

**FACULTY OF COMMERCE**  
**DEPARTMENT OF ACCOUNTING**

**RESEARCH TOPIC**  
**AN INVESTIGATION OF COST MANAGEMENT PRACTICES**  
**CASE MACRO CONSTRUCTION (pvt) ltd**

**SUBMITTED BY**  
**NGWENYA MERCY**  
**R11691V**

THIS DISSERTATION IS SUBMITTED IN PARTIAL FULFILLMENT OF BACHELOR OF  
COMMERCE ACCOUNTING HONORS DEGREE AT MIDLANDS STATE UNIVERSITY  
NOVEMBER 2014

**APPROVAL FORM**

The undersigned approved that they supervised the student Ngwenya Mercy Registration Number R11691V dissertation entitled: An **Investigation of Cost Management Practices: A Case of Macro Construction (Pvt) Ltd:** in partial fulfillment of bachelor of commerce accounting honors degree

.....

SUPERVISOR

.....

DATE

.....

CHAIRPERSON

.....

DATE

.....

EXTERNAL EXAMINER

.....

DATE

**RELEASE FORM**

**NAME OF STUDENT:** NGWENYA MERCY

**RESEARCH TOPIC:** An investigation of cost management practices. A case of  
Macro Construction

**TITLE OF DEGREE** BACHELOR OF COMMERCE ACCOUNTING HONORS  
**DEGREE**

**YEAR GRANTED** 2014

Permission is hereby granted to the Midlands State University Library to produce single copies of this dissertation and to lend or sell such copies for private, scholarly or scientific research purposes only. The author does not reserve other publication rights and the dissertation nor may extensive extracts from it be printed or otherwise reproduced without the author's written permission.

**SIGNED** .....

**PERMANENT ADDRESS:** SHIKU PRIMARY SCHOOL  
PO BOX 253  
ZVISHAVANE  
ZIMBABWE

## **DEDICATION**

I dedicate this research to my lovely parents and family for their support. I love you guys.

## **Acknowledgement**

I want to give my deepest gratitude to the Almighty God for the opportunity of life. The success of this research was due to endurance and hardworking. Firstly I would like to extend my acknowledgement and gratitude to Mr. Mazhindu for his unwavering support through the carrying out of this research. God bless you

My acknowledge and gratitude goes to the management MCD Group of companies i.e. the directors and other staff for their continuous support to make this research a success. Their magnificent support and contributions made the success of my journey in the creation of this research, especially the Chief Operations Officer for giving me time to carry out this research.

Not forgetting my family for generously sharing their wisdom, love, divinity and support, you are always there for me especially my mom you are the pillar of my strength. Not forgetting my brother, Israel your support makes me complete. I also acknowledge love from precious friends and every person in my life who inspired, touched, and illuminated me through their presence. I love you guys.

Lastly I acknowledge the respondents and interviewees thank you, your questionnaire completion and answering of questions makes this research a success.

Glory to God.

## **Abstract**

This research was carried out at Macro Construction a member of MCD Group of companies. The aim of the research was to investigate the cost management practices of the organization. The objectives of the study were to understand the organizational costing policy, Investigating the organizational policy implementation guidelines, to find out the capacity of personnel in policy implementation, to examine the challenges experienced in policy implementation, to find out which controls can be put over the costing processes and to come up with the best practices in costing policy implementation. To fulfill these objectives the existing literature was reviewed. Descriptive research method was used to carry out this research. 32 questionnaires with both structured and unstructured questions were administered to Macro Construction staff giving a response rate of 78%. Interviews were held with 3 of the organizational staff the accountant, the commercial director and IT director and the response rate was 100%. The researcher found out that the organization was using the traditional costing system. The controls over the costing process were used and project budgets were mainly used throughout. The main challenge of implementing costing policy was that the managerial staff was failing to communicate necessity and benefits of costing practices to non-managerial staff. The major recommendation was for the organization to adopt the modern cost accounting practices.

## **LIST OF ACRONYMS/ ABBREVIATIONS**

ABC -Activity Based Costing

CIFOZ -Construction Industry Federation of Zimbabwe

SCM -Supply Chain Management

WLC - Whole Life Costing

VM -Value Management

EVA - Earning Value Analysis

## List of Tables

<b>Table</b>	<b>Page</b>
1.1 Budgeted and actual costs.....	2
3.1 Sample size .....	28
4.1 Questionnaire response rate .....	36
4.2 Information regarding to position held by respondents .....	38
4.3 Frequency on gender distribution .....	38
4.4 Frequency table for respondent’s academic qualifications.....	39
4.5 Time spend by respondents in the organization.....	40
4.6 The organization has a costing policy.....	41
4.7 Responses on policy documentation.....	41
4.8 Responses on commercial department member’s having access to the policy document.t....	42
4.9 Responses on the communication of the policy to employees .....	42
4.10 Responses on the effectiveness of the current costing policy.....	43
4.11 Responses on continuity of the current costing policy. ....	44
4.12 The organization has policy implementation guidelines .....	45
4.13 The responses on the documentation of implementation guidelines.....	46
4.14 Management takes lead in policy implementation.....	46
4.15 Continual review of policy.....	47
4.16 Adequacy of personnel to implement the policy. ....	48
4.17 The organization trains and retrains staff on development of new policy .....	49
4.18 Financial resources are available to implement the policy. ....	50
4.19 Personnel have adequate skills and understanding to implement the policy .....	50
4.20 Lack of financial resources to implement the policy. ....	51
4.21 Lack of top management commitment to implement the policy.. ....	52



4.22 Other challenges faced by the organization to implement the policy.....	53
4.23 The organization has controls over the costing process.....	55
4.24 The organization prepares budgets, forecasts, reports and closeouts. ....	55
4.25 Controls are regularly reviewed.....	57
4.26 Budgets and forecasts are prepared in prior periods.....	59
4.27 Controls over the costing process are adequate.....	60
4.28 Best costing practices.....	60

## List of figures

Fig	Page
2.1 Categories and sub classification of construction procurement system.....	8
4.1 Respondent's position held.....	38
4.2 Gender distribution. ....	39
4.3 Effectiveness of current costing policy.....	43
4.4 Organization should continue using the current policy. ....	44
4.5 There are policy implementation guidelines.....	45
4.6 Management takes lead in policy implementation.....	47
4.7 There is continual review of policy .....	48
4.8 There are adequate personnel to implement the policy .....	49
4.9 Personnel have adequate skills and understanding to implement the policy... ..	51
4.10 Lack of financial resources to implement the policy.....	52
4.11 Lack of management commitment to implement the policy .....	52
4.12 Other challenges faced by the organization.....	54
4.13 The organization prepares budgets, forecasts, reports and closeouts .....	56
4.14 Controls are regularly reviewed .....	58
4.15 Best practice in costing.....	61

## List of appendices

	Page
Appendix 1 Cover letter .....	76
Appendix 2 Interview guide.....	77
Appendix 3 Questionnaire.....	78

## Table of Contents

Approval form .....	i
Release form.....	ii
Dedication.....	iii
Acknowledgement.....	iv
Abstract.....	v
List of acronyms/abbreviations.....	vi
List of tables .....	vii
List of figures .....	ix
List of Appendices .....	x

## Chapter 1

1.0 Introduction.....	1
1.1 Background of the study.....	1
1.2 Statement of Problem.....	4
1.3 Main research topic.....	4
1.4 Sub research questions.....	4
1.5 Research objectives.....	5
1.6 Significance of the study.....	5
1.7 Delimitations of the study.....	5
1.8 Limitations of the study .....	5
1.9 Assumptions.....	5
1.10. Summary .....	5

## **Chapter 2 :Literature Review**

2.0	Introduction.....	7
2.1	Construction policies.....	7
2.1.1	Procurement .....	7
2.1.2	Partnering .....	10
2.1.3	Supply chain management .....	<b>Error! Bookmark not defined.</b>
2.1.4	Whole life costing.....	<b>Error! Bookmark not defined.</b>
2.1.5	Risk Management Policy .....	<b>Error! Bookmark not defined.</b>
2.1.6	Value management.....	<b>Error! Bookmark not defined.</b>
2.2	Policy implementation guidelines.....	<b>Error! Bookmark not defined.</b>
2.3	Capacity of personnel to implement the guidelines.....	<b>Error! Bookmark not defined.</b>
2.4	Challenges in implementing construction policies.....	<b>Error! Bookmark not defined.</b>
2.5	Controls over the costing process.....	16
2.6	Best practice in costing policy implementation.....	19
2.7	Summary.....	<b>Error! Bookmark not defined.</b>

## **Chapter 3 :Research Methodology**

3.0	Introduction.....	<b>Error! Bookmark not defined.</b>
3.1	Research Design.....	<b>Error! Bookmark not defined.</b>
3.1.1	Descriptive research method.....	<b>Error! Bookmark not defined.</b>
3.1.2	Explanatory research.....	<b>Error! Bookmark not defined.</b>
3.2	Research population.....	<b>Error! Bookmark not defined.</b>
3.3	Sampling.....	26
3.4	Types of data.....	28
3.5	Research instruments.....	29
3.5.1	Questionnaires.....	29

3.5.2	Research interviews .....	<b>Error! Bookmark not defined.</b>
3.6	Data validity and reliability. ....	<b>Error! Bookmark not defined.</b>
3.7	Data presentation .....	<b>Error! Bookmark not defined.</b>
3.8	Data analysis .....	<b>Error! Bookmark not defined.</b>
3.9	Summary .....	<b>Error! Bookmark not defined.</b>

#### **Chapter 4:Data Presentation And Analysis**

4.0	Introduction.....	36
4.1	Response rate .....	36
4.1.1	Questionnaire response rate .....	36
4.1.2	Interview response rate .....	37
4.2	Presentation of respondent’s profile .....	37
4.2.1	Information regarding to respondents positions held in the organization.....	37
4.2.2	Information regarding to gender of respondents.....	38
4.2.3	Respondents academic qualification.....	39
4.2.4	Time spend with the organization.....	<b>Error! Bookmark not defined.</b>
4.3.	Analysis of questionnaire responses.....	<b>Error! Bookmark not defined.</b>
4.3.1	Presence of a costing policy at Macro Construction .....	<b>Error! Bookmark not defined.</b>
4.3.2	Formal documentation of the policy .....	<b>Error! Bookmark not defined.</b>
4.3.3	Commercial department members have access to the costing policy document .....	<b>Error! Bookmark not defined.</b>
4.3.4	Communication of the costing policy to subordinates and new personnel .....	<b>Error! Bookmark not defined.</b>
4.3.5	The current costing policy is effective .....	<b>Error! Bookmark not defined.</b>
4.3.6	The organization must continue using the current costing policy...	<b>Error! Bookmark not defined.</b>
4.4	Implementation guidelines.....	<b>Error! Bookmark not defined.</b>

4.4.1 Presence of implementation guidelines.....	<b>Error! Bookmark not defined.</b>
4.4.2 Implementation guidelines are documented.....	46
4.4.3 Management takes lead in the policy implementation.....	46
4.4.4 The costing policy is continually reviewed.....	47
4.5 Personnel capacity in policy implementation. ....	48
4.5.1 The organization has adequate personnel to implement the policy .....	48
4.5.2 Organization train and retrain personnel on new developments in new costing policies. .....	49
4.5.3 Availability of financial resources .....	<b>Error! Bookmark not defined.</b>
4.5.4 Implementation is done by personnel with adequate skills and understanding of the policy.....	<b>Error! Bookmark not defined.</b>
4.6 challenges faced by the organization in implementing the policy.....	<b>Error! Bookmark not defined.</b>
4.6.1 Lack of financial resources to implement the policy. ....	<b>Error! Bookmark not defined.</b>
4.6.2 Lack of top management commitment to implement the policy....	<b>Error! Bookmark not defined.</b>
4.6.3 Other challenges faced by the organization in policy implementation .	<b>Error! Bookmark not defined.</b>
4.7 Information relating to controls over the costing process.....	<b>Error! Bookmark not defined.</b>
4.7.1 Existence of controls over the costing processes .....	<b>Error! Bookmark not defined.</b>
4.7.2 Project budgets, forecasts, reports and closeouts are prepared .....	55
4.7.3 Controls are regularly reviewed by responsible personnel .....	57
4.7.4 Project budgets and forecast are done for their prior period .....	59
4.7.5 The organizational controls over the costing policy are adequate ..	<b>Error! Bookmark not defined.</b>
4.8 Best practices .....	<b>Error! Bookmark not defined.</b>

4.9 Interview analysis .....	<b>Error! Bookmark not defined.</b>
4.9.1 What is the costing policy of the organization? .....	<b>Error! Bookmark not defined.</b>
4.9.2 What policy implementation guidelines are in place? .....	<b>Error! Bookmark not defined.</b>
4.9.3 What is the capacity of personnel to implement guidelines?	<b>Error! Bookmark not defined.</b>
4.9.4 What challenges are being faced in policy implementation ..	<b>Error! Bookmark not defined.</b>
4.9.5 What controls are in place over the costing process?.....	64
4.9.5 Are there any reviews over the costing process, if any how often are they carried.....	<b>Error!</b>
<b>Bookmark not defined.</b>	
4.9.7 What would be the best practice in costing policy implementation ....	<b>Error! Bookmark not defined.</b>
<b>defined.</b>	
4.10 Summary.....	<b>Error!</b>
<b>Bookmark not defined.</b>	

## **Chapter 5: Summary Conclusions And Recommendations**

5.0 Introduction.....	66
5.1 Chapter Summaries.....	66
5.2 Major findings.....	66
5.3 Conclusions.....	68
5.4 Recommendations.....	69
5.5 Recommendation for further study.....	69
5.6 Summary.....	69
Reference list .....	<b>Error! Bookmark not defined.</b>
Appendix 1 Cover letter.....	76
Appendix 2 Interview guide.....	77
Appendix 3 Questionnaire.....	78



## CHAPTER 1

### INTRODUCTION

#### 1.0 Introduction

The chapter is going to present the reader with background of the study, problem statement, main research questions, sub research questions, research objectives, significance of the study, delimitations and limitations of the study, assumptions and the summary.

#### 1.1 Background of the study

Cost and management accounting is the integral part of producing accurate financial statement in construction. If management can measure costs correctly, they will make better decisions. If projects go beyond their budgets liquidity problems arise and organizations are forced to fund other costs either by loans or disposing its assets.

Macro construction is a subsidiary entity of MCD group of companies and is a certified member of the Construction Industry Federation of Zimbabwe (C.I.F.O.Z). The organization has 23 staff members who participate in decision making. The departmental staff distribution is as follows:

Human resources 3, Procurement 4, Commercial 5, Safety, health and environment 2, Information Systems 1, Technical 5 and Accounting 3.

On an annual general meeting in December 2012 the company Managing Director stated that the organization was facing some costing problem. He said” the market we are operating in is unpredictable, our organization is facing a costing problem. We are trying to fight our competitors by costing our projects at lower costs hence this has resulted in project cost overrun”. He stated that the organization needed to improve its costing techniques to avoid projects to exceed their expected budget which was resulting in most of the projects experiencing cost overrun.

The table below shows the projects costing trend from 2011 up to 2013. In 2011 the budgeted costs for projects were \$805,105, it goes beyond the budget by \$41, 829 resulting in organizational profits reduced by 2%. In 2012 the projects overrun by 6%, they were budgeted

cost of \$764,981 these exceeded their budget to \$807,183 resulting in a 6% profit reduction. In 2013 the organization budgets its costs at \$896,151, it overshoots its budget by \$87,334 resulting in a 10% overrun.

**Table 1.1 Budgeted and actual costs for 2011- 2013**

Year	Factor	budgeted costs	actual costs committed	(under) or over	overrun
		\$	\$	\$	%
2011	Labor	210,055.00	237,200.00	17,145.00	2%
	Material	300,000.00	310,000.00	10,000.00	
	subcontractors	198,050.00	200,000.00	1,950.00	
	Equipment	77,000.00	54,000.00	(23,000.00)	
	Other	20,000.00	18,734.00	(1,266.00)	
	<b>Total</b>	<b>805,105.00</b>	<b>819,934.00</b>	<b>41,829.00</b>	

Year	Factor	budgeted costs	actual costs committed	(under) or over	overrun
		\$	\$	\$	%
2012	Labor	193,165.00	189,095.00	(4,070.00)	6%
	Material	273,765.00	313,888.00	40,123.00	
	subcontractors	187,984.00	194,900.00	6,916.00	
	Equipment	68,000.00	72,300.00	4,300.00	
	Other	42,067.00	37,000.00	(5,067.00)	
	<b>Total</b>	<b>764,981.00</b>	<b>807,183.00</b>	<b>42,202.00</b>	
2013	Labor	250,000.00	297,000.00	47,000.00	10%
	Material	332,000.00	367,000.00	37,000.00	
	subcontractors	198,458.00	191,300.00	(7,151.00)	
	Equipment	43,000.00	53,178.00	10,178.00	
	Other	72,693.00	73,000.00	307.00	
	<b>Total</b>	<b>896,151.00</b>	<b>981,478.00</b>	<b>87,334.00</b>	

Source: adopted from Macro construction financial reports.

To support that the organization is having a costing problem, the Chief Operations Officer in January 2013 in a C.I.F.O.Z meeting he stated that tendering periods are short as compared to designing and construction stages. This result in the bidder being put under pressure to meet deadlines hence resulting in errors of costing and high levels of risk.

To further illustrate costing problem and its effect on organizational profitability on, from January 2013 the company's has been making an average turnover of USD 17 000 per month and average project operating costs of USD 14 000 per month leaving the organization with an average profit of USD 3 000 .These operating costs cover costs to run projects such as fuel, wages and salaries besides other organizational operating costs. The remaining profits are not sufficient for the organization, when non project costs are included the organization is left with a little profit or a loss.

## **1.2 Statement of Problem**

Macro construction is estimating their projects at lower costs. Most of the organizational projects are going beyond their budgets resulting in project cost overrun. In 2011 the costs overrun their budget by 2%, in 2012 the overrun increased by 4% to 6% and in 2013 the costs overruns by 10%. The project exceeding their budgets at Macro has resulted in the organizational profits being reduced, project profits are now eroded to fund incremental costs. Hence this has left the researcher with the urge to carry out this research to find out which are the most effective costing practices to be used in construction.

