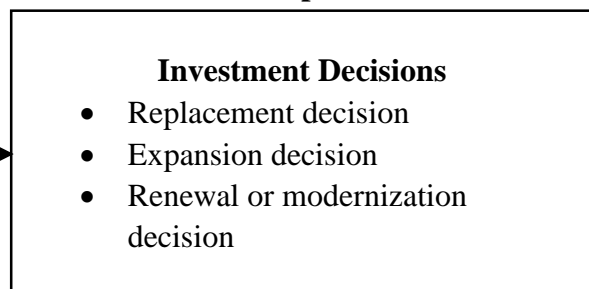


Figure 2.1: Conceptual Framework

2.6 Summary and Research Gap of Literature Review

From the literature, there are past studies which examined how SMATs relate to investment decisions. However, there are some research gaps inherent in the past literature as per this review. One of the major gaps is that there is little evidence to show the relationship between SMATs and investment decisions among manufacturing firms in Kenya, most of the studies are in global (Alkaraan & Northcott, 2006; Altin et al., 2020) and regional (Jbarah, 2017; Bawaneh, 2018) contexts. There is evidence of some studies that have explored the investment decision variables in the local context but this have focused on establishing their effect on financial performance (Musau, 2016; Bulle & Omagwa, 2017; Mweresa & Muturi, 2018), SME's technology investments (Amuko, 2015). These studies were conducted in a sample of firms in the manufacturing sector but did not include firms that operated out of the sugar processing and production sector. This study aims to focus on the largest manufacturing firms which are an indicator of the performance of the entire industry.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes and defends the selection and choice of the different research techniques used for the study. The design used, population, sample design, data gathering, diagnostic tests, and data analysis are the sub sections included in this chapter.

3.2 Research Design

According to Robson (2002), research designs can be grouped into explanatory, descriptive, exploratory. In explanatory studies, the researcher aims to account and explain phenomenon by answering the “how” and “why” questions (Grey, 2014). In an exploratory research design, a researcher aims to find out new information on a research area or problem that has not been empirically investigated (Saunders, Lewis, & Thronhill, 2012). Descriptive studies describe an event, individual, or setting showing how they are linked (Blumberg, Cooper & Schindler, 2008). The study adopted the descriptive research design which was deemed fit as it focuses on the influence of selected variables on manufacturing firms’ investment choices.

3.3 Population

The entire group of units that a survey aims to study and make inferences is referred to as a population. It’s then the group of the population that the findings are aimed to be generalized (Taherdoost, 2016). The units of analysis was 691 manufacturing firms in Kenya and the units of observation is either finance managers, production mangers, production supervisors, or accounting managers from the selected firms.

3.4 Sample Design

The study adopted the stratified random sampling which is presented in Table 3.1 in which the strata are places into the manufacturing sub sectors. In choosing the sample size, Mugenda and Mugenda (2019) recommendations was taken into account that it’s prudent to select 10-30 % of the population as the sample size of the study. Thus, the study selected the 10 % of the population as the sample size for the study which corresponds to 69 firms.

Table 3.1: Population and Sample Size

Sub-Sector	Population	Sample Size
Building, Mining, and construction	26	3
Chemical and Allied	78	7
Energy, Electrical, and Electronics	44	4
Food and Beverages	193	19
Leather and footwear	9	1
Metal and allied	78	8
Motor vehicle assemblers and accessories	53	5
Paper and board	70	7
Pharmaceutical and medical equipment	26	3
Plastics and rubber	26	6
Textile and apparel	61	2
Timber, wood, and furniture	18	2
Fresh produce	3	1
Total	691	69

Source: Kenya Association of Manufactures (2020)

3.5 Data Collection

Quantitative research is that which aims to collect data in a numerical format and is analysed using mathematical procedures using statistical software (Aliaga & Gunderson, 2002). The researcher designed a questionnaire to collect data from participants which had close-ended question items and a 5 point Likert scale to measure the independent and dependent variables. This source of data collection is primary. The instrument had five sections that include the background information of respondents, a section on the three independent variables, and a section on the dependent variable. The study adopted an instrument developed by Jbarah (2017), the balanced scorecard consist of 9 items, target costing has 10 items, just in time production system consists of 9 items, and 7 items on investment decision.

