

CHAPTER - I

INTRODUCTION

1.1 Background of the Study

Nepal is a small, least developed and landlocked country situated between two large countries India and China. Nepal's two neighbours, China and India achieved an impressive 9.6 and 7.3 percent respective economic growth rates in 2008, with estimates of such growth rates limited to 8.7 percent and 5.7 percent respectively in 2009 whereas, Nepal's economic growth rate in the current F/Y 2009/10 is estimated to decline. In comparison to 4.0 percent GDP growth achieved at producers' prices in F/Y 2008/09, is estimated to grow in this fiscal year only by 3.5 percent (Economic Survey, 2010: xiv).

Nepal is a sovereign independent country formerly known as the Kingdom of Nepal, now Federal Republic of Nepal since June 28th, 2008 as per the decision of Constitutional Assembly. In fact, it was the demand of the people of Nepal endorsed by the Second popular April Movement 2006. But, restructuring of the state is in process through the Constitutional Assembly. Nepal is a landlocked country with an area of 1, 47,181 sq. km and is situated between the world's most populated countries China in the north and India in the rest fronts. The total area of Nepal is 0.3% of Asia which is 0.03% of the world. Nepal is known to be a country of natural beauty between the latitude of 26°22'N to 30°27'N and longitude of 80°4'E to 88°12'E. The elevation of the country ranges from 70 m above sea level to the highest on Earth. The land of Himalayan region is standing vertically up to the height of 8848m with a renown Mt. Everest.

It has lots of problem as well as prospectus too. Unemployment is said to be the biggest problem of the country. Nepal is an agricultural country. Most of the people of the nation are primarily engaged in agricultural sector and they are depended on agriculture to fulfil their basic needs. A weak economy in one

country may be offset by a strong economy of Nepal, it is very essential to develop the infrastructure and facilities for the establishment of manufacture and processing industries. Industries have not been developing to the extent of expectation in Nepal. The reason for it is the lack of dashing entrepreneurs as well as the inappropriate business environment. We can trace the industrial development process in Nepal mainly after establishment of Biratnagar jute mill and Udhyog Parishad in 1936.

1.2 History of Manufacturing Companies (Industrial Sector) in Nepal

Industrialization is a comparatively new phenomenon in Nepal. The Biratnagar Jute Mills set up in 1936 marked the beginning of organized manufacturing industry in the country. In the years that followed industrial growth was accelerated. Manufacturing industry like the Morong Cotton Mills (1941), the Morong Sugar Mills (1946), the Raghupati Jute Mills (1946) and the Juddha Match Factory (1946) were set up in Biratnagar in collaboration with Indian businessmen (Pant, 2009:214).

The history of industrial growth in Nepal can be divided into three distinct areas. They indicate the evolution activities in Nepal.

Era of Craft and Cottage Industries

Ancient history reveals that, Nepal had few small cottage industries; such small cottage industries were the major sources of earning foreign currency. There was a Benepa - Dati Trade route in around seventh century (639 A.D). The route had highly encouraged the Nepal- Tibet trade, which in turn, encouraged to cottage type industry. It was considered that export-oriented industries were highly appreciated in those days. King Prithvi Narayan Shah had emphasized the growth and development of cottage and rural industries. There was evident that Nepal learnt the technology of paper making 900 years ago. This was mentioned by Kaultyla and Hiuen- isng history of India and China respectively.

Previously, history revealed that many industries of cottage type were flourished. And it was a source of foreign currency earning. But it could not continue even up to Rana Regime because of lack of the modernization of such industries.

Era of haphazard Industrial Growth

The history of industrialization in Nepal dated back to 1936. In the same year, Indian entrepreneurs with Nepali counter parts established a Jute Mill at Briatnagar, south east Nepal, adjacent to Indian border. However, the Rana regime (1836- 1951) had little concern with the industrialization of the country. During the Second World War, the shortage of manufactured consumer's goods from the more developed countries forced to establish domestic industries. Rice milling and oil extraction were the most important areas in which the new industries operated, but they also manufactured matches, paper, soap, furniture, cotton and wood textiles, jute(two mills), glass and ceramics.

When the war ended the distribution of goods decreased. So many industries established between 1939 and 1950 went into heavy losses and were eventually forced to close down. For instance, more than half of the rice and oil mills established during 1946/47 were closed down. The period was noted for social unrest. Strikes and lock outs frequent between 1953 and 1956, in the jute and cotton mills. Potential investors became cautions and preferred to invest their savings in less risky areas. Not a single joint stock company was established until 1960. During the Rana regime there was no industrial policy. The then Government of Nepal after 1951 AD, recognized that, the cottage industries will have a very important place in the economy because of hilly reasons of Nepal (Pradhan, 1984:7).

Era of Planned Industrial Growth

Nepal entered the era of planed development in 1956. Since then, the country has accumulated a rich experience of implementing ten development plans extending over a period of 50 years. The growth of industries during the

various plan periods has been mixed. Nepalese economy suffers from structural constraints. Industrial planning is an inevitable requirement of the nation. The announcements of new industrial policy were started in June 1958 (Pant & Pant, 1999:269).

The first elected government in 1958 made efforts to speed up the activities in various projects such as cottage industries. Industrial development cooperation (IDC) was established and later converted into Nepal industrial development corporation (NIDC) in 1959 to assist private industries and encourage small industries. Establishment of the timber corporation with a view to utilizing the forest products in the most scientific way and finally industrial estate were set up in Balaju through India aid, a detailed survey of Phulchoki and industrial state Bandipur were completed.

The second plan (1962- 1965) recognized, a certain number of new industries would be set up in the private sector. Preference being given to such industries as is designed to reduce unemployment through utilization of raw materials available in the country and to build up a foreign exchange reserve by lessening imports and promoting exports

Under the third plan (1965-1970) facilities such as execution of income tax, export duty, import duty, provision of foreign exchange for the priority sector industries, repatriation of certain percentage of profits and capital were to be provided, and the plan emphasized that cement, lime and mica factories were to be established in the public sector and other industries were established either in the public sector or the private sector in accordance with the priority fixed.

The fourth plan (1970- 1975) emphasized significantly on encouragement to the establishment of industries mainly in the private sector. Priority was also given to labour intensive industries, and the plan also recognized that the facilities to be provided to industries in each class would be clearly stated in

view of the long term requirements of the country. Establishment of a number of industrial districts outside the Katmandu valley was envisaged and this trend was supported to contribute to regional development.

The objective of the fifth plan (1975- 1980) was to increase the output of the industries already established and set up some new industries. Despite power failure and labour unrest in the second part of the plan period, the industrial production registered a yearly growth of 6.7%.

The main principles of the sixth plan (1980- 1985) was to highlight the development of cottage and small industries. Emphasis was placed on the progress of cottage and small industries so as to multiply employment prospects for low- income people and help in reducing the inequality. An industrial policy was evolved in 1981 together with industrial enterprises act and foreign investment act. The main objectives of the existing industries spur foreign investment and provide stimulus for industries in remote areas.

During the seventh plan (1985- 1990) a new industrial policy was launched in 1987. It aimed at raising self- replace (increasing the contribution at industry) G.D.P. formulating job opportunities, and reducing the balance of payments. The eight plan (1992 - 1997) was instrumental in creating added infrastructure for industrial development by introducing Industrial Policy 1992, Industrial Enterprise Act 1992, Foreign Investment Policy 1992, Privatization Act 1994 etc. During the planed period one window facility secretariat was set up, national productivity council was established. 1443 medium and large industries were registered during the period.

During the ninth plan (1997- 2002) the key policies were privatization of PEs, encouragement to foreign investment, leading role to private sector, reform in legal framework and encouragement to clean technology. Training was provided to 112,676 persons for the promotion of cottage and small industries.

The main objective of the tenth five year plan (2002-2007) was to make economic sector of country effective, healthy, dynamic and competitive by maximum utilization of available resource. The plan conceives to expand the role of private sector for higher economic growth and effective operation of poverty alleviation programme. The plan has given emphasis on investor friendly environment for forward economic improvement and has emphasized the acceleration of the privatization programme effectively (Agrawal, 2007:89-120).