## **1.3 Main research topic**

An investigation of cost management practices at Macro Construction.

## **1.4 Sub research questions**

- What is the construction costing policy for the firm?
- What policy implementation guidelines are in place?
- What is the capacity of personnel to implement the guidelines?
- What challenges are being experienced in policy implementation?
- What controls are in place over the costing processes?
- What would be the best practice in costing policy implementation?

## **1.5 Research objectives**

- To understand construction costing policy of the organization.
- To investigate the organizational policy implementation guidelines in place.
- To find out the capacity of personnel to implement the guidelines.
- To examine the challenges experienced in policy implementation.
- To find out which controls are in place over the costing processes.
- To come up with the best practice in costing policy implementation.

## **1.6 Significance of the study**

### **To the researcher.**

This study was carried out in partial fulfill the requirements of Midlands State University for one to obtain the Bachelor of Commerce accounting Honors Degree.

### **To the university.**

The research will be a reference source to the university students who wish to carry out research in the same area of study in future.

### **To Macro Construction.**

The research will provide recommendations for consideration.

## **1.7 Delimitations of the study**

The research focuses on Macro Construction (pvt) ltd in Harare.

The study undertaken covered the period from 2011 to 2013.

## **1.8 Limitations of the study**

For confidentiality reasons management was not willing to divulge some of the information required .In order for the researcher to access the information, assurance was given to the management that the information would be kept confidential. It would only be used for academic purposes.

The researcher did not have much time to allocate to this study since she was a full time student. The researcher had to work beyond normal working hours.

### **1.9 Assumptions**

The research was carried out under the following underlying assumptions:

All study respondents would co-operate and give true and accurate information.

The costing policy would not change over the research period.

### **1.10. Summary**

The chapter covered the background of the study, problem statement, main research questions, sub research questions, research objectives, and significance of the study, delimitations and limitations of the study, assumptions and the summary. Chapter 2 focuses on literature review.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

The chapter is going to cover literature review, in line with the research objectives. The research will provide a detailed review of literature by various authors on cost management practices in construction. This chapter is going to focus on the construction policies used by various organizations, policy implementation guidelines, capacity of personnel to implement guidelines, challenges experienced in implementing the policies, controls over costing processes and best practice in costing policy implementation.

#### **2.1 Construction Policies.**

Gopal (2012) describes the construction policies as 'best practices, systems and procedures that, at any given time, are generally regarded by peers as the practice that delivers optimal outcome, such that they are worthy of adoption'. He went on to say that over the past years dramatic change has been experienced in construction industry. This change is not in technology only, but also the way projects are procured and managed. Policies which are implemented in construction are to help construction companies to cut off unnecessary costs and avoiding project cost overruns

##### **2.1.1 Procurement**

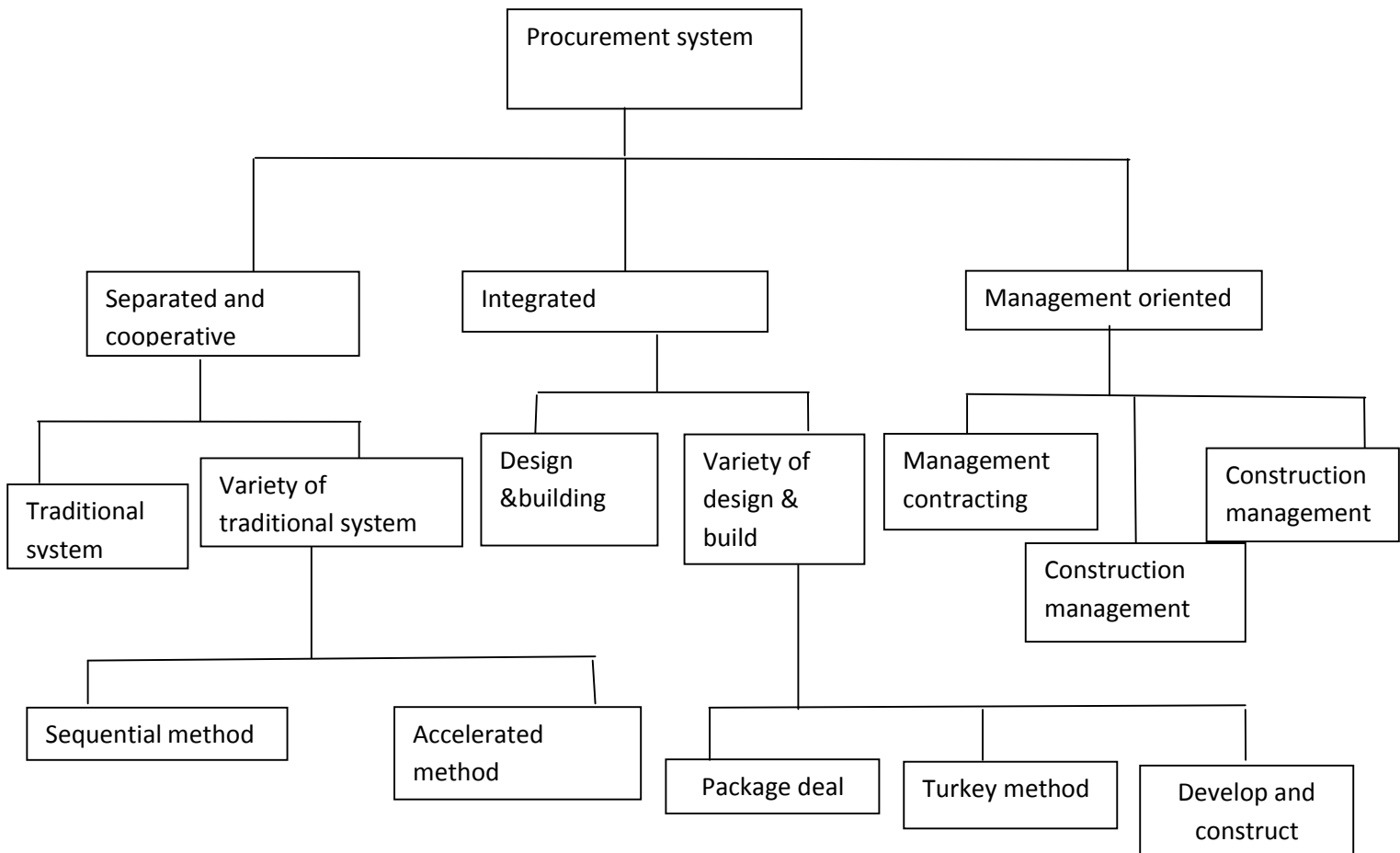
Procurement approach is a system where arranging and coordinating of construction projects by clients and constructors are done to achieve prescribed objectives or goals. According to Rosli et al (2006) procurement invariably involves considering of major project elements i.e. time, cost and quality. According to Aqua Group (1999) project procurement is a process of obtaining or acquiring of goods and services from another for some consideration. As highlighted by Masterman (1996) project procurement is an organizational structure needed to design and build construction projects for a specific client. As highlighted by Centre for Construction Strategic Studies (1998) today's world is highly competitive and business environment have uncertainties so major stakeholder (the client) desires their projects to be delivered with speed, performance certainty in terms of quality, cost, time and minimum risk. According to

Mastermann (1994) project procurement systems are categorized basing on the relationship and critical interaction between design and construction responsibilities.

The categories are as follows:

- (i) Separated and Cooperative System
- (ii) Integrated System
- (iii) Management Oriented System

Fig 2.1 Categories and sub classification of construction project procurement system.



Source: Masterman (1996) Building procurement system.



(i) Separated and Cooperative System.

This is whereby designing responsibilities and project construction are separated. Independent organizations carry these out i.e. contractors and designer.

(ii) Integrated System

As highlighted by Ashworth, (2001) the system integrates or combines the responsibilities of design and construction of the project. According to Rosli et al (2006) the integrated system can be called parallel or single responsibility procurement system, where the client only needs to deal with a single organization for both the designing and constructing proposed project.

(iii) Management Oriented System.

Rosli et al (2006) say management oriented system gives great emphasise on the management and integration of the design and construction of projects. Under Management Oriented System, management of the design and construction of a project is contracted out to a contractor who acts as a management consultant on behalf of the client.

William (2000) highlighted that, activities in construction procurement assists clients in obtaining competent construction services. The New Zealand Construction Industry Council (2006) says that procurement covers the process from initial concept planning and design, to development, construction, maintenance and ongoing monitoring of performance. The New Zealand construction industry council went on to say that the principal accruing benefit from procurement is improved returns from increased asset value and reduced whole-of-life costs when measured in both monetary and non-monetary terms.

Smith and Love, (2001) argue that the procurement strategies of building projects have not significantly changed over the past 25 years, though time and cost overruns are still prevalent throughout the industry. According to Love et al, (1998) not all forms of procurement method, are appropriate for particular project types, as client objectives and priorities invariably differ.

### 2.1.2 Partnering

According to Keith (2008), “Partnering is a management system used by two or more organizations to achieve specific business objectives by maximizing the effectiveness of each participant’s resources.” According to Derreck (2011) the policy requires all parties i.e. contractors, designers and clients to work together in an open and trust relationship based on mutual objectives, an agreed method of problem resolution and an active search for continuous measurable improvements from the project early stages to completion stage. According to the Construction Excellence (2004) partnering is a win-win approach. Partnering seems to be both a satisfying and an enjoyable approach, although the option is not soft but considerable effort is required to set up partnering and hard work to maintain.

Gopal (2012) highlighted that partnering policy makes it possible to achieve far greater value for money for the client, higher profits for the companies involved. According to Gordon (2001) partnering gives a better quality product, lower risk of cost overruns, increased time savings and reduced exposure to litigation on construction projects and more predictability of project completion by working collaboratively .

### 2.1.3 Supply chain management (S.C.M)

Gopal (2012) says “Supply chain management is a relatively new term in the construction industry”. SCM is a technique that provides approaches on cost reduction and increasing reliability and speed of facility construction. According to O’Brien (1998) “SCM takes a systems view of the production activities of autonomous production units (subcontractors and suppliers in construction) and seeks global optimization of these activities”. According to Chain 2 Excellence (2014), SCM emphasizes on strategies of lean construction encompassing just in time purchasing, supplier evaluation, subcontractor selection, subcontractor relationship management, equipment acquisition, information sharing, and project quality management.

Chain 2 Excellence (2014) highlighted the following issues on supply management

- Decisions are to be made on a cost not on a price basis.
- Where possible, products are to be modularized in order to standardize and simplify the SCM.

- All process activity should be evaluated and where possible simplified or improved

Chain2 Excellence 2014) went on to say that application of SCM in construction has results in costs reduction (particularly logistical costs), lead-time and inventory in the supply chain. If SCM is properly applied it does not only maximizes the value for project owner but also all the supply chain members creating high quality construction projects.

O'Brien (2009) argues that if this policy is applied properly it would be better to predict risks of disruption to production and design buffers to guard against those risks. These buffers includes schedule buffers and sequencing of production to alleviate the impact of problems should they occur. According to O'Brien (2009) use of SCM knowledge to design schedules meets project goals with speed, flexibility and minimum risk. He went on to say that SCM helps to understand subcontractor and supplier production costs should there be changes in schedule and scope such as the delay to steel erection. Such knowledge allows search of alternatives to find optimal responses to these changes. SCM also assists in implementation of contracts that specify equitable basis to pay for the true costs of changes, enhancing trust and information sharing among firms.

#### 2.1.4 Whole life costing (WLC).

According to BRE (2014) Whole life costing (WLC) is a technique used in construction for the calculation of the lowest cost options of the entire commercial life of a building. The technique encourages use of best value building designs and it reduces costs and disruption of unplanned repairs and maintenance.

Sustainable Construction Innovation-Network (2011) highlighted that WLC method provides justification of more sustainable approaches to construction as it enables the economic consideration of benefits such as reduced energy consumption over the operation of a building to be factored into a public authority's investment decisions. In this context WLC enables the adoption of new and innovative sustainable construction products and techniques which may hold higher up-front costs, but offer cost efficiencies for public authorities in the medium to long term.

Sustainable Construction Innovation-Network (2011) WLC is a decision making tool, management tool, and maintenance guide. WLC is a decision making tool in the sense that it can be used to select among alternative projects, designs, or building components. It is a management tool because it can be used to estimate the costs that would incur during a building's life. Maintenance guide would come in the sense that it can be used for forecasting the maintenance and operating tasks that will incur at each year of a building's life.

#### 2.1.5 Risk Management Policy

Construction Companies relies on contracts. According to Anna (2006) these contractual structures are the main sources of inflexibility. Risk management means as one possible way to decrease contractual extra costs and increase flexibility .Zou etal (2007) says projects in construction can be unpredictable so risk management in construction projects is a very important process in order to achieve project objectives in terms of time, cost, quality, safety and environmental sustainability. For the policy to be beneficial it has to be implemented in a systematic way from planning to completion stage throughout the project lifecycle

According to Zou etal (2009) risks and uncertainties involved in construction projects result in project cost overrun, schedule delay and lack of quality during the progression of the projects and at their end. Baloi and Price (2001) highlighted that construction projects poor costing performance seems to be the norm rather than the exception, and both clients and contractors suffer significant financial losses due to cost overruns.

#### 2.1.6 Value management (VM).

According to Keith (2008) VM is the broader term used in UK to describe the overall structured team-based approach to construction project. The approach addresses the value process during the concept, definition, implementation and operation phases of a project. Gopal (2012) identifies VM as the most suitable way of meeting the client business needs taking time, cost, and quality and risk constraints into consideration. VM joins together the designing team and project delivering team, end-users are also included and other stakeholders.

As highlighted by Gopal VM first step is to clearly identify value for the client in terms of need, business benefits and priorities. Then identifying and evaluating options, this is part of the value engineering. Assessing of selected options takes place basing on costs, risks and the extent they contribute in client business needs satisfaction. Gopal went on say that “all processes and components suggested for project would be critically appraised to determine whether better value alternatives or solutions are available”. According to Keith (2008) the application of VM approach cost savings are secured.

## **2.2 Policy implementation guidelines.**

When a policy is formulated it has to be implemented so as to enjoy its benefits, this is done through guidelines. Florence (2010) says that all the necessary factors i.e. technical, personnel and administration function should be considered in implementing the policies. A policy should be understandable and its objectives are to clear.

For a policy to be implemented it have be documented. According to [www.ehow.com](http://www.ehow.com) (10/09/2014:11:55am) a policy have to be put it in writing because employees are often resistant to change. If a policy is documented it is readily available to users and this increases cost effectiveness. Establishment of written procedures ensures consistent in the implementation of the policy. The personnel of the organization should have access to the policy document. This would be important for review purpose.

A formal communication plan should be development. Communication serves as a useful tool in building awareness and to further communicate the progress achieved by the policy. According to [www.wiredbusinessmedia](http://www.wiredbusinessmedia) (15/09/2014) it is very important to explain to employees the reason why a formulated policy or procedure is necessary (not only good for the organizations well as individual departments and employees.)

Organizational personnel should be adequately trained and be familiarized to technical skills required in implementing the policy. Assuming that everyone has adequate skills to implement new policy is wrong because what is simple to the one who formulates the policy may not be simple to the one who implement the policy.

Policy implementation should be supported by total commitment from management .the endorsement and modeling of the policy should be done by management; this encourages staff to take the policies seriously. The organization also needs sufficient resources to implement a policy.

### **2.3 Capacity of personnel to implement the guidelines.**

Effectiveness of an organization is not seen by its capability to formulate policies but by its ability to implement those policies. It is always more difficult to do something (implementation) than to say you are going to do it (formulation). Implementation is done by personnel.

The personnel to enforce the policy should be knowledgeable about the policy. Those who train other employees about the new policy should also be trained as well.

Organization staff should have adequate knowledge and understanding about the policy being implemented. Mossman (2009) says lack of adequate understanding of the policy may be a barrier to the implementation the policy Organizational personnel (management and their subordinates) must have adequate technical skills have an understanding of the policy development and adequate training.

To ensure that an effective policy is implemented only suitably qualified and experienced persons should perform duties, strategies, and programme proper planning of the implementation process. Policy implementing staff also needs to be provided with sufficient resources e.g. consultants and professionals.

The policy implementation requires devoted personnel who are able to influence others to meet the requirements of the policy. If Policy implementers are able to communicate, the policy would be implemented effectively because policy requirements would be well communicated to all staff that may be affected by the policy. Sharing of information provides technical assistance.

Personnel are the key players in the implementation of a policy. If they are part or are involved in the policy development, they will take possession of the implementation process and fully support the policy and understand why the policy was developed.

## **2.4 Challenges in implementing construction policies.**

Financial constraints.

Sarhan et al (2013) highlighted that, successful implementation of a construction policy requires adequate funding. Sarhan et al (2013) adequate funds enables the provision of relevant tools and equipment, sufficient professional wages, investment in training and development programs, and at times employing specialists to provide guidance to both employers and employees during the initial implementation. Sarhan et al (2013) highlighted Financial barriers that need to be looked upon include: inadequate funding of projects, unstable markets for construction, low professional remuneration and unwillingness of some companies to invest funds in providing training for their workers more than the essential legislation requirement.

Lack of top management commitment and support

Policy implementation success needs to be supported by top management. Sarhan et al (2013) says that sufficient time and resources to develop an effective plan, and manage changes arising from the implementation process have to be provided by the top management. The endorsement and modeling of the policy should be done by management; this encourages staff to take the policies seriously. Lack of commitment among business leaders is a major challenge to the successful policy implementation.

Lack of adequate understanding

Organisational personnel need to understand the concepts of the policy. If policy concepts are not well understandable it makes the policy difficult to implement. An understandable policy is seen by getting feedback from staff. Feedback ensures that they understand the policy concepts and what is expected from them. If a policy is not fully understood appropriate training is required.