Table 3.2: Operationalization of Study variables

Variable	Measurement	Scale	Source
Investment decisions	12 items	Interval scale	Musau (2016); Nyang'au & Muturi (2018)
Balance scorecard	Nine items	Interval scale	Jbarah (2017)
Just in time production	Nine items	Interval scale	Jbarah (2017)
Target costing	Ten items	Interval scale	Jbarah (2017)

3.5.1 Diagnostic tests

The diagnostics tests that were conducted include the tolerance and Variance Inflation Factor (VIF) was used to determine multicollinearity issues in the data. The tolerance point is the 1-R² value when each explanatory variables is regressed on other explanatory variables whose low tolerance levels display excessive points of multicollinearity. The VIF is utilized as an indicator of multicollinearity and is described as the mutuality of tolerance. The rule of thumb is to have low points of VIF, as high points of VIF are recognized to adversely influence of the result linked with a multiple regression analyses (Belsley, Kuh, & Welsch, 2004). Kolmogorov–Smirnov test and the Shapiro–Wilk test are popular for checking a dataset's normality. In this study, the Kolmogorov–Smirnov tests were used as it is more suitable for samples > 50 and continuous data (Belsley et al., 2004).

3.6 Data Analysis

3.6.1 Reliability and Validity of the Instrument

Reliability quantifies the level of consistency of an instrument, including internal consistency, stability, and equivalence (Neuman, 2012). The study used Cronbach's Alpha to measure the internal reliability of a questionnaire. The value of Cronbach's Alpha gives an evaluation of the accuracy or uniformity of the research questions with the study objectives (Kember & Leung, 2008). A pilot study was conducted among 10 participants from a similar population which was managers from manufacturing firms not listed in the NSE. A universal accepted rule is that a value of 0.6-0.7 points out accepted levels of reliability (Sitjma, 2009).

John (2015) defines validity as the degree of accuracy of the research instrument. It can be external or internal. Kember and Leung (2008) recommend using constructs and questionnaire items from past studies to assess the search instrument's internal validity. The findings indicated that the Cronbach Alpha values were all above 0.6 supporting the internal consistency of the instrument and confirming its reliability. This finding can be explained in terms of the items having been used in past studies and having been proved to be reliable.

Table 3.3: Instrument Reliability Statistics

Variables	Cronbach Alpha	Items
Investment decisions	0.654	12
Balance scorecard	0.721	9
Just in time production	0.689	9
Target costing	0.663	10

3.6.2 Analytical Model

In statistical applications, data analysis is divided into descriptive and inferential statistics where the former refers to the describing and summarizing data so that it is easily readable and understandable while the latter aims to model relationships between variables in an aim to make conclusions and inferences from the data (Sutanapong & Louangrath, 2015). The inferential statistics that were used in the study include Pearson (*r*) correlation and linear regression analysis. Linear regression analysis will be done to show effects of explanatory variables on the response variables whilst estimating (Bihani & Patil, 2014). The Statistical Package for the Social Sciences (SPSS) Version 20 analysed the data which was presented in tables and figures. The dependent variable *Y* is investment decisions, *X*₁, *X*₂, and *X*₃ are the independent variables of the study.

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

Where:

Y = Investment decisions

α = Constant

β₁, β₂, β₃ = Coefficients

X₁ = Balance scorecard

X_2 = Just in time production

X_3 = Target costing

ϵ = Error term

3.6.3 Significance Tests

Significance tests are a function of empirical quantitative data analysis. The null hypothesis significance test is the most common form of significance tests and is a method that is used widely to legitimize claims of knowledge from statistical analysis from randomly distributed data. The correlation and regression statistics on the relationship between variables was done at the 95 % confidence level.

