

MANAGEMENT ACCOUNTING PRACTICES
OF
PUBLIC ENTERPRISES IN NEPAL

A THESIS

BY

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VIVA-VOCE SHEET

We have concluded the viva voce examination of the thesis presented by

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Entitled

‘Management Accounting Practices of Public Enterprises in Nepal’ and found that the thesis to be the original work of the student and written according to prescribed format of Faculty of Management, Tribhuvan University. We recommend the thesis to be accepted as the partial fulfillment of the requirement for Masters Degree of Business Studies (MBS).

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TABLE OF CONTENTS

	Page No.
Recommendation	
Viva-Voce Sheet	
Declaration	
Acknowledgements	
Table of contents	
List of tables	
List of Figures	
Abbreviations	
Chapter- I	
Introduction	1-10
1.1 Background of the Study	1
1.2 Public Enterprises	2
1.2.1 Meaning and Definition of Public Enterprises	2
1.2.2 Importance of Public Enterprises	3
1.2.3 Challenges of Nepalese Public Enterprises	4
1.2.4 Objective of Public Enterprises	5
1.2.5 Types of Public Enterprises in Nepal	6
1.3 Statement of the Problem	6
1.4 Objectives of the Study	7
1.5 Research Hypothesis	7
1.6 Significance of the Study	8
1.7 Limitations of the Study	9
1.8 Organization of the Study	10
Chapter- II	
Review of Literature	11-65
2.1 Conceptual framework of Management Accounting	11
2.1.1 Concept of accounting	11
2.1.2 Branches of Accounting	12
2.1.3 Concept of Management Accounting	13
2.1.4 A Brief Historical Perspective of Management Accounting	14
2.1.5 Function of Management Accounting	15
2.1.6 Objective of Management Accounting	16

2.1.7	Scope of Management Accounting	17
2.1.8	Limitation of Management Accounting	18
2.1.9	Management Accounting in Nepalese Perspective	20
2.2	A Brief Review of Management Accounting Tools	21
2.2.1	Cost	21
	2.2.1.1 Concept of cost	21
	2.2.1.2 Cost Accumulation	22
	2.2.1.3 Classification of Costs	22
	2.2.1.4 Cost Estimation	24
	2.2.1.5 Cost Allocation	26
2.2.2	Product Costing Method	27
2.2.3	Cost-Volume-Profit Analysis	28
2.2.4	Budgeting as a Tool of Planning and Control	31
	2.2.4.1 The Budgeting Process	32
	2.2.4.2 Requirement for Effective Budgeting	32
	2.2.4.3 The Master Budget	34
	2.2.4.4 Zero-base Budgeting	39
	2.2.4.5 Activity-based Budgeting	40
2.2.5	Standard Costing	41
	2.2.5.1 Control through Standard Cost	41
	2.2.5.2 Benefits of Implementing Standard Costing	44
2.2.6	Flexible Budgets and Overhead Cost Control	45
2.2.7	Pricing Decision Regarding Product and Services	46
	2.2.7.1 Cost Based or Cost Plus Pricing Methods	47
	2.2.7.2 Transfer Pricing	49
2.2.8	Decision regarding Alternative Choices	51
2.2.9	Capital Budgeting	54
	2.2.9.1 Capital Budgeting Procedure	54
	2.2.9.2 Capital Budgeting Evaluating Techniques	55
2.2.10	Responsibility Accounting	58
2.2.11	Ratio Analysis	59
2.2.12	Cash Flow Analysis	60
2.3	Review of Previous Studies (Thesis)	61
2.4	Research Gap	65

Chapter- III

Research Methodology	66-70	
3.1	Introduction	66
3.2	Research Design	66
3.3	Population and Sampling	67
3.4	Sources of Data	67

3.5	Data Collection Procedure	67
3.6	Data Processing and Analysis Techniques	68
3.7	Major Management Accounting Tools	69
3.8	Statistical Tools Used	69
3.9	Reliability and Validity of the Data	70

Chapter- IV

Presentation and Analysis of Data 71-93

4.1	Introduction	71
4.2	Percentage Analysis of Management Accounting Practice in Public Enterprises of Nepal	72
4.2.1	Present practice of management accounting tools in Nepalese Public Enterprises	72
4.2.2	Reasons for Not Practiced Management Accounting Tools in PEs of Nepal	73
4.2.3	Product costing method practice in PEs of Nepal	73
4.2.4	Break even point analysis in PEs of Nepal	74
4.2.5	Budget practice in PEs of Nepal	74
4.2.6	Practice of operating budget terms of master budget in PEs of Nepal	75
4.2.7	Present Practice of financial budget terms of master budget in PEs of Nepal	75
4.2.8	Practicing of the capital budgeting decision in PEs of Nepal	76
4.2.9	Practice for pricing products or services in PEs of Nepal	76
4.2.10	Practice of management accounting decision techniques in PEs of Nepal	77
4.2.11	Practice of cash flow analysis in PEs of Nepal	78
4.2.12	Types of ratios practice in PEs of Nepal	78
4.2.13	Practices of measure and control mechanism to evaluate the overall performance in PEs of Nepal	79
4.2.14	The main factor that affects the decision making process in PE's of Nepal	80
4.2.15	Major Difficulties for the Application of Managerial Accounting Tools and Technique in PE's of Nepal	81

4.3	Hypothesis Test	82
4.4	Finding of the research	91

Chapter- V

Summary, Conclusion & Recommendations	94-97
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5.1	Summary	94
5.2	Conclusion	95
5.3	Recommendations	95

Bibliography

Appendix:

- Appendix-1** Research Questionnaire
- Appendix-2** Names & Addresses of Enterprises with Names and Designations of Respondents
- Appendix-3** Tabulation of the Results of Questionnaire

LIST OF TABLES

	Page No.
4.1 Present practice of management accounting tools in Nepalese Public Enterprises	72
4.2 Reasons for Not Practiced Management Accounting Tools in PEs of Nepal	73
4.3 Product costing method practice in PEs of Nepal	73
4.4 Break even point analysis in PEs of Nepal	74
4.5 Budget practice in PEs of Nepal	74
4.6 Practice of operating budget terms of master budget in PEs of Nepal	75
4.7 Present Practice of financial budget terms of master budget in PEs of Nepal	75
4.8 Practicing of the capital budgeting decision in PEs of Nepal	76
4.9 Practice for pricing products or services in PEs of Nepal	76
4.10 Practice of management accounting decision techniques in PEs of Nepal	77
4.11 Practice of cash flow analysis in PEs of Nepal	78
4.12 Types of ratios practice in PEs of Nepal	78
4.13 Practices of measure and control mechanism to evaluate the overall performance in PEs of Nepal	79
4.14 The main factor that affects the decision making process in PE's of Nepal	80
4.15 Major Difficulties for the Application of Managerial Accounting Tools and Technique in PE's of Nepal	81
4.16 Practice of CVP analysis technique and type of Enterprises 2×2 Contingency Table	83
4.17 Practice of CVP analysis technique 2×2 Contingency Table	84
4.18 Practice of Responsibility accounting tool and types of Enterprises 2×2 Contingency Table	86

4.19 Practice of Responsibility accounting tool and types of Enterprises	
2×2 Contingency Table	87
4.20 Practice of NPV and types of Enterprises	
2×2 Contingency Table	89
4.21 Practice of NPV and types of Enterprises	90

LIST OF FIGURES

	Page No.
1.1 Types of Public Enterprises in Nepal	6
2.1 Graphical Approach to CVP	29

ABBREVIATIONS

PEs	:	Public Enterprises.
MA	:	Management Accounting.
ARR	:	Average Rate of Return.
B/S	:	Balance Sheet
BEP	:	Break Even Point.
BOD	:	Board of Director
CDM	:	Central Department of Management.
CMPU	:	Contribution Margin Per Unit.
CVP	:	Cost Volume Profit.
GC	:	Gorkhapatra Corporation.
HPPCL	:	Herbs Production & Processing Co. Ltd.
IRR	:	Internal Rate of Return.
MBS	:	Master of Business Studies.
Mgmt	:	Management.
MIS	:	Management Information System.
NFC	:	Nepal Food Corporation.
NPEs	:	Nepalese Public Enterprises
NRTL	:	Nepal Rosin and Turpentine Ltd.
NTC	:	Nepal Telecommunication Co. Ltd.
P/L	:	Profit and Loss
PBP	:	Pay Back Period.
PI	:	Profitability Index.
Pop ⁿ	:	Population.
RBB	:	Rastriya Banijya Bank.
TU	:	Tribhuvan University.
A/C	:	= Account
ABC	:	= Activity Base Costing
BEP	:	= Break Even Point
FC	:	= Fixed Cost
GM	:	=General Manager
NAS	:	= Nepal Accounting Standard
NRB	:	= Nepal Rastra Bank
ZBB	:	= Zero Base Budgeting
%	:	Percentage
²	:	Chi-Square

CHAPTER-I

INTRODUCTION

1.1 Background Of The Study

Nepal is a landlocked country. It is also known as Himalayan State. Curbing the history, there is no long history of development of Public Enterprises compare to other south Asian as well as developed countries. After 1956, Nepal started planned economic development and gave effort to obtain rapid economic growth. Then the development of modern industries in the public sector started with planned economic development. In our country, various manufacturing companies have been established and developed through government plans. But due to the poor performance negative return, lack of the efficiency, inefficient in management government has emphasized on privatization, so that public enterprises could be competitive, effective and profitable.

In Nepal, public enterprises were established in order to prepare infrastructure service, to produce the required goods in the country and to export, to create opportunities for employment, to increase government revenues and to contribute significantly in the national development as well as to assist in the country's economic advancement. When Nepal was opening up to the world, the private sector had neither the capital nor the technical and managerial skills to established new industries, especially in areas where they were designed for import substitution. The cement, diary, sugar, cotton and cigarette industries point helped a lot in import substitution. Nepal's three cement industries fulfilled over 80% of internal demand. The two sugar factories supplied over 50% of market requirement and the nation had attained self-sufficiency in cigarettes.

Nepalese public enterprises are the foundation of modern industrialization. The primary goal of public enterprises is to contribute for the economic and social improvement for the broader environment. To fulfill these goals, it requires some resources like man, money, material, machinery, information and technology. But, these resources are

limited. Main problem underlie in better utilization of available but scarce resources in such a way that competitive advantage can be achieved. To overcome these problems, various tools and techniques have been developed. Among various tools and techniques, management accounting tools have proved itself as a beneficial in every aspect of management activities from planning to decision making and control. The main objective of the management accounting is to help manager in overall managerial activities by providing proper information in time and helping them in planning, controlling and decision making.

1.2 Public Enterprises

1.2.1 Meaning and Definitions of Public Enterprises

The term public enterprises can easily be understood by separating into ‘public’ and ‘enterprise’. Where the term public is concerned with ‘public ownership’ which implies that major decision would rest on distinct social criteria by the exclusion of any personal interest. Likewise, the term ‘Enterprises’ as business enterprises implies that the government expects a return on the capital invested in public enterprises and goods and services are made available for a price, which may be adjusted from time to time to cover the cost of inputs

“Public enterprises is an institution operating a service of an economic or social character on behalf of the government, but as independent legal entity, largely autonomous in its management, through responsible to the public, through government and parliament and subject to some direction by the government, equipped on the other hand with independent and separate funds of its own legal and commercial attributer of a commercial enterprise.”(Joshi, 1996:2)

“State owned enterprises are finally autonomous and legally distinct entitles wholly or partly owned by central or sub-national governments.” [World Bank Report – 1988]

"Public enterprises are autonomous bodies which are owned and managed by the government and which provide goods and services for a price. The ownership with the government should be 51% or more to make an entity public enterprise." [Narayan, 1998:42]

Finally, those enterprises, which are partially or wholly owned and controlled by government, are known as public enterprises. PEs is the back bone of economic and industrial development of developing countries. Public enterprises have been granted operating and financial autonomy so they are autonomous in their state of affairs and personnel issues. On the other hand, they are funded by public fund and in capital investment decisions and the interest of public welfare and national policy issues. Government and parliament have controlled to keep accountable towards public through government and parliament.

1.2.2 Importance of Public Enterprises

The principles of 'Welfare State' emphasizes the establishment of public enterprise. It creates a strong foundation for modern industrial economy and helps the country in achieving self-sufficiency in industry and technical know-how. The importances for establishing public enterprises are as follows:

- i. Planned Development:** Public enterprises aim at the economic development of the country in a planned way and in accordance with the policies of the government. Appropriate progress cannot be made by the private sector industries only. The private sector neglects the industries with long gestation period and low rate of returns. Generally, they want maximum profits very soon. Thus, public enterprises provide planned development by setting up industries that are economically unattractive but nationally essential for the public.

- ii. **Balance Development:** The economic development has take place in a planned way as well as in a balance way. Balance development requires decentralization of industries.
- iii. **Provision of Public Utilities:** The nature of the public utility concern requires huge fixed capital investment and profit margin is low. So, private company cannot afford to make such huge investment.
- iv. **Establishment of Welfare–Oriented Society:** PEs helps to establish welfare oriented society. Private company work for increasing profit but PEs does not work for making profit. Hence, adulteration, artificial scarcity, black marketing etc. are not done by PEs.
- v. **Employment Opportunities:** The government is responsible for providing employment opportunities to its citizens.

1.2.3 Challenges of Nepalese Public Enterprises

Nepal is a developing country. Moreover, politically instability and mass poverty are crippling this country with a very nominal economic growth ratio. The role played by public enterprises in social and economic development as well as providing goods and services in a regular basis is important. The government of Nepal has established PEs with different objectives. Besides fewer of them, PEs themselves are not able to performance as per expectation. This is might be due to the various challenges that PEs are facing. The major challenges PEs are facing detailed below:

) Most of PEs is running at loss showing negative net worth. PEs have not provisioned fund to meet liabilities. Also, unfunded contingent liabilities continuously growing financial burden to the government.

) There is no uniformity in work performance, job specialty and working environment in PEs. Profit making corporations are providing financial facility in different forms, by one way or other. Even the PEs operating above the break-even point are providing gratuity, pension, provident fund and other facilities as per the Act, rules and regulations without establishing reserve and future liability funds. This situation creates indirect and unlimited liability on the part of the government. This is one of the major challenges of the government.

) In view of the important role that PEs plays in the economic development of the country, it has been realized that the PEs needed to be adjust, to be harmonize and to be align with the system prevalent in the present context of open, liberal and competitive regime. However, the satisfactory performance to meet the goals is yet to be seen.

) PEs often does not prepare annual statement of account on time and audits are delayed. This situation leads to lose people's confidence and thereby making reforms difficult.

) Many year of rigorous loss result keep adding financial liability to the government, whereas the profit making PEs are enjoying all sort of facilities. Even loss making PEs have a tendency of not revealing actual data. As a result, they are ignoring the government's policy on right sizing of staff. Furthermore, lack of practicing the modern information technology and depend upon manual system increases unnecessary overhead cost.

1.2.4 Objectives of Public Enterprises

The major objectives underlying establishing PE's were as follows.

1. To available goods and service to general people at fair prices and good quality as well quantity
2. To develop economic and social infrastructure.

3. To create employment opportunities in the organized sector.
4. To substitute imports and save foreign exchange.

1.2.5 Types of Public Enterprises in Nepal

Government is the promoters of public enterprises. An analysis of the public enterprises in various countries shows that, there are two basis form classification of PEs i.e., (i) On the basis of function & Service (ii) On the basis of organization pattern and operation.

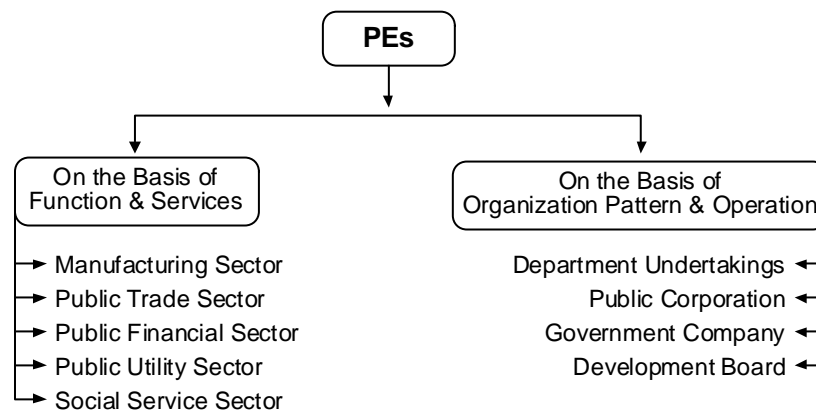


Figure No. 1-1

1.3 Statement of the Problem

The main objective of public enterprises is to make feeling of public ownership, public accounting and operating business for public benefit as well as government. The overall performance of public enterprises is not satisfactory as per their annual reports, economic survey, government report, Nepal Rastra Bank's report and published articles. Public enterprises have sufficient man, money, material, technology, mechanism and

information but they could not make full utilization of their resources as well as capacity. Therefore, they are could not achieve their objective, because of poor managerial adjustment, which includes the planning, controlling and decision making process. They could not make public enterprises successful. Management accounting tools and technique helps to make managerial adjustments. If they use management accounting tools and technique for planning, controlling and decision making process they could achieve their desire outcomes. If they are not practices, what might be the reason and what are the difficulties? Is political interferences are difficulties to practices MA tools and techniques? Is lack of awareness concerning the management accounting tools and technique? Is lack of management accounting exports? If they are practice, which MA tools and techniques are mostly practicing and how they are practicing till now? In which sector of public enterprises can be applied management accounting tools to improve the competitiveness and capacity of the Nepalese public enterprises.

1.4 Objectives of the Study

The main objective of this research work is to study and examine the practices of management accounting in Nepalese public enterprises. The specific objectives are:

1. To study and analysis the present practice of management accounting in Nepalese public enterprises.
2. To identify the major tools and techniques used for management accounting difficulties for applying them in public enterprises.
3. To recommend the tool and techniques for management accounting to improve the efficiency in the public enterprises.

1.5 Research Hypothesis

Research hypothesis is an educated guess about the overcome of an empirical test designed to answer a research question. To make the research specific, precise and objective, hypothesis are tested related to the dependency and independency of PEs in practicing of management accounting tools and techniques. Research hypothesis were set in research methodology.

1.6 Significance of the Study

The present research might be a new effort for the process of thesis preparation entitled management accounting practice in Nepalese public enterprises. The study is significant in the following ways:-

1. It examines the management accounting practices undergoing in Nepalese public enterprises.
2. It analyzes the problems and difficulties for application of management accounting in Nepalese companies. Therefore, it is useful to the enterprises and to its respected interest groups such as finance managers, accountants as well as policy makers.
3. The research provides information on the application of management accounting tools and techniques under different circumstances. Thus, it will encourage to the authorities for use of management accounting and awareness of the pros and cons in planning, controlling and decision making process.
4. It aids additional secondary data and information to the researcher who wants to carry out further study.

1.7 Limitations of the Study

Each and every activity has some limitations. This research study has also some limitations as follows:

- 1.** This study concerned only on the uses of management accounting. It does not consider the economic aspects.
- 2.** This study has focused only on the public enterprises. Therefore, findings may not feasible to the other non public companies.
- 3.** This study has been conducted and pays attention to the practices of management accounting tools and techniques in Nepalese context only. Therefore, it does not address to the global context.