Educational issues

According to Sarhan et al (2013) Educational barriers pose a great threat on the implementation construction policies. The author went on to cite that if the organizational staff lacks technical

skills, are ignorant to human resource management and development, have inadequate training, and are computer illiterate about the policy to be implemented it becomes a challenge to implement that policy.

### **2.5 Controls over the costing process.**

Management in construction should be more concerned with projects cost and continual search methods to control costs and eliminate wastes. Cost controls are cost accounting methods or techniques which aim on improving organizational cost efficiency by reducing costs. According to Pailin and Kriangsak (2011) controls are used to monitor, evaluate and ultimately enhance the efficiency of specific areas, such as departments, divisions or product lines within their operations.

According to Siyanabola and Raji (2013) cost control is a practice of comparing the cost of a business activity with the original cost in order to ascertain if the cost is as planned. In construction, constructor who completes projects within the estimated timeframe and within the budget, with the right standards and scope is considered to be excellent because clients are more interested in their projects being completed in time, cost, quality and scope.

Project Management for Construction (2006) says “During the execution of a project, procedures for project control and record keeping become indispensable tools to managers and other participants in the construction process”. To execute the projects with consideration of producing quality work, within the estimated cost and limits managers are expected to be well equipped. According to Siyanabola and Raji (2013) believed that efficient organization and operations of cost control system involves setting up the targets, measurement of the actual, comparison of actual with targets to ascertain variances, analyzing variances to their cause and taking corrective actions necessary to eliminate the variations.

According to Keith (2008) cost control is more than controlling expenditure but comprises the controlling of revenue, making sure that all possible and justifiable income is recovered from the client and that wastages of money or unauthorized increase in costs are preventable. Cost control is concerned with understanding why the cost variances occurred.



According to Siyanabola and Raji (2013) the following are the advantages of cost control:

Cost control provides appropriate system oriented information to control the activities of the company which operates in a competitive environment. It gives a clear view of cost centre in a complex organization. This gives management direction of where to focus their attention in order to effectively implement the cost control method. Inefficiencies are eliminated in order to ensure favourable working environment where irrelevant costs are frequently avoided.

According to the C.I.B.D (2012), the following controls should be present for each project.

(i) Project Budget

Project budget is a control budget in the cost system that establishes a cost baseline. Future project deviations would be reported against the original budget. According to <http://pmbook.ce.cmu.edu> (24/09/2014:2121pm) incurred expenses during project execution are recorded in specific job cost accounts to be compared with the original cost estimates. Thus individual job cost accounts generally represent the basic unit for cost control. The project budget retains information on quantities of material and inputs of labor within each job account. Information on material quantities and labor inputs within each job enables actual material usage and labor employed to be compared with the expected requirements. As a result cost overruns and savings can be identified as due to changes in unit prices, labor productivity or in the amount of material consumed.

According to [cset.mnsu.edu](http://cset.mnsu.edu) (24/09/2014:21:55pm) comparison of project budget to the estimate is only made in the Project Cost Summary Report. The Project Cost Summary Report shows the current status and the latest forecast of profit or loss by cost codes.

(ii) Site Cost Control.

According to [www.cibd.org.za](http://www.cibd.org.za) (22/09/2014: 12:33) project is budgeted and controlled in accordance with Project Code of Accounts and Project Work Breakdown Structure. Project budget establishes the control budget for project analysis and reporting functions. Cost control involves the establishment of the control structure, establishment of a control budget, preparation of forecasts, cash flows, producing cost reports and commitment plans. Project controls produces and update the forecast cost every month.

(iii) Forecasts

When controlling costs over the costing process it is not sufficient only to consider costs and revenue from the past record that is the main project budget. Managers are supposed to focus on the future costs, revenue and problems that may arise. According to <http://pmbook.ce.cmu.edu> traditional accounting system are not adequate to reflect the dynamic nature of the project. [Http://pmbook.ce.cmu.edu](http://pmbook.ce.cmu.edu) highlighted that accounts generally focus on recording routine costs and past expenditures associated with activities of which past expenditure represents sunk costs which cannot be altered or relevant in future. Since financial accounts are historical in nature, forecasting or projecting the future course of a project becomes an essential tool as a management control over the costing process.

(iv) Planning.

[www.cibd.org.za](http://www.cibd.org.za) (22/09/2014: 12:33) highlighted that planning consists of developing the Work Breakdown Structure (WBS), understanding the project objectives, requirements and restraints which have a bearing on the timing and sequencing of the work and developing this information into the project logic plan. Once the project logic plan is completed, the planner begins the process of scheduling resolved. Planning provides cost control either by feed forward or feedback. According to <http://www.inc.com> [encyclopedia.html](#) planning provide feed forward (which provide basis for control at the point of action) and feedback (which provide basis for measuring the effectiveness of control after implementation). Anthony and Vijay, (2007) a futuristic vision of where the company is going and how it is to get there is given by the management through a feed forward way. Management oversees the development of procedures to collect, record, and evaluate feedback.

(v) Reports

According to [www.cibd.org.za](http://www.cibd.org.za) (22/09/2014: 12:33) monthly progress reports serve as the base document from which the Project Management Team utilizes for overall reporting of the project. The site Monthly Progress Report would be included in Project Management Team report and provides a comprehensive picture of where the project current status. Reports empower management to take corrective actions that favourably impact the project if required. <http://www.inc.com> [encyclopedia.html](#) says it is a need for a report to provide adequate

information to enable management to determine the reasons for cost variance from original budget. Good reports highlight significant information by focusing management's attention on items which actual performance significantly differs from the standard.

(vi) Closeout.

According to [www.cibd.org.za](http://www.cibd.org.za) (22/09/2014: 12:33) It is important that each project provides actual cost data to the Client's Project Controls system. Copies of each of the capital cost estimates prepared for the project must be archived at the conclusion of each project. . This document is a critique of how effective the project management effort was applied.

## **2.6 Best practice in costing policy implementation**

In UK according to Joey G (2013) the government launched a Joint industry-government strategy which commits to big improvements in cost and sustainability. These policy expectations are a 33% reduction in both the initial cost of construction and the whole life cost of assets, 50% reduction in time from inception to completion, 50% reduction in greenhouse gas emissions in the built environment, 50% reduction in the trade gap between total exports and total imports for construction products and materials.

Opoku 2013 Whole life costing in the UK construction industry has become particularly pertinent. The whole life costing improves forecasting by allowing accurate forecasting of future expenditure to be applied to long-term costing assessment. It is believed that WLC optimize the total cost of ownership or occupation by balancing initial capital and running cost, therefore promoting realistic budgeting for operation, maintenance and repair. Opoku says that project definition encouraged by whole life costing promote early risk assessment which enables actual figures to be provided for future benchmarking and ensuring realistic budgeting.

Shen and Song (1998) says in Chinese construction industry competitive bidding methods have been introduced into the industry to supplement and gradually replace the previous assignment system for the procurement of construction projects. The major objectives of applying competitive methods are to improve the effectiveness of construction investment and to move the Chinese construction market towards international procurement practices. According to Laia et al (2003) to improve effectiveness and efficiency within its construction industry, since 1981

the Chinese government has been actively introducing competitive bidding approaches by setting up a series of guidelines and regulations.

Valle and Soare (2000) highlighted that Earned Value Analysis (EVA) in Brazil construction. According to McKee (2005 ) EVA is a positive way of managing and controlling projects. EVA approach is a construction tool of comparing amount of planned work and its budget against the actual work carried out its budget and its actual cost. The approach determines actual projects gains and losses and providing means of balancing gains/losses and maximizing the gain. EVA enables one to know the project current status in terms of cost, progress, risks, procurement of project supplies and time measured against the baseline plan and also to forecast the outturn positions.

According to Valle and Soare, managing costs using EVA is like managing with open eyes because it is possible for management to clearly see the initial plan and what was performed and the actual costs. According to Valle and Soare, In Brazil EVA was applied in civil construction of Monica Park in Rio de Janeiro. The was built in 10 months from January to October 2000, for US\$ 5 million.

Valle and Soare says the application of EVA has resulted in the success of the Monica Park to be finished in time and on budget. The findings of the case study contributed to the further use of EVA on other projects in Brazil by identifying the main problems and solutions. On the construction of Monica Park .The application of EVA has resulted in integrated cost, progress and time management, better vision of the project in terms of scope and procurement, early alert to problems, foreseeability of project deviation trends, reduced time to perceive and understand problems and solutions, support for negotiations and the decision making process and the motivation of people to implement the project control process.

In a research carried out by Anand etal (2005) it is indicated that Indian firms that adopt Activity Based Costing system were significantly successful to capture accurate cost and profit information from ABC for supply chain analysis and value chain analysis other than those that do not use ABC.

Activity based costing is used to determine the fairest product cost. Activity based costing is a system that allocates production overhead to manufactured products in an equitable way other

than traditional method of using a single allocation base. According to applied management accounting (2008) ABC is used because it leads to more accurate pricing of products, which would therefore influence all decision making with regard to those products. In construction with ABC system management would be able to determine the appropriate project costs. ABC system improves the absorption of costs to products by refining the costs absorption rates. The method improves product costing and facilitates future cost information for decision making.

According to the research results obtained by Anand et al firms that budget with ABC system have consistency in priority of budget goes other than non ABC users. Anand concluded that in contrast to theory Indian ABC users and traditional users both use absorption costing and variable costing. Anand noticed that in India, there is no significant difference between standard costing and ABC system.

Bowen (2010) says quantity surveyors in South Africa are aware of value management but it is not an effective management tool. According to Bowen findings, in South Africa the quantity surveyors found value not reaching their expected level of awareness. South African quantity surveyors did not fully understand value management. Bowen found supply management to be an effective tool in UK, Japan and USA construction.

## **2.7 Summary**

This chapter covered literature review, in line with the objectives of the study .This chapter focused on the construction policies, policy implementation guidelines, capacity of personnel to implement guidelines, challenges experienced in implementing the policies, controls over costing processes and best practice in costing policy implementation. Chapter 3 would be focusing on research methodology.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.0 Introduction.

This chapter explores on the methods how the research was carried. This chapter focuses on the research designs, population designs, sample designs, research instruments, data presentation and analysis and the summary. The researcher believes that the collected information would be dependable and useful to support the recommendations given in chapter 5.

#### 3.1 Research Design.

According to Bickle (2009), research design is a deliberately planned arrangement of conditions for analysis and collection of data in a way that aim to combine significance of the research purpose with economy for procedure.” Research design looks on the approach one chooses to combine different components of the study in a reasonable manner to ensure that the research problem is addressed. According to De Vaus (2010), the main purpose of the research design is to ensure that the obtained information give answers to the initial question. The research design method one uses affects their results and how their findings are concluded.

##### 3.1.1 Descriptive research method

Shuttle worth (2008) describes descriptive as a method involving observation and description of behavior of a subject without influencing it in any way. Descriptive research design aims to get accurate description of the community or organization in a way that minimizes bias and maximizes reliability. The design can be used where it’s impossible for the researcher to measure or test a large sample needed for more qualitative research. Johnson and Christensen (2010) added that the purpose of the method is providing accurate description or explanation of the status and characteristics of the situation. The emphasis is not ferreting out cause and effect relationship but rather description of the variable that exist in a given examination of the research question.

Johnson and Christensen went on to say that with descriptive research a sample is randomly selected from the population to determine sample characteristics and conclude the characteristics

of the population based on sample. According to Clause (2014) descriptive design is used where the researcher need to describe specific behavior as it occurs in the environment. Descriptive research is categorized as observation, case studies and surveys. Descriptive research may obtain both qualitative and quantitative data.

### Observational Method

This can be known as field research. Trochim (1999) highlighted that a field research is considered to be a broad approach to qualitative research or as a method of gathering qualitative data. The main idea of observation method is for the researcher to go into the field to observe the occurrences in their state of nature or situation.

### Case Study Method

Robson (1994) says a case “is the development of detailed intensive knowledge about a single case or a small number of related cases.” Detailed observations are done on a specific case with the intention of examining closely the qualities and characteristics of the case. The case involves the use of observations or interviews. Like observational research the researcher has no influence to respondents. The use Case study method allows the researcher to study rare phenomena.

### Survey Method

Malhotra (2011) defines the survey method as a method of obtaining information basing on questioning respondents. Malhotra went on to review that all questions regarding behavior, intentions, attitudes, awareness, motivations, and demographic and lifestyle characteristics are answered by survey. The use of fixed response questions reduces variability caused by different respondents and enhances reliability of the responses. However researcher’s face challenge on how to motivate respondents to candidly answer their questions.

### Advantages of descriptive method

The use of descriptive method allows the researcher to obtain both qualitative and quantitative information. Descriptive method allows the user to apply various approaches i.e. observation, survey and case study due to this ,the method provides a variety of answers to various aspects under study because numerical element as well as the personal and observation elements are

involved. The method depicts areas for further study. The descriptive design is very flexible it allows the researcher to select the method depending on what the researcher expect to find rather than selecting the method and then studying.

#### Disadvantages of descriptive method

As highlighted by Shuttleworth (2008), the results such as of observational cannot be repeatable so there can be no replication of the experiment and reviewing of the results. By using the, method there are no variables manipulated, so results cannot be analyzed statistically.

Murphy, (2014) says confidentiality is the primary weakness of descriptive research. Respondents are not truthful, they tell researcher what they think they want to hear. During interviews participants may not feel comfortable to provide answers to questions they view as too personal. The idea that someone is watching can turn an observation into an event where people are acting how they perceive they should act.

#### **3.1.2 Explanatory research**

Singh (2007:64) says “exploratory research is the initial research, which forms the basis of more conclusive research. Bryman (2008) says, in explanatory research, a vague problem is selected and understood, it is then followed to find a new hypothesis and then carrying out conclusion research decision to finally get new ideas. It can even help in determining the research design, sampling methodology and data collection method” .The method intends to explore research questions and not providing final conclusive solutions to existing problems but it is essential for better understanding of the problem. Explanatory research is conducted to test ideas before they are put in the place, this research is very costly.

According to <http://universalteacher.com/> (14/9/2014 :6:40am) the following are the advantages and disadvantages of explanatory research

#### Advantages of Exploratory Research

The research objective is improving researcher’s knowledge of a topic. With the method the researcher is able to determine why and how things happen. Explanatory research checks concepts before they are put in the place. The method also helps researchers to find potential



causes to the signs or symptoms conveyed by decision makers. Researchers may carry out research to build up a list of possible causes to the problem. Additional more extensive study may then verify which possibilities are most the likely the causes. There is flexibility of data sources since exploratory studies use secondary sources for example published literature. It can be beneficial in guiding future research techniques. A better knowledge of a topic helps improve research questions and will significantly raise the effectiveness of a study's findings. It is also very helpful in figuring out the best approach to achieve research objectives.

#### Disadvantages of Exploratory Research

Explanatory research seldom offers adequate answers to research questions, even though they give hint and direction as to which research methods could provide definitive answers. This method is not employed to draw conclusive solutions, because it lacks statistical strength. Checking of concepts before put in place is very costly.

#### Justification of using descriptive method

To carry out this research descriptive research method was used. The method is typical to answer questions like how or why, this is ideal because it gives ability to the researcher to yield conclusive results and findings in a descriptive manner. The method allows the use of both qualitative and quantitative methods. The use of this strategy has resulted in the researcher using various methods i.e. questionnaires, interviews and observations.

### **3.2 Research population.**

According Tustin et al (2005) population is the group from which the sample will be drawn. Population to be considered in this research constitutes all departments that use the costing information at Macro Construction (pvt) ltd. The targeted population by the researcher are: commercial department 12, accounting department 4, health and safety 8, procurement 6, human resources 4, technical 9, information system 1, so the research has a target population of 44.

### **3.3 Sampling**

According to Ashley (2014) sample is a subset of the population under study representing the entire population and is used to draw inferences about that population. Sampling can be classified into two i.e. probability and non-probability sampling

#### **Non-probability Sampling Techniques**

Ashley (2014) describes non-probability sampling as a sampling method where samples are gathered in a way that does not accommodate each and every one in the whole population to be given equal chances of being selected. Ashley 2014 cited the following sampling methods:

##### **Judgmental sampling**

Judgmental sampling is one that select based on the knowledge of a population and the purpose of the study. The method is used when a limited number of persons have attributed of interest. It is only practical to obtain information from a very specific group of people.

##### **Quota sampling**

This is all about selecting units into a sample basing on pre-defined characteristics so that the total sample would have the same distribution of characteristics assumed to exist in the population being studied.

#### **Probability Sampling Techniques**

This is a technique where gathering of samples takes place in a process of giving individuals in the population equal chances to be selected.

##### **Simple random sampling**

In a simple random each sample in the targeted population is given a number, then random numbers are produced and the units having those numbers are included in the sample.

##### **Systematic sampling**

In this method elements of the population are listed and then the elements of the population are put into a list and certain number in the list is chosen (systematically) for inclusion in the sample.

## Cluster sampling

This is where the researcher selects groups (clusters) from the target population. Then from each cluster individuals are selected either by simple random or systematic sampling. This method is used when it is impossible to compile an exhaustive list of the elements that make up the target population.

## Stratified sampling

A stratified sample is where the population is divided into different groups then a random sample is drawn from each group. Stratified sampling is used when the researcher want to highlight specific subgroups within the population.

To carry out this research a stratified sampling method was used. In the research the whole population was put into groups thus departments then certain individuals were picked from each department.

## Justification of stratified sampling

According to StatTrek (2014), stratified sample provides greater precision than a simple random sample of the same size. Due to the provision of greater precision, stratified sample often requires a smaller sample which saves money. Stratified sample can guard against an unrepresentative sample. The sample ensures that sufficient sample points to support a separate analysis of any subgroup are obtained.

In carrying out this research the following sample size was used;

**Table 3.1 sample size**

Department	Population size	Sample size	% of the total sample
Commercial	12	12	100%
Accounting	4	4	100%
Procurement	6	6	100%

Human resources	4	2	50%
Technical	9	4	44%
Health and safety	8	3	38%
Information system	1	1	100%
Total	44	32	74%

### 3.4 Types of data

#### Primary data

According to Drury, (2000) primary data is data that is collected for the first time in the field. The primary data is used to supplement and update the secondary data already available. In this research designing of questionnaires, interviews and observation were used to obtain reliable information.