CHAPTER FOUR: DATA ANALYSIS OF INTERPRETATION

4.1 Introduction

This chapter is the data analysed results and presentation done in sub sections that include a description of the response rate, the position of respondents in the sampled firms, descriptive statistics section for each of the study variables, correlation analysis, multiple regression analysis, and closes with by discussing the outcomes.

4.2 Response Rate

Table 4.1 shows the rate of response from the field survey which shows that out of the 69 questionnaires administered, the study was able to receive back 57 that were used in the analysis. This represents a response rate of 82.6 %.

Table 4.1: Study's Rate of Response

Position in firm	Frequency	Percent
Questionnaires administered	69	100.0
Questionnaires not returned	12	17.4
Questionnaires returned	57	82.6

4.3 Multicollinearity

The rule of thumb is to have low points of VIF, as high points of VIF are recognized to adversely influence of the result linked with a multiple regression analyses (Belsley, Kuh, & Welsch, 2004). The VIF values are all below 5 and this means that there is no collinearity in the data.

Table 4.2: Collinearity Statistics

	Tolerance	VIF
Target costing	0.798	1.253
Balanced scorecard	0.626	1.597
Just in time production	0.757	1.322

4.4 Normality

The Kolmogorov–Smirnov test will be used as it is more suitable for samples > 50 and continuous data (Belsley et al., 2004). Table 4.3 shows that data exhibited a normal distribution based on the significance levels which were greater than 0.05 which means we reject the null hypothesis that data do not follow the specified distribution. This means normality is present.

Table 4.3: Tests of Normality

	Kolmogorov-Smirnov^a		
	Statistic	df	Sig.
Investment Decisions	.106	57	.168
Target Costing	.108	57	.093
Balanced Scorecard	.131	57	.066
Just in time production	.110	57	.085

a. Lilliefors Significance Correction

4.5 Respondent Position

The questionnaire was administered to staff concerned with financial information and operations in the sampled firms and these responses were categorised into finance managers (15.8 %), financial controllers (28.1 %), production managers (15.8 %), production managers (15.8 %), production supervisors (14.0 %), and accounting managers (26.3 %) given in Table 4.4.

Table 4.4: Respondents Distribution in Positions

Position in firm	Frequency	Percent
Finance Managers	9	15.8
Financial controller	16	28.1
Production Mangers	9	15.8
Production Supervisors	8	14.0
Accounting Managers	15	26.3
Total	57	100.0

4.6 Descriptive Statistics

4.6.1 Target Costing

The first independent variable for the study was target costing whereby the respondents were requested to indicate their extent of agreement with twelve statements on target costing on a five point Likert scale. The descriptive findings comprising of averages and standard deviation are presented in Table 4.5. The overall mean for this statements is 2.916 and a standard deviation of 1.39 indicative of respondents' disagreement with the statements on target costing from the context of their firms.

Table 4.5: Target Costing Descriptive Statistics

Statements	N	Mean	Std. Dev.
The firm provides financial, human, and material resources for development and research	57	2.96	1.30883
The firm invests in specific product design to make sure the technical specifications are to the required standard	57	3.02	1.43292
The end-products of the firm after production are tested to ensure suitable and quality pricing for consumers	57	2.68	1.47791
The operational engineering of the firm is conducted such that it lessens the costs and gives newer designs in the future	57	3.58	0.98102
The firm's production process is conducted in a manner that lessens the production costs	57	2.24	1.29946
The product operational design influences its pricing	57	2.46	1.62646
The product price takes into consideration the cost incurred in raw material storage	57	2.65	1.35609
The need can be estimated and evaluated to find the suitable price for the product	57	3.37	1.37102
The company is dependent on various processes to find consumer needs and opinions	57	3.23	1.47621
The raw materials and production processes are done according to the needs of the consumers	57	2.96	1.60318
Overall mean score		2.916	1.393

4.6.2 Balanced Scorecard

The first independent variable for the study was target costing whereby the respondents were requested to indicate their extent of agreement with nine statements on Balanced Scorecard on a five point Likert scale. The descriptive findings comprising of averages and standard deviation are presented in Table 4.6. The overall mean score was 2.52 and a standard deviation of 1.344 suggesting that participants disagreed with the balanced scorecard statements in the context of their organization. The findings indicate that balanced scorecard practices were not practiced in the sampled manufacturing firms.