1.8 Organization of the Study

This research work (Thesis) is organized into five chapters. The titles of these chapters are as follows:-

Chapter I: Introduction:

Background information on the subject matter of research undertaking has been presented under this section to provide a general idea of its history. So, this section includes a brief introduction to public enterprises in Nepal, role and objectives of public enterprises in Nepalese economy. Likewise statement of the problem, objectives of the study, limitation of the study and comes next followed by research design and methodology.

Chapter II: Review of Literature:

This chapter focuses on review of literature. It consists of the conceptual framework of MA, brief review of management accounting tools and techniques, review of related previous studies and research gap.

Chapter III: Research Methodology:

In this chapter, the method employed to gather data and the tools used in its interpretation has been described under the headings, research design, population and sample, data collection techniques, reliability and validity of data, nature and sources of data and research variable with measures and processing and analysis technique of data.

Chapter IV: Presentation and Analysis of Data:

This chapter is the one of the most important and core of the thesis. Since, it consists of percentage analysis of MA tools and techniques practice in Nepalese public enterprises, reason for non-practicing the MA tools and techniques, percentage analysis of affecting factor for the major MA related decision making process in Nepalese PEs, percentage analysis of difficulties for the application of MA in Nepalese PEs and test of hypothesis. Open-end opinion and findings of the research are also including in this chapter.

Chapter V: Summary, Conclusion and Recommendations:

This chapter is also important part of the study where major findings has been summarized, conclusion and recommendations suggested and conclusions drawn.

CHAPTER-II REVIEW OF LITERATURE

2.1 Conceptual Framework of Management Accounting

2.1.1 Concept of Accounting

Management Accounting is that branch of accounting discipline which facilitates management by communicating necessary information to carry out management functions smoothly. Planning, organizing, staffing, leading and controlling are the routine functions of management. Management accounting is an accounting

discipline that provides essential information to every hierarchy of management to perform management functions.

Accounting plays a key role in serving this purpose. Its task is to analyze the financial transactions as they take place, to record them in orderly fashion, to group and arrange the information in terms of useful and understandable financial reports (e.g. balance sheet, income statement) and to assist in the process of interpretation.

A systematic and up-to-date record of varied and numerous business transactions is quite essential to obtain the required information in respect of profit or loss and assets, liabilities and capital of the business unit and also to exercise control over various items of expenditure for maximum profit. It may be noted that systematic recording of various transactions is equally important to non-profit making entities such as colleges, hospitals, cultural clubs etc.

2.1.2 Branches of Accounting

Since any business entity or enterprise involves different aspects of the use of accounting. For precise understanding accounting has been classified according to the accounting disciplines from where vital information is being gathered. They are financial accounting, cost accounting and management accounting.

a. Financial Accounting

Financial accounting is concerned with the recording of financial transactions of the business and provides information in financial terms to parties or people wanting

information about the state of the business. It is that part of accounting which employs to communicate the financial information of a business unit. The object of financial accounting is to find out the profitability and to provide information about the financial position of the business concern. [Munankarmi; 2001:2]

b. Cost Accounting

Cost accounting is concerned with the classifying, recording and appropriate allocation of expenditure for the determination of the cost of products or services and for presentation of data for purposes of control and guidance may be appropriate. The main objective of cost accounting is to find out the exact cost per unit of product. [Munankarmi; 2001:3]

c. Management Accounting

Management accounting is concerned with the provisions and use of accounting information to managers within organizations, to provide them with the basis to make informed business decisions that will allow them to be better equipped in their management and control function. [www.wikipedia.com]

2.1.3 Concept of Management Accounting

Corporate firms that carry economic activities are the backbone of the economy. Their activities impact the economy in one-way or the other. Every organization has limited resources. The main problem lies in better utilization of available resources so that competitive advantages can be achieved. Among the various tools and techniques, management accounting tools have proved beneficial in every aspect of management activities from planning to decision-making. The

main objective of management accounting is to help managers in overall managerial activities by providing information and helping them in planning, controlling and decision-making. In most corporate firms, management accounting has been a strategic business partner in support of management's role in decision making, planning and controlling.

Management accounting is the process of providing quantitative information about economic entities to aid users in making decisions concerning the allocation of economic resource. It is regarded as a cyclical process starting from the collection and recording the financial transactions and ending with the reporting the performance to the parties concerned. It is an art of recording, classifying and summarizing transactions of financial character in terms of money and finally interpreting the result thereof. It is a systematic means of collecting information, recording and communicating it by way of somewhat standardized report format.

Management accounting is concern with the accounting information that is useful to management. Management accounting involves the preparation and use of accounting information for planning and controlling the operations of business.

Management accounting is the application of professional information in such a way to assist the management in the formation of policies and in the planning and control of the operation of the undertaking. Management accounting is the application of accounting and statistical techniques to the specified purpose of producing and interpreting information designed to assist management in the function of promoting maximum efficiency and is envisaging, formulating and co-ordinating their execution.

2.1.4 A Brief Historical Perspective of Management Accounting

So far as the question of origin of managerial accounting is concerned, there is not a definite answer. In the beginning, when the population of world was low, the financial accounting was sufficient for maintaining account. It was a complete system at that time. But due to increase in population, industrial development and introduction of scientific management, they affected the business activities and financial accounting became an incomplete system. The emergence and rapid growth of industries in the twentieth century is the main reason for developing management accounting system.

Many of the early developments were concerned with managerial product costing which traced out the profitability to individual products. This information was used for strategic decision-making. From 1925 to 1980, it was observed that the academic accountants used extensively arbitrary full cost allocation. They gave importance to full cost allocation for pricing, incremental orders and product discontinuance decision. The production cost that had been constructed for financial reporting purposes were used seriously by execution for product profitability, pricing, product mix and management control decision.

In the 1950s and 1960s some efforts took place to improve the managerial usefulness of conventional cost system. Direct costing has been developed at that time for internal decision making and control procedure. The user decision-making approach was extended in the 1960s and 1970s by academics. They introduced formal analytic methods of managerial decisions. In the late 1960s the new school of management accounting has been developed. The user decision-making model approach was extended by new school of management accounting thought which is known as information-economic approach. The information-economic approach attempts to measure the demand for information, a demand based on the value of information and cost of supplying it.

From 1980s to 1990s major challenges emerged for management accounting. Many managers and firms felt that the traditional management accounting practices were no longer serving managerial needs. They demanded more accurate, more useful and details product costing to improve quality and productivity and to reduce costs. They cannot be provided by traditional management accounting. Hence efforts were made to develop a new management accounting system. The present economic environment demands the development of innovative and relevant management accounting practice. For this purpose the traditional tools of management accounting like product costing and performance evaluation have been augmented and updated with contemporary approaches such as activity-based costing, customer profitability analysis, value-chain analysis, target costing and strategic cost management.

2.1.5 Functions of Management Accounting

The major functions of management accounting are as follows:

The Controllership Function

The controllership functions are discharged by the controller by applying budgetary control techniques, standard costing technique, and internal control technique. Then only evaluation of performance will be possible.

The Stewardship Function

Stewardship function is a traditional approach of accounting that places an obligation on stewards or agents, such as directors to provide relevant and reliable financial information relating to resources over which they have control but which

are owned by others, such as shareholders. Stewardship functions follow proper accounting procedures, which satisfy legal and commercial needs but are less rigorous and detailed than the professional practices of management of financial accounting. Not only stewards are responsible for providing information but they must also submit to an audit.

The Treasurer Ship Function

Treasurer is a financial manager in a staff position that is responsible for managing an organization's relationship with inventors and creditors and maintaining custody of the organization's cash, investments and other assets. Management of capital and investment is distinct area of treasure-ship functions. It consists of major activities like financial planning, dealing with capital and money markets, investment decisions, cash management, credit management and so on. Value maximization of the organization is its prime objectives.

2.1.6 Objectives of Management Accounting

The main objective of management accounting is to provide relevant economic information to the top-level management to make strategic plans and decisions more competitive. These objectives are listed below:

-) Providing information for planning and decision-making
-) Budgeting
-) Controlling
-) Motivating managers and employees
-) Measuring the performance
-) Assessing the organizations competitive position
-) Monitoring

2.1.7 Scope of Management Accounting

The scope of management accounting is very wide and broad based and it includes a variety of aspects of business operation. To keep the main aim of helping management in its functions (planning, directing, motivating, and controlling) management accounting knock the doors of related fields in search of information and their analysis. So the scope of management accounting is wide. The main scopes of the management accounting are given below:

- a. **Financial Accounting:** Management accounting is closely concerned with the financial accounting because the past or historical data contained in the later and the experience derived there form the basis for future planning and control.
- b. **Cost Accounting:** The cost accounting system provides the necessary tools for carrying out such functions efficiently. The tools include standard costing, inventory management, variable costing techniques etc.
- c. **Budgetary Control:** Budgetary control means expressing the plans, policies and goals of the firms for a definite period in future. It controls the activities of the business by measuring the variance and inquiring the reasons of such variance so that the adverse variance may not be repeated again in future. So, it is also main important tools of management accounting.
- d. **Tax Accounting:** Management accounting takes the help of tax accounting for the computation of taxable income, filing of return, payment of tax and possible tax reliefs as per the income tax act and rules.
- e. **Statistical Methods:** Management accounting takes the different statistical methods like; averages, dispersion and skewness, correlation, regression, graphs, charts, diagrams etc for the helping to assist in forecasting and planning.

- f. **Mathematical Technique:** Management accounting takes number of mathematical techniques like linear programme, critical path method, programme evaluation and review technique, net work analysis, queuing and decision theory, simulation etc for the useful in collecting, analysis, interpreting and reporting information in a meaningful manner.

- g. **Economics:** The various types of economic theories in the management of business have led to the development of a separate subject for study known as managerial economics. Management accounting takes the help of economics.

- h. **Business Law:** Statutory provisions or regulations require due consideration while taking management decisions as business has to operate within legal environment.

- i. **Inventory Control:** Inventory is necessary to control from the time it is acquire till its final disposal as it involves large sum. For controlling inventory, management should determine different level of stock that is maximum, minimum and average; the inventory control technique will be helpful for taking managerial decision.

2.1.8 Limitations of Management Accounting

Though management accounting is the term used to described the accounting methods, systems and techniques which, coupled, with special knowledge and ability, assist management in its tasks of maximizing profits or minimizing losses, still its effectiveness is limited by a number of reasons some of the limitations of management accounting are listed as follows:

- a. **Difficulty in Installation:** The installation of management accounting system requires restructuring of present organizational structure. This necessitates re-arrangement of the personnel and their activities, framing of new rules and regulation,

frequent report etc. there is a possibility of opposition from some quarters or the others within the organization against such change.

b. Intensive decision: Decision taking based on management accounting that provides scientific analysis of various situations will be time consuming one. As such management may avoid systematic procedures for taking decision and arrive at decision using intuitive. And intuitive decisions limit the usefulness of management accounting.

c. Development stage: Management accounting is the recent branch of accounting and is still very much in a state of development. So it is faced with the problems of fluidity of concepts, improvement in techniques etc.

d. Based on accounting information: Management accounting is based on data and information provided to supply by financial and cost accounts. As such the correctness and effectiveness of managerial decision will depend upon the quality of data provided by financial and cost accounts. So the effectiveness of management account is limited to the reliability of source of information.

e. Lack of knowledge: Management accounting has a wide coverage and is broad based. For taking decisions based on management should have a through knowledge in different fields such as Accounting Principles, Statistics, Economics, Management Principles, Tax – Laws, Engineering, Psychology etc. lack of knowledge in these fields on the part of decision-maker naturally limits the usefulness of management accounting.

f. Personal prejudices and bias: The interpretation of financial information may differ from person to person depending upon the capability of the interpreter. Analysis and interpretation of data and information may be influenced by personal bias. As such, the objectivity of decision may be affected by personal prejudices and bias.

g. No substitute for management: Management accounting can give pertinent information, but actions and decisions are the prerogatives of management. They can make even intuitive decisions ignoring information supplied by management accounting.

2.1.9 Management Accounting in Nepalese Perspective

Nepal being a small landlocked country situated between two large countries with huge and growing economy has been creeping and trying to develop its economy. However due to many problem, such as political instability, security etc the government of Nepal has not achieved success. Due to these problems multinational companies are hesitating to establish their subsidiaries here, many Nepalese companies have been collapsed. Nepalese companies are facing technology problem which is changing rapidly. Even than as the people and the investors have been able to understand the opportunity and the huge market availability in the neighboring countries and throughout the global after the country's entry into the WTO, functions and importance of management accounting has been realized by the business people and companies. So it has almost become mandatory to understand and use management accounting tools to grow and sustain oneself in today's rapidly changing and competitive global market.

Although management accounting is new in Nepal its importance and role has been realized by Nepalese corporations. Thus there is lots of scope of management accounting in Nepalese context.

2.2 A Brief Review of Management Accounting Tools

‘Management accounting’ is the term used to describe the accounting methods, systems and techniques, which coupled with special knowledge and ability, assist management in minimizing losses. It is essentially the application of managerial principles and know-how to the planning, development, execution and control of corporate plans (Batty, 1982:267).

The main management accounting tools are cost classification and cost estimation, cost allocation, Product service costing method, Cost-Volume Profit analysis, budgeting for planning and control, management control system and responsibility accounting, standard costing: control of direct material and direct labor cost, flexible budgeting and overhead cost control, decision regarding alternatives in business operation, pricing decisions of product/services, long term investment decisions and management use of financial statement analysis. Tools and techniques provided by management accounting to discharge functions like; planning, controlling and organizing can be identified as follows:

2.2.1 Cost:

2.2.1.1 Concept of Cost

Cost may be defined as the sacrifice or giving up of resources for a particular purpose. Monetary units that must be paid for goods and services frequently measure cost. Costs are initially recorded in elementary form. Then these costs are grouped in different ways to help managers make decisions such as evaluating subordinates and sub units of the organizations expanding or deleting Equipments. To aid decisions managers want the cost of something. This something is called a cost objective or cost object which may be defined as any activity for which a separate measurement of cost is desired (Horngreen, 1991:65).

The term cost is frequently used word that reflects a monetary measure of the resources sacrificed or forgone to achieve a specific objective, such as acquiring a good or service. However, the term must be defined more precisely before “the cost” can be determined. You will find that word cost is rarely used without a preceding adjective to specify the type of cost being considered (Drury, 200:96-120).

2.2.1.2 Cost Accumulation

Cost accumulation refers to the collection of cost data through an accounting system. It can be also described as an act of polling of the cost. Costs are collected from different records (journal, ledgers, and other supporting vouchers) under natural classification such as materials, labor, and rent, insurance or in other forms as guided by the purpose of requirement.

2.2.1.3 Classification of Costs

Cost classification is the process of grouping costs according to their common characteristics. In other words, it is the placement of like items together by virtue of their common features. Though costs are identified with cost units, cost centers or cost objectives in general, the same figures can be classified differently depending upon the very purpose or specific requirement of the management.

The costs can be classified different way for different purpose. The following represents the cost classification along with the criteria adopted for such classification:

[Wagle and Dahal, 2004: 2.2]

A. Criteria: Elements

- a. **Materials:** cost involved in all of materials, supplies.

- b. **Labour:** cost relating to personnel involved.
- c. **Expenses:** all other costs except materials and labour e.g. power, rent, insurance etc.

B. Criteria: Traceability

- a. **Direct Costs:** Traceable to or identified with a given cost object easily e.g. direct material, direct labor.
- b. **Indirect Costs:** Not identifiable with a given cost object easily e.g. indirect material, indirect labor, indirect expenses or overheads.

C. Criteria: Function

- a. **Manufacturing:** Costs involved in manufacturing or production activities.
- b. **Administrative:** Costs involved in general administration and control activities.
- c. **Selling and distribution:** Cost involved in selling and distribution activities.
- d. **Research and development:** Costs involved in innovative activities.

D. Criteria: Variability or Behaviour in Relation to Activity

- a. **Variable costs**
- b. **Fixed costs**
- c. **Semi variable cost or semi fixed or mixed costs**

H. Criteria: Basis for computation

- a. **Historical cost:** Costs based on past or recorded figures.
- b. **Replacement cost:** Costs based on present replacement value.
- c. **Standard cost:** Costs targets set by management systematically.
- d. **Pre-determined or estimated cost:** Costs determined in advance of the period for which they are going to be used but are not the target.

I. Criteria: Separability

- a. **Separate costs:** Costs which can be identified with particular unit.

- b. **Common costs:** Costs which are common for two or more products which can produce separately.
- c. **Joint costs:** Costs which are incurred in producing products, which must be necessarily, be produced together.
- d. **By product costs:** Costs incurred for products, which are distinguished from joint products depending upon the significance of the value of the produced jointly and also the intention of the management.

2.2.1.4 Cost Estimation

Profits are the excess of revenues over expenses. One major areas of management for proffer planning are cost estimation, cost control and cost management. Management must have some way of estimating fixed and variable costs. Different cost exhibit a variety of cost behavior patterns. Cost estimation is the process of determining how a particular cost behaves. It is a

Process of determining the cost of certain levels of output.

Several methods are commonly used to estimate the relationship between cost and activity. Following method might be use to breakdown mixed costs into their fixed and variable elements as well as for the explanation of their relationship. Following equation can be used to express the relationship between mixed cost and the level of activity. [Wagle and Dahal, 2004: 2.18]

$$Y = a + bx$$

Where, Y = Total cost (mixed cost) a = Total fixed cost
 b = Variable cost per activity base x = Level of activity

Following method might be of use to breakdown mixed costs into their fixed and variable elements as well as for the explanation of their relationship.

a. High – Low Point Method

For separating semi variable cost into fixed and variable cost, two level of activity, high and low are taken with their corresponding costs. Therefore, the differences in activity levels are ascertained. The difference in cost between highest and lowest level of activities is divided by the difference in activity of output. The result of division is variable cost per unit. This method assumes that fixed cost tends to remain constant and if there is any change reported. Such changes are only in variable cost. This method is also known as high low method. [Gurung and Dangol, 2004 (2062): 24]

$$\text{Variable cost per activity base (b)} = \frac{\text{High Cost} - \text{Low Cost}}{\text{High Units} - \text{Low Units}}$$

And,

$$\text{Fixed cost (a)} = \text{Total cost of high activity level} - \text{Variable cost per activity} \\ \text{Base} \times \text{High level of activity}$$

Or

$$a = \text{Total cost of low activity level} - \text{Variable cost per activity} \\ \text{base} \times \text{Low level of activity}$$

i.e. Fixed cost per period, $a = Y - bx$

Where, $Y = \text{Total cost (mixed cost)}$ $a = \text{Total fixed cost}$

$b = \text{Variable cost per activity base}$ $x = \text{Level of activity}$

b. Least Square Method (Regression Analysis)

Least square method is a statistical method. It is a mathematical measure of the average relationship between two or more variable in terms of the original units of the data. It is also more accurate than the high-low method because it takes all the data for analysis rather than two extreme observations, which may not be representative of normal situations. In this method, first of all, variable cost per unit is calculated. After this, the fixed cost and variable cost can be separate by adopting the following formula.

$$\text{Variable cost per activity base (b)} = \frac{\sum xy - \frac{\sum x \sum y}{N}}{\sum x^2 - \frac{(\sum x)^2}{N}}$$

$$\text{And, Y-axis intercept i.e. fixed cost per period (a)} = \frac{\sum Y - \frac{\sum Y \sum x}{N}}{N}$$

Where, Y = Total Mixed cost (dependent variable)

a = Fixed cost (constant in total)

b = Variable cost per activity base (constant in per unit cost)

X = Level of activity i.e. volume of output (independent variable)

N = Number of observations

2.2.1.5 Cost Allocation

Cost allocation is the process of assigning costs when direct measure does not exist for the quality of resources consumed by a particular cost object. Cost allocations involve the use of some apportionment bases rather than direct measures.