Degree of accuracy is high making the primary data to be more reliable than secondary data because the researcher collects this data personally. Primary data enables the researcher to collect specific information for the purpose of the research.

However it requires a lot of labor, it's expensive to conduct and takes much time to process.

#### Secondary data

Andrew (2008) describes secondary data as process which involves accessing already gathered information. Already published information was not published for the current problem at hand.

Secondary data tends to be less expensive than when the researchers carry out the research themselves because information readily available with a variety. The data can also be examined over a long period.

However the fact that secondary data was gathered for other purpose one needs to go through the information to find what they are looking for. When using secondary data caution is needed

because some of the already available information may be out dated or no relevance to the current situation

### **3.5 Research instruments.**

Collection of data was done by use of questionnaires, interviews and observations.

#### 3.5.1 Questionnaires.

According to Burke and Christensen (2012) “a questionnaire is a self-report data collection instrument that research participant fills out as part of the research study”. Questionnaires ask questions that bring about ideas and behaviors, preferences, traits, attitudes and facts values perception and beliefs. In the construction of questionnaires researcher must have an understanding about different types of questions .These types can be classified into two categories i.e. open ended and closed ended questions.

##### Merits of questionnaires

The respondents feel comfortable to give answers to sensitive issues since the questionnaires enable them to remain anonymous. There is a tendency of obtaining complete data because respondents have enough time to carefully attend all questions in the questionnaire. Data obtained from respondents can be compared and analyzed because feedback from respondents is a written document. In this case some of the targeted group is management, management is not easily approachable but with questionnaires they are conveniently approachable.

##### Demerits of questionnaires

The questionnaire method is impersonal hence some of the respondents feel comfortable in expressing their views orally other than in writing. Some of the unclear questions were not answered effectively. Properly wording questions is not easy

To curb the personal communication barrier the researcher organized interviews with the respondents and for the unclear question not answered well the researcher make follow ups..

#### 3.5.2 Research interviews.

These can be telephone or face to face interviews

## The face to face method

Sincero (2012) highlighted that this type of interview is utilized when a specific target population is involved. The researcher is allowed to explore the responses of people to gather more and deeper information. Personal interview surveys are used to probe the answers of the respondents and at the same time, to observe the behavior of the respondents, either individually or as a group.

### Advantages

Sincero (2012) say face to face nature of the personal interview allow high response rates, unlike questionnaires respondents are more likely to readily answer live questions about the subject (for instance, a product) simply because they can actually see, touch, feel or even taste the product. Personal interview allows open-ended questions to be tolerated since it's more convenient for respondents to express long answers orally than in writing. Researchers have the opportunities to observe the attitude and behavior through face to face interaction

### Disadvantages

Face to face interview tends to be more expensive than questionnaires. According to Sincero (2012) the method is time-consuming as the researcher need to travel and meet the respondents at either single or different locations.

## Telephone interview

As highlighted by Aday (1996) the telephone interviews are an accepted well-studied approach for quantitative data collection; it is a principal survey method. Telephone interview is when the researcher gathers information from the respondent by asking questions over the phone.

### Advantages

This method is quick and time consuming. Telephone interview reduces because it's not necessary for the researcher to travel to the respondent's places. Use of telephones allow respondents to be relax and feel free to disclose sensitive issues. This method is an advantage to respondents who prefer telephones rather than personal interviews.

## Disadvantages

Usually its difficulty for respondents to elaborate their responses due to limited time, commonly conversations will be 5 to 15 minutes. The limited time also results in the researcher asking brief questions and respondents answering briefly. It's difficult to record responses because researchers need specialist equipment to record, which is now an additional cost. With telephone interviews it's not possible for researchers to observe nonverbal reactions to questions.

To extract the primary data the researcher scheduled personal interviews with the entity staff. The interview approach enables a face to face interaction between the researcher and the respondents. The researcher was able to successfully carry out all the scheduled interviews.

## Justification of the face to face interview

Personal communication enables the researcher to clearly clarify some of the ambiguous questions and obtaining quick responses from interviewees. It is a quick way of obtaining data because response is given immediately. The interview enables the researcher to ask follow up questions.

## Closed ended questions

According to Sincero (2012) closed ended questions are those that limit the answers of the respondents. Participants are to choose from a range of predetermined responses provided on the questionnaire. These questions have limited answers, they are answered either by a yes or no, unsatisfied or satisfied or use of multiple choice. Closed ended questions restrict respondent to answer using few words.

## Advantages

Closed ended questions are time-efficient as respondents only tick to answer the question, just the answer is needed. According to <http://www.answers.com>(17/09/2014:14:26 pm) these questions can be more specific, thus more possible to communicate comparable meanings. In large scale surveys closed ended questions require less time from the interviewer, participant and researcher so it is a less expensive survey method.

## Disadvantages

According to Sincero (2012) the researcher cannot further explore the meaning of the responses. Statistically closed ended question are analyzed easily, however they limit the responses that respondents can give. These questions result in respondents giving answer which need more time. The responses may result in threatening the user and with this misleading conclusions can be made.

## Open ended questions.

Sincero (2012) describes these questions as those that have no predefined options or categories included. Participants supply their own answers. These questions are broad and require more than one response. Dr Richardson (2002) says these questions are designed to encourage full meaningful answers using the participant's knowledge and feelings.

## Advantages

With the use of open ended question the respondents are allowed to include more information i.e. feelings and attitudes about the subject under study. Use of open ended questions allows the researcher to obtain extra information such as demographic information this makes the research readily available for secondary analysis by other researchers. Open ended questions response can be investigated because respondents respond to questions they feel they like to respond. With open ended questions trust is developed because questions are perceived as less threatening and allows free response these maybe useful with articulate users

## Disadvantages

It time-consuming and difficulty to code and interpret the results. Since respondents are allowed to express responses in their own words. It becomes difficulty for comparing the meaning of responses.

## Likert Scale

According to [www.surveymonkey](http://www.surveymonkey) (10/09/2014, 11:55 am) likert scale measures attitudes and behaviors using answers that range from one extreme to another (for example, not at all likely to extremely likely). The method allows the researcher to discover degrees of opinion and is very



helpful for sensitive or challenging topics or subject matter. Range of responses helps researcher to easily identify areas of improvement. [www.surveymonkey](http://www.surveymonkey.com) (10/09/2014, 11:55 am) went on to say that in each question, a statement is presented in which a respondent must indicate a degree of agreement or disagreement in a multiple choice type format.

LaMarca (2011) cited the following advantages and disadvantages.

#### Advantages

This is a commonly used method so it's easily understandable. The obtained data is easy to be statistically analyzed. Respondents are given the floor to respond in their degree of agreement, thus makes question easy to answer. The method accommodates neutral or undecided feelings of respondents. Responses from respondents are very easy to code when accumulating data since a single number represents the participant's response. The method is also quick, efficient and inexpensive methods for data collection. Attitudes of the population for one particular item in reality exist on a vast, multi-dimensional continuum.

#### Disadvantages

Likert Scale is uni-dimensional and only gives 5-7 options of choice, and the space between each choice cannot possibly be central therefore, it fails to measure the true attitudes of respondents. It is not unlikely that responses will be influenced by previous questions, or will heavily concentrate on one response side (agree/disagree). Respondents usually avoid choosing the extremes options on the scale, because of the negative implications involved with extremists, even if the extreme choice would be the most accurate.

For the purpose of this research both structured and unstructured question were employed so as to obtain sufficient data related to the topic under study

### **3.6 Data validity and reliability.**

According to Joppe (2000:1) "reliability is the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under similar methodology, then the research instrument is considered to be reliable." Reliability is concerned with the consistency of results.

Joppe (2000) says validity determines whether the instrument truly measures that which it was intended to measure achieving the purpose it was designed for.

### **3.7 Data presentation**

To present the data obtained the researcher uses pie chart, tables, line graphs, and bar charts.  
Justification

These methods create a visual impression and it can be understood by different users of the information.

### **3.8 Data analysis.**

according to <http://www.businessdictionary.com> (14/09/2014:16:00) “data analysis is a process of evaluating data using analytical and logical reasoning to examine each component of the data provided.” Where a research experiment is conducted data analysis must be accomplished. Data analysis is all about organizing the data and making it easily understandable. The gathered data is reviewed and analyzed to figure findings and conclusions. In this research the data was analyzed by the computer using different packages like Microsoft word and excel to come up with percentages trends of respondents with similar answers. Various statistical methods for data analysis were used these are mean, mode, median and standard deviation

### **3.9 Summary.**

This chapter presented the research methodology used in the study. Population design, sample designs were described. The chapter covered the research instruments providing their pros and cons and justifying the instruments which were used by the researcher. Chapter 4 focuses on research analysis and presentation.

## CHAPTER 4

### DATA PRESENTATION AND ANALYSIS

#### 4.0 Introduction

This chapter covers the data presentation and analysis of the data findings. The data obtained through the responses from questionnaires and interviews is presented through the use of narrative texts pie charts, tables and graphs. The analysis of the data is done to provide meaningful results. The presentation and analysis of the data are the basis of recommendations and conclusions to be made in this research.

#### 4.1 Response rate

The response rate of 78 % was obtained from questionnaires and a 100% response rate from the interviews. This shows an average of 89% response rate. With an 89% response rate the researcher is satisfied that adequate information was obtained from the respondents and their various opinions were received. An 89% response rate gives the researcher assurance that there was positive feedback and conclusions can be drawn from the research.

##### 4.1.1 Questionnaire response rate

32 questionnaires were administered to Macro Construction management and other employees of which 25/32 (78%) were returned and 7/32(22%) were not returned due to unknown reasons.

The table below depicts the response rate;

Table 4.1 Questionnaire response rate

Department	Sample size	Actual respondents	Response rate%	Defaulters%	Total%
Commercial	12	10	83	17	100
Accounting	4	4	100	0	100
Procurement	6	4	67	33	100
Human resource	2	1	50	50	100
Technical	4	4	100	100	100

Healthy and safety	3	1	33	67	100
Information system	1	1	100	0	100
Total	32	25	78	22	100

Trochim (2008) highlighted that at least 70% of the responses are needed from the total population sample size so that the results would be a true representative of the study. In this research 78% respond, this makes the research valid.

#### 4.1.2 Interview response rate

Initially the researcher had set out to carry 4 personal interviews with the accountant, commercial director, technical director and the information system director to obtain clarity on some of the issues. All four interviews were successfully carried out. Therefore response rate of 100% was obtained. With a 100% response rate the researcher can conclude that positive feedback was drawn and it's possible to draw conclusions from the results.

### 4.2 Presentation of respondent's profile

Appendix 3 section A of the questionnaire contained questions about the personal information of respondents such as position held, age, gender, academic qualifications and number of years they have spent with the organization.

#### 4.2.1 Information regarding positions held by respondents in the organization

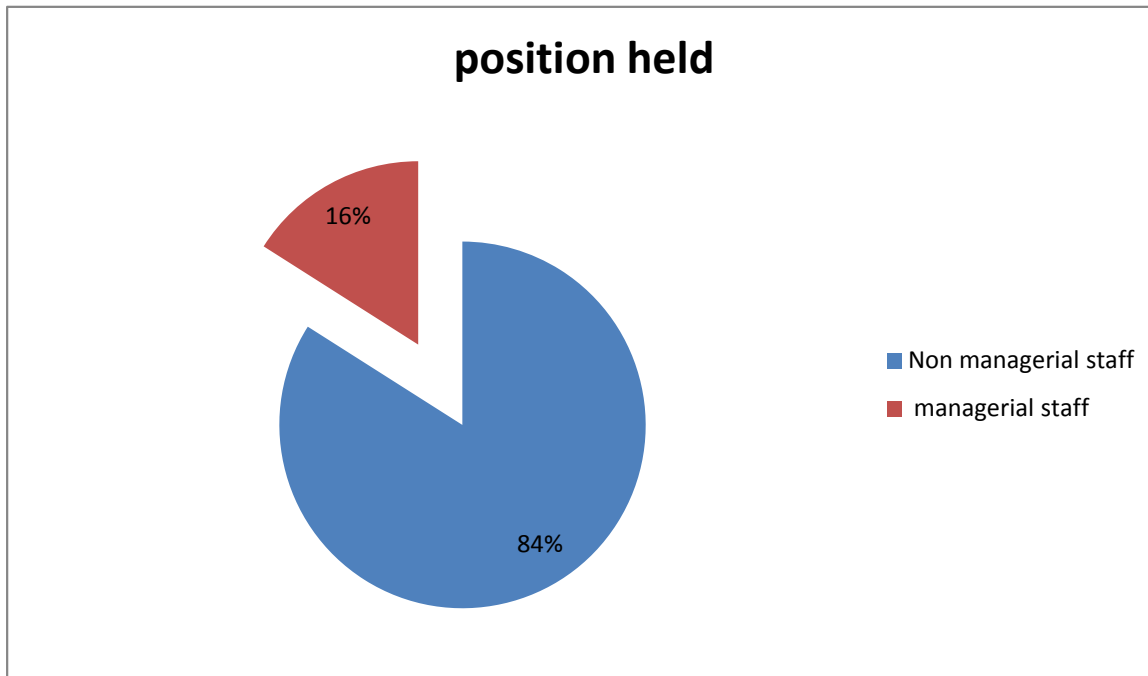
The sample size constitute of 32 members. 5/32(16%) of them held managerial positions i.e. the commercial director, human resource manager, technical director, information technology director and the accountant. 27 /32 (84%) held non-managerial positions. 5 questionnaires were given to managerial staff and all of them were completed giving a response rate of 16%. 27 questionnaire were distributed to non-managerial staff only 20 were returned giving a response rate of 62%

Table 4.2 information regarding to position held by respondents in the organization

Position held	Questionnaire distributed	Number responded	Response rate%
Managerial	5	5	16
Non managerial	27	20	62
Total	32	25	78

Fig 4.1

Responses per position held



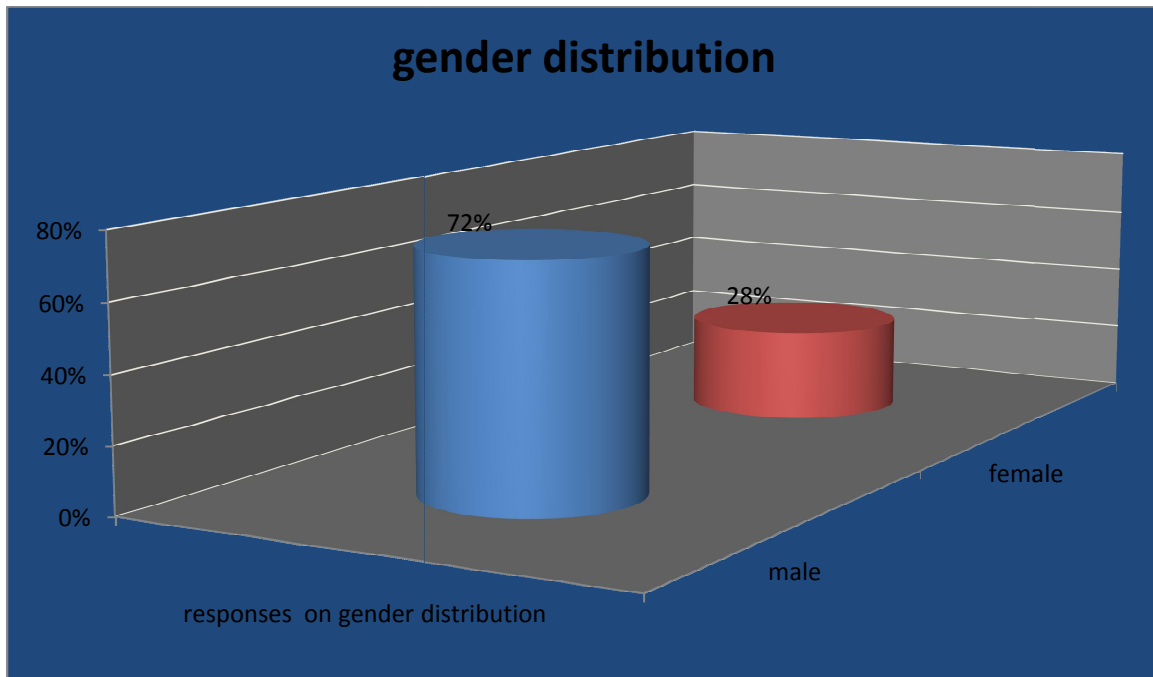
#### 4.2.2 Information regarding to gender of respondents

Table 4.3 frequency table for gender distribution

Gender	No of respondents	Response rate%
Male	18	72
Female	7	28
Total	25	100

Fig 4.2 represents the respondent's gender distribution

Fig 4.2 Gender distribution



The above information reflected that 18/25(72%) were males and 7/25(28%) were females. Out of the 18/25 (72%), 5/25(20%) are managerial staff and the 7/25 (28%) females are in the non-managerial staff.

All in all 72% are males and 28% are females

There is an agreement that male are more than females. The collected data is likely to be gender biased since only 28% are females and 72% are males.

#### 4.2.3 Respondents academic qualification

Table 4.4 Frequency table for respondent's academic qualifications

Qualification	A level	National diploma	Degree	Masters	Other	Total
No of respondents	2	13	5	4	1	25
Response rate%	8	52	20	16	4	100

The above table depicts that 8 %( 2/25) of the respondents held A level qualifications, 52 %( 13/25) holds National diplomas these consist mainly of line staff. 20% (5/25) held degrees.16 %( 4/25) held Masters as their highest qualification level and all of them are managerial staff. 4% which is 1/25 of the respondents held CIMA qualifications and is in the accounting department.