Table 4.6: Balanced Scorecard Descriptive Statistics

Statements	N	Mean	Std. Dev.
The firm makes clarification on the strategy to its shareholder and is clear about the goals of the firm	57	3.9649	1.14899
The firm pays attention to the performance measurements to achieve its operations and has strategies linked to the operations	57	2.0351	1.26724
The firm collaborates with the firm and individuals about its performance	57	2.1053	1.23468
The firm has a plan to reach its tactical aims and makes efforts to ease the annual budget preparation process	57	2.9474	1.38127
The firm aims to escalate the administrative coordination among employees and create knowledge in the firm to enhance their capabilities	57	2.0175	1.26054
The firm pays attention to the operations' performance measurement linking shore-term and long-term objectives of the firm	57	2.8246	1.45311
The strategy of the firm is translated to the initiatives, goals, standards, and parameters for continuous improvement	57	2.3509	1.39503
The firm's strategy is communicated to all staff and extends to the firm's learning and change	57	2.386	1.44858
The firm aims to match the personal goals and the departmental goals with the strategy	57	2.0877	1.41775
Overall mean score		2.52	1.344

4.6.3 Just in time production

Table 4.7 shows the descriptive statistics for the Just in time production which was the study's third variable. The respondents were requested to indicate their extent of agreement to nine statements on JIT production in their respective forms on five point Likert scale. The overall mean score was observed as 2.73 which fall under disagree level and a standard deviation of 1.282. This means that participants disagreed with just in time production processes, system, and techniques were adopted in their respective firms.

Table 4.7: Just in time production Descriptive Statistics

Statements			
The JIT processes have contributed to the control of times of delivery to clients	57	2.7544	1.41775
The JIT system lessens amount of stock and the expenses associated	57	3.0351	1.47557
The JIT system has made the stock delivery to a small quantity of suppliers	57	2.2105	1.31932
The JIT system has contributed to the employees developing various skills	57	2.0175	0.95415
The utilization of control cards in production has led to the control of production and needed specifications	57	1.8246	1.28345
The JIT system has assisted in stock purchasing with the matching amount of production quantity	57	2.33	1.38013
The JIT system is linked to enhancing product quality and reduce expenses by controlling and testing processes	57	3.18	1.67036
The JIT system has made the firm to rely on a low stock levels to reduce losses	57	3.56	1.01801
The JIT system has made it possible for the firm to produce to	57	3.67	1.02353
Overall mean score		2.73	1.282

4.6.4 Investment Decisions

The dependent variable was measured by twelve statements that participants were requested to show their level of disagreement on a five point Likert scale. The overall mean score for investment decisions is shown as 2.70 and a standard deviation of 1.305 as shown in Table 4.8. This findings suggest that manufacturing firms were not making investment decisions and this can be a barrier to these firms achieving optimum firm performance.

Table 4.8: Investment Decisions Descriptive Statistics

Statements

The company has been making replacement investment decisions in improving operating efficiency	57	2.84	1.41155
The firm aims to achieve lessening expenses by replacing old products in relation to change in the market environment	57	2.07	1.26575
The company creates value through the eventual outcome of the replacement investment decision	57	3.65	1.35609
The replacement of worn-out assets has had a major impact on firm investment	57	2.40	1.33443
The company focuses on adding new operations lines and new products	57	2.60	1.26575
The management of the firms aims to aid of capacity or diversification of operations	57	2.30	1.28125
The management of the company desire for risk investment because business is taking risk	57	2.93	1.27978
Incorporation of capital budgeting affect investment variations	57	3.28	1.1141
The company has invested in changing in operations in terms of products offered	57	2.47	1.29705
The company has invested methods of delivery and efficiency of operations	57	2.93	1.16281
The firm always aims to develop new information or technology to enhance the product effectiveness	57	2.40	1.30739
Organization research and development decisions have contributed to the efficiency in production	57	2.53	1.58233
Overall mean score		2.70	1.305