Assignment of direct costs remains similar under any of the allocation system except the cases of joint products. Therefore the term 'cost allocation' in other than the joint product, directly implies the indirect or overhead costs. Cost allocation, then, may be defined as the distribution of indirect or overhead costs to costs to cost centers and the cost objects in a most appropriate basis.

a. Method of Allocation:

Primary Allocation: In the first stage each element of overheads is assigned to cost centers in some appropriate basis. These cost centers comprise of the production department and the service departments.

Secondary Allocation: The second step is to reallocate the costs assigned to service departments to production department. Service departments are those departments that

exist to provide services of various kinds to other units within the organization. The methods of reallocating the costs of service departments are:

Direct Allocation Method: The direct allocation method (often called the direct method) is the most widely used method of allocating support department costs; the benefit of the direct method is its simplicity. There is no need to predict the usage of support department services by other departments.

Step Down Allocation Method: Some organizations use the step down allocation method, which allows for partial recognition of the services rendered by support departments to other support departments. This method requires the support departments to be ranked in order the step-down allocation is to proceed. Different sequences will result in different allocations of support department costs to operating departments. A popular step-down sequence begins with the support department that renders the highest percentage of its total services to other support departments.

Reciprocal Allocation Method: The reciprocal allocation method allocates costs by explicitly including the mutual services provided among all support departments. Conceptually, the direct method and the step-down method are less accurate than the reciprocal method when support departments provide service to one another reciprocally.

2.2.2 Product Costing Method

Profits are the excess of revenue over expenses. For the purpose of profit determination on business, finished and semi-finished goods in a form need a true and fair valuation. Value of the output (finished and semi-finished goods) is known as the inventorial product cost. Rational methods should be required for the proper determination of product cost. The system of product cost determination affects the size of assets and the size of income both. The cost of a product or process and profit there on can be ascertained using the different elements of cost according to any of the following two techniques.

- a. Absorption costing method, and
- b. Variable costing method.

a. Absorption Costing:

Contrast to variable costing. Absorption costing assumes that fixed along with the variable cost constitutes to the product cost. It absorbs all cost necessary to production. It considers fixed manufacturing overhead as a part of product cost.

b. Variable/Direct Costing:

Variable costing more accurately perceived as direct costing or marginal costing as it applies only the variable production cost to the product. This costing approaches that fixed manufacturing overhead is regarded as an expired cost to be immediately charged against sales not as an unexpired cost to be held back as inventory and charged against sales later as a part of cost of goods sold. Furthermore the direct costing approach to the inventorying of costs is not confined to only direct material and labor. It also includes on indirect cost the variable manufacturing overhead as a part of product as a part of product cost.

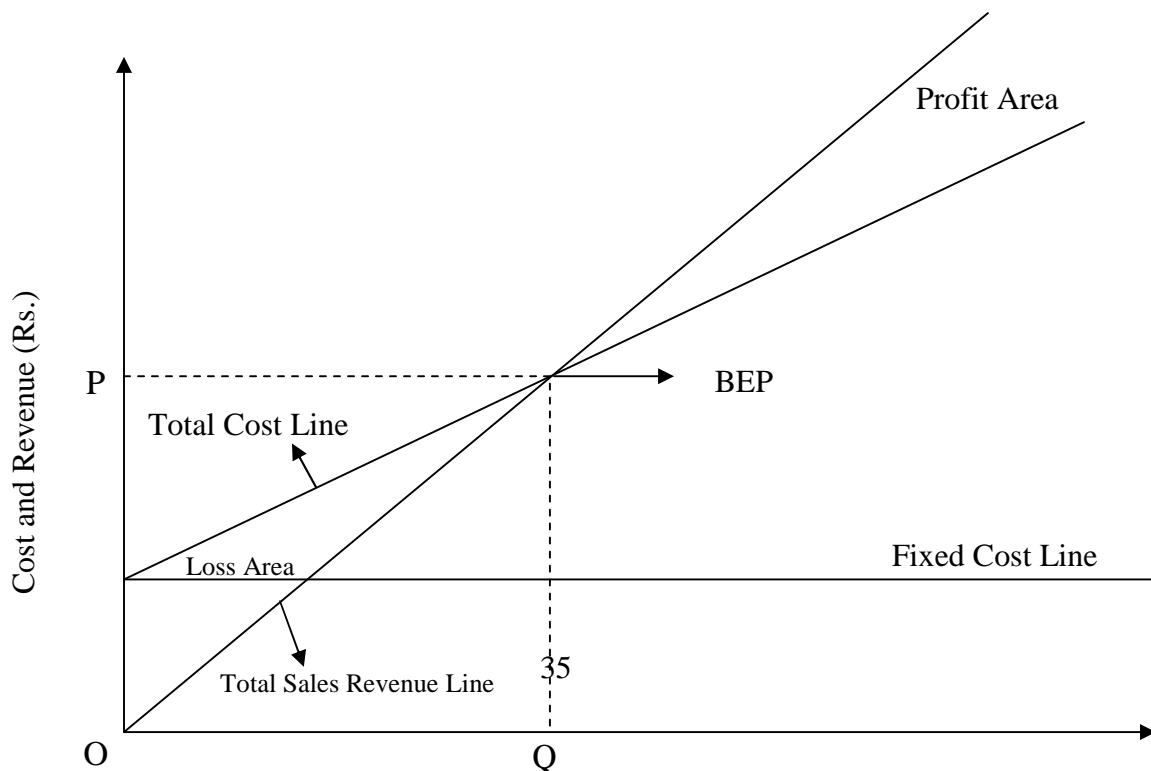
Use of Variable and Absorption Costing: Absorption costing is more widely used than variable costing. However, the growing use of the contribution approach in performance measurement and cost analysis has led to increasing use of direct costing for internal reporting purposes. Over half the major firms in the United States use direct costing for some internal reporting, and nearly a quarter uses it as the primary internal format. In contrast neither the public accounting profession nor the internal purposes. Thus all firms use absorption costing for their reports to shareholders and tax authorities (Horngreen, 1991:538-539).

2.2.3 Cost-Volume-Profit Analysis

Cost-Volume-Profit Analysis is a management accounting tool to show the relationship between the ingredients of profit planning. Profit planning is the functions of the selling price of unit sold of product units sold. The entire gamut of profit planning is associated with CVP relationships is break-even analysis. Break Even analysis is concerned with the study of revenues and total costs will be exactly as a point at which the firm's total revenues are exactly equal to total costs, yielding zero income. The "No profit" "No loss" point is a break-even point or a point at which losses cease and profits begin (Khan and Jain, 1996:494).

'No profit no loss' situation is a cornerstone of profit planning. This can be explained, through cost-volume profit graph as shown below:

Figure 2.1: Graphical Approach to CVP



CVP analysis is a supplementary tool of profit planning. It tells many things about the relationship between the business variables. Total variable costs are proportionate to the sales volume; whereas the total fixed costs remain unchanged within the relevant range of the output levels. That is why net incomes are not in proportion to sales knowing this relationship; one can assess the profit at forecasted sales volume.

Significance of Cost Volume Profit Relationship: An understanding of the inter-relationship between cost volume and profit is extremely helpful to management in a broad variety of problems involving planning and control the relationship between these three factors makes up the profit structure of an enterprise. It is only through the knowledge and intelligent use of such information that the prediction of probable impact of any number of contemplated action in made possible. This makes cost volume profit analysis relationship as one of primary planning.

The primary role of cost volume profit relationship is to pave the way for devising the most profitable admixture of operating factors. Such combination is known as profit planning and represents balance management of an enterprise requiring intelligent for potential profit coupled with the necessary co-ordination and meet changing conditions this analysis is great helpful in managerial decision making specially cost control and profit planning. Generally it provides response to such inquiry such as:

-) What sales volume is needed to avoid losses?
-) What sales volume is needed to earn a desired profit?
-) What product or product mix is most profitable?
-) Which product or operation of a plant should be discounted?

Management uses of cost - volume- Profit Analysis, its usefulness to management are as follows:

Management plans future operation with cost volume profit analysis. Profit do not just happen they must be managed and planned by estimating what the selling price, unit variable cost, total fixed costs, and sales volume will be next period, management can estimate the next period or future profit by using several approach management can estimate. Management uses the budgeted amount to control operation. Management should use cost volume profit analysis to determine the probable effects of various alternatives, which may be considered.

Management uses cost volume profit analysis to analyses past performance: management should determine the reason for differences, or variances between budgeted and actual result. Cost volume Profit analysis in an integral part of management administrative function. It can make an important contribution to planning, organizing, and controlling. It also can use to control current operation by comparing actual with planned results.

2.2.4 Budgeting as a Tool of Planning and Control

In modern era the business enterprises as well as other non profit concerned organizations are preparing budget every year or for certain period. A budget is a formal statement of the financial resources to be used for an organization planned activities for a given period of time. Budgets serve the organization in the planning but they have key role in

organizing and controlling function as well. The vignette demonstrates how important budgets are to small as well as large corporations.

Budgeting, as a tool of planning and control is closely related to the broader system of planning and control in an organization. Planning involves the specification of the basic objectives that the organization will pursue and fundamental policies that will guide it. In operational terms it involves the step of setting objectives, specifying goals, formulating strategies and expressing budgets. A budget is a comprehensive and co-ordinate plan, expressed in financial terms, for the operations and resources of an enterprise for some specified period in the future.

A budget is a detailed plan expressed in quantitative terms that specifies how resources will be acquired and used during a specific period of time. The procedures used to develop a budget constitute a budgeting system.

Budgeting is a tool of achieving management objectives. Simply stated the process of preparing and using budgets to achieve management objectives is called budgeting. More specifically a comprehensive planning and control or budgeting is a systemic and formalized approach for stating and communicating the firm's expectations and accomplishing the planning co-ordination and control, responsibilities of management to maximize the use and control responsibilities of management in such a way as to maximize the use of given resources.

In summary, the budget involves the statement of plans, the co-ordinations of these plans into well-balanced programs and the constant watching of actual operations to ensure that they are kept in line with the predetermined plans. In this way limits are set on expenditure, standards of performance are established, and forward thinking is made an essential part of the business management. Care must be taken however not to fall into the error of regarding the budget as an end in itself. It is a means to an end. It is not a method of business management, but an aid to clear thinking and its fundamental object is to enable considered intention to be substituted for opportunism in management.

2.2.4.1 The Budgeting Process

The main objective of a business firm is to make an excess of revenue over expenses so as to maximize profits. But it is not a matter of dream or chance. There is no magic formula of boosting the figure of profit overnight. Budgeting, if followed properly, can increase the chances of making profit within the given environment. A systemic budgeting should encompass the following procedures: (Welsh, Hilton and Gordon, 2000:73-88)

-) Identification and evaluation of external variables.
-) Development of broad objective of the enterprises.
-) Development of specific goals for the enterprises.
-) Development and evaluation of company strategy.
-) Executive management planning instructions.
-) Preparation of evaluation of project plan.
-) Development and approval of strategic and tactical profit plans.
-) Implementation of profit plans.
-) Use of periodic performance reports.
-) Implementation and follow up.

2.2.4.2 Requirement for Effective Budget

Support of Top Management: The budget programme can only be successful when top management offers the wholehearted support and when all managers are motivated about the implementation of budget programme.

Clearly Defined Organization: Business organization should be defined as to provide maximum benefits. There should be a sound plan with well defined and adequately maintained responsibilities. Records should be clear consistently departmentalized and established in such a manner as will indicate definite responsibility on each unit or section of the business.

Accurate Accounting System: Accounting system should be developed so far to hold each part of the organization, to its responsibilities. The budget fosters coordinated action and whenever this is broken down or interfered with the responsible factor should be unmistakably related.

Unambiguous Policy: A budget programmer is always based on certain fundamentals, the collection of which is called the “policy” of the business. Naturally, therefore, no programmer can be prepared without the knowledge of the business policy to adopt during the period covered by two budgets.

Preparation by Responsible Executives: Formation of budget in the participation of executive who are entrusted with the performance and in complementation is one of the essentials of effective budgeting.

Logical Sequence in the Budget Preparation: It is essential that proper procedures should be evolved for the preparation, submission, examination and review of budget figures in logical sequence.

Constant Vigilance: An effective system of budgetary control requires that provision must be made for the comparisons of budget and actual results at frequent intervals. As soon as unfavorable trends are detected immediate action should be taken to remedy them.

Continuous Budget Education: An essential condition for the success of budgeting is that it must be able to sustain the interest of those who should have the responsibility of putting budget proposal into effect. This needs continuous “budget education” which is concerned with briefing the employees of the undertaking on the objectives, potentials and techniques of budgeting as well as making them understand its uses and limitations.

A Degree of Flexibility: Flexibility for both possible and unforeseen circumstances requires essentially in budgeting.

2.2.4.3 The Master Budget

The master budget is a networking consisting of many separate budgets. A complete set of financial plan for a business firm is often called the master budget. The master budget consists of many functional budgets including a sales budget, a production budget, a purchase budget, an expenses budget, equipment purchase budget and a cash budget. One all of these budgets are completed, the master budget for the entire firm is prepared when all budgets have been prepared, and the budgeted profit and loss account and balance sheet provide the overall picture of the planned performance for the budget period. The type of budgets or profit plans depends upon the natures of the business entity. The master budget is a networking consisting of many separate budgets that are interdependent. A master budget normally covers three areas: operational sectors budget, cash budget and budgeted financial statements.

a. Operating Budget:

Operating budget relates to the physical activities/operations of a firm such as sales, production, purchasing, debtors collection and creditors payment schedule. In specific term an operating budget has the following term:

Sales Budget: A sales budget is a detailed schedule of expected sales for the coming period. It is usually expressed in both amounts and units. Once the sales budget has been set, a decision can be made on the level of production that will be needed to support sales and the production budget can be set well. The sales budget is constructed by multiplying the expected sales in units by the sales price. Generally, sales budget is accompanied by computation of expected cash receipts for the forthcoming budget period. This computation is needed to assist in preparing the cash budget for the year. Expected cash receipts are composed of collections on sales made to customer in prior periods plus collection on sales made in the current budget period (Garrison, 2000:145).

Sales budget is the starting point in the preparation of the comprehensive master budget. All the other plans and budgets are dependent upon the sales budget. The budget is usually presented both in units and rupees of the sales revenue or sales volume. The

preparation of a sales budget is based upon the sales forecast. A variety of methods are used to forecast the sales for the planning period.

Production Budget: After the sales budget has been prepared, the production requirement for the forth-coming period can be determined and organized in the form of a production budget. Sufficient goods will have to be available to meet sales need and provide for the desired ending inventory. A portion of these goods will already exist in the form of beginning inventory. The remainder will have to be produced, thus, production need can be determined by adding budgeted sales units to the desired ending inventory and deduction by adding budgeted sales units to the desired ending inventory and deduction the beginning inventory from the total. (Horngreen, et.al, 1999:182)

Planned production units = planned sales units + desired ending finished goods inventory units – beginning finished goods inventory

Merchandise Purchase Budget: In case of Merchandising firm, instead of preparing production budget it would prepare a merchandise purchase budget showing the amount of goods to be purchased from its suppliers during the period. The merchandise purchase budget is in the same basic format as the production budget, except that it shows goods to be purchased rather than goods to produced.

Purchase budget in units = Planned material consumption + Desired ending inventory of Raw material – beginning inventory of raw material.

Direct Material Budget: After production needs have been computed, a direct material budget should be prepared to show the materials that will be required in the production process. Sufficient raw materials will have to be available to meet production needs and to provide for the desired ending raw material inventory for the budget period part of this raw materials requirement will already exist in the form of a beginning raw material inventory. The remainder will have to be purchased from supplier.

Direct Labor Budget: The direct labor budget is also developed from the production budget. Direct labor requirements must be computed so that the company will know

whether sufficient labor time is available to meet production needs. Just knowing in advance, the company can develop plan to adjust the labor force as the situation may require. Direct labor requirement can be computed multiplying product to be produced by each period by the number of direct labor-hours required to produce a single unit. Many different types of labor may be involved. If so, then computation should be type of labor needed. The hours of direct labor time resulting from these computations can then be multiplied by the direct labor cost per hour to obtain budgeted total direct labor cost.

Manufacturing Overhead Budget: The manufacturing overhead budget provides a schedule of all costs of production other than direct material and direct material and direct labor. These costs should be broken down by cost behavior for budgeting purposes and predetermined overhead rate developed. This rate will be used to apply manufacturing overhead to units of product throughout the budget period.

Manufacturing overheads are the part of the total production cost, which is not directly identifiable with specific products or jobs. Manufacturing overheads include many dissimilar expenses; therefore, they cause problems in the allocation of these costs to products. There two distinct types of responsibility centers in most manufacturing companies, production and service. Responsibility for the operation of each department should be classified separately in this chart of accounts used by the cost accounting department; finally, the expenses of each department should be planned and controlled separately.

Selling and Distribution Overhead: The selling and distribution overhead contains a listing of anticipated expenses for the budget period that will be incurred in areas other than manufacturing. Selling and distribution expenses include all costs related to selling, distribution and delivery of products to customers. In many companies, this cost is a significant percentage of the total expenses. Careful planning of such expenses affects the profit potential of the firm.

Administrative Overhead: Administrative expenses include those expenses other than manufacturing and distribution. They are incurred in the responsibility centers that

provide supervision of and service to all functions of the enterprise, rather than in the performance of any one function. Because large portions of administrative expenses are fixed rather than variable, the notion persists that they cannot be controlled. Aside from certain top manager's salaries, most administrative expenses are determined by management decision.

Cost-of-goods-sold Budget: The Cost-of-goods sold budget clearly distinguishes the total costs of goods manufactured and cost of goods sold from the value of inventory. Indeed, it tells us how much of the costs of goods manufactured should be expensed this year and how much cost should be carried to the next year with the inventory. The cost-of-goods sold budget facilitates the making of the income statement and the balance sheet.