The Interim three year plan period (2007-2010)

The main goal of the interim plan was to lay a foundation for economic and social transformation to build a prosperous, modern and just Nepal. The main objective of this plan was to generate an experience of a direct change in the lives of the general public supporting in the establishment of peace and reducing the existing employment poverty and inequality in the country. The target was to reduce the poverty line from 31% to 24% as well as increase employment growth rate from 3% to 3.5% and women participation will be 33% for each sector. Poverty alleviation and employment were the primary challenges of the plan is to give continuity to poverty alleviate efforts and reduce their increasing gap between rich and poor. TYIP aimed to invest Rs. 167.6 crore (0.6%) in Industry through government mechanism at the constant price of 2007 (Interim plan, 2007:220).

At present, the interim three year plan is in over. NPC has just prepared concept paper of next periodic plan. During the TYIP Period, a new Industrial Policy 2010 was introduced.

1.3 Public Enterprises

Simply, Public means government and enterprises mean legally established artificial body that carried out industrial, commercial, agriculture and economic activities. Therefore public enterprises are the state owned corporate body,

which carries out economic, social, political and other activities to fulfil the constitutional objectives of the country. The term "Public Enterprises" has defined differently by different persons, agencies and government to suit their own respective situation.

Public enterprises or corporations are industrial and commercial undertakings of the government which are specially created by an act of the parliament or companies registered under the company Act (Sharma, 2000:116).

According to Freidmann, "Public Enterprise is an institution operating a service of an economic or social character on behalf of the government, but an independent legal entity, largely autonomous in its management, though 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 and legal and commercial attributes of a commercial enterprise" (Joshi, 2053:3).

According to Prof. M. C. Sukla, "Public enterprise is a corporate body created by legislature with defined powers and functions and financially independent, having a clear-cut jurisdiction over a specified area of a particular type of commercial activities"(Bistha, 2004:3).

A public enterprise is a business undertaking which is owned, managed and controlled by the government, on the behalf of the public at large. Such enterprises are run mainly to provide service to the public. They are generally set up with a basic purpose of promoting social welfare. But profit motive is also a part of its working. The public corporations are mainly owned, by the government, but sometimes, they are jointly owned by the government and the public.

Objectives of Public Enterprises

Public Enterprises (PE) are established with objectives of delivering goods and services to the public at reasonable prices by making the public services more efficient. The objectives of the public enterprises are to enhance national economy, mobilize public savings, create employment opportunities, help control private sector's monopoly, eliminate the discriminatory practice in the society, utilize, and safeguard national resources and heritages. Overall, public enterprises are established to assist in achieving economic, social and political objectives of the country. Private enterprises need to be competitive and run professionally in order to achieve these objectives (Economic Survey, 2010:134).

Need for Public Enterprises

The public enterprises are needed in every country for the following reasons:

1. To establish the basic and more risky industries.
2. To establish industries having social and national importance.
3. To ensure optimum utilization of natural resources.
4. To provide a lead to the private sector.
5. To accelerate the rate of economic growth in a planned manner.
6. To prevent concentration of economic power and growth of monopolies.
7. To generate and mobilize surplus for re-investment.
8. To ensure equitable distribution of essential goods and services.
9. To provide infrastructural facilities.
10. To eliminate sick and inefficient units in the private sector (Sharma, 2000:118).

1.4 Manufacturing (Industrial) Public Enterprises in Nepal

Manufacturing is defined as the physical or chemical transformation of materials, substance or components into new products, whether the work is performed by power driven machines or by hand (Census of Manufacturing Establishments, 2007:151).

Public enterprise means state ownership and ownership of operation of industrial, agricultural, financial and commercial undertaking (Hanson, 1965:3).

Thus Manufacturing (Industrial) Public Enterprises are the government owned entities operated in the industrial sector involving in the physical or chemical transformation of materials or components into new products.

There were 78 Public Enterprises by the end of 1990. Out of them, 34 Public Enterprises were engaged in Industrial sector. Up to the year of 2005, there were 9 Industrial Public Enterprises in Nepal. Lumbini Sugar Factory was privatized and Agro-Lime Industry was winded up in 2006. Currently there are seven Industrial Public Enterprises in Nepal (Bhattarai, 2008:568).

They are:-

1. Dairy Development Corporation
2. Herbs Production and Processing Co. Ltd
3. Hetauda Cement Industry Ltd.
4. Janakpur Cigarette Udyog Ltd.
5. Nepal Aushadi Ltd.
6. Udayapur Cement Udyog Ltd.
7. Nepal Orind Magnesite (P) Ltd.

In the fiscal year 2008/09, seven PEs in the industrial sector made production and sales transactions worth Rs. 4,980 million which is 3.34 percent more than that of preceding fiscal year. Mainly, the Dairy Development Corporation, Hetauda Cement Industry Ltd, Janakpur Cigarette Factory Ltd and Udayapur Cement Industry Ltd have made sales transactions worth Rs. 2,190 million, Rs. 77.070 million, Rs. 89,340 million and Rs. 55,280 million respectively providing major contribution to the sales in this sector. In comparison to the previous fiscal year, total sales of Hetauda Cement Industry Ltd, decreased by 22.13 percent while Udayapur Cement Industry Ltd registered a moderate

growth in their total sales during the same period. There was encouraging growth of 21.80 percent in the sales of Dairy Development Corporation during this period. The sales transaction of Nepal Orind and Magnesite was nil during this period (Economic Survey, 2010:135).

During the fiscal year 2007/08, the total net loss of 7 PEs under the industry sector was Rs. 435.9 million, which grew to Rs. 701.1 million in 2008/09. Among the industries making marginal recovery from losses are Udayapur Cement Industry Ltd (from Rs. 266.0 million to 234.5 million); Janakpur Cigarette Factory (from Rs. 154.5 to 150.4 million) Nepal Orind Magnesite Private Ltd. (from Rs. 86.1 million to 85.2 million) in the fiscal year 2008/09 as compared to the previous year. The Dairy Development Corporation, which had loss of Rs. 89.8 million in the fiscal year 2007/08, has now reduced to Rs. 8.6million in the fiscal year 2008/09. Nepal Drugs Ltd. is the only company making a net loss of 162.1 million in the fiscal year 2008/09, which had recorded a profit of Rs. 66.1 million in 2007/08. All the 7 PEs under industry sector are in loss (Annual Performance Review of PEs, 2010:11).

There seem to have no notable change occurred in the fiscal year 2008/09 in the total outstanding debt of Rs. 3,628.3 million in debt of the entire industry sector in the fiscal year 2007/08. The total outstanding debt of the entire industry sector was Rs. 3,689.4 million by the end of the fiscal year 2008/09. Similarly, the net fixed assets of Rs. 4670.1 million reached to Rs. 4,656.7 billion with the decrease of Rs. 13.4 million during this period. By the end of fiscal year 2007/08, the shareholders' fund of all 7 PEs had shown negative (-Rs. 1,077.3 million) balance saw negative (-Rs. 1,417.8 million) balance at the end of the fiscal year 2008/09 as well. Though the shareholder's fund of Dairy Development Corporation had increased by Rs. 11.07 million as compared to the previous fiscal year, the net shareholders' fund of the industry sector was negative in this fiscal year as well. Overall, progress report of the Industry

sector for the fiscal year 2008/09 was not satisfactory (Economic Survey, 2010:136).

1.5 Introduction of Capital Budgeting

Capital budgeting is the process of planning and controlling the strategic (long term) and tactical (short term) expenditure for expansion and contraction of investment in operating (fixed) assets (Welsch, et al., 1992:394).

Capital Budgeting is the process of making those long term planning decisions for investments and focuses primarily on projects or programmes whose effects span multiple time periods (Horgren, et al., 1997:780).

Capital budgeting evaluates expected future cash flows in relation to cash put out today (Van Horne, 2002:135).