4.7 Correlation Analysis

Table 4.9 gives the findings of the Pearson correlation coefficients between strategic management accounting techniques and investment decisions. The outcomes indicates that there was a favorable and significant association between target costing and investment choices from the correlation coefficient of 0.341 and this was significant at the 5 % alpha level. A positive and significant association was also observed for the balanced scorecard and investment decisions by a correlation coefficient of 0.256 significant at the 5 % alpha level. Just in time production had the least correlation coefficient of 0.057 that was favorable and significant at the 5 % alpha level. These findings explain that an increase in target costing, just in time production, and balanced scorecard move in the same direction with investment decisions.

Table 4.9: Correlation coefficient Results

	Target Costing	Balanced Scorecard	Just in time Production
Target Costing			
Balanced Scorecard	.448**		
Just in time Production	0.184	.492**	1
Investment Decisions	0.171	0.000	0.057
	0.341	0.256	0.270
	0.004	0.004	

** Significant correlation from the test value at the 0.01 level (2-tailed).

4.8 Regression Analysis

A regression analysis helped determine the influence of target costing, just in time production, and balanced scorecard. The model summary for this analysis is shown in Table 4.10 and this shows that the model explained 54.1 % ($R^2 = 0.541$) of change in investment decisions.

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.710 ^a	0.541	0.045	0.45156

a Predictors: (Constant), Just in time Production, Target Costing, Balanced Scorecard

Table 4.6 presents the Analysis of Variance (ANOVA) outcomes and shows the variability level of a regression model and tests the significance of a model. The F statistic ($F = 1.879$), is positive and the significance value is less than 0.05 (p value = 0.044), which points to the significance of the model in explaining variation in investment decisions.

Table 4.11: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.149	3	0.383	1.879	0.044 ^b
	Residual	10.807	53	0.204		
	Total	11.956	56			

a Dependent Variable: Investment Decisions

b Predictors: (Constant), Just in time Production, Target Costing, Balanced Scorecard

The coefficients results of a regression analysis show the size and direction of the effects of independent variables on a response variable. In this case, Table 4.12 shows that a change in target costing resulted in a 0.144 increase in investment decisions and this was significant at the 5 % alpha level. A change in balanced scorecard would yield a 0.191 increase in investment decisions and this was significant at the 5 % alpha level. Just in time production had a negative effect meaning that an increase would lead to a reduction in investment decisions but this was insignificant at the 5 % alpha level. The proposed regression model thus becomes:

$$\text{Investment decisions} = 1.952 + \text{Target costing } 0.144 + \text{Balanced scorecard } 0.191 + \text{Just in time production} - 0.056 + \varepsilon$$

Table 4.12: Coefficients^a

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	1.952	0.381		5.118	0.000
	Target Costing	0.144	0.121	0.174	1.192	0.023
	Balanced Scorecard	0.191	0.144	0.219	1.325	0.019
	Just in time production	-0.056	0.102	-0.082	-0.548	0.586

a Dependent Variable: Investment Decisions

4.9 Discussion of Research Findings

The discussions of the findings are from the regression coefficient analyses which indicate that balanced scorecard was the greatest influencer on investment decision of manufacturing firms. The result of the research are in support for those of Jbarah (2018) who found that balanced scorecard had a positive influence on investment decisions among manufacturing firms in

Jordan. The outcome of this study is in contradiction with other studies conducted in Kenya's manufacturing sector that reported less use of the balanced scorecard. These include Arithi's (2001) survey which found that the BSC was not being implemented among the large manufacturing companies. This observation is elucidated as the study was conducted in the early 2000s and a lot has changed since then in the competitiveness in Kenya's manufacturing sector.