The cost of goods sold is the making cost of the sold units. In case of manufacturing business the cost of goods sold include the direct material, direct labor and the variable manufacturing costs.

b. Financial Budget:

Financial budgets are concerned with expected cash receipts/disbursement financial position and results of operations, the component of financial budgets are:

Cash Budget: Cash budget is a most significant device for planning and control of cash in an organization. The cash budget is plan of future cash receipts and payments. In other word, a summary statement of the firm's expected cash inflows and outflows over the projected time period is known as cash budget. The cash budget is composed of four major sections:

-) The receipt sections
-) The disbursement sections
-) The cash excess or deficiency section
-) The financing section

A cash budget is developed after all the operational budgets and capital expenditure out days has been accomplished. A cash budget shows the planned cash inflows, outflows and ending position by interim periods for a specific time span. Most companies should develop both long term and short term plan about their cash flows. The short-term cash budget is included in the annual profit plan. A cash budget, basically, includes two parts,

-) The planned cash receipts
-) The planned cash disbursements.

Planning cash inflows and outflows gives the planned beginning and ending cash position for the budget period. Planning the cash inflows and outflows will includes (a) the need for financing probable cash deficits or (b) the need for investment planning to put excess cash for profitable use.

Budgeted Income Statement: The budgeted income statement is one of the key schedules in the master budget. It is the document that tells how profitable operations are anticipated to be in the forth- coming period. After it has been prepared, it stands as a benchmark against which subsequent company performance can be measured (Garrison, 2000:718).

Budgeted Balance Sheet: Beginning with the current balance sheet and adjusting it for the data contained in the other budgets develop the budget balance sheet. (Garrison, 2000:353) The balance sheet is is a statement of assets and liabilities prepared after the preparation of functional and financial budgets. It is based on functional budgets, cash budget, projected income statement and previous year's assets and liabilities. It can be prepared in horizontal or vertical format. The budgeting techniques are as follows:

Incremental Budgeting: Most of the running organizations start budgeting for the next year based on previous budgets or the actual results. If the budgets for a given time are based on the budget or actual data of the same unit of previous time, this technique is called the incremental budgeting or base budgeting. The main idea of incremental budgeting is to make an increase over the past year figures to give budget allowance for the next year. This means that existing operations and the current budgeted allowance for

existing activities are taken as the starting point for preparing the next annual budget. The base is then adjusted for changes which are expected to occur during the new budget period. This approach is called incremental budgeting; since the budget process is concerned mainly with the increment is an operation or expenditure that will occur during the fourth coming budget period.

The major disadvantage of the incremental approach is that majority of expenditures, which is associated with the 'base level' of activity, remains unchanged. Thus, the cost of non-unit level activities becomes fixed and past inefficiencies and waste inherent in the current way of doing things is perpetuated (Drury, 2001:145).

2.2.4.4 Zero-base Budgeting

Under zero-base budgeting, every budget is constructed on the premise that every activity in the budget must be justified. It starts with the basic premise that the budget for the next year is zero and that every expenditure, old and new, must be justified on the basis of its costs and benefits. The discipline of zero-base budgeting takes a different approach – in fact a reverse approach to this problem of justifying everything. What it says is begin with where you are and establish a business usual and budget for the next year in the same way and with the same things you would do if you were not concerned about constraints and total justification.

Zero-base budgeting (also known as priority-based budgeting) emerged in the late 1960: as an attempt to overcome the limitations of incremental budgets. This approach requires that all activities are justified and prioritized before decisions are taken relating to the amount of resources allocated to each activity. Besides adopting a 'zero-based' approach zero-base budgeting (ZBB) also focuses on program or activities instead of functional departments based on line items, which a feature of traditional is budgeting (Drury; 2001:149).

Zero-based budgeting though is not really concept; it is the review of departmental costs. Managers are advocating for long, an in-depth review of departmental costs. This review should be done annually, zero-based budgeting lays down whereas critics of zero based

budgeting say it should done every five years or so. The only difference is the frequency of the review of departmental cost (Garrison, 1985:231).

2.2.4.5 Activity-based Budgeting

Activity-based costing can lead to improved decision making. Activity –based costing principles extend budgeting. Activity-based budgeting focuses on the lots of activities to produce and sell products and services. It separates indirect costs into separate homogenous activity cost pools. Management uses the cause and effect criterion to identify the cost drivers for each these indirect cost pools. To manage costs more effectively organizations that have implemented activity-based costing (ABC) have also adopted activity based budgeting (ABB). The aim of ABB is to authorize the supply of only those resources that were needed to perform activities required to meet the budgeted production and sales volume.

Four key steps in activity-based budgeting are:

-) Determine the budgeted costs of performing each unit of activity at each activity area.
-) Determine the demand for each individual activity based on the budgeted production.
-) Computer the costs of performing each activity.
-) Describe that budget as the costs of performing various activities.

And activity-based budgeting is facilitated by activity-based costing. The benefits that can be enjoyed from activity-based budgeting are:

-) Ability to set a more realistic budget
-) Better identification of resource needs

-) Linking of cost output
-) Clear linking of cost with staff responsibilities
-) Identification of budgetary slack (Horngreen, et.al, 1999:190).

ABB involve the following stages:

-) Estimate the production and sales volume by individual products and customers.
 -) Estimated the demand for organizational activities.
 -) Determine the resources that are required to perform organizational activities.
 -) Estimate for each resource the quantity that must be supplied to meet the demand.
- Take action to adjust the capacity of resources to much the projected.

2.2.5 Standard Costing

Control is very significant functions of management. Through control, management ensures that the performance of organization confirms to its plan and objectives. Analysis of variances is helpful in controlling the performance and achieving the profits that have been placed. (Horngreen, Sundem and Elliot, 1999)

Control of costs is one of the most important objectives of cost and management accounting and cannot be achieved without some standard against which the actual one can be compared. The use of standard costs increases cost consciousness among management and employees and can improve business profits by providing a base for performance evaluation. (Jawahar Lal, 2003:106)

Standard cost for a given job is the predetermined cost to complete the job as per specifications. Standard costing is a system before starting the production and then comparing this with the actual costs of the job after completing the production. The difference between the predetermined or standard costs and the actual costs is termed as 'variance'.

2.2.5.1 Control through Standard Cost

Standard costing is a management accounting tool for management control. Controlling is the process of comparing actual results with the planned objectives and determining where adjustments should be made. The management control process encompasses the following steps (Bajracharya, et.al, 2004:348).

Setting Standards

The first step in management control process is to set performance standards. Especially cost control, the estimated cost to be manufacturing a single unit of product or to perform a service called the standard cost. Prime cost, direct material and direct labor cost is determined by the multiplication of a physical factor by a monetary factor. Because of the variety of the component parts and productive operations in a unit of a given product, the cost factors must be examined in detail before a standard cost for a unit of product can be determined.

Once the management has established the design and manufacturing process that will produce the desired output and has determined which input resources will be used, quantity and price standards can be developed. Developing the standards is sensitive tasks, which, later on, affect the entire management process including the budgeting, decisions, and the performance measurement. The sources of information for developing standards are determined from different angles depending on the nature and the moment of the job. Most usual sources include;

-) Past experience: for a running business
-) Trial production: for a new business
-) Lab studies, time and motion studies: for a large – scale new manufacturing
-) Tear down analysis: functional analysis of competitor’s products.
-) Bench marking: practice of the world class product.
-) National standards: e.g., Nepal standard mark

-) International standards: e.g. ISO standards
-) Health product: WHO standards.
-) Actual performance measurement

After setting the cost standards, the actual result of material, labor and overhead costs of a batch of production are collected. Information is most important for actual performance measurement. Such information is available with the related cost centre. For example, actual labor cost data is available in the payroll department. Therefore, a well-structured responsibility accounting system is the pre-requisite for cost control through standard costing system.

Analysis of Variance

The derivation of the actual cost or profit or sales from the standard cost or profit or sales is termed as variance. When the actual cost is less than standard cost or actual profit is better than standard profit, it is known as favorable variances and such a variance is usually is a sign of efficiency of the organization. On the other hand when actual cost is more than standard profit is called unfavorable variances and is usually an indicator of inefficiency of the organization. The favorable and unfavorable variances are also known as credit and debit variances respectively. The expression of this relationship can be seen in the simple formula:

$$\text{Actual cost} = \text{Standard cost} + \text{Variance}$$

By rearranging the terms in the formula, we can determine the variance if we know standard and actual costs:

$$\text{Variance} = \text{Actual costs} - \text{Standard costs}$$

Corrective Action

If a deviation between the actual performance and the standard performance is significant, understanding the causes is crucial to determine whether it should be changed or some other remedy should be attempted. One main application of standard costing system is to measure the performance of different cost centers. Employee training, promotion transfer and economic incentives should be based on the performance, revealed by the comparison of actual results with the standards. Though the past is not much relevant as it has already passed, the purpose of corrective action is to ensure that the past mistakes will not be repeated in future.

2.2.5.2 Benefits of Implementing Standard Costing

Improved cost control: Companies can gain greater cost control by setting standards for each type of cost incurred and then by highlighting exceptions or variance-instances where things did not go as planned. Variances provide a starting point for judging the effectiveness of managers in controlling the costs for which they are held responsible.

Useful information for managerial planning and decision-making: When management develops appropriate cost standards and succeeds in controlling production costs, future actual costs should be close to the standard. As a result, management can use standard costs in preparing more accurate budgets and in estimating costs for bidding on jobs. A standard cost system can be valuable for top management in planning and decision making.

Cost saving in record-keeping: Standard costing needs no special calculations to determine actual unit costs during the period. Instead, companies may print standard cost

sheets in advance showing standard quantities and standard unit costs for the materials, labor, and overheads needed to produce a certain product.

More reasonable and easier inventory measurement: Under a standard cost system, the company would not include such unusual costs in inventory. Rather, it would charge these excess costs to variance accounts after comparing actual cost to standard cost. Thus in a standard cost system, a company assumes that all units of a given product produced during a particular time period have the same unit cost. Logically, identical physical units produced in a given time period should be recorded at the same cost.

Reduction in production cost: A standard cost system may lead to cost savings. The use of standard costs may cause employees to become more cost conscious and to seek improved methods of completing their tasks. Only when employees become active in reducing costs can companies really become successful in cost control.

2.2.6. Flexible Budgets and Overhead Cost Control

A flexible budget calculates budgeted revenues and budgeted cost based on the actual output level in the budget period. A flexible budget is calculated at the end of the period. When the actual output is known; a static budget is developed at the start of the budget period based on the planned output level for the period (Horngreen, et.al, 2003:520).

A flexible budget estimates expenses at different possible levels of future operations. A flexible budget is not based on only one level of activity. A flexible overhead budget is defined as a detailed plan for controlling overhead costs-a plan that is valid in the firm's relevant range of activity (Hilton, 2000:215).

Since some of the factory overhead cost elements remain constant per activity and others remain constant per period. We can simplify the flexible cost statement by summarizing all factory overhead costs in a general formula, known as flexible budget formula.

Total factory overheads (y) = Fixed costs (per period) + Variable cost (per activity) x

$$Y=FC + UVC \times LA$$

Here, Y'-stands for the budget allowance(BA) for the factory overheads for any given level of output or activity (X), a-stands for the fixed costs and b-stands for the variable costs per unit.

Factory overhead cost standards are much more complex than those of direct material and direct labor. By nature, direct material and direct labor costs are variable costs, whereas factory overheads are partly fixed and partly variable. Since direct materials and direct labor costs are directly traceable to the output units, standards can be determined as per unit of output. As fixed factory overhead costs are of mixed nature, it is difficult to express the cost per unit of output. For the over cost control purpose, following standard data are required.

-) Normal capacity to ascertain the fixed overhead rate.
-) Standard/machine labor hours per unit of output
-) Segregation of factory overheads into fixed and variable components
-) Standard overhead rate

The first and the foremost thing to define in case of overhead cost control is the appropriate cost driver for the factory overheads. Leaving the question of activity-based costing for the moment; we, at least, have to choose one common cost driver for the total factory overhead. Factory overhead costs are incurred in the course of converting the raw materials into finished production. Raw materials are processed either through labor or through machinery. Yet, the labor and the machines are not mutually exclusive factors. The only question is whether the process is more labor-based or more machinated.

Depending upon the nature, direct labor hours (DLH) or the direct machine hours (DMH) should be chosen as the cost driver for the factory overhead costs.

The main objective of analyzing the factory overhead variance is to determine whether the total manufacturing overheads are over or under applied in the cost of production for the given level of output. The 'Three-way analysis system' allows management to break down the total overhead variance into three principal areas: the portion caused by efficiency factors, and the portion caused by rate or spending factors.

2.2.7. Pricing Decision Regarding Product and Services

When the organization produces the goods and services, it must be needed to set the price for their product. An act of establishing /setting /fixing the price for an organization product or service is called pricing. In others words, pricing is the job or task of assigning exchange volume for goods or services provided by organization. Setting the price for an organization's product is one of the most important decisions a manager faces. It is also one of the most difficult or challenging because it should appeal to the customers; beat competitor; recover cost and provide surplus for survival, further growth and expansion etc. So the organization are price taker (When the price is determine by the market) pricing decision is to be made virtually by all types of firms irrespective of their nature and size. Pricing decision is influenced by number of factors such as market, customer's demand, cost, acting of competition, government policy etc. (wagle and Dahal, 2004:9.1)

Economics theory suggests that under certain assumption the profit maximizing price and quality are determined by the intersectional of the marginal revenue and the marginal cost curves. Actual pricing practices indicates that firm's use "cost based or cost plus" pricing where a 'mark up' for overhead and profit is added to the direct cost. According information's relating to cost plays a vital role in the respect.

2.2.7.1 Cost Based or Cost plus Pricing Methods

Probably the most easy, simple and widely used method of cost plus pricing is to set the price of product or services at an amount equal to its standard manufacturing cost plus a normal mark up. Such a mark up is intended to cover marketing and administrative costs and net profit before tax. Such an approach is termed cost based or cost plus pricing. It is claimed that cost plus pricing is widely used because it ensures that the selling price is greater than the total cost of a cost based price is greater than the total cost of a cost based pricing formulas have the following general forms:

$$\text{Price} = \text{Cost} + (\text{cost} \times \text{mark up percentage})$$

Cost plus pricing system include:

- a. Full cost or total cost or absorption cost pricing.
- b. Variable or marginal cost or contribution margin pricing.
- c. ABC pricing.
- d. Target cost pricing.
- e. Return-on-investing (ROI) pricing.

a. Full cost or total cost or absorption cost pricing: Full cost/ total cost/absorption cost pricing uses conventional cost accounting principles to establish the total cost for a product to which is added a mark up to arrive selling price that is, if absorption or total manufacturing cost are taken into consideration, the mark up is intended to cover administrative and marketing costs and net profit before tax. [Munakarmi; 2002:399,400]

$$\text{Price} = \text{Absorption manufacturing costs} + (\text{mark up \%} \times \text{absorbed manufacturing cost.})$$

b. Variable or Marginal or Contribution Margin Pricing: This method of pricing, the pricing of the product or services is determined by the accumulation of variable costs per unit plus a normal mark up. The variable cost thus accumulated, can either be manufacturing or total variable cost. If manufacturing variable costs are taken, the mark up must be sufficient to cover other variable cost.

$$\text{Price} = \text{Total variable cost} + (\text{mark up \%} \times \text{Total variable cost})$$

c. Activity Based Cost Pricing: ABC pricing is also a form of cost based or cost plus pricing. It is a method of allocating manufacturing overhead to product using multiple application rates and a wide variety of cost drivers in multi-product firm. Therefore, all overhead cost incurred to carry out various activities should be considered product cost. For successful application of ABC techniques necessitate the following steps:

-) Identify the major activities in the organization.
-) Determine the cost driver for each major activity.
-) Create a cost centre/cost pool for each major activity.
-) Trace the cost of activities to products according to a product's demand for activities.

d. Target Cost Pricing: Target pricing is based on target costing. Target costing is methods of determining the cost of a product or service based on the price that customer are willing to pay. So in this method of pricing, the firm first of all determines the price at which the product sells so as to attain desired sales volume or market share. From the price thus determined, acceptable profit is deducted for ascertained of targeted cost. [Wagle and Dahal;2004:9.8]

$$\text{Target cost} = \text{Anticipated selling price} - \text{Desired profit}$$

e. **Target ROI Pricing:** The price set so as to achieve a given rate of return on invested capital over and above the cost is known as target ROI pricing. ROI is the minimum profit on invested capital that must be earned at least to cover the opportunity cost of capital. [Wagle and Dahal; 2004: 9.7]

Calculation of desired mark up per unit as per ROI:

$$\text{Desired mark up as per ROI} = \frac{\text{Capital employed} \mid \text{ROI \%}}{\text{No. of units produced (Sales)}}$$

Where, capital employed = owner's equity + interest bearing debt
(I.e. long-term)

Or

= Fixed assets + net working capital

2.2.7.2 Transfer Pricing

When goods or services are exchanged between various subunits or segments of a decentralized organization, the question arises what monetary values should be assigned to such exchanges or transfer? Unfortunately, there is no single transfer price that will please all the parties involved in transfer, namely- top management, the selling division and the buying division.

A transfer price is the price on subunit of an organization charges for products or services supplied to another subunit of the same organization. The transfer pricing creates revenue for the selling subunit numbers for both subunits. The operating income can be used to evaluate the performance of each submit and to motive managers. [Horngren, Foster & Datar, 1999: 904]

There are various transfer pricing schemes having different bases for computation. So the transfer pricing can be based on:

a. Market Based Transfer Pricing: Transfer pricing based on market value of the product or service is known as market based transfer pricing. Generally, market price is used for determination of transfer pricing of the product. Market based transfer pricing is appropriate when both buying and selling divisions are operating at full capacity. Both buying and selling divisions can buy and sell at market price. [Fago, Gyawali and Subedi, 2003: 9.33]

Transfer price = Market price – selling and distribution expenses.

b. Cost Based Transfer Pricing: If the price can not be determined from market, then the transfer price may be determined from cost based transfer pricing. For these purpose the cost based transfer can be determined from namely variable cost, full cost, full cost plus a mark-up. Some use standard cost and some use actual cost. The actual cost based transfer price passes the inefficiencies of the selling division to the buying divisions with little incentive to control cost. The variable cost based transfer price has an advantage over the full cost or full cost plus a mark-up method when there is idle capacity in the firm. Under the full cost methods, fixed cost of the selling department becomes the variable cost to the buying division.

c. Negotiated Transfer Pricing: It is negotiated between the transferor and transferee units after considering all factors of supply and demand, quality and time of delivery and the price. That is an alternative to setting prices based on rules or formulae, transfer prices could be set by negotiation between the buying and selling divisions. This transfer pricing is most appropriate in situations when there are different selling costs for internal or external sales or where there exists several different market prices. [Munakarmi, 2004: 434]

d. General Transfer Price Rule: The pros and cons of the different transfer pricing methods discussed so far give us an insight into their nature but do not provide an

answer on to which model is optimal. From the forgoing discussion it is clear that it is not easy for a single transfer price to motivate managers to make optional decision, provide a reasonable measure of performance and ensure that divisional autonomy is not undermined. So the divisions do agree to a base, some form of competitive market price can be the best approach to the transfer pricing problem. It can be calculated from the following formula: [Wagle and Dahal, 2004: 9.11]

$$\text{Transfer Price} = \frac{\text{Additional outlay cost per unit incurred because goods are transferred}}{\text{unit}} + \frac{\text{Oppertunity costs per unit to the organization because of transfer}}{\text{unit}}$$

2.2.8 Decision Regarding Alternative Choices

There are various situations available in the process of decision-making. The managers have to choose the best alternative course of action. Some of the decision situation are underlying as:

Decision to continue or Drop a Product Line: When a firm is divided into multiple sales outlet, product lines, divisions, departments, it may have to evaluate their individual performances to decide whether or not to continue operations of each of these segments or whether to add a new segment. The decision criterion would be the segment margin. The segment margin equal's the segment's contribution margin less fixed costs that are directly traceable to that segment (Garrison, 1985:235). The decision criterion in an operate or shut down situation will be based on the comparisons of the shut down losses and the losses associated with continuing operations.