The main exercise involved in capital budgeting is to relate the benefit to cost in some reasonable manner, which would be consistent with the value maximizing objectives of the business. Capital budgeting decision is the most important area of managerial decisions as it involves more extended estimation and prediction of things to come requiring a high order of intellectual ability of their economic analysis (Goyal & Mohan, 1999:100).

Capital Budgeting is of paramount importance as a framework of future development, and as a major determinant of efficiency and competitive power of a firm. It relates to fixed or long-term assets, which are defined as assets that are in operation and yield returns over a period of time. It, therefore, involves current outlay in return for a series of anticipated future benefits (Khan& Jain, 2000:12.27).

Capital budgeting is the process of determining which potential long-term projects are worth undertaking, by comparing their expected discounted cash flows with their internal rates of return (www. investorwords. com).

Capital budgeting is the process of making long-term planning decisions for capital investments. There are typically two types of investment decisions: (1) Selecting new facilities or expanding existing facilities. Examples include: (a) investments in long-term assets such as property, plant, and equipment; and (b) resource commitments in the form of new product development, market research, refunding of long-term debt, introduction of a computer, etc. (2) Replacing existing facilities with new facilities. Examples include replacing a manual bookkeeping system with a computerized system and replacing an inefficient lathe with one that is numerically controlled. As such, capital budgeting decisions are a key factor in the long-term profitability of a firm. To make wise investment decisions, managers need tools at their disposal that will guide them in comparing the benefits and costs of various investment alternatives. Many techniques used for evaluating investment proposals are widely available. They include payback, accounting rate of return, Internal Rate of Return, and the Net Present Value method.

Thus, the capital budgeting is the process of identifying, analyzing, and selecting investment projects whose returns (cash flows) are expected to extend beyond one year.

Importance of Capital Budgeting

The capital budgeting makes the decision in relation to the investment of fixed assets. The fixed asset is very important for a business enterprise. A firm can not be operated in the absence of fixed assets. So far is the importance of fixed assets in operating business, more the importance of capital budgeting or making process about the fixed assets. Capital budgeting involves generating, evaluating and selecting for an investment. In the sense it helps in maximizing

profit with proper investment. It also helps a lot to achieve goals and objectives of the firm.

The importance of capital budgeting can be illustrated in the following ground:

Involvement of Heavy Funds: Capital budgeting decision involves large amount of funds. The firm collects those funds from various internal and external sources. These funds are always limited for funds for exceeds the resources. So it is absolutely necessary that the firm should carefully plan its investment planning.

Long-term Commitment of Funds: Capital budgeting decision involves the funds for long term or more or less on permanent basis. So, it is a long term investment decision. The long term commitment of funds increases the financial risk and hence, careful planning is necessary.

They are not Reversible: In most of cases, the capital budgeting decisions are irreversible. The reason is that there may neither be any market for such second hand fixed assets nor there is any possibility of conversion of such assets into other usable assets. In the case of requirement of change, there is no other alternative except the dispose of these assets sustaining a heavy loss to the firm. Therefore, the proper decision is necessary to protect from such losses and the decision should be made only after considering and evaluating each and every minute detail of the project.

Difficulties of Investment Decision: Capital budgeting decisions are among the enterprise's most difficult decision. It requires assessment of future events, which are uncertain; it is really a difficult task to estimate the probable future events, benefits and costs.

Long-term Effect on Profitability and Market Share: Capital budgeting decisions have a great impact on the profitability and market share of an enterprise. It affects present as well as future earning of the firm. It also influences on the rate and direction of its growth. Effective capital budgeting can improve both timing and quality of asset acquisition. A wrong decision may prove disastrous for the survival of the firm. Hence, it should be properly planned. If it is properly planned, the size, scale and volume of sales and growth can increase (Dangol, 2008:680-681).

Capital Budgeting is an important function of financial manager. Because capital budgeting decisions impact the firm for several years, they must be carefully planned. A bad decision can have a significant effect on the firm's future operations. In addition, the timing of the decisions is important. Many capital budgeting projects take years to implement. If firms do not plan accordingly, they might find that the timing of the capital budgeting decision is too late, thus costly with respect to competition. Decisions that are made too early can also be problematic because capital budgeting projects generally are very large investments, thus early decisions might generate unnecessary costs for the firm.

1.6 Statement of the Problem

In FY 2008/09, out of 36 public enterprises with full ownership of Government of Nepal, 18 Public Enterprises including all the 7 PEs under industry sector are in loss and number of public enterprises has negative net worth. Unfunded liabilities such as gratuity, pensions, provident fund etc. are being piled up. A tendency of more and more dependency on the Government is growing among the loss-making PEs. On the contrary, profit-making PE's are enjoying and demanding more facilities than necessary. This has resulted in the decreased public confidence, which may negatively affect the process of reforming these PEs.

During this period, fixed assets of Nepal Drugs Ltd. and Nepal Orind Magnesite, Herb Production and Processing Center Ltd., Hetauda Cement Industry Ltd. and Udayapur Cement Industry Ltd. have decreased. There seem to have no notable change occurred in the fiscal year 2008/09 in the total outstanding debt of Rs. 3,628.3 million in debt of the entire industry sector in the fiscal year 2007/08. The total outstanding debt of the entire industry sector was Rs. 3,689.4 million by the end of the fiscal year 2008/09. Similarly, the net fixed assets of Rs. 4670.1 million reached to Rs. 4,656.7 billion with the decrease of Rs. 13.4 million during this period. By the end of fiscal year 2007/08, the shareholders' fund of all 7 PEs had shown negative (-Rs. 1,077.3 million) balance saw negative (-Rs. 1,417.8 million) balance at the end of the fiscal year 2008/09 as well. Though the shareholder's fund of Dairy Development Corporation had increased by Rs. 11.07 million as compared to the previous fiscal year, the net shareholders' fund of the industry sector was negative in this fiscal year as well. Overall, progress report of the Industry sector for the fiscal year 2008/09 was not satisfactory (Economic Survey, 2010:136).

The problem towards which study is directed identifies the long-term investment decision in Industrial Public Enterprises (PEs) of Nepal. Nepalese Industrial PEs are not performing well as is evident from their annual reports and economic surveys. Poor performance is the outcome if poor planning, controlling and decision making. This has raised the questions whether Nepalese managers are competent enough. Do they practice management accounting tools and techniques particularly capital budgeting to carryout planning, decision making and controlling functions?

The main purpose of budget is to ensure the planned profit of the enterprise. So, it is considered as a tool of planning and controlling the profit. One of the primary objectives of an annual budget is to measure the profit expectation for

the next financial year with regarded to all the circumstances favourable and unfavourable that can influence the trading prospect.

The research questions posed in this research were:

- Whether or not Nepalese Industrial PEs are practicing Capital Budgeting tools?
- Which of the capital budgeting tools are mostly practiced and which aren't practiced till now?
- How the Industrial PEs can apply capital budgeting tools to improve the competitiveness of the enterprises?
- What are the major difficulties in the application of Capital Budgeting?

1.7 Objectives of the Study

The main objective of this research is to examine and study the capital budgeting practices in manufacturing (Industrial) PEs of Nepal. The specific objectives are:

- To study and examine the present practice of capital budgeting tools in the Industrial PEs of Nepal.
- To identify the difficulties in applying capital budgeting tools in Nepalese Industrial PEs.
- To make recommendations to overcome the difficulties in applying capital budgeting tools in Nepalese Industrial PEs.

1.8 Significance of the Study

The present research work is the study of the practice of capital budgeting tools in Industrial PEs of Nepal. This study will be significant in the following ways:

- It examines the application of capital budgeting tools in Industrial sector of PEs of Nepal.
- It explores the problems and potentialities of the selected Industrial PEs. It will be useful to the government, potential investors, lenders, managers and policy makers.

- It provides information on the application of the tools under different circumstances. Thus, it will encourage the use of capital budgeting tools in decision making to those Industrial PEs who have yet used any tools.
- Last but not the least, it provides literature to the researcher who wants to carry on further research in this field.