Studies that followed also had similar findings, for instance, Aduda and Ndaita (2013) found limited implementation of the balanced scorecard among large manufacturing firms. Kaplan and Norton (1992) are credited with the creation of the BSC as a method of managing and measuring performance using four perspectives to overcome limitations and measure performance of previous methods. The findings suggest that manufacturing firms that use the BSC to collect information and feedback which is used to make strategic investment decisions that ultimately contribute to superior firms against competitors.

The outcome of the study indicates that target costing had a positive and significant effect on investment decision after balanced scorecard. According to Altin et al. (2020), target costing is one of the most influential factors affecting investment making decisions since many of the costs related to production are fixed before the production process is started, and subsequent replacement of resources designated for production will lead to extra costs to the operations. The result match Waihenya's (2019) study finding that Kenyan manufacturing firms were using target costing as a managerial accounting technique to enhance their performance although the study did not link this with the firms' investment decision.

Moreover, the results corroborate those of Jbarah (2018) study in the Jordanian manufacturing industry that established manufacturing firms' investment decision were determined by adoption of the balanced scorecard. The researcher however notes that the positive effects of target costing on investment decisions are contradicted because past studies include (Arithi's 2001; Aduda & Ndaita, 2013) conducted among manufacturing firms have indicated that target costing is a SMAT that is seldom adopted in the industry. But this findings can be defended by focusing on the fact that these studies focused on performance of the organization as a

dependent variable not investment decision. The variable of just in time production did not have any effect on investment decision of firms as influence was not statistically significant. The findings disagree with those of Jbarah (2018) that revealed a positive outcome of investment decisions from implementation of just in time production of manufacturing firms in Jordan. The results also contradict those of Altin et al. (2020) that found just in time production had highest rate of effect on efficiency of making investment decision of SMEs. Sukarma (1997) that firms adopting JIT production contributes to less risky investment decision. This means that manufacturing firms were facing much more risk in investment decisions as there was no impact of JIT production.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is a presentation of the summarized results, reached conclusions, and recommendations, study limitations, and suggestions made for future research. This sub-sections of the chapter are presented along the research objectives of the study.

5.2 Summary of Findings

The first objective of the study aimed to determine the influence of target costing on manufacturing firms' investment decision. The regression analysis revealed that this variable has a positive effect meaning that increased application of target costing influenced investment decisions. The descriptive findings show that manufacturing firms predicted and studied market and the products design influenced their pricing and that firms were dependent on several procedures to determine the customers' needs and took into account the feedback and opinion from their clients in a moderate extent and this influenced their investment decisions.

The second major finding of the research is that balanced scorecard had the greatest effect on manufacturing firms' investment choices. In applying the balanced scorecard in their investment choices, the descriptive findings found that firms made known their strategy to their stakeholders and clearly presented their strategic goals to a moderate extent. In terms of the influence of just in time production on manufacturing firms' investment decision, the outcome of the study showed that this form of SMATs did not have any impact.

5.3 Conclusion

From the presented results, the first objective conclusion was that target costing positively impacted investment decision of manufacturing firms. In relation to the second objective, the study further concludes that balanced scorecard had the greatest effect on investment decision of Kenyan manufacturing firms. From the results, just in time production has no effect on investment decision and it is this study's conclusion that just in time production does not influence investment choices.

5.4 Recommendations

One recommendation made is that manufacturing firms ought to adopt target costing approach where production is manageable to reduce the costs of products which has a direct influence on investment decision of manufacturing firms. Second, the study recommends that manufacturing firms should enhance the adoption balanced scorecard principles in their operations clarifying its strategy to the stakeholders and clearly presenting its strategic objectives. This practice of the balanced scorecard contributes to support for investment decisions from a firm's stakeholders. Third recommendation is that manufacturing firms should strive to just in time production such as continuous improvement, controlling material flow and production scheduling that can help firms reduce cost whilst increasing productivity and improving quality due to the ever rising costs of production such as raw materials, labour and operating materials in Kenya.