#### 4.2.4 Time spend with the organization

Table 4.5 Information regarding the time spend by respondents in the organization

Period	No of respondents	Percentage rate%
0-1years	3	12
1 -2 years	10	40
2 years +	12	48
Total	25	100

The table shows that more employees (48%) 12/25 have been in the organization for 2 years or more. Those who had been within the organization for 1-2 years were 40% that is 10/25 of the respondents. Those who have been with the organization for 0-1 year were 12% that was 3/25 respondents. With this information this means the data obtained by the questionnaires can be relied on because most of the respondents have stayed in the organization more than 1 year and are expected to be more versed with the company system so they gave informed decisions.

#### 4.3. Analysis of questionnaire responses.

Appendix 3 section B of the questionnaire contains questions regarding to the research objectives. This section analyses these questions and it is accompanied by discussions of findings for each objective.

##### 4.3.1 Presence of a costing policy at Macro Construction

Table 4.6 The organization has an existing a costing policy.

Opinion	Respondents	Percentage response rate%
Strongly agree	25	100
Agree	0	0
Uncertain	0	0
Strongly disagree	0	0
Disagree		0
Total	25	100

Form the findings it shows that the organization has a costing policy in place. Out of the 25 respondents all the 25 respondents strongly agree that the organization has a costing policy. 0/25 agree, 0/25 are uncertain, 0/25 strongly disagree , 0/25 disagree. On average it shows that 25/25 strongly agrees that the organization has a costing policy and 0/25 disagreed.

Therefore conclusively it shows that there is a costing policy at Macro construction.

#### 4.3.2 Formal documentation of the policy.

Table 4.7 Responses on policy documentation

Responses	Strongly agree	agree	uncertain	Strongly disagree	disagree	Total
Respondents	17	5	3	0	0	25
Response rate%	68	20	12	0	0	100

From the findings it is noted that 17/25(68%) strongly agree that the organization has a formally documented policy. 5/25(20%) agree, 3/25(12%) are uncertain, 0/25(0%) disagree that the organizational policy is formally documented.

On average the 22/25 (88%) agree that the organizational policy is formally documented and 3/25(12%) disagree.



Results are satisfactory and show a consensus that the organization has formally documented because the majority of respondents i.e. 88% agree that the policy is formally documented.

#### 4.3.3 Commercial department members have access to the costing policy document.

Table 4.8 Responses on commercial department member’s having access to the policy document.

Responses	Strongly agree	Agree	uncertain	Strongly disagree	Disagree	Total
Respondents	25	0	0	0	0	25
Response rate%	100	0	0	0	0	100

From the above findings it shows that 25/25 (100%) respondents agree that the commercial department members have access to the document, 0/25(0%) agree, 0/25(0%) are uncertain, 0/25(0%) strongly disagree, 0/25 (0%) disagree.

On average 100 % and 0% disagree.

According to the results there is an agreement that the commercial department members have access to the policy document.

#### 4.3.4 Communication of the costing policy to subordinates and new personnel.

Table 4.9 Responses on the communication of the policy to employees

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	2	4	2	11	6	25
Response rate%	8	16	8	44	24	100

The findings indicate that 2/25(8%) strongly agree, (16%) 4/25 agree, (8%) 2/25 are uncertain, 11/25(44%) strongly disagree, 6/25(24%) disagree.

On aggregate 6/25 (24%) of the respondents agree and 19/25 (76%) disagree.

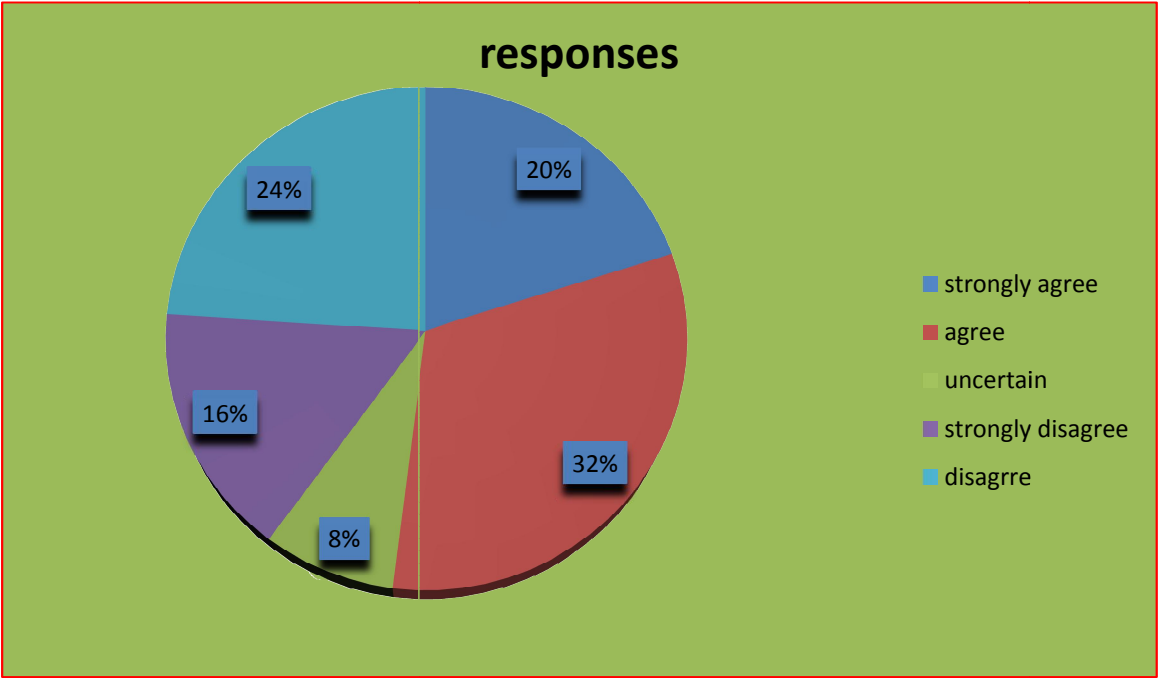
The results show evidence that there is a disagreement that costing policy is well communicated to employees of the organization.

**4.3.5 The current costing policy is effective**

Table 4.10 Responses on the effectiveness of the current costing policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	5	8	2	4	6	25
Response rate%	20	32	8	16	24	100

Fig 4.3 Effectiveness of the current policy



The results shows that 5/25(20%) strongly agree, 8/25(32%) agree, 2/25(8%) are uncertain, 4/25 (16%) strongly disagree and 6/25(24%) disagree.

On average 13/25 agree that the current costing policy is effective whilst 12/25 disagree that the current policy is ineffective.

The obtained findings show that there is an argument on whether the current costing policy is effective or not.

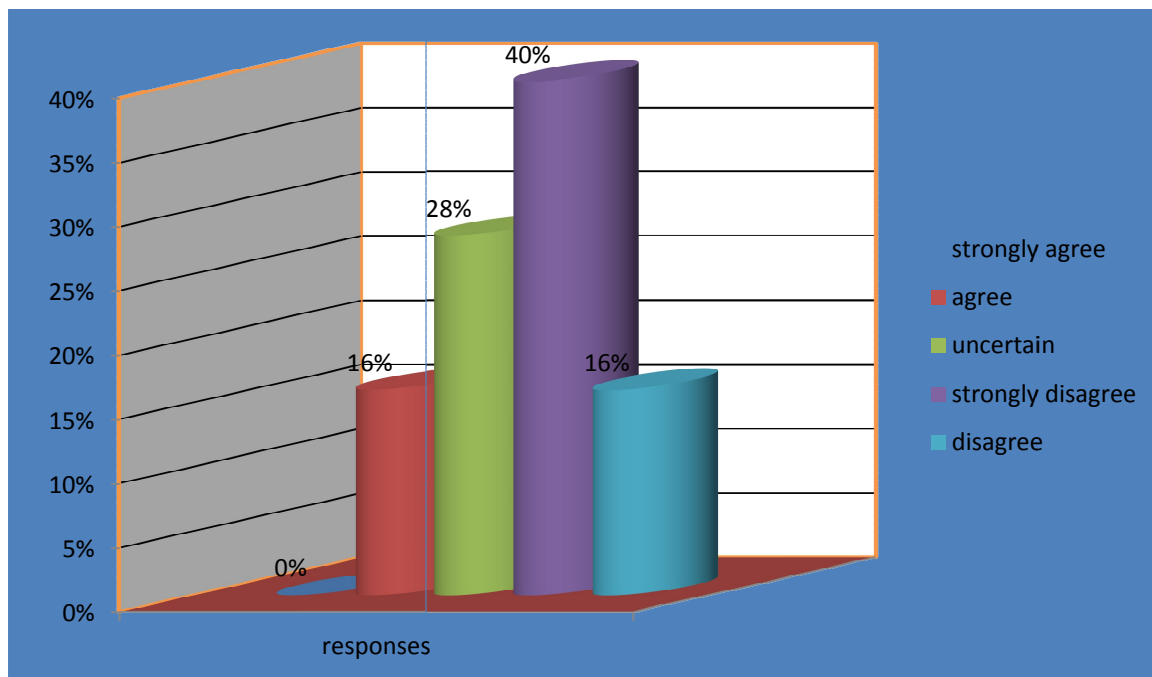
#### 4.3.6 The organization must continue using the current costing policy.

Table 4.11 Responses on continuity of the current costing policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	0	4	7	10	4	25
Response rate%	0	16	28	40	16	100

The data can be graphically presented as follows

Fig 4.4 Responses on the continuity of the current costing policy



From the findings it is shown that 0/25 (0%) strongly agree, (16%) 4/25 agree, 7/25(28%) are uncertain, 10/25(40%) strongly disagree and 4/25 disagree.

On average 4/25 agree that policy should be continued to be used and 21/25 disagree.

With the results it shows that the current costing policy should not continue to be used because 84% disagree.

## 4.4 Implementation guidelines

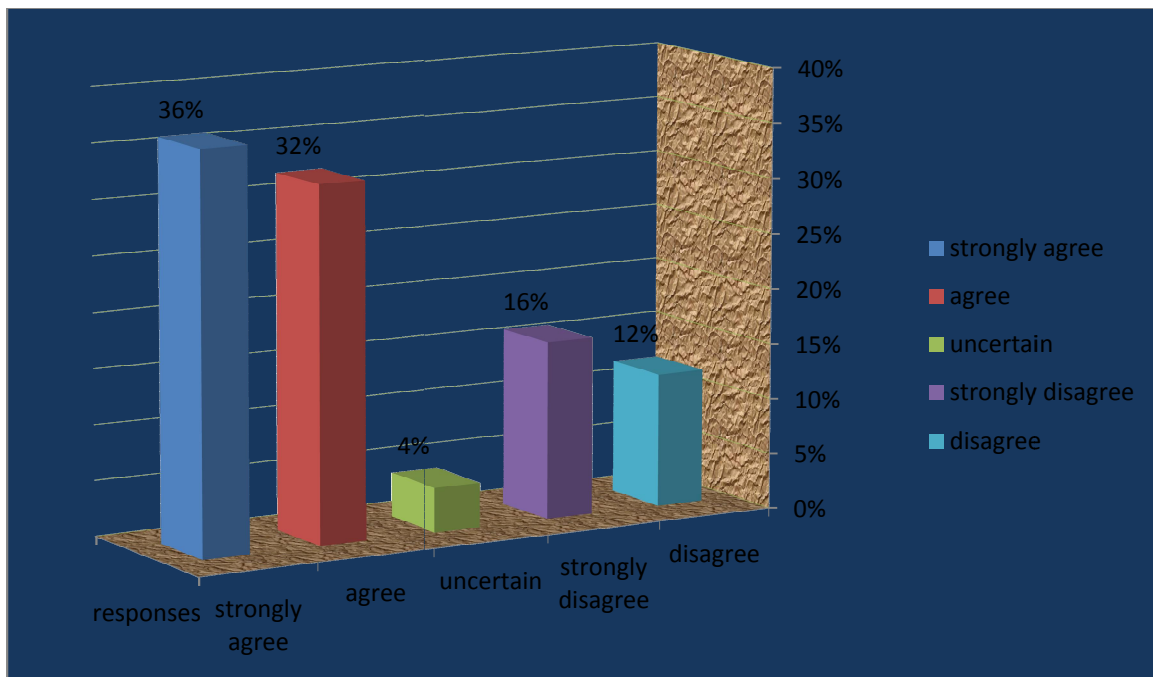
### 4.4.1 Presence of implementation guidelines.

Table 4.12 Responses on the presence of implementation guidelines

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	9	8	1	4	3	25
Response rate%	36	32	4	16	12	100

The fig 4.5 below supports the information

Fig 4.5 Responses on the presence of implementation guidelines



The findings show that 9/25(36%) strongly agree, (32%) 8/25agree, 1/25(4%) is uncertain, 4/25(16%) 3/25 (12%) disagree and strongly disagree.

Averagely 17/25 agree whilst 8/25 disagree that the organization has implementation guidelines. Conclusively there is an agreement that the organization has implementation guidelines.

#### 4.4.2 Implementation guidelines are documented.

Table 4.13 responses on documentation of guidelines

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	12	11	0	0	0	23
Response rate%	48	44	0	0	0	92

12/25 (48%) strongly agree, 11/25(44%) agree, 0/25 were uncertain, 0/25 strongly disagree and 0/25 disagree. Out of the 25 respondents 2 of them decided not to answer this question. On average 23/25 agreed and those who did not respond are considered to disagree.

The researcher can say that the organizational policy guidelines are documented since 92% of the respondents agreed that the policy guidelines are documented.

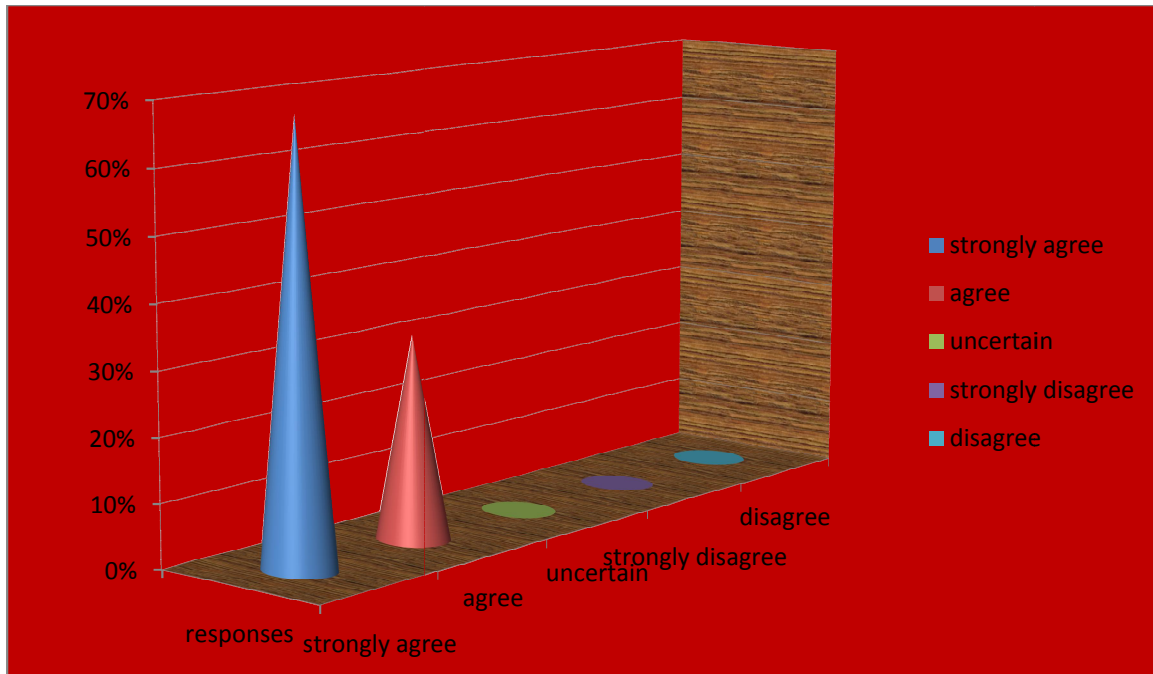
#### 4.4.3 Management takes lead in the policy implementation

Table 4.14 responses of information regarding the lead taken by management in policy implementation.

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	17	8	0	0	0	25
Response rate%	68	32	0	0	0	100

Fig below supports these findings

Fig 4.6 responses on management taking lead in policy implementation



From the findings 17/25(68%) strongly agree, 8/25(32%) agree, 0% is uncertain, 0% strongly disagree, and 0 % disagree. Averagely 100% of the respondents agree that management takes lead in the policy implementation and 0% disagree.

The researcher is satisfied with the results and it shows that there is an agreement that management takes lead in policy implementation.

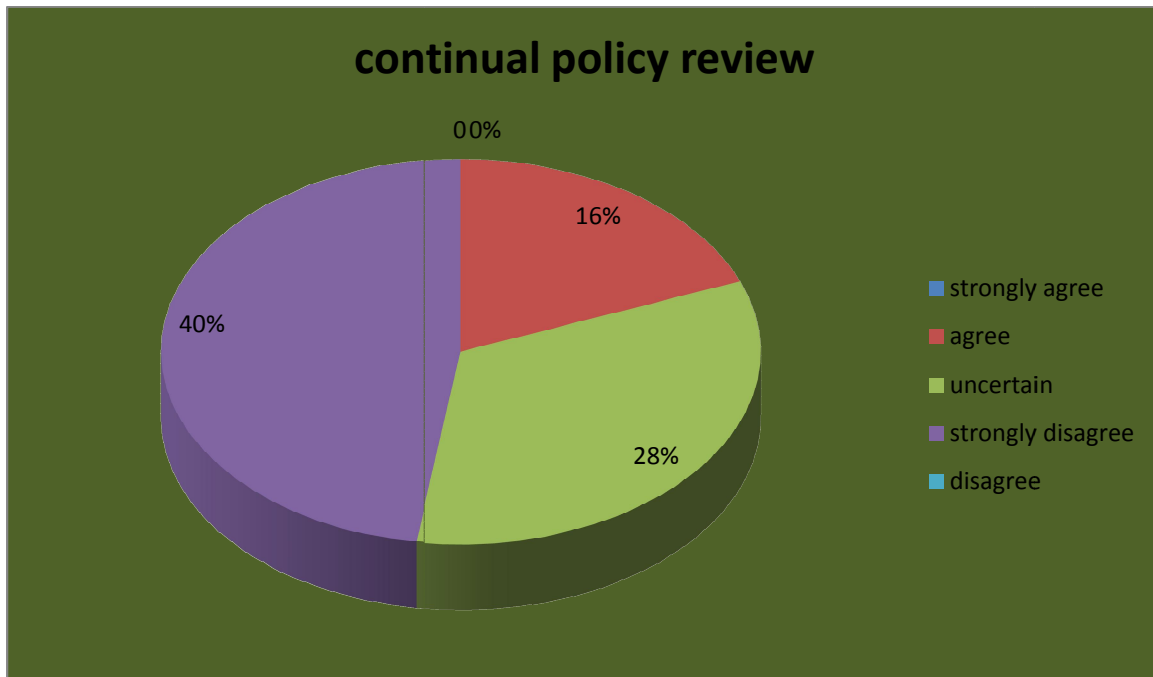
#### 4.4.4 The costing policy is continually reviewed.