1.9 Limitations of the Study

The present research has the following limitations:

- The study is concerned with capital budgeting. It does not consider the economic aspects of the enterprises.
- The study is focused on the selected Industrial PEs which are Herbs Production and processing Co. Ltd., Nepal Aushadhi Ltd., Janakpur Cigarette Factory, Nepal Orind Magnesite (P) Ltd., and Dairy Development Corporation Ltd. Thus, the findings might not be applicable to other PEs of Nepal.
- The research is based on primary data only. No secondary data has been used for this present study.
- This study pays attention to the practices of capital budgeting only. It does not consider the implementation aspects of the tools.
- The data were collected through questionnaire. The information's are based as perceived by the head of finance division, senior economist and senior evaluation officer of respective Industrial PEs. In this context the actual practices and the perceived practices might be different.

1.10 Organization of the Study

This has been divided into five chapters. They are:

Chapter-I: Introduction

The first chapter covers role of capital budgeting in management accounting, statement of the problem, research objectives, and significance of the study and limitation of the study.

Chapter- II: Review of Literature

The second chapter focuses on review of literature. It contains the conceptual frameworks and past related literature on profit planning and control, CVP analysis and management accounting practices.

Chapter-III: Research Methodology

The third chapter deals with the research methodology to be adopted for the study consisting research design, sources of the data, data gathering procedure, population and sample, research variables and data processing procedure.

Chapter- IV: Data Presentation and Analysis

This chapter deals with presentation, analysis and interpretation of data. It consists of analysis of questionnaires, analysis of open end opinions and major findings of research.

Chapter- V: Summary, Conclusion and Recommendation

The last chapter covers summary, conclusions and recommendations.

CHAPTER - II

REVIEW OF LITERATURE

Review of literature is a way to discover what other research in the area stated problem has uncovered. It provides foundation for present study, establishes a point of departure for future research, avoids needless duplication of costly effort, and reveals areas of needed research. It enables the researcher to know about what research has been done in the subject, what theories have been advanced the approach taken by other researchers and shows gap to fill through the proposed research.

Several research works has been done in various aspects of manufacturing companies including industrial PEs, especially financial performance, investment policy, resource mobilization, lending policy, profit planning etc. There are some books, journals, articles, other studies done related with capital budgeting practices of manufacturing companies. Some of the relevant studies, literatures on capital budgeting practices are reviewed below.

2.1 Conceptual Framework

The purpose of including this chapter is to clarify the concept of Capital Budgeting Decision in manufacturing (Industrial) PEs. Cash flow estimation, payback period, Accounting Rate of Return, Net Present Value, Profitability Index, Cost benefit Analysis and Internal Rate of Return has been reviewed with the help of related text books, reference book and articles etc.

2.1.1 Definition of Capital

In general, capital refers to an investment in goods or services that provides benefits over a period of time after their acquisition. However, a substantial portion of governmental spending could be viewed as providing a stream of benefits over an extended period, beyond those activities typically associated with the term “capital”.

Specific definitions of capital can vary significantly depending on the purpose. Some definitions focus narrowly on physical infrastructure, such as highways and buildings; others focus more broadly and include intangibles, such as investment in education and social services. Such differentiation greatly affects the scope of what is considered capital. Each classification has potential shortcomings: A broad definition might encompass so many activities as to make the categorization unhelpful and could invite criticism that a capital budget would simply be a device for understating the cost of federal spending; a narrow definition could lead to a bias against spending that does not directly result in the acquisition of physical assets.

Capital expenditure is an expenditure intended to benefit future periods, in contrast to a revenue expenditure, which benefit a current period; an addition to a capital asset. The term is generally restricted to expenditures that add fixed assets units or that has the effect of increasing the capacity, efficiency, life span or economy of operation of an existing fixed asset.

From the above definition it follows that capital expenditure is one which result in:

- Increase in quantity of fixed assets
- Increase in quality of fixed assets
- The replacement of fixed assets

Expenditure charged against operation a term used to contrast with capital expenditure. While capital expenditure is any expenditure benefiting a future period, revenue expenditure is intended to benefit the current period. Examples are:

- Expenses incurred in the normal course of business, e.g. expenses of administration, expenses incurred in manufacturing and selling products.

- Expenses incurred to maintain the business, e.g. replacement for maintaining the existing permanent assets: cost of stores consumed in the course of manufacturing, e.g. oil, cotton waste.
- Cost of goods purchased for resale.
- Depreciation on fixed assets, interest on loan of business, loan from sale of fixed assets.
- Obsolescence cost.

2.1.2 Capital Budgeting

Capital budgeting is a required managerial tool. One of the duties of a financial manager is to choose investments with satisfactory cash flows and rates of return. Therefore, a financial manager must be able to decide whether an investment is worth undertaking and be able to choose intelligently between two or more alternatives. To do this, a sound procedure to evaluate, compare, and select projects is needed. This procedure is called capital budgeting. Capital budgeting is investment decision-making as to whether a project is worth undertaking. Investment Decisions are long-run decisions where consumption and investments alternatives are balanced over time in the hope that investment now will generate extra returns in the future (Lucey, 2003:408). Capital budgeting is basically concerned with the justification of capital expenditures.

A capital investment decision also known as capital budgeting decision is related to the concerned organization's long term bulk expenditure. It involves process of planning future net cash flows over the life of the project and of selecting the best course of action that yield positive net present values. Capital investment decision means evaluating business opportunity that involves a current outlay, but that are likely to produce benefits over a period of time (Bajracharya, et al., 2008:608).

A Capital Budgeting decision may be defined as the firm's decision to invest its current funds most efficiently in the long-term assets in anticipation of an expected flow of benefits over a series of years. The Long-Term assets are those which the firm's operations beyond one-year period. The firm's investment decisions would generally include expansion, acquisition, modernizing and replacement of the Long-Term assets. Sale of a division or business (disinvestment) is also analysed as an investment decision (Pandey, 1994:317).

A capital budgeting should have the following characteristics (Bajracharya, et al., 2008:608).

a) Long term Investment

Purchasing inventories is not dealt with under capital budgeting decision because the life cycle (inventory- accounts receivable – cash) is not of more than a year. A decision to start a new production line or to buy a new machine is a capital budgeting decision because its life cycle is of more than a year.

b) Bulk Amount of Investment

Purchasing a calculator does not come under capital budgeting decision because the amount is not so material even if the life cycle is of more than a year.

c) Effect of time Value of Money

As the investment is required initially but the cash inflows are introduced in the future, the initial investment and the future cash flows cannot be compared unless both are brought to the same time period. A usually practised technique is to bring all cash flows to present values by discounting all future cash flows at an appropriate discount rate, i.e., the cost of capital.

d) Risk and Uncertainty

Capital investment projects are expected to generate cash flows in the future with the investment made at the start. Initial investment cost is, of course, somewhat less uncertain because the information as of today is unlikely to change very much. But the volume of demand, selling price, price of inputs, tax rates, etc. do not remain stale over time. Unexpected business opportunities and threats may arise in future owing to the competitors, and socio-economic, political and technological reasons.

2.1.3 Limitations of Capital Budgeting

Capital budgeting can be a useful tool in the analysis of large projects. However, there are serious limitations that must be considered when evaluating the results of these projects. These limitations can be used to manipulate the results of an otherwise unfavourable project and make it appear to have a larger return than it actually has. While the weaknesses in these sample projects are obvious, they can be effectively hidden in larger projects where the descriptions and financial data can run into hundreds of pages.

Modern accounting and finance textbooks spend significant time discussing the techniques of capital budgeting calculations but are woefully inadequate in terms of the shortcomings of the various methods. Numerous misconceptions and limitations exist and a misunderstanding of these limitations can cause incorrect decisions to be made.

For those methods that do use present value techniques, it is necessary to either have a predetermined discount rate or to calculate one. This discount rate goes by many names:

- Hurdle rate – implying this is an amount you must exceed to make this a suitable project.
- Cost of Capital – implying that this is what it cost to obtain the required capital and that the projects return must equal or exceed this.

- Required Rate of Return – an indication that this is the minimum amount the project can return.