5.5 Limitations of the Study

The study examined the effect of strategic management accounting techniques on investment decisions among manufacturing firms in Kenya. But this research could only focus on manufacturing firms in the industrial area of Kenya and did not include other manufacturing firms outside the Nairobi County Boundaries. The study was limited to quantitative data whereas some qualitative information would have added value to the study owing to the description on the influence of SMATs on investment decisions.

5.6 Suggestions for Further Research

The study examined the effect of strategic management accounting techniques on investment decisions among manufacturing firms in Kenya. The study focused on manufacturing firms but it is equally important for a similar study to include industrial firms in the future. The study used quantitative methods and there is space for future studies to include qualitative methods so as to get more in-depth information on how balanced scorecard and target costing have contribute to investment decisions among manufacturing firms.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Section A: Background Information

1. Please indicate your workplace role

- Finance Managers []
- Financial Controller []
- Production Mangers []
- Production Supervisors []
- Accounting Managers []

Section B: Target Costing

The table below shows the Balanced Scorecard statements. Kindly tick to what extent you're in agreement with the given statements on Target Costing. Where 1- Strongly disagree, 2 – disagree, 3 – moderately agree, 4 – agree, 5 – strongly agree

Target costing statements	Strongly disagree	Disagree	Moderately agree	Agree	Strongly agree
The firm provides financial, human, and material resources for development and research					
The firm invests in specific product design to make sure the technical specifications are to the required standard					
The end-products of the firm after production are tested to ensure suitable and quality pricing for consumers					
The operational engineering of the firm is conducted such that it lessens the costs and gives newer designs in the future					
The firm's production process is conducted in a manner that lessens the production costs					
The product operational design influences its pricing					
The product price takes into consideration the cost incurred in raw material storage					
The need can be estimated and evaluated to find the suitable price for the product					
The company is dependent on various processes to find consumer needs and opinions					
The raw materials and production processes are done according to the needs of the consumers					

Section C: Balanced Scorecard

The table below shows the Balanced Scorecard statements. Kindly tick to what extent you're in agreement with the given statements on Balanced Scorecard. Where 1- Strongly disagree, 2 – disagree, 3 – moderately agree, 4 – agree, 5 – strongly agree

Balanced scorecard statements	Strongly disagree	Disagree	Moderately agree	Agree	Strongly agree
The firm makes clarification on the strategy to its shareholder and is clear about the goals of the firm					
The firm pays attention to the performance measurements to achieve its operations and has strategies linked to the operations					
The firm collaborates with the firm and individuals about its performance					
The firm has a plan to reach its tactical aims and makes efforts to ease the annual budget preparation process					
The firm aims to escalate the administrative coordination among employees and create knowledge in the firm to enhance their capabilities					
The firm pays attention to the operations' performance measurement linking short-term and long-term objectives of the firm					
The strategy of the firm is translated to the initiatives, goals, standards, and parameters for continuous improvement					
The firm's strategy is communicated to all staff and extends to the firm's learning and change					
The firm aims to match the personal goals and the departmental objectives with the strategy					

Section D: Just In Time Production

The table below shows the just in time production statements. Kindly tick to what extent you're in agreement with the given statements on Just In Time Production. Where 1- Strongly disagree, 2 – disagree, 3 – moderately agree, 4 – agree, 5 – strongly agree

Just In Time Production statements	Strongly disagree	Disagree	Moderately agree	Agree	Strongly agree
The JIT processes have contributed to the control of times of delivery to clients					
The JIT system lessens amount of stock and the expenses associated					
The JIT system has made the stock delivery to a small quantity of suppliers					
The JIT system has contributed to the employees developing various skills					
The utilization of control cards in production has led to the control of production and needed specifications					
The JIT system has assisted in stock purchasing with the matching amount of production quantity					
The JIT system is linked to enhancing product quality and reduce expenses by controlling and testing processes					
The JIT system has made the firm to rely on a low stock levels to reduce losses					
The JIT system has made it possible for the firm to produce to					

Section E: Investment Decision

The table below shows the Investment Decision statements. Kindly tick to what extent you're in agreement with the given statements on Investment Decisions. Where 1- Strongly disagree, 2 – disagree, 3 – moderately agree, 4 – agree, 5 – strongly agree