Table 4.15 Information regarding the continual review of the policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	0	4	7	10	4	25
Response rate%	0	16	28	40	16	100

The information can be shown on the pie chart as below

Fig 4.7 responses on the continual review of the costing policy



0/25 strongly agree, (16%) 4/25 agree, 7/25(28%) are uncertain, 10/25(40%) strongly disagree and 4/25(16%) disagree.

All in all 4/25 agree that the policy is continually reviewed while 21/25 disagrees.

Results show that there is an agreement that the organizational costing policy is not continually reviewed.

#### 4.5 Personnel capacity in policy implementation.

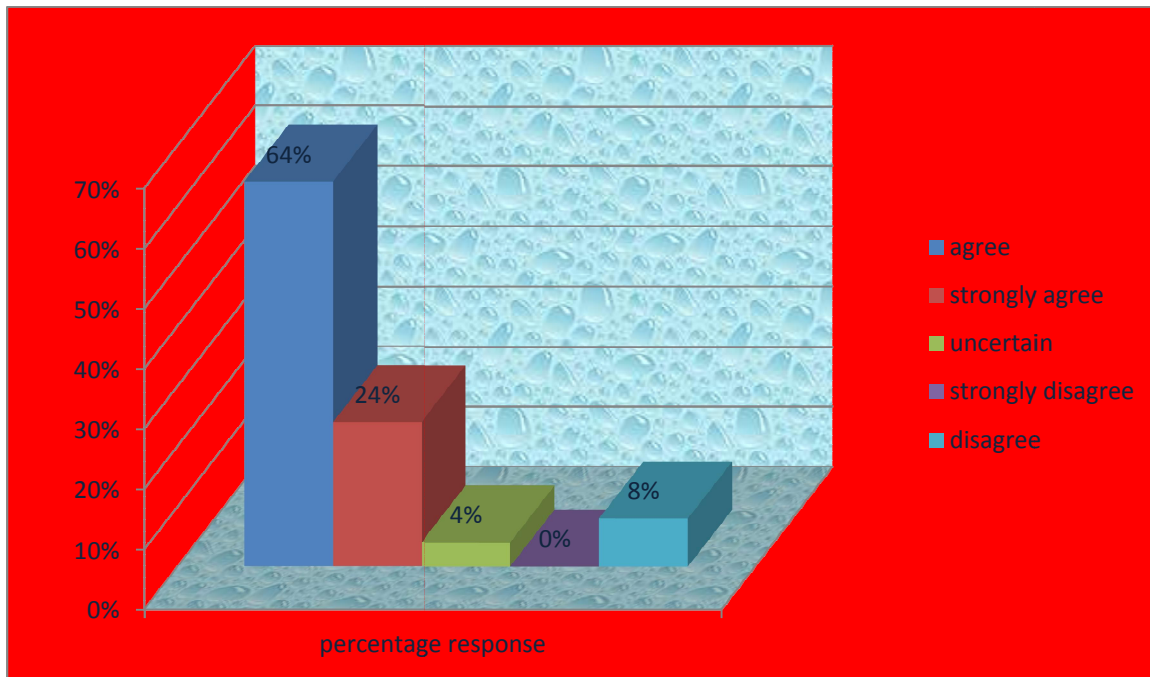
##### 4.5.1 The organization has adequate personnel to implement the policy

Table 4.16 Responses on adequacy of personnel to implement the policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	6	16	1	0	2	25
Response rate%	24	64	4	0	8	100

This information may be presented by a way of a bar graph

Fig 4.8 Responses on the adequacy of personnel to implement policies



From the above findings it shows that 6/25 (24%) strongly agree, 16/25(65%) agree, 1/25(4%) is uncertain, 0/25 strongly disagree and 2/25(8%) disagree.

Averagely 22/25 agree whilst 3/25 disagree.

Conclusively these results show that the organization has adequate personnel to implement the policy because 88% of the respondents agree.

#### 4.5.2 Organization train and retrains personnel on new developments in new costing policies.

Table 4.17 Responses on training and retraining personnel on developments in new costing policies

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	0	4	7	10	4	25
Response rate%	0	16	28	40	16	100



The findings show that 0/25 strongly disagree, 4/25 (16%) agrees, 7/25(28%) are uncertain, 10/25(40%) strongly disagree and 4/25(16%) disagree.

Typically 4/25 agrees and 21/25 disagrees.

On contrary it implies that the organization does not train or retrains its staff on developments of new costing policy.

**4.5.3 Availability of financial resources**

Table 4.18 responses regarding the availability of financial resources to implement the policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	17	3	0	0	5	25
Response rate%	68	12	0	0	20	100

17/25(68%) strongly agree, 3/25(12%) agree, 0/25 are uncertain, 0/25 strongly disagree and 5/25(20%) disagree.

On average 20/25(80%) agrees and 5/25(20%) disagree.

Results reflect there is an agreement that the organization has available financial resources to implement the costing policy.

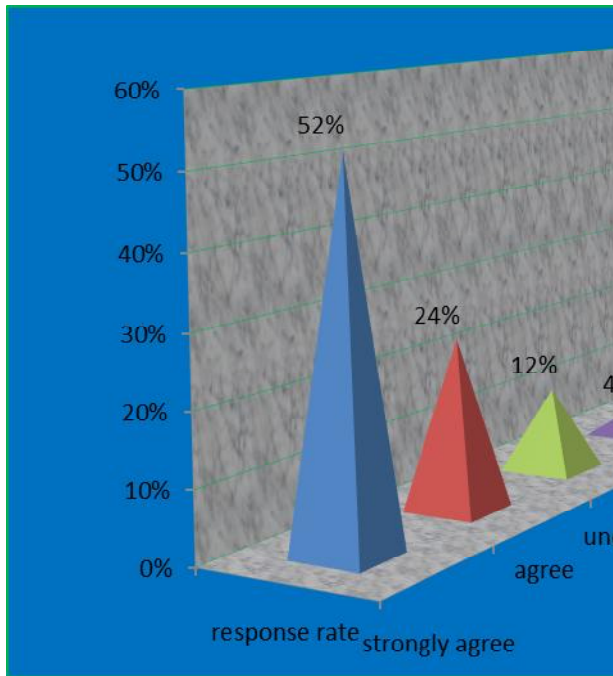
**4.5.4 Implementation is done by personnel with adequate skills and understanding of the policy**

Table 4.19 responses on personnel having adequate skills and understanding of the policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	13	6	3	1	1	24
Response rate%	52	24	12	4	4	96

The information can be depicted by the bar below

Fig 4.9 responses on personnel having adequate skills and understanding of the policy



The findings shows 13/25(52%) strongly agree, 6/25(24%) agrees, 3/25(12%) are uncertain, 1/25(4%) strongly disagree, 1/25(4%) disagrees.

1/25(4%) decided not to respond to this question due to unknown reasons the, researcher considers these respondents as they disagree.

Typically 19/25(76%) agrees whilst 6/25(24%) disagrees.

Conclusively the respondents have an agreement that the organizational personnel have adequate skills and understanding of the policy.

#### **4.6 challenges faced by the organization in implementing the policy.**

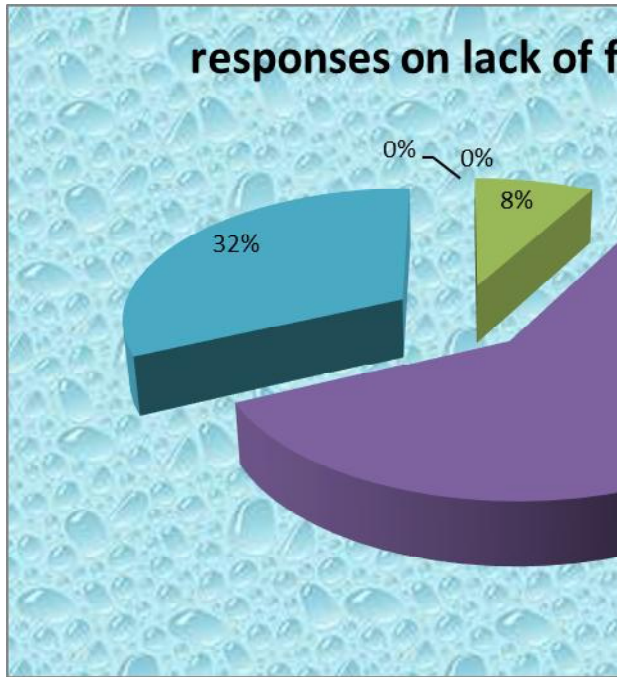
##### **4.6.1 Lack of financial resources to implement the policy.**

Table 4.20 responses on lack of financial resources to implement the policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	0	0	2	15	8	25
Response rate%	0	0	8	60	32	100

The results can be depicted by a pie chart as below

Fig 4.10 Responses on lack of financial resources to implement the policy



0/25 (0%) strongly agree, 0/25 agree, 2/25(8%) are uncertain, 15/25(60%) strongly disagree and 8/25(32%) disagree.

On average 0% of the respondents agrees that the organization lacks financial resources to implement the policy and 25/25(100%) disagree.

Results show that all respondents agree that the organization has adequate financial resources to implement the policy.

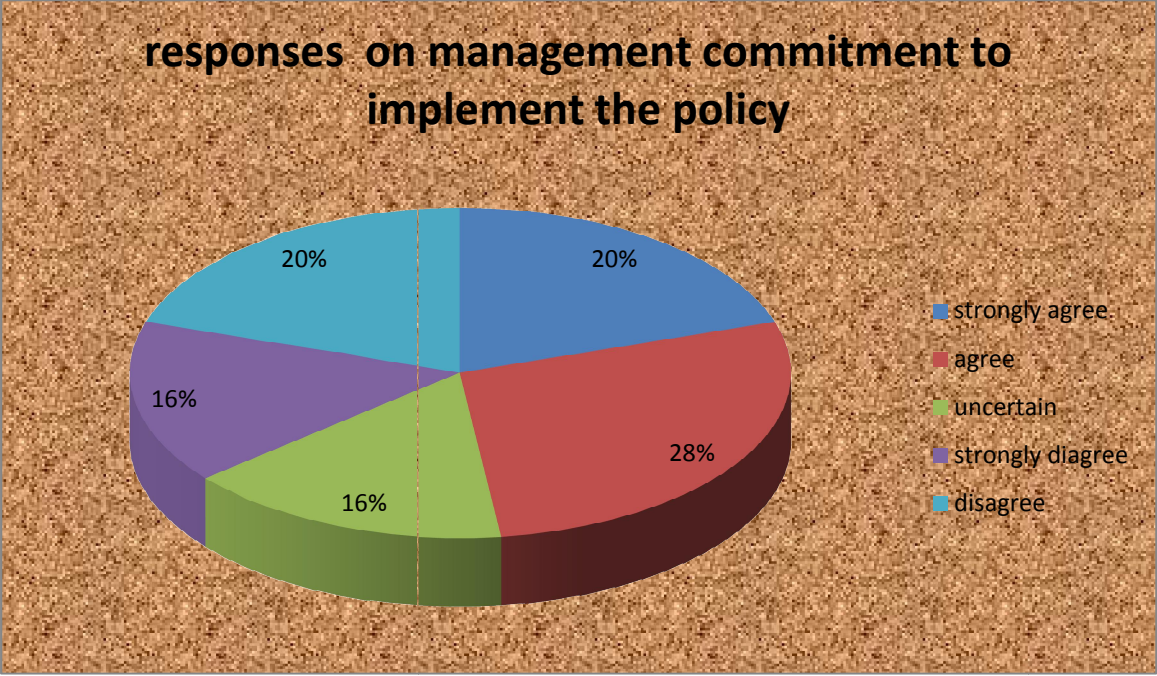
#### 4.6.2 Lack of top management commitment to implement the policy

Table 4.21 responses on lack of management commitment to implement the policy

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	5	7	4	4	5	25
Response rate%	20	28	16	16	20	100

The results can alternatively be shown as below

Fig 4.11 responses on lack of top management commitment to implement the policy



The findings 5/25(20%) strongly agree, 7/25(28%) agrees, 4/25(16%) are uncertain, 4/25(16%) strongly disagree and, 5/25(20%) disagree.

All in all 48% agrees whilst 52% disagrees.

The results show that there is a disagreement that management is committed to the policy implementation.

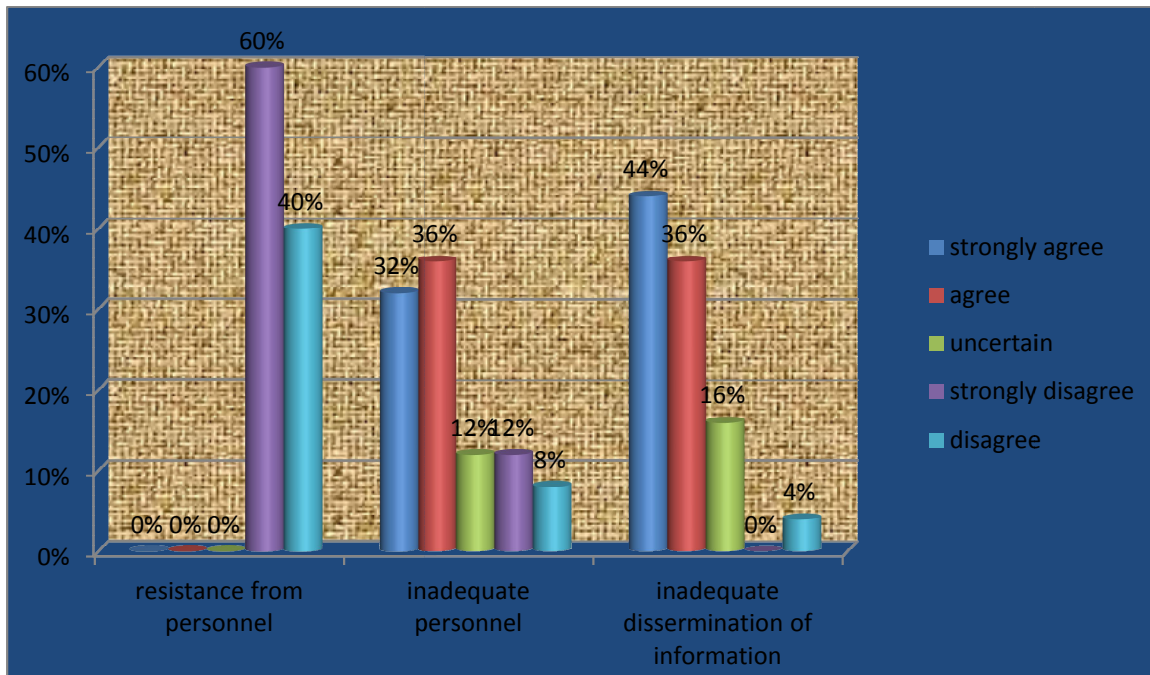
**4.6.3 Other challenges faced by the organization in policy implementation**

Table 4.22 responses on challenges faced by the organization

Challenge	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Resistance from personnel	0%	0%	0%	60%	40%	100%
inadequate personnel	32%	36%	12%	12%	8%	100%
Inadequate dissemination of information	44%	36%	16%	0%	4%	100%

The findings are depicted in the graph below

Fig 4.12 responses on other challenges faced by the organization



- Resistance of personnel to implement the policy

The researcher find out that 0/25 (0%) strongly agree, 0/25 (0%) agree, 0/25(0%) are uncertain, 15/25(60%) strongly disagree and 10/25(40%) agree.

Typically 0% agrees and 100% disagree.

Results show that there is a disagreement that there is resistance of personnel in policy implementation.

- Inadequate personnel

The findings show that 8/25(32%) strongly agree, 9/25(36%) agree, 3/25(12%) are uncertain, 3/25(12%) strongly disagree and 2/25(8%) disagree.

All in all 68% agrees whilst 32% disagree

The results indicate that there is an agreement that there are inadequate personnel in policy implementation.

- Inadequate dissemination of information

The researcher found out that 11/25(44%) strongly agree, 9/25(36%) agree, 4/25(16%) are uncertain, 0/25(0%) strongly disagree and 1/25(4%) disagree.

On average 80 %( 20/25) agree and 20 %( 5/25) disagree.

The results show that there is a disagreement that the organization has inadequate dissemination of information.

#### **4.7 Information relating to controls over the costing process.**

##### **4.7.1 Existence of controls over the costing processes**

Table 4.23 Responses on the presence of controls over the organizational costing process.

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	23	2	0	0	0	25
Response rate%	92	8	0	0		100

The researcher found out that 23/25(92%) strongly agree, 2/25(8%) agree, 0% are uncertain, 0%strongly disagree, 0% disagree.

To sum up 100% agrees and 0% disagree.

The results show that the organization has controls over the organizational costing process.