The company usually sets this rate, often without a clear understanding of what it really means. The rate is usually a minimum amount and it is then adjusted upward for risk. A company might classify projects as A, B or C with C being the riskiest project. Projects classified “A” might have nothing added to the discount rate while “B” projects would have a certain amount added with an even larger amount added for the “C” projects. Companies generally assume they are actually earning the discount rate if they achieve a NPV of zero or greater.

2.1.4 Tools and Techniques of Capital Budgeting

More purposes for project are at the threshold of the business firm comparing to its ability and wiliness to finances some proposals good, other are different and at others poor. A screening has to be devised for finding out the real content of such proposal. Methods of differentiating them should be developed (Goyal & Mohan, 1999:108).

For this purpose, numerous methods of measuring the economic value of an investment can be found. The methods of appraising capital expenditure proposals can be classified in to two broad categories: unsophisticated or traditional methods and sophisticated or discounted cash flow methods.

A) Unsophisticated or Traditional Methods

This method does not consider time value of money. It assumes that the future value of money is equal to present value. The traditional method emphasised either on early return of invested amount or on the earning of the project. In other words, it considers either liquidity or profitability (Dangol, 2008:693).

The following two evaluation techniques are available under this method:

a) Payback Period

The payback period is the traditional method of capital budgeting. It is the simplest and perhaps the most widely employed quantitative method for appraising capital expenditure decisions. This method answers the questions; how many years will it take for the cash benefit to pay the original cost of an investment normally disregarding salvage value? Cash benefit here represents CFAT, ignoring interest payment. Thus, PBP measures the number of years required for CFAT to pay back the original outlay required in an investment proposal.

There are two ways of calculating PBP. The first method can be applied when the cash flow stream is in the form of annuity for each year of the project's life, i.e., CFAT is uniform. In such a situation the initial cost of the investment is divided by the constant annual cash flow.

$$\text{PBP} = \frac{\text{Investment}}{\text{Constant Annual Cash Flow}}$$

The second method is used when a project's cash flows are not equal but vary from year to year. In such a situation, PBP is calculated by the process of cumulating cash flows till the time when cumulative cash flows become equal to the original investment outlay (Khan & Jain, 2000:12.18).

One of the most commonly used methods of capital budgeting is the payback period technique. This method poses the question: "How long will it take to recover the investment?" (Bajracharya, et al., 2008:614).

Payback determines how early an investment can be recovered. The payback period answers the questions of; how long does it take the project to pay back its initial investment?

Payback period = Number of years to recover initial costs

Decision Rule

The shorter payback period is the more attractive investment. The reasons are: The earlier the investment is recovered, the sooner the cash funds can be used for other purpose. The risk of loss from obsolesces and changed economic conditions are less in a shorter payback period.

The advantages and disadvantages of PBP are as follows:

Advantages

- Easy to Understand
- Simple to compute
- Provides some information on the risk of the investment
- Provides a cute measure of liquidity

Disadvantages

- Ignores the time value of money
- Ignores cash flows after the payback period
- Biased against long-term projects
- Requires an arbitrary acceptance criteria
- An accepted project based on the payback criteria may not have a positive NPV

b) Accounting Rate of Return (ARR)

The accounting rate of return method of evaluating a proposed capital expenditure is also known as average rate of return method. It is based upon accounting information rather than on cash flow. There is no unanimity regarding the definition of the rate of return. There are a number of alternatives methods for calculating the ARR. The most usage of the accounting rate of return (ARR) expresses it as follows:

$$\text{Accounting Rate of Return} = \frac{\text{Average Annual Expected Book Income}}{\text{Average Book Investment}}$$

Decision Rule

With the help of ARR, the financial decision maker can decide whether to accept or reject an investment proposal. According to the ARR, as an accept - reject criterion, the actual ARR will be compared with predetermined or a minimum required rate of return or cut off rate. A project will qualify to be accepted if the actual ARR is higher than the minimum desired ARR. Otherwise; it is liable to be rejected. Alternatively, the ranking method can be used to select or reject proposals. Thus the alternative proposals under consideration may be arranged in the descending order of magnitude, starting with the proposal with the highest ARR and ending with the proposal having lowest ARR. Obviously, projects having the higher ARR would be preferred to projects, which have a lower ARR (Khan & Jain, 2000:17.15-17.16).

This return is an average rate of return because it uses the average book investment. The book rate of return for each return will be different because the average book investment in the project will change with each year's depreciation. The ARR method most often misstates the IRR because it ignores the timing of the cash flows and therefore the time value of money. This fault makes it an unsatisfactory method of capital budgeting.

The advantages and disadvantages of PBP are as follows:

Advantages

- It is very simple to understand and easy to adopt.
- It considers the entire streams of income in calculating rate of return.
- This method is based upon accounting concept of profit; in consequence, it can be easily calculated.

Disadvantages

- It considers only the net income and ignores net cash flow.
- It ignores the risk of the project.
- It does not recognize the time value of money.
- It does not consider the life of the proposal (Dangol, 2008:698).

B) Sophisticated or Time Adjusted Methods

The traditional method does not consider time value of money. It assumes that there is no difference between future value and present value of money. The discounted cash flow method takes into consideration the time value of money. It is the distinguishing features of discounted cash flows. Moreover this method considers all benefits and costs occurred during the life of the project. Before evaluating any project in this method, first of all it is necessary to convert the whole estimated cash flow into present value. On the basis of this discounted value it evaluates the investment proposal (Dangol, 2008:699).

a) Discounted Pay Back Period (DPBP)

Discounted Pay Back Period (DPBP) is the time required to recover the original investment of the project from the discounted cash flow (Paudel, et al., 2008: 178).

Payback Period does not consider time value of money when providing an answer whereas with Discounted Payback Period, we get to see the real value of cash inflows when they are measured in today's amount of money as these are discounted at an interest rate called the Discount Rate.

The exact DPBP is calculated as:

$$DPBP = N_{f-1} + \frac{I_f}{DCF_f}$$

Where,

N_{f-1} = Year before full recovery of investment

I_f = Un recovered cost at the begging of the year of the year of full recovery of investment

DCF_f = Total discounted cash flow during the year of full recovery of investment

The advantages and disadvantages of the DPBP are as follows:

Advantages

- Considers the time value of money
- Considers the risk of the project's cash flows through the cost of capital

Disadvantages

- The discounted payback period solves the time value problem, but it still ignores the cash flows beyond the payback period
- Therefore, it may reject projects that have large cash flows in the outlying years that make it very profitable
- Any measure of payback can lead to a focus on short-run profits at the expense of larger long-term profits.

b) Net Present Value (NPV)

Net present value (NPV) is a discounted cash-flow approach to capital budgeting that computes the present value of all expected future cash flows using a minimum desired rate of return (Horngren, et al., 2001:407).

Net present value (NPV) is a technique that determines the present value of the inflows and outflows and then simply takes a difference between the two. If that difference is positive, it is considered to be returning the required rate of return and is an acceptable project. If the amount is negative, it is not providing a sufficient return and would be rejected. In the event two or more mutually exclusive projects all have positive net present values then the project with the highest NPV is selected. The generally accepted advantages of NPV are that it considers the time value of money and is relatively easy to calculate. On the other hand, it is often difficult for laymen to understand the results obtained and (most importantly) it assumes that interim payments received during the life of the project can be invested at the discount rate used in the calculation. This is often not a true statement and can be used to manipulate the results of the analysis (Horngren, et al., 2001:407).

The net present value method requires that all cash flows associated with new investment proposals be discounted at a predetermined weighted average cost of capital.

$$NPV = \sum_{t=1}^n \frac{CF_t}{(1+k)^t} + \frac{S_n + W_n}{(1+k)^n} - \sum_{t=1}^n \frac{CO_t}{(1+k)^t}$$

Where,

- CF_t = Cash inflows after taxes in year 1 to n (CFAT)
- S_n = Salvage value (net of removal cost) in the terminal year
- W_n = Working capital recovered in the terminal year
- CO_t = Cash outflows required for investment
- K = Weighted average cost of capital

Decision Rule

Decision rule for a project under NPV is to accept the project if the NPV is positive and reject if it is negative. However, in practice, it is rare that such a project is accepted as such a situation simply implies that only the original investment has been recovered. As a decision criterion, this method can also be used to make a choice between mutually exclusive projects. On the basis of the NPV method, the various proposals are ranked in the order of the net present values. The project with the highest NPV will be assigned the first rank, followed by others in the descending order (Khan & Jain, 2000:17.22-17.23).