Investment Decision statements	Strongly Disagree	Disagree	Moderately Agree	Agree	Strongly Agree
The company has been making replacement investment decisions in improving operating efficiency					
The firm aims to achieve lessening expenses by replacing old products in relation to change in the market environment					
The company creates value through the eventual outcome of the replacement investment decision					
The replacement of worn-out assets has had a major impact on firm investment					
The company focuses on adding new operations lines and new products					
The management of the firms aims to aid of capacity or diversification of operations					
The management of the company desire for risk investment because business is taking risk					
Incorporation of capital budgeting affect investment variations					
The company has invested in changing in operations in terms of products offered					
The company has invested methods of delivery and efficiency of operations					
The firm always aims to develop new information or technology to enhance the product effectiveness					
Organization research and development decisions have contributed to the efficiency in production					

APPENDIX 2: LIST OF MANUFACTURING FIRMS

1. ACME Containers Ltd
- 2 Alloy Steel Casting Ltd
- 3 Alloy Steel Casting Ltd
- 4 Allpack Industries Ltd
- 5 Alpine Coolers Limited
- 6 Ashut Engineers Ltd
- 7 ASL Limited- Steel Division
- 8 Associated Vehicle Assemblers Ltd
- 9 Bayer East Africa Ltd
- 10 Beta Healthcare International
- 11 Bobmil Industries Ltd
- 12 Broadway Bakery Ltd
- 13 Brookside Dairy Ltd
- 14 C. Dorman's Ltd
- 15 City Engineering Works (K) Limited
- 16 Corrugated Sheets Ltd
- 17 Crown Berger Kenya Ltd
- 18 Crown Paints (Kenya) Ltd
- 19 Deepa Industries Limited
- 20 Devki Steel Mills Ltd
- 21 Dodhia Packaging Limited
- 22 Doshi Enterprises Ltd
- 23 East Africa breweries ltd
- 24 East African Cables Ltd
- 25 Farmers Choice Ltd

26 General Motors East Africa Limited
27 General Plastics Limited
28 Glaxo Smithkline Kenya Ltd
29 Impala Glass Industries Ltd.
30 Kaluworks Ltd
31 Kapa Oil Refineries Limited
32 Kenafic Industries Ltd
33 Kenblest Limited
34 Ken-Knit (Kenya) Ltd
35 Kenpoly Manufacturers Limited
36 Kevian Kenya Ltd
37 Kikoy Co. Ltd
38 Kim-Fay East Africa Ltd
39 Mabati Rolling Mills Limited
40 Metal Crowns Ltd
41 Mini Bakeries (Nbi) Ltd
42 Nampak Kenya Ltd
43 Nestle Foods Kenya Ltd
44 Ngecha Industries Ltd
45 Orbit Enterprises Ltd
46 Pembe Flour Mills Ltd
47 Proctor and Allan (E.A.) Ltd
48 PZ Cussons EA Ltd
49 Reckitt Benckiser (E.A.) Ltd
50 Regal Pharmaceuticals Ltd
51 Revital Healthcare (EPZ) Ltd
52 Revolution Stores Ltd

- 53 Rosewood Furniture Manufacturers
- 54 Rumorth Group of Companies Ltd
- 55 S C Johnson And Son Kenya
- 56 Sadolin Paints (E.A.) Ltd
- 57 Saj Ceramics Ltd
- 58 Savannah Cement
- 59 Sheffield Steel Systems Ltd
- 60 Sollatek Electronics (Kenya) Limited
- 61 Spinners and Spinners Ltd
- 62 Techpak Industries Ltd
- 63 Toyota Kenya Ltd
- 64 Twiga Chemical Industries Limited
- 65 Twiga Stationers and Printers Ltd
- 66 Unga Group Ltd
- 67 Unilever East and Southern Africa
- 68 Vajas Manufacturers Ltd
- 69 Vitafoam Products Limited