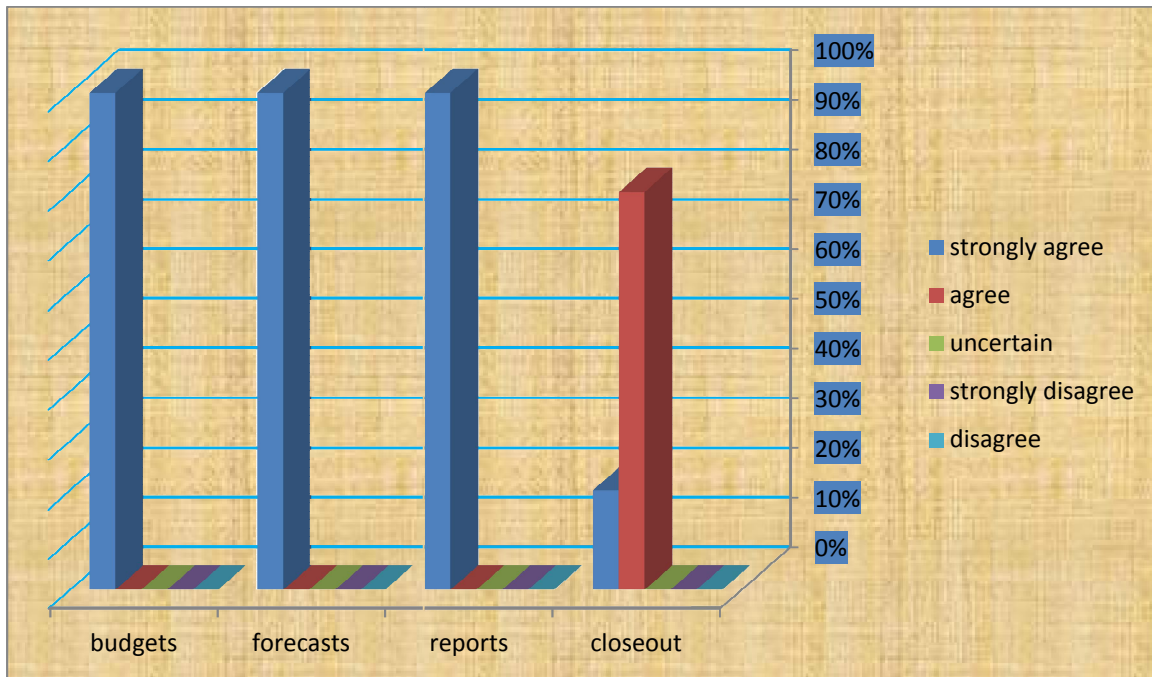
##### **4.7.2 Project budgets, forecasts, reports and closeouts are prepared**

Table 4.24 Responses preparation of budgets, forecasts, reports and closeout

Control	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Budgets	100%	0%	0%	0%	0%	100%
Forecasts	100%	0%	0%	0%	0%	100%
Reports	100%	0%	0%	0%	0%	100%
Closeouts	20%	80%	0%	0%	0%	100%

The information can alternatively presented by a way of a graph as follows

Fig 4.13 Responses on preparation of budgets and forecasts



- Budgets.

The findings show that 25/25(100%) strongly agree, 0% agree, 0% uncertain, 0% strongly disagree, 0% disagree.

All in all 100% agree whilst 0% disagrees.

With the results it shows that there is agreement that the organization prepares project budgets.

- Forecasts

From the findings 100 %( 25/25) strongly agree, 0% agree, 0% uncertain, 0% disagree, 05 strongly disagree.

To sum up 100% agrees and 0% disagrees

The results show that there is an agreement that the organization prepares forecasts.

- Reports

From the findings it shows that 25/25 (100%) strongly agree, 0% agree, 0% uncertain, 0% strongly disagree and 0% disagrees.

To average 100% agrees and 0% disagrees.

- Closeouts

The findings show that 5/25(20%) strongly agree, 20/25(80%) agrees, 0% uncertain, 0% disagree, 0% strongly disagree.

Typically 100% agree and 0% disagrees

Conclusively it shows that the organization prepare closeouts.

**4.7.3 Controls are regularly reviewed by responsible personnel**

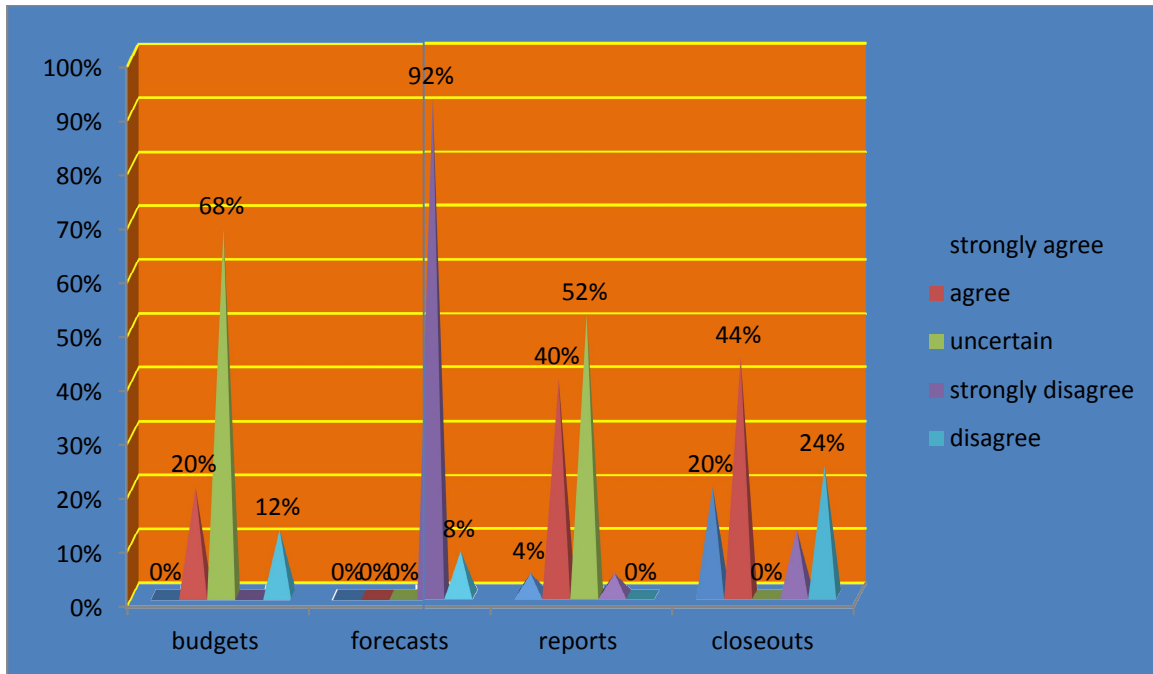
Table 4.25 Responses on regular review of controls

Control	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Budgets	0%	20%	68%	0%	12%	100%
Forecasts	0%	0%	0%	92%	8%	100%
Reports	4%	40%	52%	4%	0%	100%
Closeouts	20%	44%	0%	12%	24%	100%

The findings are depicted in the graph below

Fig4.14 Regular reviewing of controls





- Budgets

The findings show that 0% strongly agrees, 20% (5/25) agree, 68% (17/25) are uncertain, 0% strongly agree and 3/25(12%) disagree.

On aggregate only 20% (5/25) agrees and 80% (20/25) disagrees.

Conclusively the results show the disagreement on regular reviewing of budgets.

- Forecasts

The findings show that 0% strongly agree, 0% agrees, 0% uncertain, 92% (2/25) strongly disagree and 8% (2/25) disagree.

Typically 0% of the respondents agree and 100% agree.

Conclusively there is a disagreement that the project forecasts agree regularly reviewed.

- Reports

The researcher found out that 1/25(4%) strongly agree, 40 % ( 10/25) agree, 52 % ( 13/25) are uncertain, 4% strongly disagree and 0% disagree.

To sum up 44% agree whilst 56% disagree.

The results show that there is a disagreement that the reports are regularly reviewed.

- Closeouts

The findings shows that 5/25(20%) strongly agree, 44 %( 11/25) agree, 0% are uncertain, 12 %(3/25) strongly disagree and 24% (6/25) disagree.

On aggregate 64% (16/25) agree and 36% (9/25) disagree.

The results show that there is an agreement that closeouts are continually reviewed.

#### **4.7.4 Project budgets and forecast are done for their prior period**

Table 4.26 responses on budget and forecast preparation in their prior periods

Control	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Budgets	100%	0%	0%	0%	0%	100%
Forecasts	100%	0%	0%	0%	0%	100%

- Budgets.

The findings show that 25/25(100%) strongly agree, 0% agree, 0% uncertain, 0% strongly disagree, 0% disagree.

All in all 100% agree whilst 0% disagrees.

The results show an agreement that project budgets are prepared in their prior periods.

- Forecasts

The findings show that 100% (25/25) strongly agree, 0% agrees, 0% uncertain, 0% disagree, 0% strongly disagree.

To sum up 100% agrees and 0% disagrees

Conclusively the result Show that the organizational forecast are prepared in their prior periods

#### 4.7.5 The organizational controls over the costing policy are adequate

Table 4.27 Responses on the adequacy of controls over the costing process.

Responses	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Respondents	0	3	0	21	1	25
Response rate%	0	12	0	84	4	100

The findings indicate that 0% strongly agree, 12% (3/25) agree, 0% are uncertain, 21/25 (84%) strongly disagree and 1/25(4%) disagree.

Typically 12% of the respondents agree and 88% disagree.

The results show that there is a disagreement that the organizational controls over the costing policy are not adequate.

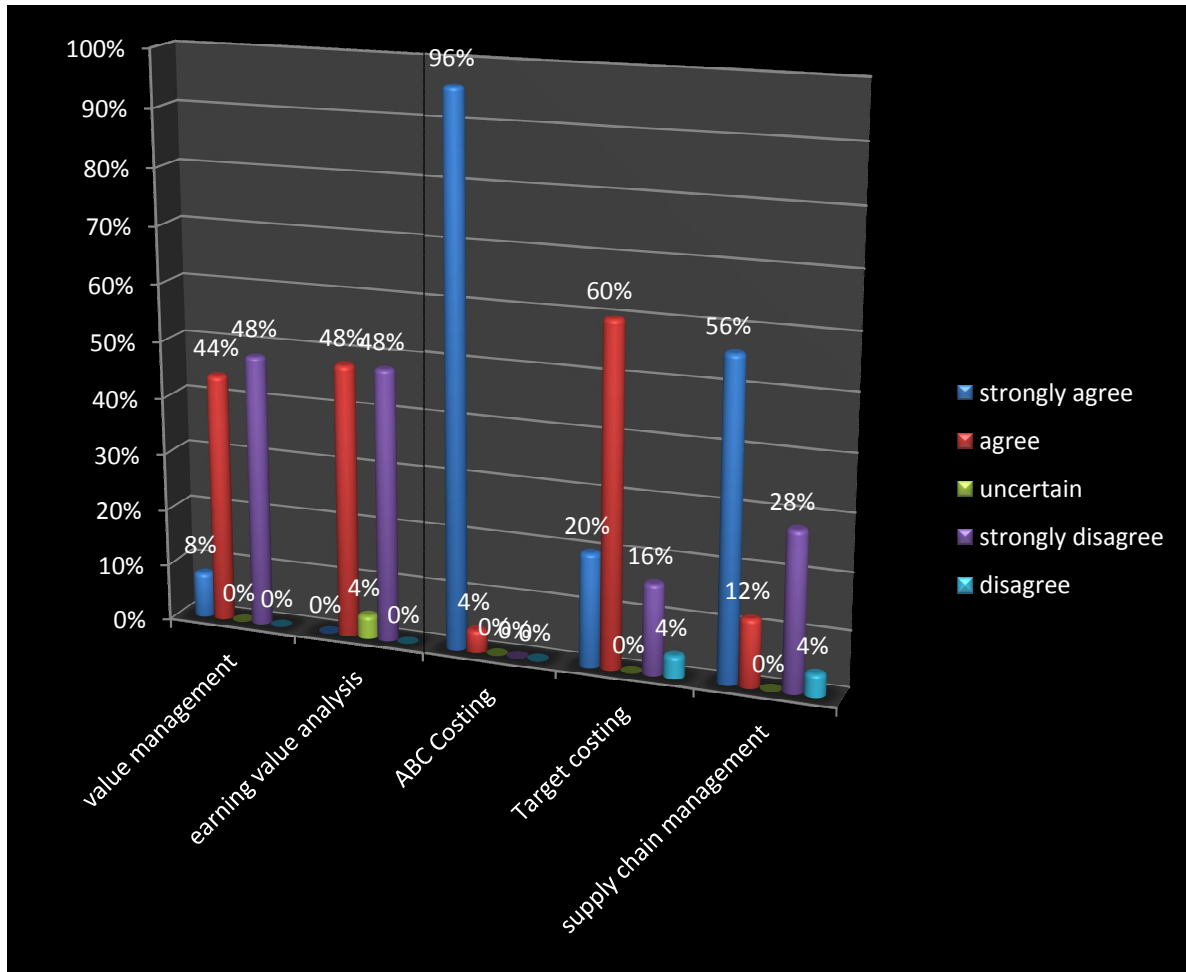
#### 4.8 Best practices

Table 4.28 responses on the best costing practices that can be applied by the organization

Practice	Strongly agree	Agree	Uncertain	Strongly disagree	Disagree	Total
Value management	8%	44%	0%	48%	0%	100%
Earning value analysis	0%	48%	4%	48%	0%	100%
ABC Costing	96%	4%	0%	0%	0%	100%
Target costing	20%	60%	0%	16%	4%	100%
Supply chain management	56%	12%	0%	28%	4%	100%

The information can alternatively depicted on the graph as below

Fig 4.15 responses on best practice



- Value management

The findings show that 8 % ( 2/25) strongly agree, 44% (11/25) agree, 0% uncertain, 48% (12/25) strongly disagree and 0% disagree.

To sum it up 52% (13/25) agree and 48 % ( 12/25) disagree.

Conclusively the results show that there is an agreement that the organization should adopt value management approach.

- Earning value analysis

From the findings it shows 0% strongly agree, 48 % (12/25) agree, 4% (1/25) uncertain, 48% strongly disagree and 0% disagree.

On average it shows that 52 % of the respondents agree and 48% disagree.

The results show that there is an agreement to take earning value analysis as a best practice.

- ABC Costing

The researcher found out that 24/25(96%) strongly agree, 4 %( 1/25) agree, 0% uncertain, 0% strongly disagree and 0% disagree.

All in all 100% agree whilst 0% disagrees.

The results reflect that there is an agreement that the organization should take ABC Costing as the best practice.

- Target costing

The findings show that 20 %( 5/25) strongly agree, 60 %( 15/25) agree, 0% uncertain, 16 %( 4/25) strongly disagree and 4% agree.

80% of the respondents agree and 20% disagree.

Conclusively the results show an agreement that target costing is ideal for the organization.

- Supply chain management.

The researcher finds out that 56% (14/25) strongly agree, 12 %(3/25) agree, 0% uncertain ,28%(7/25) strongly disagree and 4 % (1/25) disagree.

68% of the respondents agree and 32% disagree.

On contrary the results shows that there is an agreement that the organization should take supply chain management into practice.

#### **4.9 Interview analysis**

Initially the researcher had planned to carry out 3 personal interviews with the accountant, commercial director and the head of the information system to obtain clarity on some of the issues. All four interviews were successfully carried out. Therefore response rate of 100% was

obtained. With a 100% response rate the researcher can conclude that positive feedback was drawn and it's possible to draw conclusions from the results.

#### **4.9.1 What is the costing policy of the organization?**

All respondents 3/3(100%) were able to respond to this question. The findings show that the organization has an existing costing policy. The accountant highlighted to the researcher that the organization is relying on traditional costing system. The researcher observed that Macro Construction is reluctant to deviate from the traditional costing because of the fear to increase workload. This was supported by the commercial director's view that employees are resistant to change so the traditional costing will remain the best. The commercial director explains that the current costing policy seems as in effective because tendering periods are short, hence the organization is put under pressure during tendering resulting in errors which leads to cost overruns. The IT director highlighted that the policy is formally documented.

#### **4.9.2 What policy implementation guidelines are in place?**

3/3 of the respondents agree that the organization has policy implementation guidelines. This was supported by the IT director who clearly says that all costing policies of the organization are documented. The commercial director highlighted that the organization has no problem in implementing its policies because the management take lead in the policy implementation. The IT director says that the organizational policies tend to fail because the policy guidelines are rarely reviewed.

#### **4.9.3 What is the capacity of personnel to implement guidelines?**

All the respondents agree that personnel who implement policies within the organization have adequate skills and understanding of the policy. The accountant supports this by saying that the organization provide financial resources to train and retrain personnel on new developments of the policy.

#### **4.9.4 What challenges are being faced in policy implementation?**

The commercial director highlighted that the organizational costing system seems to be failing due to attitudes and unwillingness of managerial staff to communicate to non-managerial staff the

necessity and benefits of costing not only to the organization but to the workforce. The researcher observed that the organization is aware of the modern costing techniques but are not willing to implement these modern costing practices due to resistance to change. This was supported by the commercial director when asked by the researcher the modern techniques he knows them but they want to continue using the traditional method because they have gone a long way using the method. The accountant says that non managerial staff is not eager to support costing policy because they are ignorant to costing benefits either to the company or to the workforce.

#### **4.9.5 What controls are in place over the cost processes?**

All the respondents agree that the organization has controls over the costing process. The commercial director and the accountant agree the organizational controls over the costing process are project budgets, project reporting, and project planning and project closeouts.

#### **4.9.6 Are there any reviews over the costing process, if any how often are they carried?**

All the respondents agree that the costing process is reviewed but how often was a very difficult question to answer. The reports were supposed to be produced monthly but the researcher observed that they are usually produced when needed for use.

#### **4.9.7 What would be the best practice in costing policy implementation?**

The commercial director and the IT director says there is no need to look for best practices on the costing policy, but the accountant highlighted that it would be better if the organization adopts modern costing techniques. Modern costing techniques would enable the organization to cut unnecessary costs and improve profitability. The accountant mentioned that the company must adopt new policy modern such as ABC Costing because it's the most practical way in construction. The researcher also observed that it would be necessary if the organization adopts modern costing techniques because unnecessary costs would be cut.