The advantages and disadvantages of NPV are as follows:

Advantages

- Computes true interest rate
- Tells whether the investment will increase the firm's value
- Considers all the time value of money
- Considers all cash flows
- Considers the risk of future cash flows.
- Easy to apply because it does not require trial and error approach

Disadvantages

- The target or minimum rate is difficult to determine
- Does not provide the true rate of return on investment
- Assumes that all net cash inflows from an investment are immediately reinvested at the target rate selected for discounting.

c) Profitability Index

The profitability index (PI) or benefit cost ratio is a time-adjusted capital budgeting technique. It is similar to the NPV approach. The PI approach measures the present value of return per rupee invested, while the NPV is based on the difference between the present value of future cash inflows and the present value of cash outlays. Profitability index may be defined as a ratio, which is obtained by dividing the present value of future cash inflows by the present value of cash outlays.

An index that attempts to identify the relationship between the costs and benefits of a proposed project through the use of a ratio calculated as:

$$PI = \frac{\text{Present value of cash inflow}}{\text{Present value of cash outflow}}$$

This method is also known as the benefit-cost ratio because the numerator measures benefits and the denominator costs.

Decision Rule

If the PI value exceeds one, the proposal is worth accepting. When profitability indeed equals one, the firm is indifferent to the projects. When the profitability index is greater, equal to, or less than one, the net present value is greater, equal or less than zero respectively. In other words NPV will be positive when

the profitability index is greater than one; and will be negative when the profitability index is less than one. Thus, the NPV and profitability index approaches give the same results regarding the investments proposals (Bajracharya, et al., 2008:618).

The Pros and Cons of the PI can be as follows:

Advantages

- May be useful when available investment funds are limited
- Easy to understand and communicate
- Correct decision when evaluating independence projects

Disadvantages

- Problems with mutually exclusive investments

d) Cost Benefit Analysis

Cost Benefit Analysis (CBA) can be defined as a systematic and quantitative appraisal to determine whether estimated benefits of a project justify the public sector or non profit organization. It is a measurement of resources utilized in any activity/ programme/ project in terms of cost and then comparison with the value of benefit to be derived from the activity. CBA is concerned with about all the costs and benefits in relation to a given programme or project incurred and received by one or more individuals or groups.

CBA is widely used in non profit organization for evaluating the investment projects. It is also used in profit oriented organizations for analyzing such proposals as spending more money to improve safety conditions or to reduce pollutions, etc. CBA is a major tool of management in all types of organizations but it is particularly relevant to decision making in public sector. When projects are allotted by government or government agencies, economic and social feasibility is also considered. Cost and benefit to the nation due to the proposed project are considered in the economic feasibility tests. Tax

revenue, generation of employment, saving of foreign exchange and such other factors are considered in economic viability of the project. The government and the government agencies calculate the economic indicators of the project before permitting the project of financing it. CBA is also known as cost effective analysis. It is an analytical tool in decision making which enables systematic comparison to be made between the estimated cost of undertaking a project and the estimated value and benefit which may arise from the operation of such a project. The total value of social benefits from a project is ascertained by determining to total traceable value of its products. In other words the social benefits from a project can be judged with reference to import value of such goods or to the detriment which the society suffers in case they are not produced.

It is a ratio of benefit to cost. It is generally calculated using present value of cash, discounted at an appropriate accounting rate of interest (Munakarmi, 2003:14.32).

$$\text{CB ratio} = \frac{\text{PV of all positive cash flows}}{\text{PV of all negative cash flows}}$$

e) Internal Rate of Return (IRR)

When we have an investment that creates differing amounts of annual cash flow, we need to determine our rate of return using the Internal Rate of Return (IRR). The IRR is the discount rate often used in capital budgeting that makes the net present value of all cash flows from a particular project equal to zero. Generally speaking, the higher a project's internal rate of return, the more desirable it is to undertake the project. As such, IRR can be used to rank several prospective projects a firm is considering. Assuming all other factors are equal among the various projects, the project with the highest IRR would probably be considered the best and undertaken first.

The IRR is usually the rate of return that a project earns. It is defined as the discount rate, which equates the aggregate present value of the net cash inflows (CFAT) with the aggregate present value of the cash outflow of a project. In other words, it is that rate which keeps the project NPV zero (Khan & Jain, 2000:17.24).

The project will be accepted only if IRR (r) exceeds the cost of capital (k) symbolically, r is determined as per the equation:

$$\sum_{t=1}^n \frac{CF_t}{(1+r)^t} + \frac{S_n + W_n}{(1+r)^t} - \sum_{t=1}^n \frac{CO_t}{(1+r)^t} = \text{Zero}$$

Where,

- CF_t = Cash inflows after taxes in year 1 to n (CFAT)
- S_n = Salvage value (net of removal cost) in the terminal year
- W_n = Working capital recovered in the terminal year
- CO_t = Cash outflows required for investment
- K = Weighted average cost of capital

The IRR is of a project is the rate of discount, which produces a zero NPV.

Decision Rule

The IRR decision rule is that only project with IRR greater than some predetermined cut-off rate or hurdle rate should be accepted. If the IRR and the required rate of return are equal, the firm is indifferent as to whether to accept or reject. All other investment opportunities should be rejected. The market interest rate reflects the opportunity cost of capital involved. Thus to be acceptable, a project must generate a return at least equal to the return available elsewhere in the capital market (Khan & Jain, 2000:17.25).

The advantages and disadvantages of the IRR can be pointed out as follows:

Advantages

- Properly adjusts for time value of money

- Uses cash flows rather than earnings
- Accounts for all cash flows
- Considers the risk of future cash flows
- Tells whether an investment increases the firm's value

Disadvantages

- It is complex when periodic net cash flows are unequal
- It is difficult to use risk and sensitivity analysis.
- It requires an estimate of the cost of capital in order to make a decision
- It may not give the value maximization decision when used to compare mutually exclusive projects
- It cannot be used in situations in which the sign of the cash flows of a project change more than once during the project's life
- In case of multiple IRR, there is no real solution

f) Modified Internal Rate of Return (MIRR)

Modified Internal Rate of Return (MIRR) is the discount rate at which present value of project's cost is equal to the present value of its terminal value (Paudel, et al., 2008: 192).

MIRR is a variant of IRR that assumes that cash generated is re-invested at the cost of capital (usually the WACC). This is preferable because:

- Any series of cash flows has a single MIRR.
- It takes account of the rate at which cash generated is re-invested.

It considers the returns at the end of the life time of a project, including returns on cash generated and re-invested elsewhere. For the IRR to equal the total return the project has generated at that time, the cash inflows must be re-invested at the same rate as the IRR. This is unrealistic. The MIRR does suffer

from some of the other drawbacks of IRR. Relying on it can lead to an incorrect choice between mutually exclusive investments.

To calculate the MIRR, first of all, the total future value of the cash flows at the reinvestment rate is found out, and then the following formula is applied:

$$\text{MIRR} = \sqrt[N]{\frac{\text{FVCF}}{\text{ICO}}} - 1$$

Where,

FVCF = Future Value of Cash Flows

ICO = Initial Cash Outlay

N = Life of the project

The following points give the idea about the Pros and Cons of MIRR:

Advantages

- Tells whether an investment increases the firm's value
- Considers all cash flows of the project
- Considers the time value of the project
- Considers the risk of future cash flows through the cost of capital in the decision rule

Disadvantages

- Requires an estimate of the cost of capital in order to make a decision
- May not give the value maximizing decision when used to compare mutually exclusive projects
- May not give the value maximizing decision when used to choose projects when there is capital rationing.