Decision to Accept or Reject the Special Order: A special order is one that has been offered for a bulk volume at a reduced price. Opportunity to consider an order for a quantity of its regular product at a special price, usually less than that charged to regular customers, frequently arises for a management. When there is idle capacity; such an offer may be attractive. The basis of decision-making should be the difference that it will make

in the overall profit of the company. Essentially, if there is idle capacity, the special order is advantageous if the price amounts exceed out of pocket cost and the opportunity cost. The decision for this purpose is based entirely on differential cost and contribution margin of product by considering both special offer and without special offer.

Decision to Make or Buy: Buying is the process of acquire goods from outside suppliers instead of producing the same goods within the organization. Decision on whether to produce components within the organization or to get them form outside suppliers are called make or buy decision.

Many firms have to choose between manufacturing certain components themselves and acquiring them form outside suppliers. Incremental analysis provides a solution to this kind of decision problem. The relevant information is the one regarding the committed/avoidable costs if the firm has adequate idle capacity to make the component. This is so because the firm wouldn't be required to incur fixed costs to produce the components. If however, there is a need to enlarge the capacity of the existing plant or the existing capacity of the plant is diverted for the production of the components, opportunity costs in terms of the lost contribution will be relevant to the decision analysis.

Decision to Replacement of Assets: One of the most important decisions relating to business is whether or not to replace the existing equipment by new and more sophisticated equipment. Generally, the economic advantages offered by such an investment is the realization of operating cost savings, which are translated into increased profits. These cost saving involve a number of future years, and this temporal dimension adds an additional complication to the capital expenditure decision. A decision regarding the replacement of assets is a long term capital investment decision that requires the use of discounted cash flow techniques. These techniques are discussed in detail in the chapter investment analysis but one aspect of asset replacement decisions, which is to be understood clearly at this stage, is how to treat the book value of old equipment.

Decision to Further Process Joint Products: Joint products are those products, which are produced in single production process but are not identifiable as individual products until some definite point in the manufacturing process.

A decision to be made by the management is whether to sell joint outputs at the split-off point or to process them further. The decision criterion should be to choose the alternatives, which will maximize the total contribution of the various joint products to the common processing costs. As the common processing costs before the split-off point are sunk costs that have already been incurred to create the joint products, they are irrelevant and will not be considered in the decision making process. The only relevant cost will be the additional common processing costs. A related short-term decision involves selecting an alternative-processing plan for joint products when the proportion of the output from the common processing cost can be varied.

Decision Regarding Leasing Versus Buying: Leasing is the contract between an owner (lessor) and a hirer (lessee) for the hiring of the specific asset. In exchange for the lease rentals, the lessee obtains possession and use of the asset, while the lessor retains legal ownership. The lessee has no right to acquire exercise right over the assets during the period of the contract. Leasing is an important source of financing for long-lived assets. Some assets are financed for intermediate-term and some are for long-term.

A lease is a contract whereby the owner of an asset (the lessor) grants to another party (the lessee) the exclusive right to use the asset in return for the payment of rent. For example properties like apartments, cars, and telephones are often available on a rental basis. For the lessor it is a business and the lessee entertains the use of assets without making down payment or creating a liability for the cost price of so big assets.

2.2.9 Capital Budgeting

A number of factors combine to make capital budgeting decisions perhaps the most important ones financial managers must make. Expenditures incurred for acquisition, expansion and modification of fixed assets; research and the development expenditure for product development and cost reduction; expenditures incurred in compliance to statutory regulation as to labor, social welfare and environmental issues are major forms for capital expenditure. The impact of capital budgeting is long term thus the firm loses some decision making flexibility when capital projects are purchased.

Capital budgeting is the process of planning and controlling the long term and short term expenditures for expansion and contraction of investments in fixed assets. A major issue in planning capital expenditures is the problem of ensuring that a company has the capacity to produce, acquire or be able to deliver the goods and services that will be needed to meet its sales and service plan. A major issue in controlling the actual expenditure of funds is the problem of ensuring that the actual expenditures are consistent with the plans and that funds are available when the expenditures are incurred. [Welch, Hilton & Gordon, 2000: 394, 395]

2.2.9.1 Capital Budgeting Procedure

The following represent the procedures involved in capital budgeting:

-) Generation of investment proposals
-) Estimation of cash flows
-) Evaluation of investment proposals based on different methods of screening the proposals.

-) Selection of the proposals based upon the selection criteria
-) Continual revaluation of the proposals after their acceptance

2.2.9.2 Capital Budgeting Evaluating Techniques

The capital budgeting evaluating techniques are as follows:

a) Traditional Methods: These are the oldest and simple methods. The traditional methods do not consider the time value of money, they are given below: [Wagle and Dahal, 2004: 12.5,12.6,12.7,12.8]

- i. Payback Period:** It is defined as the expected number of years required to recover the original investment, is the simplest and, as far as we know, the traditional formal method used to evaluate capital budgeting projects. The payback period can be found using the following formula:

$$PBP = \frac{\text{Year before full recovery of original Investment}}{\Gamma \frac{\text{Unrecovered cost at start of year}}{\text{Total cash flow during year}}}$$

- ii. Average or Accounting Rate of Return Method:** This method is based in accrual based revenues and cash cost, which is not a cash basis analysis:

$$ARR = \frac{\text{Average Income or Profit or Return}}{\text{Average Investment}} \times 100$$

Where,

$$\text{Average income} = \frac{\text{Total Income or Profit or Return}}{\text{Number of years}}$$

$$\text{Average Investment} = \frac{\text{Original Investment} \Gamma \text{Salvage value (if any)}}{2}$$

b) Discounted Cash Flow Method: To correct for the major defect of any non discounting technique ignoring the time value of money methods were developed to include consideration of the time value of money. The commonly used discounted cash flow methods are:

i) Net Present Value (NPV): Net present value represents the difference between the present value of expected cash outflows and inflows of the investment proposal. To implement this method, we proceed as follows:

) Using the rate of return required by the firm for the computation of the present value of all the cash flows, whether inflows or outflows are associated with a project during its life.

) Sum the cash flows' present values to get the project's NPVs

) A project is considered acceptable if its NPV is positive; it is not acceptable if its NPV is negative. If projects with positive NPVs are purchased, the value of the firm will increase; purchasing negative NPV will lower NPV projects.

NPV is computed using the following equation:

NPV = PV of Future CFAT - NCO

$$NPV = X_0 - \frac{A_1}{(1+i)} - \frac{A_2}{(1+i)^2} - \frac{A_3}{(1+i)^3} - \dots - \frac{A_n}{(1+i)^n} + A_0$$

$$= X_0 - \sum_{t=1}^n \frac{A_t}{(1+i)^t} + A_0$$

Where,

$A_{0 \text{ to } n}$ = Cash flow in the period 0 to n.

T = Time period

i = Discount rate [Wagle and Dahal, 2004: 12.10]

ii) Profitability Index (PI): The profitability index is the time adjusted capital budgeting techniques. It is similar to the NPV approach. It is the ratio of present value of net cash benefits to the present value of net cash outlay. It measures the present value of return per rupee invested, while the NPV is based on the difference between the present value of future cash inflow and the present value or cash outlays. If the PI is greater than one, then the project should be accepted but if the PI is less than one then the project should be rejected. [Wagle and Dahal, 2004: 12.12]

$$\text{Profitability Index} = \frac{\text{Present Value of CFAT}}{\text{Net Cash Outlay (NCO)}} \text{ or } \frac{\text{NPV} + \text{NCO}}{\text{NCO}}$$

Or

$$\text{PI} = \frac{\frac{A_1}{(1+i)} + \frac{A_2}{(1+i)^2} + \frac{A_3}{(1+i)^3} + \dots + \frac{A_n}{(1+i)^n}}{A_0}$$

$$= \frac{\sum_{t=0}^n \frac{A_t}{(1+i)^t}}{A_0}$$

iii) Internal Rate of Return (IRR): The IRR is the rate of return the firm expects to earn if the project is purchased; thus it is defined as the discount rate that equates the present value of a project's expected cash flows to the investment outlay, or cost. As long as the rate of return expected from a project its IRR is greater than the rate of return required by the firm for such an investment, the project is acceptable. The IRR can be computed as: [Wagle and Dahal, 2004: 12.12]

IRR = Discount rate at which PV of annual CFAT = NCO

Or

$$= A_0 - \frac{A_1}{(1+i)} - \frac{A_2}{(1+i)^2} - \frac{A_3}{(1+i)^3} - \dots - \frac{A_n}{(1+i)^n} = 0$$

Or,

$$= \sum_{t=0}^n \frac{At}{(A\Gamma)^n} = 0$$

The exact rate is found in the following way once the two rates leading to positive and negative net present value are ascertained in the process of trial and error:

$$\text{IRR} = \text{Lower \% } \Gamma \frac{\text{Lower \% Value} - \text{NCO}}{\text{Lower \% Value} - \text{Higher \% Value}} \times (\text{H \%} - \text{L \%})$$

2.2.10 Responsibility Accounting

Responsibility - accounting system are designed to foster goal congruence among the managers in decentralized organizations. Each submits in a organization. Each submit in a organization is designate as a cost center, revenue center, profit center, or investment center. The Managerial accountant prepares a performance report for each responsibility center. These reports show the performance of the responsibility center and its manager for a specified time period. To use Responsibility Accounting effectively, the emphasis must be on information rather than blame. The intent should be to provide managers with information rather than blame. The intent should be to provide managers with information to help them better manage their subunits. Responsibility accounting system can bring about desired behavior, such as reducing the number of rush order in a manufacturing company. Segmented income statements often are included in a responsibilities accounting system, to show the performance of the organization and its various segments. To be most effective, such reports should distinguish between the performance of segments & segment mangers. Customer profitability analysis is an increasingly used tool, which helps managers to better understand which customers are providing the greatest profit.

Responsibility accounting represents a method of measuring the performance of various divisions of an organization. It focuses on the value of decentralization, which is more essential in case of a large-scale organizations responsibility accounting system becomes more urgent. Major contribution of responsibility accounting in an organization are for decentralization, performance Evaluation motivation, transfer pricing, and drop or continue decision.

Process of Responsibility Accounting

Responsibility accounting encompasses the following steps:

- i. Identifying the responsibility center
- ii. Delegation of authority and responsibility or decentralization
- iii. Controllability of the object
- iv. Establishing performance evaluation criteria.

2.2.11 Ratio Analysis

An analysis of financial statement with the help of ratio may be termed as ratio analysis. It is a mathematical relationship between two related items express in quantitative form. When this definition of ratio is explained with reference to the items shows in financial statement, then it is called accounting ratio. So, the ratio is the measurement of quantitative relationship between two or more items of financial statements connected with each others. The quantitative relationship may be expressed in terms of proportion, in rate, in time, in percentage or coefficient. There are different types of ratios analysis which is listed under.

a. Liquidity Ratios

It measures the adequacy of a firm's cash resources to meet its near term cash obligations. Short-term lenders such as suppliers and creditors use liquidity analysis to assess the risk level and ability of a firm to meet its current obligations. Satisfying these obligations requires the use of the cash resources available as of the balance sheet date and the cash

to be generated through the operating cycle of the firm. Under liquidity analysis, therefore calculate the current ratio and quick ratio.

b.Leverage Ratios

It examines the firm's capital structure in terms of the mix its financing sources and the ability of the firm to satisfy its long-term debt and investment obligations. This analysis contains the debt equity ratio and debt to total capital ratio.

c. Activity or Turnover Ratios

To carryout one's operations, a firm needs to invest in both short-term (inventory and accounts receivable) and long-term (property, plant and equipment) assets. Activity analysis describes the relationship between the firm's level of operations (usually defined as sales) and the assets needed to sustain the activity. This analysis contains the investor turnover, daily sales outstanding, fixed assets turnover, total assets turnover and capital employed turnover ratios.

d. Profitability Ratios

Profitability is an indicator of efficiency of the business organization. Profitability ratio measures the management overall efficiency as show by the return generated from sales and investment. Higher the profitability ratio shows the efficiency of the management. Profitability in relation to sales as well as investment. So, profitability analysis consists some ratio i.e., net profit margin, gross profit margin, operating cash flow margin, return on assets (ROI) and return on common stockholders' equity.

2.2.12 Cash Flow Analysis

Cash flow as a phrase that is used to describe both cash inflow and cash flows. It is indicated to show all the cash inflow and outflows of a firm during a period. Cash flows

and outflows is one of the major management tasks. The analysis of events and transactions that effects the cash position of company is termed as cash flow analysis. While calculating cash flow statement from income statement, adjustments data for prepaid and outstanding expenses as well as incomes must be convert from accrual basis to cash basis. Cash flow statement should reports the cash flows during the period classifying on operating, investing and financing activities.

a. Operating Activities

Cash flow from operating activities is primarily derived from the principal revenue producing activities of the enterprise. Therefore, they generally result from the transactions and other events that enter into determination of net profit or loss. It is referred to as working capital, sales, and expenses of the business. It is specially generated form daily internal activities of business such as sales and collection from customers, cash paid to suppliers and employee, cash paid for operating expenses, interest and taxes, short term bank loan, marketable securities etc.

b. Investing Activities

Cash flow from investing activities is generated internally from non-operating activities. On this activities would included investments in plant and equipments or other fixed assets, nonrecurring gains or losses or other sources of cash outside of normal operations.

c. Financing Activities

The separate disclosure of cash flows arising from financing activities is important because it is useful in predicting claims on future cash flows by providers of capital to the enterprise. So the financing activities are those external sources and uses of cash such as lenders, investors, and shareholders that affect cash flow. On these activities,

there are included such as a new loan, the repayment of a loan, the issuance of stock and the payment of dividend etc.

2.3 Review of Previous Studies (Thesis)

In this section the review of thesis relating to management accounting practices have been considered. There were only few thesis written on management accounting practices when browsed through computer records of thesis reports presented earlier in Tribhuvan University Central Library. Here, review of previous research conducted on management accounting practice has been presented as follows:

Mr. Sagar Sharma (2002): Mr. Sharma has conducted a research work entitled “Management Accounting Practices in Listed Companies of Nepal”. On the basis of primary data, Ohle has focused on management accounting practices by these listed companies. Major finding of his research are:

- Budgeting, cash flow, ratio analysis are widely used management accounting tools.
- Cost segregation, break even analysis, standard costing, long term budget are slightly in use. Activity based costing, responsibility accounting are not in use.
- For capital budgeting payback period and Net present value are widely used
- 70% and more practice master budgeting among them 87% used actual expenses to prepare the budget.
- Mostly Profit and loss is used to measure overall performance of company
- Cost base pricing is used to price the products/services
- 100% company practice past trend to forecast cost and revenue.
- Management account tools are not practiced mainly lack of information and cost factor.

Mr. Krishna Bahadur Karki (2006): Mr. Karki has conducted research entitled, “Management Accounting Practice in Joint Venture Banks of Nepal”. Basing on primary

data he has focused on management accounting tools used in these banks. The major findings of his research are:

- Capital budgeting, cash flow and annual budget are widely used in Joint Venture (JV) banks.
- Activity based costing (ABC), standard costing, long term budgeting and zero based budgeting are no in use.
- For capital budgeting profitability index (PI) and net present value are widely used. No banks are using modified internal rate of return (MIRR).
- Past actual budgets are used as base for preparation of budgeting.
- All most all JV banks practice short term budgeting. They use profit and loss account, ratio analysis and cash flow statement to evaluate overall performance of bank
- Transfer pricing are not in use those banks due to nature business.

Mr. Anjan Maharjan (2008): Mr. Maharjan has conducted research work entitled, “Management Accounting Practices in Vehicle Dealers”. Basing on primary data, he has focused on management accounting tools used in vehicle dealers. The major findings of his research are:

- Cost segregation into fixed and variable cost, tax effect analysis, standard costing, ratio analysis, master budgeting and cash flow statements were practiced by all these selected vehicle dealers.
- Vehicle dealers used high-low point method, average and analysis method to segregate cost into fixed and variable.
- The selected vehicle dealers practiced prepare budget on the basis of past budget on increment basis along with target set.
- All five vehicle dealers practiced overall master budget.
- For capital budgeting NPV and IRR are used by majority of dealers where as ARR, PI, and DPBP were practiced by rest of them.
- Regarding pricing method, most of the listed vehicle dealers practiced full-cost pricing where as ABC was used by rest of others.
- Forecasting of cost and revenue were done on the basis of past trend analysis in all selected vehicle dealers.

- FIFO LIFO and Weighted Average method were used for pricing inventory issue. EOQ was widely practiced for inventory management.
- The major problems in application of management accounting tools in vehicle dealers are cost factor, lack of industrial data and unknown of proper standard.

Mr.D.K. Shrestha (2009): Mr.D.K.had conducted a research on the topic “*Management Accounting Practices in the Public Financial Sector in Nepal*” an published master level thesis submitted to Faculty of Management, T.U. The main objective of his study is the state of practices of Management Accounting Tools in financial sectors in Nepal. Shrestha's research was based on only primary collection. In his research, he had pointed out various objectives and findings.

Some of remarkable objectives were as follows:

-) To evaluate the process of planning controlling and decision making process of Public Financial Sector in Nepal.
-) To identify the major difficulties for practicing the Management Accounting tools in Public financial Sectors Nepal.
-) To make suggestion and recommendation to overcome the difficulties in Public Financial Sector in Nepal.

Some major findings were as follow:

-) The types of budget practiced in PES's of Nepal were operational budget, Cash Budget, Master Budget and Program Budget. Almost PFS's of Nepal practiced operational budget while some prepared master budget. Cash budget and Program Budget were practiced too and most of PES's of Nepal practiced operational budget only for carryout operational activities.
-) Reasons for not practicing Management Accounting Tools were lack of expertise, high cost/quite expensive, no information about the tools and governmental policy.
-) The past budget estimate of historical expenses were the basis used for preparation of budget. Zero base budgeting was not practiced because of government policy and unwilling of the management.

Mr. prasant Kumar Jha (2009): Mr Jha has conducted research work entitled, “Management Accounting Practices in Nepalese Public Trade Company of Nepal.” He has focused on management Accounting practice basing on primary data. In

His research, he had pointed out various Objectives & findings. Some remarkable objectives were as follows:

4. To study and examine the extent of practice of management accounting tools and techniques exist in Nepalese public enterprises.
5. To identify the major difficulties for applying the management accounting tools in Nepalese companies.
6. To identify the business sector where management accounting tools can be applied to strengthen the public Trade Companies.
7. To make recommendations to overcome the difficulties applying management accounting tools and techniques in Nepalese Public enterprises and other business companies.