#### **4.10 Summary**

This chapter covered the data presentation and analysis by way of tabular, pie charts and graphs. Findings from questionnaires, interviews and observations were presented, interpreted and analyzed. The next chapter would be focusing on summary, conclusions and recommendations.



## **CHAPTER 5**

### **SUMMARY CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter is concerned of summaries of all chapters. Major findings are summarized and conclusions relating to research questions are made. This chapter also gives recommendations to possible identified weaknesses.

#### **5.1 Chapter Summaries**

This study was a study based on the investigation of cost management practices. Chapter 1 covered the introduction to the study. Evidence of the problem is given in this chapter by the background of the study, the problem statement which initiates the research, research questions which the research aims to answer and the research objectives which encouraged the research. The chapter also looks on the significance of the study, limitations of the study and delimitations.

Chapter 2 dealt with literature review corresponding to the research objectives. The purpose of the literature review was to give an insight of what other companies in construction industry are experiencing. The research objectives were key headings in this chapter. The aim was to answer the research questions using available literature.

Chapter 3 was mainly focused on the research methodology. The focus was on the research design, sampling methods and the data collection methods. This chapter was concluded by structuring questionnaires and interview guide which were conducted and data was obtained.

The collected data from chapter 3 was presented and analyzed in chapter 4. In this chapter raw data obtained from questionnaires, interviews and observations were processed into meaningful information and presented by way of pie charts, bar graphs and tabular.

#### **5.2 Major findings**

Findings are to be presented as per objective

Objective 1 to understand the construction costing policy

The researcher found out that the organization has a costing policy in place and it is formally documented. It was discovered that the organization is still using the traditional costing because management is not eager to deviate to modern costing techniques. The costing policy is ineffective because it is failing to curb project cost overruns because the necessity and objective of the policy are not communicated well to non-managerial staff. Respondents agree that the current costing policy is ineffective and disagrees that the organization should continue using the policy.

Objective 2 To investigate the organizational policy implementation guidelines.

It was found that the organization policy implementation guidelines are in place and they are documented. However Macro Construction does not continually review the policy guidelines.

Objective 3 to find out the personnel to implement the guidelines.

Majority of the respondents agrees that the organization have adequate personnel to implement the policy. Financial resource to implement the policy is available and personnel have adequate skills and understanding of the policy. However the organization is no willing to train personnel on new policies. To the researcher this implies that the organization is not willing to implement a change on the current existing policy.

Objective 4 to examine the challenges experienced in policy implementation.

The researcher found that the organization has adequate resources, personnel management are committed to implement thee policy no resistance from personnel. It has been found by the researcher that the policy implementation is hindered by the inadequate dissemination of information.

Objective 5 to come up with the controls over the costing process.

The researcher found out that the organization has controls in place, controls are prepared for their prior periods but there is a weakness that the controls are not regularly reviewed.

Objective 6 to come up with the best practice.

Through interviewing and questionnaire the researcher found out that most of the respondents agree that the organization should adopt modern cost management practices.

### **5.3 Conclusions**

The research was a success it enables the researcher to address the entire research question and to come up with the best practice in construction cost management practices.

In regard to the study the research findings show that the Macro Construction has a costing policy in place. The current existing costing policy is failing to curb project cost overruns experienced by the organization. In her own point of view the researcher noticed that management is failing to support the costing practices because necessity and benefits of costing practices are not communicated to non-managerial staff.

### **5.4 Recommendations**

- The organization should employ the modern cost management practices like ABC Costing as it is still using traditional costing. The modern costing techniques will enable the organization to cut costs and improve profitability.
- Macro Construction should introduce an effective communication system to communicate the necessity and objectives of cost management practices with non-managerial staff because once they are informed they will be able to cut unnecessary costs thus reduction on the organizational costs.
- Construction environment is turbulent the researcher encourages the organization to continuous review their controls rather than just aiming on meeting the stipulated budgets. Uncertainties and risks may arise any time it construction.
- For the organization to remain competitive the researcher recommends the organization to use modern types of information system and modern construction equipment.

### **5.5 Recommendation for further study.**

This study focuses on the investigation of cost management practices. Further research is needed on the how cost management practice have an impact on profitability and causes and effects of construction cost overruns.

### **5.6 Summary**

This chapter covered the summary of chapters, major findings, conclusion and areas for further study

## REFERENCE LIST

### BOOKS

Anna K (2006) Risk Management in Construction Project Networks Laboratory of Industrial Management, Finland .Helsinki University of Technology

Anthony R.N and Vijay G (2007), Management Control Systems, Chicago, Irwin

Applied accounting, (2008) School of accounting sciences. College of economics and management sciences.

Ashworth A (2001) Contractual Procedures in the Construction Industry, UNITEC, New Zealand

De vaus P (2011) Research design in social research, sage publications New Denhli. India pvt ltd

Gordon .P. (2001) policy no 27-003 (p) Partnering on Construction projects, division of construction project management ODOT partnering handbook

Johnson, B and Christensen, L (2012) Educational research qualitative and quantitative and mixed approach 4th edition, USA, sage publications ltd.

Keith P (2008) Construction Cost Management; leaning from case studies Tylor and Francis New York

Kelly, J., Morledge, R., and Wilkinson, S.( 2002.) Best Value in Construction. 1<sup>st</sup> edition. Oxford: Blackwell Publishing.

Lockyer, K. (2000), “Factory and Production”, London, DP Publishers.

Masterman J W E (1996) – Building Procurement Systems: An Introduction, E & FN Spon, London

McKee K (2005) Project Management in Construction using Earned Value Analysis, Brunswick Infrastructure contract management svc

O'Brien W J. Construction Supply-Chain Management: A Vision for Advanced Coordination, Costing, and Control, University of Florida, USA

Rosli et al (2006) Effect of procurement system on performance of construction projects  
University of Technology Malaysia

Sikka, T.K. (2003), "Fundamental of Cost Accounting" India, Viva Books Private Ltd. 5th Edition

Singh, K, (2007) Quantitative Social Research Methods, SAGE Publications

The Aqua Group (2001) Tenders and Contract for Building- 3rd. Edition Blackwell Science, London

Valle ,J A and Soares A C (2004) The use of Earned value analysis in the management of construction projects

Benaitence, N and Benaitis (2012) A risk management in construction project technical university Vilnius, Lithuania

Weygandt K (2008) Managerial Accounting, 4th edition, John Wiley and Sons Pvt Ltd, Malaysia

JOURNAL

Baloi D, Price A,D,F. ( 2001) Evaluation of global risk factors affecting cost performance in Mozambique London RICS FOUNDATION COBRA 2001: 15 september 2014 available @ <http://www.rics.org>

Florence (2003) Managing the implementation of construction innovations, Construction Management and Economics, 21:6, 635-649, DOI: 10.1080/0144619032000123725 available at : <http://www.tandfonline.com/loi/rcme20> accessed on 27 august 2014

Lai k,k, Liu S,l and Wang SY(2004) a method used for evaluating bids in chinese construction industry international journal of project management 22(2004)pg 193-204 [www Elsevier.com](http://www.Elsevier.com)

Love ped , skitmore rm and earl g 1998 selecting suitable construction for building project construction management and economics 162 pg 221-233

Opoku A (2013) The Application of Whole Life Costing in the UK Construction Industry: Benefits and Barriers Centre for Sustainable Development, Department of Engineering ,International Journal of Architecture, Engineering and Construction Vol 2, No 1, March 2013, 35-42 University of Cambridge United Kingdom

Paul Bowen, Keith Cattell Peter Edwards Ian Jay, (2010),"Value management practice by South African quantity surveyors", Facilities, Vol. 28 Iss 1/2 pp. 46 - 63available at:<http://dx.doi.org/10.1108/02632771011011396>retrived 10 september 2014

Sarhan and Fox A (2013) barriers to implementing lean construction in UK construction industry the built and human environment review volume 6 2013 university of Plymouth uk

Siyabola T,T and Raji International journal of management and social sciences research (IJMSSR)ISSN 2919 -4421 volume no 4 april 2013 the impact of cost control on manufacturing industry profitability Babcock university Nigeria

Smith j and love ped 2001 adopting to client needs in construction a dialogue facilities 19 pg 71-89

UYAR, A Cost and Management Accounting Practices: A Survey of Manufacturing Companies Eurasian Journal of Business and Economics 2010, 3 (6), 113-125

Zayyana s and akintola a 2009 major challenges to successfully implementation and practice of programme management in construction. A critical analysis international journal of project management 28(2010) www.science direct.com

Zou px,zhang g and wong g understanding the key risks in construction projects china international journal project management 2007 25(6)601-614

ITNERNET

Aday L. Designing and conducting health surveys. 2. San Francisco: Jossey-Bass; 1996.

Anand M, Sahay B.S and saha1 S (2005) cost management practices in India: An empirical study , ASCI journal of management 33(1&2), 1-15 administrative staff college of India

Anthony R.N and Vijay G (2007), Management Control Systems, Chicago, Irwin

Ashley (2014) sampling techniques available at : [http://sociology.about.com\(14/09/2014:20:32\)](http://sociology.about.com(14/09/2014:20:32))  
Retrieved 12/09/2014

Chain to excellence (2014) Supply Chain Management in Construction Industry  
<http://c2xnitie.wordpress.com/2014/01/04/supply-chain-management-in-construction-industry/>?

Clause C (2014) descriptive research design. available at : <http://education-portal.com/academy/lesson/descriptive-research-design-definition-example-types.html#lesson9> accessed on 15/09/2014).

Derek m 2011 <http://derekmynot.wordpress.com> best practice bills of quantities

Gopal ,M (2012) best practice in construction available at:  
<http://theconstructor.org/constrution/best-practices-in-construction/1901/> (accessed on 10/09/2014)

<http://www.surveymonkey>

[http// universalteacher.com](http://universalteacher.com)

[http// www.answers.com](http://www.answers.com)

[http// www.statrek.com](http://www.statrek.com)

[HTTP://whol lyf/BRE Group Whole life costing and performance \(WLC\).htm](HTTP://whollyf/BRE%20Group%20Whole%20life%20costing%20and%20performance%20(WLC).htm)

<http://www.freepatentsonline.com/article/Review-Business-Research/272616369.html>? Article Type:

[http://www.secbe.org.uk/documents/introductory\\_best\\_practice\\_guide.pdf](http://www.secbe.org.uk/documents/introductory_best_practice_guide.pdf)?

Joey G 2013 Government unveils construction strategy, [building .co.uk](http://building.co.uk) 28 august 2014 ,  
available at :<http://building.co.uk>( accessed on 01/09/2014)

LaMarca N, The Likert Scale: Advantages and Disadvantage available at  
:<http://psyc450.wordpress.com/2011/12/05/the-likert-scale-advantages-and-disadvantages/>  
(retrieved 16 september 2014)



Muphy , J (2014) strengths and weaknesses of descriptive method (ONLINE) Available at :<http://classroom.synonym.com/strengths-weaknesses-descriptive-research-2596.html>(accessed on 15/09/2014)

New Zealand 2006 [www.nzism.co.nz](http://www.nzism.co.nz)

Nilniyom, P AND Chanthinok, K2011 Document management systems (Innovations)Business creativityCost Document management systems control: Review of Business Research Publisher: International Academy of Business and Economics Audience: Academic Format: Magazine/Journal Subject: Business, international Copyright: COPYRIGHT 2011 International Academy of Business and Economics ISSN: 1546-26092011 Source Volume: 11 Source Issue: 4 organizations. The British Accounting Review pp 47-84

Project Management for Construction: Cost Control, Monitoring and Accounting Pagina 1 di 29 [http://www.ce.cmu.edu/pmbook/12\\_Cost\\_Control,\\_Monitoring,\\_and\\_Accounting.html](http://www.ce.cmu.edu/pmbook/12_Cost_Control,_Monitoring,_and_Accounting.html) 07/01/06  
12. Cost Control, Monitoring and Accounting 12.1 The Cost Control Problem

Research Validity and Reliability (2014). From Marketing Research Tutorial. KnowThis.com. Retrieved September 14, 2014 from <http://www.knowthis.com/marketing-research/research-validity-and-reliability>

Sarah Mae Sincero (Sep 20, 2012). Telephone Survey. Retrieved Sep 14, 2014 from Explorable.com: <https://explorable.com/telephone-survey>

Sci- network (2011)working group on whole life costing available at : [http://www.sci-network.eu/fileadmin/templates/scinetwork/files/Resource\\_Centre/Reports/State\\_of\\_the\\_Art\\_report\\_Whole\\_Life\\_Costing.pdf](http://www.sci-network.eu/fileadmin/templates/scinetwork/files/Resource_Centre/Reports/State_of_the_Art_report_Whole_Life_Costing.pdf) Retrived 06/08/2014

Shuttleworth M (2008). Descriptive Research Design. Available at :Explorable.com: <https://explorable.com/descriptive-research-design> Retrieved Sep 18, 2014

Trochim W. M.K. ( 2006) The Research Methods Knowledge Base online available from:<http://www.socialresearchmethods.net/kb/sampprob.php>(accessed 15/09/2014)

[www.cidb.org.za/.../4S08%20Project%20Controls%20Procedure%20v4-..4S08](http://www.cidb.org.za/.../4S08%20Project%20Controls%20Procedure%20v4-..4S08)

[www.constructingexcellence.org.uk](http://www.constructingexcellence.org.uk)

[www.staff.city.ac.uk/j.s.labonte/pdf/fieldandobservationresearch.pdf](http://www.staff.city.ac.uk/j.s.labonte/pdf/fieldandobservationresearch.pdf)

APPENDIX 1

COVER LETTER

Midlands State University

Faculty of Commerce

Department of Accounting

P. Bag 9055

Gweru.

12 September 2014

The Chief Operations Officer

Macro Construction (pvt) ltd

933 Formby rd. /Waterfalls Ave, Ardbennie

P.O Box 66236

Kopje, Harare

Dear Sir

**Ref: application for authority to carry out an academic research with your organization.**

My name is Mercy Ngwenya final year student, studying towards obtaining Bachelor of Commerce Accounting Honors Degree at the above mentioned institution. In partial fulfillment of this study i am carrying out a research on “**An investigation of cost management practices, a case of Macro Construction**”. I kindly seek your permission to carry out my research with organization.

Information provided will only be used for academic purposes .Please note that your responses will strictly kept confidential.

Thank you in advance.

Yours faithfully

Ngwenya Mercy (R11691V)

## APPENDIX 2

### INTERVIEW GUIDE



Your views and comments through answering these questions is highly appreciated. All Your responses will be kept with confidentiality.

#### **SECTION A: GENERAL INFORMATION**

##### **Information about the interviewee**

1. How long have you been working for Macro Construction.?
2. What is your title of current position?
3. How long have you been holding the tittle?

#### **SECTION B: GENERAL QUESTIONS ABOUT RESEARCH PROJECT**

4. What is the construction costing policy for the firm?
5. What policy implementation guidelines are in place?
6. What is the capacity of personnel to implement the guidelines?
7. What challenges are being experienced in policy implementation?
8. What controls are in place over the costing processes?
9. Are there any reviews over the costing process of the organization if any how often are they carried?
10. What would be the best practice in costing policy implementation?

Thank you

APPENDIX 3



**Questionnaires**

**Instructions**

1. **Name or initials are not necessary.**
2. **Show response to the question by ticking in the box [] provided.**
3. **For open ended questions fill in the space provided.**

Section A:

1. Position held    managerial        non managerial   

2. Gender    male        female

3. Highest academic qualification

A level     National diploma     Degree     Masters     Other

If other specify .....

4. How long have you been working for macro construction?

0-1 years     1-2years     2 years +

**6 Information relating to the organization costing policy**

	Strongly agree	agree	uncertain	Strongly disagree	disagree
i) The organization has a costing policy.					
ii) The policy is formally documented.					
iii) Commercial department members have access to the costing policy document					
iv) The policy is communicated to new employees					
v) The policy is communicated to subordinates					
vi) The current costing policy is effective					
vii) The organization must continue using the current policy					

If any other specify

.....  
 .....

**7 The following information relates to implementation guidelines**

	Strongly agree	agree	uncertain	Strongly disagree	disagree
i) Macro has a cost policy implementation guidelines					
ii) The implementation guidelines are documented.					
iii) The management take lead in the policy implementation					
iv) The costing policy is continually reviewed.					

If any other specify

.....  
 .....

**8 the following information relates to the personnel capacity of personnel in policy implementation.**

	Strongly agree	agree	uncertain	Strongly disagree	Disagree
i) There is adequate personnel to implement the policy					
ii) Macro construction train and retrains personnel on new developments in costing policies					

iii) Financial resources to implement costing policies are available					
iv) Personnel with adequate skills and understanding of the policy are the key to the implementation process					

**9information relating to challenges faced by the organization in implementing costing policy**

	Strongly agree	agree	uncertain	Strongly disagree	disagree
i) Lack of financial resources to implement costing policy					
ii) Lack of top management commitment and support to implement the policy					
iii) Resistance from personnel to implement the policy					
iv) Inadequate dissemination of information					
v) Inadequate personnel to implement the policy					



**10 information relating to controls over the costing process.**

	Strongly agree	agree	uncertain	Strongly disagree	disagree
i) The organization has controls over the costing processes					
ii) The following controls are often prepared budgets					
Forecasts					
Reports					
Closeouts					
iii) Budgets are regularly reviewed by responsible personnel					
iv) Forecasts are regularly reviewed by responsible personnel					
v) Reports are regularly reviewed by responsible personnel					
vi) Closeouts regularly reviewed by responsible personnel					
vii) Project budgets are done in their prior periods					
<b>5</b> Forecast are done in their prior periods					
(ix)organizational controls are adequate					

12 The following best practices can be applied in construction

	Strongly agree	agree	uncertain	Strongly disagree	disagree
i) activity based costing					
ii) target costing					
iii) supply chain management					
iv) value management					
v) Earning value analysis					

**THANK YOU FOR YOUR TIME AND SUPPORT**