2.1.5 Capital Budgeting Under Risks and Uncertainty

A capital budgeting decision is based on the benefits derived from the project. These benefits are measured in terms of cash flows. The estimation of future

returns is done on the basis of various assumptions. The actual return in terms of cash inflows depends on a variety of factors such as price, sales volume, effectiveness of the advertisement campaign, competition, cost of raw materials, manufacturing costs and so on; each of these in turn depends on other variables like the states of the economy, rate of inflation, etc. The accuracy of the estimates of the future returns and therefore the reliability of the investment decision would largely depend upon the precision with which these factors are forecast. Whatsoever techniques are followed for forecasting precisely actual returns can never tally to the estimations. As a result actual results vary from the estimation. This variation is technically referred to as a risk. The term risk with an investment can therefore be defined as the variability in the actual returns emanating from a project in future over its working life in relation to the estimated return as forecast at the time of initial capital budgeting decision (Horngren, et al., 1997:841).

The decision situations with reference to risk analysis in capital budgeting decisions can be broken up into three categories.

- Uncertainty
- Risk
- Certainty

The risk situation with is one in which the probability of a particular events occurring are known. These probabilities are not known under the situation of uncertainty. The different between risk and uncertainty therefore lies in the fact that the variability is less than in uncertainty (Bajracharya, et al., 2008:627).

In reality, risk generally is incorporated into capital budgeting decisions somewhat arbitrarily. The firm generally uses its normal or average, required rate of return to evaluate projects that have average risk, a few percentage points are added to the average required rate of return to evaluate projects that have above-average risk, and a few percentage points are subtracted from the

average required rate of return to evaluate projects that have below-average risk. It is important that a project's risk be considered in capital budgeting analysis, because incorrect decisions might be made if risk is not considered. For example, if the firm's average rate of return is used to evaluate all capital budgeting projects, regardless of their risk, then projects with little (great) risk might be rejected (accepted) when they should be accepted (rejected).

Whenever we analyze an investment project, we must consider unique factors.

Three common factors to consider are:

- Compensating for different levels of risks between projects.
- Recognizing risks that are specific to foreign projects.
- Making adjustments to capital budgeting analysis by looking at the actual results.

Capital budgeting analysis that incorporates consideration of risk may do so either traditional techniques or statistical techniques. They are described as follows.

A) Traditional Techniques

Under these techniques, risk adjusted discount rate; certainty equivalent coefficient and sensitivity analysis are doing for analysis of risk.

a) Risk Adjusted Discount Rate

The risk adjusted discount rate (RAD) approach is one of the simplest and most widely used methods for incorporating risk into the capital budgeting decision. Generally, under this method the riskiness of the project depends upon the discount rate. If the discount rate is high, that project is considered as highly risky project and if the discount rate is low that project is considered as a lower risky project. A risk premium rate may be added to risk free discount rate to find out the present value of future return from risky investment proposals.

Decision rule

- NPV should be positive by using the risk adjusted rates for acceptance of proposal.
- IRR should be greater than the risk adjusted rate of return for acceptance of proposal (Gyawali, et al., 2005:12.26).

b) Certainty Equivalent coefficient (CEC)

The certainty equivalent approach is an alternative to the risk adjusted rate method to incorporate risk in evaluating investment projects. Under the risk adjusted discount rate method; the risk of the project is taken into consideration by adjusting expected cash flows and not the discount rate. These methods eliminate the problem arising out of the inclusion of risk premium in the discounting process.

$$CEC = \frac{\text{Riskless cash flow}}{\text{Risky cash flow}}$$

Decision Rule

Higher the certainty equivalent coefficient denotes lower risk and lower the certainty equivalent coefficient denotes higher risk. The NPV of risk less cash flows should be positive and IRR of risk less cash flows should be greater than risk free rate of return (Gyawali, et al., 2005:12.29).

c) Sensitivity Analysis

Sensitivity analysis is a procedure to study systematically the effect of changes in the values of key parameters-including R&D costs, plant construction costs, market size, market share, price and production costs-on the project NPV. It is best suited to address a series of what if questions (Shapiro, 2008:138).

Sensitivity analysis provides information as to how responsive the estimated project cash flows the discount rate and the project life are to estimation errors.

An analysis on these lines is important as the future is always uncertain and there will always be estimation errors (Bajracharya, et al., 2008:627).

Sensitivity analysis takes care of estimation errors by using a numbers of possible outcomes in evaluating a project. The method adopted under sensitivity analysis is to evaluate a project using a number of estimated cash flows to provide to the decision maker an insight into variability of the outcomes.

The sensitivity analysis provides different cash flow estimates under three assumptions.

- The best (i.e. the most optimistic)
- The normal (i.e. the most likely/ moderate)
- The worst (i.e. the most pessimistic)

The large in the difference between the pessimistic and optimistic cash flow is considered as riskier project and vice versa. The accepting or rejecting the projects depends upon the attitude of decision maker towards the risk (Gyawali, et al., 2005:12.30).

B) Statistical Techniques

Under this technique, assignments of probabilities, standard deviation, co-efficient of variation and decision tree are doing for analysis of risk.

a) Assignment of Probability

The probability distribution of cash flows overtime provides information about the expected value of return and the dispersion or the probability distribution of possible returns. On the basis of the information, accept - reject decision can be taken.

The application of this theory in analyzing risk in capital budgeting depends upon the behaviour of the cash flows, from the point of view of behaviour cash being Independent or dependent. The assumption that cash flows are independent over time signifies that future cash flows are not affected by the cash flows in the proceeding or following years (Van Horne, 2002:170).

Decision Rule

- NPV must be positive to accept the project
- IRR must be greater than cost of capital to accept projects

b) Standard Deviation

Standard deviation is the measures of the tightness, or variability of a set of outcomes. Standard deviation is defined as square root of the mean of the square deviation where deviation is the difference between an outcomes and expected volume of all outcomes.

Greater the standard deviation is said the higher degree of risk and lower the standard deviation is said to the lower degree of risk. The project, which has higher degree of standard deviation is not generally accepted and vice-versa (Gyawali, et al., 2005:12.30).

c) Co-efficient of Variation

Coefficient of variation (C V) is a relative measure of risk. Standard deviation can be misleading in comparing the uncertainty of alternative projects, if they differ in size. The coefficient of variation is a correct technique in such cases. Coefficient of variation standardized measure of the risk per unit of return, calculated as the standard deviation divided by the expected return.

$$C V = \frac{\text{Standard Deviation}}{\text{Expected Cash Flow}}$$

Higher the coefficient of variation is considered as the higher degree of risk and lower the coefficient of variation is considered as the lowest degree of risk (Gyawali, et al., 2005:12.37).

d) Decision Tree

The decision tree (DT) approach is another useful alternative for evaluating risky investment proposals. The outstanding feature of this method is that it takes into account the impact of all probabilistic estimates of potential outcomes. In other words, every possible outcome is weighted in probabilistic terms and then evaluated. The DT approach is especially useful for situations in which decisions at one point of time also affect the decisions of the firm at some later date. Another useful application of the DT approach is for projects which require decisions to be made in sequential parts (Bajracharya, et al., 2008: 639).

A decision tree is a pictorial representation in tree form which indicates the magnitude, probability and interrelationship of all possible outcomes. The format of the exercise of the investment decision has an appearance of a tree with branches and, therefore, this method is referred to be the decision-tree method. A decision tree shows the sequential cash flows and the NPV of the proposed project under different circumstances (Van Horne, 2002:179).

2.1.6 Review of Management Accounting Tools

Management accounting is an activity that is interwoven in the management processes of all organizations. Management Accounting refers to that part of the management process which is focused on adding value to organizations by attaining the effective use of resources by people, in dynamic and competitive contexts. The functions of management accounting may be said to include all activities connected with collecting, processing, interpreting and presenting information to management. The management accounting satisfies the various

needs of management for arriving of appropriate business decisions. A short review of management accounting tools is mentioned below.