Some major findings were as follows:

-) Management Accounting helps to managers to formulate organizational strategies as well as policy. PE's as practicing Management Accounting tools such as Capital Budgeting, Annual Budgeting, Cash Flows and Ratio Analysis.
-) Management Accounting is help to managers to formulate organizational strategies as well policy for decision making.
-) Lack of information and cognizance about Management Accounting tools are the main factors causing problem in the application of such tools.
-) Nepalese Public Trade Company were prepared budget by committee, planning department and chief of finance division mostly. It is also recommended to take outside expert's service for budget prepared.
-) Nepalese Public Trade Companies should practice not only full cost pricing and transfer costing pricing but also activity base cost pricing and variable cost pricing.
-) Nepalese Public Trade Companies should use not only profit and loss account but also use/practice Standard Costing, Budgetary Control, Ratio Analysis, Cash Flow Analysis and Activity Based Costing for evaluation of overall performance of companies at the end of the accounting year.

2.4 Research Gap

There is a vast gap between the present research and previous researches. Most of the previous researches of account have been conducted on profit planning and control by convening the budgeting practices in manufacturing companies, especially in PEs. They were either a case study of particular company or a comparative study of two different companies. A few numbers of researches have been also made in the area of receivable management inventory management, CVPO analysis, financial performance analysis, capital expenditure planning and so on. But these all are only a part of management account. This can not represent the overalls practices of management accounting in Nepalese companies. Most of the dissertations have been prepared based on secondary data and all of the findings are similar to each other. The previous researchers did not disclose which of the management accounting tools are in practices which are not and why. Thus to fill up these gap the current researcher is conducted. This research is a survey type of research which is completely based on the primary sources of data. It examines the current practice of management accounting tools in Nepalese PEs. It has disclosed the reason about the tools which are not practiced by the companies and has suggested to apply new tools such as zero budgeting, activity costing, target costing, ROI pricing, market survey in managerial activities of planning, controlling and decision making.

This research has clearly describes, which of MA tools and techniques are practicing and which are not practicing till now. The research also discloses the major difficulties for the proper application of MA in Nepalese PEs.

So this study will be fruitful to those interested Person, Scholars, Students, Teachers, Government, Business man, civil society and other stakeholders for academic and policy prospective.

CHAPTER – III

RESEARCH METHODOLOGY

3.1. Introduction

Human nature is always curious to find out something new, to learn, understand or investigate the phenomenon raising the question like why, how, what, when etc. The knowledge has something to do with knowing. Knowing may be through acquaintance or through the description of the characteristics of certain things. The things with which we can be acquainted are the things of which we are directly aware. Direct awareness may come through perception and sensation.

Human knowledge takes the form of beliefs or judgment about a particular phenomenon. Some beliefs may be supported by evidences based on perception and experiences, the beliefs supported by evidences are termed as justified beliefs. Research is essentially a systematic inquiry seeking facts through objectives verifiable methods in order to discover the relationship among them and to deduce from them broad principles or laws. It is really a method of critical thinking by defining and redefining problems, formulating hypothesis or suggested solution, collecting, organizing and evaluating data, making deductions and making conclusions to determine whether they fit the formulated hypothesis.

In this chapter, efforts have been made to present and explain the specific research design for the sake of attaining the research objectives. It includes research design, nature of data, data gathering procedure, population and sample and data processing procedures.

3.2 Research Design

Decision regarding what, where, when, how much, by what means concerning an enquiry or a research study constitute a research. “A research design is the arrangement of conditions for collection and analysis of data in manner that aims to combine relevance to the purpose with economy in procedure” In fact the research constitutes the blueprint for the collection, measurement and analysis of data. As such the design includes in outlines

of what researcher has do from writing the hypothesis and its operational implications to the find analysis of data.

‘After the research study has been formulated, the next logical steps are to construe the research design which refers to the entire process of planning and carrying out a research study. The research design asks what approach to the problem should be taken? What methods will be used? ; What strategies will be most effective? Identification, selection and formulation of a problem may be considered as the planning stage of a research. The remaining activities refer to the designs, operation and completion of the research study”

Design is the overall plan of any future activity. The research design is the specification of methods and procedures required to conduct and complete the study. So, the research design implies procedures, techniques and method.

3.3 Population and Sample

All the public enterprises has been consider as the total population. Out of them 6 PEs take as sample by using stratified judgment sampling for proportionate allocation of population which represents 16.22% of total population.

3.4 Sources of Data

In order to achieve the objective of the study, primary data is the main sources of this study. Primary data has been collected through questionnaire, interview and discussion. But several secondary data has been also used.

3.5 Data Collection Procedure

For the reliability and effectiveness of research work true and correct information are essential. In order to achieve the objectives of the study primary information is the

original source of this study with prior appointments to the concerned authorities of public enterprises. As per requirement of the study these information has been collected from public enterprises for meeting the specific objective through developing the scheduled questionnaire and distributed it to the concerned authorities like department chief of finance / accounts, manager who was available as well as responsible. Some public enterprises did not feel and show responsibility to provide information. Some public enterprises provided the information kindly showing interest and accepting awareness of the context and to get more information, discussion, personnel interview, observation, opinions survey also conducted with the concerned authorities. But several secondary data has been also used in this research. To find out the identification, condition capacity, performance of public enterprises, such types of data were used. It helped the researcher to get more information.

3.6 Data Processing and Analysis Techniques

The answer received from questionnaire need tabulation and analysis. The data are classified and tabulated with a systematic manner in a frequency distribution form. The data are tabulated into various tables according to the subject's requirement. Processing of data has been done in computer by using Ms. Excel program. Simple percentage tools has been applied to analyze and interpret the findings. Most of the analysis and interpretation are expressed in spectral group of enterprises. PEs individual special practices has been also interpreted in some cases.

The statistical tool like Chi-square (χ^2) is used to test the hypothesis. For the test of hypothesis, the PEs are classified into manufacturing and service PEs group. The industrial sector is kept in manufacturing enterprises and remaining sectors kept in non-manufacturing or service enterprises.

3.7 Major Management Accounting Tools

To achieve the objectives of company certain management accounting tools must be used. Major management accounting tools such as segregation, estimation, allocation, classification of cost, application of marginal, absorption standard and opportunity costing, applicable of budget, valuation, control and management of inventory, profitability analysis, cost volume profit analysis, analysis of financial statement, cash and funds flow analysis, flexible budgeting, activity based costing, responsibility accounting are the main research variables in this thesis. The other statistical tool like chi – square (x^2) is used to test the hypothesis.

3.8 Statistical Tools Used

Statistical tool like chi-square (x^2) was use for the test of hypothesis for major findings. This study tests the following hypothesis:

Hypothesis: I

Null Hypothesis (Ho): There is no significance difference between the practices of cost volume profit analysis in the manufacturing and service (non-manufacturing) enterprises. (Practice of CVP analysis and type of enterprises are independent)

Alternative hypothesis (H1): There is significance difference between the practices of cost volume profit analysis in the manufacturing and service (non-manufacturing) enterprises. (Practice of CVP analysis and type of enterprises are dependent)

Hypothesis: II

Null Hypothesis (Ho): there is no significance difference between the practices of Responsibility accounting tool in the manufacturing and service (non-manufacturing) enterprises. (Practice of responsibility accounting tool and type of enterprises are independent)

Alternative hypothesis (H1): there is significance difference between the practices of Responsibility accounting tool in the manufacturing and service (non-manufacturing) enterprises. (Practice of responsibility accounting tool and type of enterprises are dependent)

Hypothesis: III

Null Hypothesis (Ho): There is no significance difference between the practices of NPV in the manufacturing and service (non-manufacturing) enterprises. (Practice of NPV and type of enterprises are independent)

Alternative hypothesis (H1): There is significance difference between the practices of NPV in the manufacturing and service (non-manufacturing) enterprises. (Practice of NPV and type of enterprises are dependent)

3.9 Reliability and Validity of the Data

The data and information were collected from the primary source to meet the specific objectives of the study. It makes the research work more valid, reliable and objective. The major portion of reliability and validity of data depend upon the interest, level, professionalism, intension, nature, age and capacity of the respondents. The researcher was tried to meet the authentic and prime authorities of the enterprises to get the correct information with personnel discussion, observation and opinion survey. Check and balance types questions were also included in the questionnaire.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

This is a survey type research. So the study is based on primary sources of data. The data has been collecting from the respective public enterprises by developing the scheduled questionnaires. The main objective of this research is to study and analysis the present practice of management accounting in Nepalese public enterprises. Another objective is to identify the major difficulties for applying management accounting tools of MA for improve the efficiency to the public enterprises. So, to achieve these objectives of the research, this chapter includes the presentation, analysis and interpretation of data.

To meet the objectives, out of the total population about 16.22% (i.e. six enterprises) has been used as a sample by using stratified judgment sampling. Nineteen tick mark questions discussion were included in the questionnaire to find out correct reliable data and information.

The raw data were properly processed, tabulated and analyzed because primary data collected as well as survey were done. The data were tabulated into 15 tables. Three different hypothesis were tested by chi-square (χ^2) statistical tools. The major findings of the research were based on the analysis and interpretation of data, which were included at the end of this chapter.

4.2 Percentage analysis of management accounting practice in Public Enterprises of Nepal

4.2.1 Present practice of management accounting tools in Nepalese public Enterprises

Table: 4.1

S.N.	Tools	No. of Respondents	No. of Practitioner	%
1	Cost Segregation into Fixed and Variable	6	1	17
2	Cost volume profit Analysis	6	4	67
3	Standard costing	6	2	33
4	Flexible budget & overhead cost control	6	1	17
5	Budgeting annually	6	6	100
6	Responsibility accounting	6	4	67
7	Ratio Analysis	6	5	83
8	Cash Flow analysis	6	6	100
9	Activity Based Budgeting	6	-	-
10	Zero Base Budgeting	6	-	-
11	Capital budgeting	6	4	67

Source: field study 2013

The above table no: 4.1 represents the present practice of management accounting tools in Nepalese PEs. The MA tools practiced were cost segregation, cost volume profit analysis, standard costing, flexible budget & overhead cost control, budgeting

annually, responsibility accounting, ratio analysis, cash flow analysis, activity based budgeting, zero base budgeting and capital budgeting. None of the PEs of Nepal practiced activity based budgeting and zero base budgeting.

There is found fully practiced of annual budgeting and cash flow analysis. Ratio analysis is second highest practicing (which is 83%) in PEs. Similarly cost volume profit analysis, responsibility accounting and capital budgeting are being practiced by 67% of PEs. Standard costing is practiced by 33%. Flexible budget and cost segregation are being practiced by 17% responses. But activity based budgeting and zero based budgeting is not used at all.

4.2.2 Reasons for Not Practiced Management Accounting Tools in PEs of Nepal

Table: 4.2

S.N.	Tools	No. of Respondents	No. of Practioner	%
1	Lack of Expertise	6	4	67
2	High cost / quite expensive	6	2	33
3	No Information about the Tools	6	3	50
4	Others	6	1	17

Source: field study 2013

The above table-4.2 represents the level of reasons for not practicing of the prime MA tools which has mentioned in the table no 4.2 for the management decisions. In the context of Nepalese PEs. There are so many reasons for not practicing of MA tools which are described under as follows:

The rating for lack of experience, no information about the tools, quite expensive and others was 67%, 50%, 33% and 17% respectively.

4.2.3 Product costing method practice in PEs of Nepal

Table: 4.3

S.N.	Types of product costing method	No. of respondents	No. of practioner	%
1.	Absorption costing method	6	2	33
2.	Variable costing method	6	2	33

Source: field study 2013

The above table 4.3 shows the type of product costing method practiced in PEs of Nepal. It is clear that 33% PEs practiced absorption costing method and 33% PEs practiced variable costing method out of sampled PEs.

4.2.4 Break even point analysis in PEs of Nepal

Table: 4.4

S.N.	Break even point analysis used	No. of respondents	No. of practioner	%
1.	Yes	6	4	67
2.	no	6	2	33

Source: field study 2013

The table 4.4 shows the use of break even point analysis for study of revenue and costs in PEs of Nepal. In total 67% PEs practiced break even point analysis and 33% PEs not practiced break even point analysis.

4.2.5 Budget practice in PEs of Nepal

Table: 4.5

S.N.	Types of budget	No. of respondents	No. of practioner	%
1.	Cash budget only	6	1	17

2.	Operational budget only	6	3	50
3.	Overall master budget	6	3	50
4.	Other	6	-	-

Source: field study 2013

The table 4.5 shows the types of budget prepared in PEs of Nepal. It is clear that 50% PEs practiced operational budget and overall master budget. Similarly 17% PEs practiced cash budget only. Therefore, master budget and operational budget was widely practiced by the sampled PEs.

4.2.6 Practice of operating budget terms of master budget in PEs of Nepal

Table: 4.6

S.N.	Operating budget terms	No. of respondents	No. of practioner	%
1.	Sales budget	6	4	67
2.	Production budget	6	3	50
3.	Merchandise purchase budget	6	-	-
4.	Direct material budget	6	1	17
5.	Direct labour budget	6	2	33
6.	Other	6	-	-

Source: field study 2013

The above table 4.6 shows the practice of operating budget terms of master budget in PEs of Nepal . 67% PEs of Nepal were practicing sales budget. Likewise 50%, 30% and 17% PEs were practicing production budget, direct labour budget and direct material budget

respectively. But merchandise purchase budget were not used at all of the sampled PEs. Sales budget and production budget were mostly practiced than other terms.

4.2.7 Present Practice of financial budget terms of master budget in PEs of Nepal

Table: 4.7

S.N.	Financial budget terms	No. of Respondents	No. of practioner	%
1.	Cash budget	6	3	50
2.	Budgeted income statement	6	3	50
3.	Budgeted balance sheet	6	3	50

Source: field study 2013

The above table 4.7 shows the present practice of financial budget terms of master budget in PEs of Nepal. It is obvious that 50% PEs practiced cash budget, budgeted income statement and budgeted balance sheet. Therefore, equally practiced of financial budget terms of master budget of the sampled PEs.

4.2.8 Practicing of the capital budgeting decision in PEs of Nepal

Table: 4.8

S.N.	Capital budgeting techniques	No. of Respondents	No. of Practioner	%
1.	Payback period (PBP)	6	2	33
2.	Average rate of return (ARR)	6	1	17
3.	Net present value (NPV)	6	4	67
4.	Internal rate of return (IRR)	6	2	33
5.	Profitability index (PI)	6	2	33
6.	Modified internal rate of return (MIRR)	6	-	-
7.	Other	6	-	-

Source: field study 2013

The above table 4.8 shows the capital budgeting or long-term investment practiced decision in PEs of Nepal. It is clear that 67% PEs of Nepal practiced net present value , 33% PEs practiced payback period , internal rate of return and profitability index while 17% PEs practiced average rate of return. None of PEs of Nepal practiced modified internal rate of return.

Therefore, from the above table it was clear that net present value, mostly practiced tool of capital budgeting.

4.2.9 Practice for pricing products or services in PEs of Nepal

Table: 4.9

S.N.	Pricing techniques	No. of Respondents	No. of Practitioner	%
1.	Full cost pricing (absorption)	6	2	33
2.	Variable cost pricing (marginal)	6	-	-
3.	Going rate pricing (market determined)	6	4	67
4.	Target return on investment pricing	6	1	17
5.	Activity based cost pricing	6	-	-
6.	Others	6	-	-

Source: field study 2013

The above table 4.9 shows the product pricing techniques practices in PEs of Nepal. Thus out of total sampled enterprises, 67% , 33% and 17% Nepalese PEs are practicing going rate, full cost and target return on investment pricing respectively to determine the price of product or services. In some enterprises, government fixed the price as per the recommendation of management and boards. None of sampled PEs of Nepal practiced variable cost pricing and activity based cost pricing techniques.

4.2.10 Practice of management accounting decision techniques in PEs of Nepal

Table: 4.10

S.N.	Decision techniques	No. of Respondents	No. of Practitioner	%
1.	Quotation process	6	3	50
2.	Lease or purchase	6	2	33
3.	Tender process	6	4	67
4.	Special order decision	6	2	33
5.	Others	6	-	-

Source: field study 2013

The above table 4.10 shows the practice of decision techniques in PEs of Nepal. The above mention four techniques and opinion space have included in the survey to identify the practice of decision techniques for such type of decisions.

It is clear that 67% of PEs of Nepal practiced tender process, 50% PEs practices quotation process and 33% enterprises practiced lease or purchase and special order decision. Therefore, tender process was widely practiced than others process.

4.2.11 Practice of cash flow analysis in PEs of Nepal

Table: 4.11

S.N.	Types of ratios	No. of Respondents	No. of Practitioner	%
1.	Yes	6	6	100
2.	No	6	-	-

Source: field study 2013

The above table 4.11 represents the use of cash flow analysis to know the cash position in PEs of Nepal. It is obvious that 100% PEs of Nepal were practiced cash flow analysis.

4.2.12 Types of ratios practice in PEs of Nepal

Table: 4.12

S.N.	Types of ratios	No. of Respondents	No. of Practitioner	%
1.	Liquidity ratio	6	6	100
2.	Leverage ratio	6	1	17
3.	Activity ratio	6	2	33
4.	Profitability ratio	6	6	100

Source: field study 2013

In the table no 4.12 represents the type of ratio on the basis of function practice in PEs of Nepal. Generally four types of ratio i.e. liquidity, Leverage, activity and profitability ratios are used in public enterprises.

It is clear that 100% enterprises practiced profitability ratio and liquidity ratio, 33% and 17% enterprises practiced activity ratio and leverage ratio respectively. Therefore, liquidity and profitability ratio were widely practiced by the sampled enterprises.

4.2.13 Practices of measure and control mechanism to evaluate the overall performance in PEs of Nepal

Table: 4.13

S.N	Tools Practiced	No. of	No. of Practitioner	%
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		Respondents		
1.	P/L made by company	6	6	100
2.	Budgetary measure and control	6	3	50
3.	Standard costing (Estimation of cost Limit)	6	-	-
4.	Flexible budgeting	6	-	-
5.	Ratio analysis	6	5	83
6.	Others	6	-	-

Source: field study 2013

The above table 4.13 represents the practice of measure and control the overall performance of PEs in Nepal. All type of organization wants to watch measure and control the overall performance at the end of certain accounting period. Most of the organization used profit and loss criteria, ratio analysis technique and budgetary measure & control to measure and control the overall performance. These techniques also help to identify the financial performance and position of the enterprises. The above mention five techniques have been included to the respondents for the alternatives.

It is clear that 100% enterprises practiced profit and loss accounting tool. 83% enterprises practiced ratio analysis while 50% enterprises practiced budgetary measure and control. Therefore, profit and loss criteria was mostly practiced and used in PEs of Nepal than other tools.

4.2.14 The main factor that affects the decision making process in PE's of Nepal

Table: 4.14

S.N	Main Factor	No. of Respondents	No. of Practitioner	%
1	Management accounting techniques	6	3	50
2	Government policy	6	2	33
3	Objective of the company	6	2	33
4	Interest of the management	6	2	33
5	Other	6	-	-

Source: field study 2013

The above table 4.14 represents the percentage of affective factor, that affect to the major accounting related decision making process in PEs of Nepal. Major accounting related decision are are these decision in which MA tools and techniques played a vital role without considering the accounting techniques and accounting analysis, public enterprises can not perform effectively and efficiently. Most of the accounting decisions of PEs may be affected from the MA tools and techniques, government policy, objective of the firm and interest of the management. Different four alternatives and open opinion have been included in the option for the survey purpose.

It is clear that 50% enterprises affected by management accounting technique.33% enterprises affected by government policy, objective the firm and interest of the management respectively. Therefore, management accounting technique was mostly affected than other factors.

**4.2.15 Major Difficulties for the Application of
Managerial Accounting Tools and Technique in PE's of Nepal**

Table: 4.15

S.N.	Major difficulties	No. of Respondents	No. of Practitioner	%
1.	Lack of Information	6	5	83
2.	Size and Nature of Business	6	1	17
3.	High Cost / quit expensive	6	1	17
4.	Long Procedure	6	1	17
5.	Traditional approach of concerned authorities	6	3	50
6.	Other	6	-	-

Source: field study 2013

The above table 4.15 represents the major difficulties for the application of MA tools and techniques in PEs of Nepal. The major difficulties for the application of MA tools and techniques may be lack of information, size and nature of business, long procedure, and traditional approach of concerned authorities and so on. Different five difficulties have been included for the option, while making the survey.

It is clear that 85% PEs of Nepal faced by lack of information and knowledge, 50% PEs faced by traditional approach of concerned authorities and 17% PEs faced by size and nature of business, quit expensive and long procedure respectively. Therefore, lack of knowledge and traditional approach of concerned authorities were major difficulties for the application of management accounting tools and techniques than other difficulties.

4.3 Hypothesis Test

Research hypothesis is an educated guess about the overcome of an empirical test designed to answer a research question.

The chi-square test is used to see that, the principles of classification of attributes are independent. In this test, the attributes are classified into a two ways table. The observed frequency in each cell is known as cell frequency. The total frequency in each row or column of the two ways whether there is any association or relationship between two or more attributes.

To make the research specific, precise and objective, hypothesis have been tested related to the dependency and independency of PEs in practicing of MA tools and techniques. Broadly the public enterprises are classified into two categories i.e. manufacturing and service (non-manufacturing) companies for the sake of hypothesis. The industrial sector is kept in manufacturing companies and other remaining sectors are kept in service companies.

Hypothesis: I

Null Hypothesis (H₀): There is no significance difference between the practices of cost volume profit analysis in the manufacturing and service (non-manufacturing) enterprises. (Practice of CVP analysis and type of enterprises are independent)

Alternative hypothesis (H₁): There is significance difference between the practices of cost volume profit analysis in the manufacturing and service (non-manufacturing)

enterprises. (Practice of CVP analysis and type of enterprises are dependent)

Satisfying the assumption of χ^2 test

The test statistics: under the H_0 is given by,

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where, O = Observed frequency

E = Expected frequency

$$E = \frac{RT \times CT}{N}$$

Where, RT = Row Total,

CT = Column Total,

N = Grand Total

2×2 Contingency Table

Practice of CVP analysis technique and type of Enterprises

Table No 4.16

Types of Enterprises	Practice of CVP analysis technique		
	Yes	No	Row Total
Manufacturing	(a) 2	(b) 0	(a+b) 2

	(c)	(d)	
Service	2	2	(c+d) 4
Column Total	(a+c) 4	(b+d) 2	6 N

Since cell frequency is less than 5, therefore by applying Yates correlation for calculating χ^2 . For this, add 0.5 to cell frequency which is less than 5 and adjust the remaining frequency by fixing row total and column total. Thus, adjusted 2x2 contingency table is presented in the following table.

2×2 Contingency Table
Practice of CVP analysis technique

Table No 4.17

Types of Enterprises	Practice of CVP analysis technique		
	Yes	No	Row Total
Manufacturing	(a) 1.5	(b) 0.5	(a+b) 2
Service	(c) 2.5	(d) 1.5	(c+d) 4
Column Total	(a+c) 4	(b+d) 2	6 N

Calculation of χ^2

O	E $X = \frac{RT + CT}{N}$	(O-E)	(O-E) ²	E	$\frac{(O-E)^2}{E}$
1.5	1.33	0.17	0.029		0.023
0.5	0.67	-0.17	0.029		0.043
2.5	2.67	-0.17	0.029		0.011
1.5	1.33	0.17	0.029		0.022
Total = $\frac{(O-E)^2}{E}$					0.099

Hence calculated $\chi^2 = 0.099$

Tabulated Value:

$$d.f. = (r-1)(c-1) = (2-1)(2-1) = 1$$

Level of significance (α) = 5%

Where,

d.f. = degrees of freedom

Tabulated value of χ^2 at 5% level of significance for 1 d.f. is 3.841

DECISION:

Since the calculated value of $\chi^2 = 0.099$ is less than the tabulated value of χ^2 at 5% level of significance for 1 d.f. is 3.841, the null hypothesis H_0 is accepted and hence the alternative hypothesis H_1 is rejected. Therefore we conclude that there is no significance difference between the practices of CVP analysis techniques in the manufacturing and service enterprises of Nepal.

Hypothesis: II

Null Hypothesis (H_0): there is no significance difference between the practices of responsibility accounting tool in the manufacturing and service (non-manufacturing)

enterprises. (Practice of responsibility accounting tool and type of enterprises are independent)

Alternative hypothesis (H1): there is significance difference between the practices of responsibility accounting tool in the manufacturing and service (non-manufacturing) enterprises. (Practice of responsibility accounting tool and type of enterprises are dependent)

Satisfying the assumption of χ^2 test

The test statistics: under the H_0 is given by,

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where, O = Observed frequency

E = Expected frequency

$$E = \frac{RT \times CT}{N}$$

Where, RT = Row Total,

CT = Column Total,

N = Grand Total

2×2 Contingency Table

Practice of Responsibility accounting tool and types of Enterprises

Table No 4.18

Types of Enterprises	Practice of responsibility accounting tool		
	Yes	No	Row Total
Manufacturing	(a) 2	(b) 1	(a+b) 3
Service	(c) 1	(d) 2	(c+d) 3
Column Total	(a+c) 3	(b+d) 3	6 N

Since cell frequency is less than 5, therefore by applying Yates correlation for calculating χ^2 . For this, add 0.5 to cell frequency which is less than 5 and adjust the remaining frequency by fixing row total and column total. Thus, adjusted 2x2 contingency table is presented in the following table.

2×2 Contingency Table
Practice of Responsibility accounting tool and types of Enterprises

Table No 4.19

Types of Enterprises	Practice of responsibility accounting tool		
	Yes	No	Row Total
Manufacturing	(a) 2.5	(b) 0.5	(a+b) 3
	(c)	(d)	

Service	0.5	2.5	(c+d) 3
Column Total	(a+c) 3	(b+d) 3	6 N

Calculation of χ^2

O	$E \times \frac{RT}{CT}$ N	(O-E)	(O-E) ²	$\frac{(O-E)^2}{E}$
2.5	1.5	1	1	0.67
0.5	1.5	-1	1	0.67
0.5	1.5	-1	1	0.67
2.5	1.5	1	1	0.67
Total	$= \frac{(O-E)^2}{E}$			2.67

Hence calculated $\chi^2 = 2.67$

Tabulated Value:

$$\text{d.f.} = (r-1)(c-1) = (2-1)(2-1) = 1$$

Level of significance (α) = 5%

Where,

d.f. = degrees of freedom

Tabulated value of χ^2 at 5% level of significance for 1 d.f. is 3.841

DECISION:

Since the calculated value of $\chi^2 = 2.67$ is less than the tabulated value of χ^2 at 5% level of significance for 1 d.f. is 3.841, the null hypothesis H_0 is accepted and hence the alternative hypothesis H_1 is rejected. Therefore we conclude that there is no

significance difference between the practices of responsibility accounting tool in the manufacturing and service enterprises of Nepal.

Hypothesis: III

Null Hypothesis (Ho): There is no significance difference between the practices of NPV in the manufacturing and service (non-manufacturing) enterprises. (Practice of NPV and type of enterprises are independent)

Alternative hypothesis (H1): There is significance difference between the practices of NPV in the manufacturing and service (non-manufacturing) enterprises. (Practice of NPV and type of enterprises are dependent)

Satisfying the assumption of χ^2 test

The test statistics: under the Ho is given by,

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where, O = Observed frequency

E = Expected frequency

$$E = \frac{RT \times CT}{N}$$

Where, RT = Row Total,

CT = Column Total,

N = Grand Total

2×2 Contingency Table
Practice of NPV and types of Enterprises
Table No 4.20

Types of Enterprises	Practice of NPV		
	Yes	No	Row Total
Manufacturing	(a) 2	(b) 1	(a+b) 3
Service	(c) 2	(d) 1	(c+d) 3
Column Total	(a+c) 4	(b+d) 2	6 N

Since cell frequency is less than 5, therefore by applying Yates correlation for calculating χ^2 . For this, add 0.5 to cell frequency which is less than 5 and adjust the remaining frequency by fixing row total and column total. Thus, adjusted 2x2 contingency table is presented in the following table.

2×2 Contingency Table
Practice of NPV and types of Enterprises
Table No 4.21

Types of Enterprises	Practice of NPV

	Yes	No	Row Total
Manufacturing	(a) 2.5	(b) 0.5	(a+b) 3
Service	(c) 1.5	(d) 1.5	(c+d) 3
Column Total	(a+c) 4	(b+d) 2	6 N

Calculation of χ^2

O	$E = \frac{RT \cdot CT}{N}$	(O-E)	$(O-E)^2$	$\frac{(O-E)^2}{E}$
2.5	2	0.5	0.25	0.125
0.5	1	-0.5	0.25	0.25
1.5	2	-0.5	0.25	0.125
1.5	1	0.5	0.25	0.25
Total	$= \frac{(O-E)^2}{E}$			0.75

Hence calculated $\chi^2 = 0.75$

Tabulated Value:

$$d.f. = (r-1)(c-1) = (2-1)(2-1) = 1$$

Where,

d.f. = degrees of freedom

Level of significance (α) = 5%

Tabulated value of χ^2 at 5% level of significance for 1 d.f. is 3.841

DECISION:

Since the calculated value of t^2 0.75 is less than the tabulated value of \mathfrak{R}^2 at 5% level of significance for 1 d.f. is 3.481, the null hypothesis H_0 is accepted and hence the alternative hypothesis H_1 is rejected. Therefore we conclude that there is no significance difference between the practices of NPV in the manufacturing and service enterprises of Nepal.

4.4 Finding of the research

On the basis of comprehensive analysis of the available data, the following findings can be obtained:

1. This study on management accounting tools practiced in PEs of Nepal for planning, controlling and decision making process found that budgeting analysis were mostly practiced. The annual budget and cash flow were practiced by 100% PEs of Nepal where as 83% companies practiced ratio analysis and 67% companies practiced CVP analysis, capital budgeting and responsibility accounting respectively. The other tools like cost segregation, standard costing and flexible budgeting are practiced by less than 35% enterprises.
2. The reasons for not practicing management accounting tools were lack of expertise, no information about the tools, high cost and others. The lack of expertise and no information about the tools accounted for 67% and 50% respectively. 33% PEs did not practice because of high cost & others.
3. The type of product costing method in PEs of Nepal, were practicing absorption and variable costing method by 33% respectively.
4. The break even point analysis was used by PEs of Nepal. The enterprises used break even point analysis tools by 67% and not used by 33%.
5. To carry out business and non business activities of enterprises, 50% PEs are practicing cash budget only and overall master budget by 50% respectively and 17% enterprises practiced cash budget only to carry out their day to day operational activities. From the survey found that operating and overall master budgeting has

found mostly practiced in Nepalese public enterprises.

6. The operating budget terms of master budget in PEs of Nepal found that sales budget and production budget were mostly practiced. The sales budget practiced by 67% and 50%, 33% and 17% Enterprises practiced production, direct labour and direct material budget respectively. But merchandise purchase budget were not used at all of the sampled PEs.
7. The pricing of the type of financial budget terms of master budget in PEs of Nepal found that cash budget, budgeted income statement and balance sheet by 50%.
8. While making long-term investment decisions PBP, NPV and IRR tools of capital budgeting were widely practiced in Nepalese PEs. Lack of cognizance about the tools, long procedure and lack of experts are main reasons for none practicing of capital budgeting tools while making the long term investment decision.
9. While pricing mechanism for the product or service produced by them, 33%, 67% and 17% Nepalese PEs are practicing full cost, going rate and target return on investment pricing respectively.
10. Tender process decision making technique was followed by 67% where as 50% PEs practiced quotation process and 33% PEs practiced lease & purchase and special order decision. Tender process was widely used because of government policy and provision made in law for considerable financial investment.
11. The cash flow analysis practiced by PEs of Nepal. It is found that 100% enterprises practiced cash flow analysis to know the cash position of the company.
12. The ratio analysis practiced by PEs of Nepal found that the liquidity ratios and profitability ratio were mostly practiced. The liquidity and profitability ratios practice by 100% where as 33% PEs practiced activity ratio and 17% PEs practiced leverage ratio.
13. While examining the practices of measure and control mechanism to evaluate the overall performance. It is found that 100% Enterprises are practicing profit and loss criteria, 83% practicing ratio analysis and 50% practices budgetary control to measure and control the overall performance of the enterprises. It is also find that profit and loss made by the enterprises during the period has been the widely used technique to measure and control the overall performance. The used of other techniques have been

comparatively below than its requirement. The standard costing and flexible budget were not practiced in PEs of Nepal.

14. The lack of information & knowledge was taken as major difficulties for the application of managerial accounting tools and techniques in PEs of Nepal. It is found that 50% enterprises are falling to the traditional approach of concern authorities as a difficult factor for proper utilization of MA tools & techniques. 17% enterprises are felt size and nature of business, quit expensive and long procedure.

15. Similarly examining the proportion of affective factors for the major accounting related decision making process in PEs of Nepal, the survey found that 50% of total enterprises are affective from management accounting techniques and 33% are affected from interest of management, government policy and objective of the enterprises , For the major accounting related decision making process.

16. From the hypothesis, it is also found that:

Hypothesis 1: There is no significant difference between the practice of cost volume profit analysis tool in the manufacturing and non manufacturing companies of Nepalese PEs.

Hypothesis 2: There is no significant difference between the uses of responsibility accounting tool in the manufacturing and non manufacturing companies of Nepalese PEs.

Hypothesis 3: There is no significant difference between the uses of net present value (NPV) tool in the manufacturing and non manufacturing companies of Nepalese PEs.

17. Nepalese PEs has not successful to maintain the coordination between the departments with in organization.

18. Nepalese PEs has not any clear cut policy for the long term objective and company.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Management is always concerned with planning, organizing directing and controlling for goal achievement through using limited resources in dynamic environment. Dynamic environment plays vital role for management for goal achievement. Dynamic environment creates uncertain and risk which have opportunity as well as threats for organization. Accounting is the process of recording, classifying, analysis, and identifying and interpretation business transaction in financial or monetary term. The main purpose of accounting is to ascertain the result and financial position of business activities of particular period. Thus, Management accounting is the study of managerial aspects of accounting. The accounting system which assists management in carrying out its function more efficiently may be termed as management accounting. Management accounting is the process of identifying and communicating information for searching the goals of the company.

Public enterprise is one of the most important innovations of 21st century. The main objective of creating public enterprise is to secure a combination of public ownership, public accountability and business management for the public benefits. The reasons behind the establishment of public enterprises are basically to accelerate the ratio of economic growth, to build development infrastructure, to make provision of public utility, to supply essential commodities, to generate employment opportunities, to maximize the foreign earnings, to rational utilization of natural resources and to contribute in the national funds.

There are various MA tools and techniques which can be applied for various types of companies. Such tools are, cost classification & estimation, cost allocation, profit measurement & recognition, cost-volume profit planning & control, standard costing,

pricing decision, statement of cash flow, Ratio analysis and long term investment decision.

The main objectives of this research study were to find out the present practices of Management accounting tools & techniques in public trade companies in Nepal. And other objective is to find out the reasons for non practicing the MA tools & techniques and difficulties faced in the application of MA tools in public trade companies in Nepal.

The research is completely based on primary sources of information. The data has been collected from the respective public enterprises by distributing the scheduled questionnaire. The raw data has been properly processed, tabulated and analyzed. Sample percentage tool has been applied to analyze and interpret the findings. Most of the analysis and interpretation have been expressed of enterprises. The statistical tool Chi-square (χ^2) has been used to test the hypothesis.

5.2 Conclusion

As per the objectives and analysis of the study, following conclusions have been drawn.

This research study showed different type of management accounting tools and techniques applied in the public enterprises of Nepal. It is found that the cost segregation, c-v-p analysis, annual budgeting, cash flow analysis, responsibility accounting and ratio analysis were practices in PEs of Nepal. The non practicing MA tools were activity base budgeting and zero base budgeting.

Nepalese PEs are facing the difficulties such as lack of expertise, lack of co-ordination between the department as well as personnel, vested interest of management, nature and size of business, traditional approaches of concerned authorities and unnecessary political intervention behind the non practicing of management accounting.

5.3 Recommendations

Management accounting is a developing stage in the context of Nepalese corporate companies. This research study showed that the present practice of MA tools and techniques were more traditionally approach. If any organization follow properly MA tools & techniques for managerial adjustment in the utilization of limited resources, that would definitely show better performance. So, the following recommendations are based on findings of this research study.

1. Managerial Accounting has to focus their mind with the use of management accounting tools and techniques. For planning activities tools like cost estimation, classification and allocation, profit measurement and recognition, ratio analysis, CVP analysis and capital budgeting, flexible budgeting and OH cost control can be used.
2. Considering the controlling activities tools like budgetary control, variance analysis, standard costing, responsibility accounting, flexible budgeting, cash flow analysis, financial statement analysis, differential analysis, environmental analysis can be used. While implementing any tools of management accounting, it is recommended to analyze cost and benefits of the tools.
3. Nepalese public enterprises are lack of expertise about MA tools & techniques. Therefore, they should hired MA experts. If not possible, they can send their existing employee for on the job training programmed for the certain period. If possible it should take service from consultant. For information about the MA tools & technique, management should establish management accounting information system section in MA department which also helps to management the different issues.
4. If possible, companies are recommended to prepare the overall master budget. At the time of preparing the budget, past actual expenses and past budget estimate are found widely practicing in Nepalese PEs. But it is not only based for the preparing the budget. Along with these, zero based and environmental analysis should also be taken into consideration. It is because what happen in the past might not be occur in future. Similarly, co-ordination between planning department, finance department and the company's board of director must be equally necessary. If possible enterprises should be hired the experts professional as well for planning purpose.

5. While making long-term investment decisions PBP, NPV, ARR and IRR tools of capital budgeting are widely practice in Nepalese PEs. It is also recommended that DPB and PI techniques must be practiced for long-term investment decisions.
6. For pricing products, multifactor should be considered. Only cost basis is not enough. Activity based costing, market rate, target return, marginal cost analysis etc also should be considered.
7. Transfer pricing should be done considering goal congruence. Negotiation and general transfer pricing rule is suitable but not in practice. So it is recommended to apply these techniques.
8. Limited resources have multi use and have opportunity cost. Overstocking makes money tied up in stock depriving from many good opportunities. So stock level should be optimum. For controlling both total value and quantity should be considered. If possible the characteristics of particulars item should be identified and categorized as per ABC analysis. Then on the basis of vital few inventory control should be done. The maximum and minimum level determination helps to control stock with in relevant range.
9. From the study, it is found that, most of the Nepalese PEs is practicing liquidity and profitability ratio because it is easy to calculate and manage. So it is recommended that leverage and activity turnover ratio should be practice in PEs of Nepal to know the solvency position and measure the efficiency of the firm.
10. Internal and external information should be needed for proper application of managerial accounting tools and technique. Therefore, it is recommended to keep MA information system. It helps to make them informative throughout time to time about every aspect of MA and its application.
11. Nepalese PEs are facing unnecessary government intervention and overstaffing. So, it is recommended to make them autonomous for their own activities and solve the overstaffing by applying different restructuring methods.
12. Academicians who have better knowledge about the MA tools and techniques should put an effort to develop environmental friendly tools and techniques into practice. So that Nepalese PEs should be beneficial from the managerial accounting.

13. Nepalese PEs should be maintained a proper co-ordination and co-operation between the different departments and personnel's within organization. Effective motivation programs and carrier growth opportunities should be also provided to the employees.
14. From the survey it is found that most of the enterprises are becoming barriers for the application of MA tools and techniques due to the traditional approaches, lack of information and cognizance about the tools, nature and size of the business, high cost and long procedure. So they should be update with new tools and techniques that are practiced around the globe in the best performing companies. Unnecessary formalities should be corrected to enhance the effectiveness while decision making.
15. Measure and control of overall performance should be done with multi basis. Some of the industries relying on only single factor like profit and loss and financial statement. All the relevant factors like profit and loss, budget control, variance analysis, financial statement, activity based costing, responsibility accounting should be considered.

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APENDIX-1

Research Questionnaire

Dear, Sir/Madam

The questionnaire are baseline to conduct a research work entitled “ Management Accounting practices in Nepalese public enterprises”, in partial fulfillment for the degree of Master Of Business Studied (MBS). All alternatives are equality important. The reliability and validity of result depends on the response of the respondent.

Would you kindly answer the following questions? Please tick () marks it for choosing the alternative or alternatives.

Q.N.1. which of the following mentioned management accounting tools are practiced in your company for planning, controlling and decision making?

Management accounting tools:

	YES	NO
1. Cost Segregation into Fixed and Variable	[]	[]
2. Cost Volume Profit Analysis (BEP)	[]	[]
3. Flexible budget and overhead cost control	[]	[]
4. Budgeting annually	[]	[]
5. Standard Costing	[]	[]
6. Responsibility Accounting	[]	[]
7. Ratio Analysis	[]	[]
8. Cash Flow Analysis	[]	[]
9. Capital Budgeting	[]	[]

Q.N. 2. If your enterprises have not practiced any of the above mention tools, what might be the reason?

1. Lack of experience []

- 2. High cost / quite expensive []
- 3. No information about the tools []
- 4. Other, please specify.....

Q.N. 3. What type of product costing method does the company practice?

- 1. Absorption costing method []
- 2. Variable costing method []

Q. N. 4. Would you have to use Break Even Point analysis for study of revenue and total costs, yielding zero income?

- 1. Yes []
- 2. No []

Q.N. 5. What type of budget (on the basis of nature) does your company practice?

- 1. Operating Budget only []
- 2. Cash budget only []
- 3. Financial budget []
- 4. Overall Master Budget []

Q.N. 6. What type of operating budget terms of master budget are normally used in your company?

- 1. sales budge []
- 2. production budget []
- 3. merchandise purchase budget []
- 4. direct material budget []
- 5. direct labour budget []
- 6. Other, please specify.....

Q.N. 7. What type of financial budget terms of master budget are practices in your company?

- 1. Cash budget []
- 2. Budgeted income statement []
- 3. Budgeted balance sheet []

Q.N. 8. which technique does the company is practices for capital budgeting evaluation?

- 1. Pay Back Period (PBP) []
- 2. Average Rate Of Return (ARR) []
- 3. Net Present Value (NPV) []
- 4. Internal Rate of Return (IRR) []
- 5. Profitability Index (PI) []
- 6. Other, please specify.....

Q.N. 9. which technique does the company is practiced for pricing of the products or services ?

- 1. Full cost based pricing (Absorption) []
- 2. Variable cost based pricing (Marginal) []
- 3. Going rate pricing (Market determined) []
- 4. Target return on investment pricing []
- 5. Activity based costing pricing []
- 6. Other, please specify.....

Q.N. 10 Which pricing technique is practiced in your company?

- 1. Market based pricing []
- 2. Cost based pricing []
- 3. Target return based pricing []
- 4. Negotiation []
- 5. Other, please specify.....

Q.N. 11 Which decision techniques are practicing in your company for managerial accounting decision making process?

- 1. make or buy component []
- 2. Lease or purchase the fixed assets []

- 3. Drop or continuous the product / service line []
- 4. Special offer decision []
- 5. Other, please specify.....

Q.N. 12 Would you have to use cash flow analysis to know the cash position of your company?

- 1. Yes []
- 2. No []

Q.N. 13. What type of liquidity ratio does your company practice?

- 1. current ratio []
- 2. quick or acid test ratio []

Q.N. 14.what type of leverage ratio does your company practice?

- 1. debt equity ratio []
- 2. debt to total capital ratio []

Q.N. 15.What type of activity turnover ratio does your company practice?

- 1. inventory or stock turnover ratio []
- 2. debtors or bills receivable turnover ratio []
- 3. average collection period []
- 4. fixed assets turnover ratio []
- 5. total assets turnover ratio []
- 6. capital employed turnover ratio []

Q.N. 16.what type of profitability ratios used to measure the efficiency of your company practice?

- 1. Gross profit ratio []

- 2. Net profit ratio []
- 3. Return on assets []
- 4. Return on capital employed []
- 5. Earnings per share []
- 6. dividend per share []
- 7. dividend yield ratio []
- 8. earning yield ratio []
- 9. Other, please specify.....

Q.N.17. How does the company measures and controls the overall performance at the end of the accounting period?

- 1. Profit and loss made by the company []
- 2. Budgetary measure and control []
- 3. Standard costing technique []
- 4. Flexible budgeting []
- 5. Ratio analysis []
- 6. Other, please specify.....

Q.N.18. What is the main factor, that effects to the major accounting related decision- making process in this company?

- 1. Management accounting techniques []
- 2. Government policy of the company []
- 3. Objective of the company []
- 4. Interest of the management []
- 5. Other, please specify.....

Q.N.19. What might be the major difficulties for the application of managerial accounting tools and techniques in your company?

- 1. Lack of information and cognizance []
- 2. Size and nature of business []

- 3. High cost/ quite expensive []
- 4. Long procedure []
- 5. Traditional approaches of concerned authorities []
- 6. Other, please specify.....

Name of the company:

Address of the company:

Designation of the respondent:.....

Name (optional) :

Appendix-2

S.N:	Name & Address Of Company	Name & Designation of Respondents
1.	Nepal Rosin and Turpentine Ltd. Kailali, Ktm office Babarmaal Accounts office
2.	Herbs Production & Processing Co. Ltd Koteshwor, Kathmandu	Pritam Man Shakya Accountants, Officer
3.	Nepal Food Corporation Bhadrakali Plaza, Kathandu	Rawat Kumar Tamrakar Senior officer, Accounts
4.	Gorkhapatra Sansthan Bhugolpark, kathmandu	Anjali Joshi Director, Finance Dept.
5.	Nepal Telecommunication Corporation Bhadrakali Plaza, Kathmandu manager, finance
6.	Rastriya Banijya Bank BBB Plaza, Singhadarbar, Kathmandu	Raj Adhikari Finance, manager

Appendix-3

Tabulation of the result of questionnaire

Q.N.1. which of the following mentioned management accounting tools are practiced in your company for planning, controlling and decision making?

Tools		Cost Segregation	CVP analysis	Flexible budgetig	Budgetig annually	Standd costing	Responsibiliy Accounting	Ratio Analysis	cash flow analysis	Capital budgeting
SN	Enterprises									
1.	Nepal rosin & turpentine ltd.	-	1	-	1	1	1	-	1	1
2.	Herbs production & processing company ltd.	-	1	-	1	1	1	1	1	1
3.	Nepal food corporation	-	1	1	1	-	1	1	1	-
4.	Nepal Telecommunication co.	1	1	-	1	-	-	1	1	1
5.	Rastriya Banijya Bank	1	-	-	1	-	1	1	1	1
6.	Gorkhapatra corporation	-	-	-	-	-	-	1	1	-
Total		2	4	1	5	2	4	5	6	4

(-) not practiced

(1) Practiced

Q.N. 2. If your enterprises have not practiced any of the above mention tools, what might be the reason?

Tools		Lack of experience	High cost / quite expensive	No information about the tools	Other
S. N.	Enterprises				
1.	Nepal rosin & turpentine ltd.	1	-	1	-
2.	Herbs production & processing company ltd.	-	1	1	-
3.	Nepal food corporation	1	-	-	-
4.	Nepal Telecommunication co.	-	-	-	1
5.	Rastriya Banijya Bank	1	1	-	-
6.	Gorkhapatra corporation	1	-	1	-
Total		4	2	3	1

(-) not practiced

(1) Practiced

Q.N. 3. What type of product costing method does the company practice?

Tools		Absorption costing method	Variable costing method
S. N.	Enterprises		
1.	Nepal rosin & turpentine ltd.	1	-
2.	Herbs production & processing company ltd.	-	1
3.	Nepal food corporation	-	1
4.	Nepal Telecommunication co.	1	-
5.	Rastriya Banijya Bank	-	-
6.	Gorkhapatra corporation	-	-
Total		2	2

(-) not practiced

(1) Practiced

Q. N. 4. Would you have to use Break Even Point analysis for study of revenue and total costs, yielding zero income?

Option		Yes	No
S. N.	Enterprises		
1.	Nepal rosin & turpentine ltd.	1	-
2.	Herbs production & processing company ltd.	1	-
3.	Nepal food corporation	1	-
4.	Nepal Telecommunication co.	1	-
5.	Rastriya Banijya Bank	-	1
6.	Gorkhapatra corporation	-	1
Total		4	2

Q.N. 5. What type of budget (on the basis of nature) does your company practice?

Tools		Operating Budget only	Cash budget only	Financial budget	Overall Master Budget
S. N.	Enterprises				
1.	Nepal rosin & turpentine ltd.	1	-	-	-
2.	Herbs production & processing company ltd.	1	-	-	1
3.	Nepal food corporation	-	-	-	1
4.	Nepal Telecommunication co.	-	1	1	-
5.	Rastriya Banijya Bank	-	-	-	1
6.	Gorkhapatra corporation	1	-	-	-
Total		3	1	1	3

(-) not practiced

(1) Practiced

Q.N. 6. What type of operating budget terms of master budget are normally used in your company?

Tools		sales budget	production budget	merchandise purchase budget	direct material budget	direct labour budget	Other
SN	Enterprises						
1.	Nepal rosin & turpentine ltd.	1	1	-	-	-	-
2.	Herbs production & processing company ltd.	1	1	-	1	1	-
3.	Nepal food corporation	-	-	-	-	-	-
4.	Nepal Telecommunication co.	1	-	-	-	1	1
5.	Rastriya Banijya Bank	-	-	-	-	-	-
6.	Gorkhapatra corporation	1	1	-	-	-	-
Total		4	3	0	1	2	1

(-) not practiced

(1) Practiced

Q.N. 7. What type of Financial budget terms of master budget are practices in your company?

Tools		Cash budget	Budgeted income statement	Budgeted balance sheet
S. N.	Enterprises			
1.	Nepal rosin & turpentine ltd.	1	1	1
2.	Herbs production & processing company ltd.	1	1	1
3.	Nepal food corporation	-	-	-
4.	Nepal Telecommunication co.	1	1	1
5.	Rastriya Banijya Bank	-	-	-
6.	Gorkhapatra corporation	-	-	-
Total		3	3	3

(-) not practiced

(1) Practiced

Q.N. 8. which technique does the company is practices for capital budgeting evaluation?

Tools		Pay Back Period (PBP)	Average Rate Of Return (ARR)	Net Present Value (NPV)	Internal Rate of Return (IRR)	Profitability Index (PI)
1.	Nepal rosin & turpentine ltd.	-	1	1	-	-
2.	Herbs production & processing company ltd.	-	-	1	-	1
3.	Nepal food corporation	-	-	-	-	-
4.	Nepal Telecommunication co.	1	-	1	1	-
5.	Rastriya Banijya Bank	1	-	1	1	1
6.	Gorkhapatra corporation	-	-	-	-	-
Total		2	1	4	2	2

(-) not practiced

(1) Practiced

Q.N. 9. which technique does the company is practiced for pricing of the products or services ?

Tools		Full cost based pricing (Absorption)	Variable cost based pricing (Marginal)	Going rate pricing (Market determined)	Target return on investment pricing	Activity based costing pricing
1.	Nepal rosin & turpentine ltd.	1	-	1	-	-
2.	Herbs production & processing company ltd.	-	-	1	-	-
3.	Nepal food corporation	-	-	1	-	-
4.	Nepal Telecommunication co.	1	-	1	1	-
5.	Rastriya Banijya Bank	-	-	-	-	-
6.	Gorkhapatra corporation	-	-	1	1	-
Total		2	0	5	2	0

(-) not practiced

(1) Practiced

Q.N. 11 Which decision techniques are practicing in your company for managerial accounting decision making process?

Tools		make or buy component	Lease or purchase the fixed assets	Drop or continuous the product / service line	Special offer decision
S. N.	Enterprises				
1.	Nepal rosin & turpentine ltd.	-	-	-	-
2.	Herbs production & processing company ltd.	-	1	-	-
3.	Nepal food corporation	-	-	-	-
4.	Nepal Telecommunication co.	-	1	-	1
5.	Rastriya Banijya Bank	-	-	-	-
6.	Gorkhapatra corporation	1	-	-	-
Total		1	2	0	1

(-) not practiced

(1) Practiced

Q.N. 12 Would you have to use cash flow analysis to know the cash position of your company?

Option		Yes	No
S.	Enterprises		
N.			
1.	Nepal rosin & turpentine ltd.	1	-
2.	Herbs production & processing company ltd.	1	-
3.	Nepal food corporation	1	-
4.	Nepal Telecommunication co.	1	-
5.	Rastriya Banijya Bank	1	-
6.	Gorkhapatra corporation	1	-
Total		6	0

(-) not practiced
(1) Practiced

Q.N. 13. What type of liquidity ratio does your company practice?

Option		current ratio	quick or acid test ratio
S.	Enterprises		
N.			
1.	Nepal rosin & turpentine ltd.	1	-
2.	Herbs production & processing company ltd.	1	-
3.	Nepal food corporation	1	-
4.	Nepal Telecommunication co.	1	1
5.	Rastriya Banijya Bank	1	-
6.	Gorkhapatra corporation	1	-
Total		6	1

(-) not practiced
(1) Practiced

Q.N. 14.what type of leverage ratio does your company practice?

Option		debt equity ratio	debt to total capital ratio
S. N.	Enterprises		
1.	Nepal rosin & turpentine ltd.	-	-
2.	Herbs production & processing company ltd.	-	-
3.	Nepal food corporation	-	-
4.	Nepal Telecommunication co.	1	1
5.	Rastriya Banijya Bank	-	-
6.	Gorkhapatra corporation	-	-
Total		1	1

(-) not practiced

(1) Practiced

Q.N. 15.What type of activity turnover ratio does your company practice?

Tools		inventory or stock turnover ratio	debtors or bills receivable turnover ratio	average collection period	fixed assets turnover ratio	total assets turnover ratio	capital employed turnover ratio
SN	Enterprises						
1.	Nepal rosin & turpentine ltd.	-	-	-	-	-	-
2.	Herbs production & processing company ltd.	-	-	-	1	1	-
3.	Nepal food corporation	1	-	-	-	-	-
4.	Nepal Telecommunication co.	-	1	1	-	-	1
5.	Rastriya Banijya Bank	-	-	-	-	-	-
6.	Gorkhapatra corporation	-	1	-	-	-	-
Total		1	2	1	1	1	1

(-) not practiced

(1) Practiced

Q.N. 16. what type of profitability ratios used to measure the efficiency of your company practice?

Tools		Gross profit ratio	Net profit ratio	Return on assets	Return on capital employed	Earnings per share	dividend per share	dividend yield ratio	earning yield ratio
SN	Enterprises								
1.	Nepal rosin & turpentine ltd.	-	1	1	-	-	-	-	-
2.	Herbs production & processing company ltd.	1	1	-	-	-	-	-	-
3.	Nepal food corporation	-	1	-	-	-	-	-	-
4.	Nepal Telecommunication co.	-	1	1	1	1	1	1	-
5.	Rastriya Banijya Bank	-	1	-	-	1	-	-	-
6.	Gorkhapatra corporation	-	1	-	-	-	-	-	-
Total		1	6	2	1	2	1	1	0

(-) not practiced

(1) Practiced

Q.N.17. How does the company measures and controls the overall performance at the end of the accounting period?

Tools		Profit and loss made by the company	Budgetary measure and control	Standard costing technique	Flexible budgeting	Ratio analysis
1.	Nepal rosin & turpentine ltd.					
2.	Herbs production & processing company ltd.	1	1	-	-	1
3.	Nepal food corporation	1	-	-	-	-
4.	Nepal Telecommunication co.	1	1	-	-	1
5.	Rastriya Banijya Bank	1	1	-	-	1
6.	Gorkhapatra corporation	1	-	-	-	1
Total		6	3	0	0	5

(-) not practiced

(1) Practiced

Q.N.18. What is the main factor, that effects to the major accounting related decision- making process in this company?

Tools		Management accounting techniques	Government policy of the company	Objective of the company	Interest of the management
S. N.	Enterprises				
1.	Nepal rosin & turpentine ltd.	1	1	-	-
2.	Herbs production & processing company ltd.	-	-	1	1
3.	Nepal food corporation	1	-	-	-
4.	Nepal Telecommunication co.	1	-	1	-
5.	Rastriya Banijya Bank	-	-	-	1
6.	Gorkhapatra corporation	-	1	-	-
Total		3	2	2	2

(-) not practiced

(1) Practiced

Q.N.19. What might be the major difficulties for the application of managerial accounting tools and techniques in your company?

Tools		Lack of information and knowledge	Size and nature of business	High cost/ quite expensive	Long procedure	Traditional approaches of concerned authorities
1.	Nepal rosin & turpentine ltd.	1	-	1	-	-
2.	Herbs production & processing company ltd.	1	1	-	-	-
3.	Nepal food corporation	1	-	-	-	-
4.	Nepal Telecommunication co.	1	-	-	1	1
5.	Rastriya Banijya Bank	1	-	-	-	1
6.	Gorkhapatra corporation	-	-	-	-	1
Total		5	1	1	1	3

(-) not practiced

(1) Practiced