2.1.6.1 Cost Segregation

Mixed cost should be separated into variable and fixed components before entering into financial planning, decision making and controlling. Mixed cost separation method are such as Graphic method, high low method, Analytical method, average method and least square method which are described as follows:

a. Graphical Methods

The graphical method of dividing mixed cost into their fixed and variable components makes use of all relevant past data pertaining to cost volume relationship. The data are plotted in a scatter graph. Each point in a chart represents cost for a particular months/ days in relation to number of units produced or level of activity (Khan & Jain, 2000:5.11).

b. High Low Method

High-Low Method (HLM) is an algebraic procedure that estimates the Constant (fixed cost element) and Slope (variable rate per unit of X) of an Equation by using only the highest and lowest pairs of the sample data. As Mixed Cost necessarily includes elements of both fixed and variable cost, the HLM analysis takes the mathematical form of the linear equation $Y = a + bX$, (Similar to Least Square Method, also called as Cost Formula).

The difference in cost between highest and lowest level of activities are divided by the difference in activity or output. The result of division is variable cost per unit. This method assumes that fixed cost trends remain constant and if there is any changes are only in variable cost (Dangol & Dangol, 2007:30).

c. Analytical Method

This method also known as "Degree of variability" techniques because the genesis of this method lies in measuring the extent of variability of costs on a careful analysis of each item to determine how far the cost varies with volume. In other words, the technique is based on a careful analysis of each item to determine how far the cost varies with volume (Khan & Jain, 2000:5.13).

Variable overheads under this method computed as follows:

Variable Overhead = Budgeted Mixed Overhead × Degree of Variability

d. Least Square Method

Least Square is a procedure, requiring just some calculus and linear algebra, to determine what the "best fit" line is to the data. It follows regression equation to segregate mixed cost into variable. It is an accurate and trusted method of segregation of fixed and variable cost from mixed cost. In this method, first of all, variable cost per unit is calculated. Then fixed cost is calculated (Dangol & Dangol, 2007:30).

2.1.6.2 Cost-Volume-Profit Analysis (CVP Analysis)

Cost-volume-profit analysis (CVP), or break-even analysis, is used to compute the volume level at which total revenues are equal to total costs. When total costs and total revenues are equal, the business organization is said to be "breaking even." The analysis is based on a set of linear equations for a straight line and the separation of variable and fixed costs. The financial information required for CVP analysis is for internal use and is usually available only to managers inside the firm; information about variable and fixed costs is not available to the general public. CVP analysis is good as a general guide for one product within the relevant range. If the company has more than one product, then the contribution margins from all products must be averaged together.

2.1.6.3 Standard Costing

Standard costing is a system of cost ascertainment and control in which predetermined standard costs and income for products and operations are set and periodically compared with actual costs incurred and income generated in order to establish any variances. Standard costing is a management control technique for every activity. It is not only useful for cost control purposes but is also helpful in production planning and policy formulation. It allows management by exception. Standard costing is preparation of standard costs and applying them to measure the variations from standard costs and analyzing the causes of variations with a view to maintain maximum efficiency in production. This technique is complementary to the actual costing can be historical costing system. The system of standard costing can be used in all types of industries but it is more commonly used in industries producing standardized products, which are repetitive nature.

Standard costing systems are very expensive to develop and maintain; they were also designed for traditional manufacturing systems in which direct labour and direct materials are the most important costs. Recent years have seen a decline in the use of such systems as companies become less labour intensive.

2.1.6.4 Master Budget

The master budget is a summary of company's plans that sets specific targets for sales, production, distribution and financing activities. It generally culminates in a cash budget, a budgeted income statement, and a budgeted balance sheet. In short, this budget represents a comprehensive expression of management's plans for future and how these plans are to be accomplished.

It usually consists of a number of separate but interdependent budgets. One budget may be necessary before the other can be initiated. More one budget estimate affects other budget estimates because the figure of one budget is usually used in the preparation of other budget.

The usual master budget for a manufacturing enterprise has the following components.



However a master budget can be divided into two groups. That is operational budget and financial budget.

2.1.6.5 Zero Base Budgeting

Zero Based Budgeting (ZBB) is a method of budgeting in which all expenses must be justified for each new period. A zero-based budgeting start from a “zero base” and every function within an organization is analyzed for its needs and costs. Budgets are then built around what is needed for the upcoming period regardless of whether the budget is higher or lower than the previous one. ZBB allows top-level strategic goals to be implemented into the budgeting process by tying them to specific functional areas of the organization, where costs can be first grouped, then measured against previous results and current expectations. This approach requires that all actions are justified and prioritized

before decisions are taken relating to the amount of resources allocated to each activity (Drury, 2004:618).

2.1.6.6 Activity Based Budgeting

Activity based Budgeting (ABB) is a method of budgeting in which the activities that incur costs in every functional area of an organization are recorded and their relationships are defined and analyzed. Activities are then tied to strategic goals, after which the costs of the activities needed are used to create the budget. Activity based budgeting stands in contrast to traditional, cost-based budgeting practices in which a prior period's budget is simply adjusted to account for inflation or revenue growth. As such, ABB provides opportunities to align activities with objectives streamline costs and improve business practices (Drury, 2004:612).

2.1.6.7 Flexible Budget

A flexible budget is an alternative that has some compelling advantages. It relates anticipated expenses to observed revenue. To illustrate, if a business greatly exceeded the sales goal, it is reasonable to expect costs to also exceed planned levels. After all, some items like cost of sales, sales commissions, and shipping costs are directly related to volume. How ridiculous would it be to fault the manager of the business for having cost overruns? Conversely, failing to meet sales goals should be accompanied by a reduction in variable costs. Certainly it would make no sense to congratulate a manager for holding costs down in this case. A flexible budget is one that reflects expected costs as a function of business volume; when sales rise so do certain budgeted costs, and vice versa . The flexible budget responds to changes in activity, and may provide a better tool for performance evaluation. It is driven by the expected cost behaviour. Fixed factory overhead is the same no matter the activity level, and variable costs are a direct function of observed activity. When performance evaluation is based on a static budget, there is little incentive to drive sales and production above anticipated levels because

increases in volume tend to produce more costs and unfavourable variances. The flexible budget-based performance evaluation provides a remedy for this phenomenon.

2.1.6.8 Ratio Analysis

Ratio Analysis is a tool used by individuals to conduct a quantitative analysis of information in a company's financial statements. Ratios are calculated from current year numbers and are then compared to previous years, other companies, the industry, or even the economy to judge the performance of the company. Ratio analysis is predominately used by proponents of fundamental analysis. There are many ratios that can be calculated from the financial statements pertaining to a company's performance, activity, financing and liquidity. Some common ratios include the price-earnings ratio, debt-equity ratio, earnings per share, asset turnover and working capital (Van Horne, 2002:349-371).

The financial ratios can be categorized into the following ways:

- Liquidity Ratios
- Leverage Ratios
- Activity Ratios
- Profitability Ratios

2.1.6.9 Breakeven Analysis

Breakeven is that point where the company just recovers all of its costs or there is no profit or no loss. In other words, where the total cost equals the total revenue is called the breakeven revenue. It will just be able to recover its cost. To put breakeven point in other words, that is point at which a company breaks the loss (minus) zone and enters into profit zone. Break even analysis is the managerial tools that shows the relationship between cost and profit with sales volume i.e. revenue in banks. Breakeven analysis helps the management to know which revenue level will only recovers its cost and after which it starts

giving profit. Therefore, it can provide management some insight into decision making (Goet, et al., 2006:12.2).

2.1.6.10 Cash Flow Analysis

All business activities are carried with cash and all profitable activities must result in net inflows of cash. It is therefore useful to establish activities must result in a net inflow of cash. The quantum of the flows of cash into business is as a result of operations and other transactions. It should be remembered that cash inflow and profit are often different. It is possible that in a business suffering a loss, there may be still an increase in cash because of trading operation (Goyal & Mohan, 1999:619).

Cash flow is determined by looking at three components by which cash enters and leaves a company: core operations, investing and financing. Cash flow analysis is done through preparing cash budget. Cash as important current asset should be managed carefully. Though it is zero earning assets, it is held by the firm with different purposes such as: transaction motive, precautionary motive and speculative motive.

2.1.6.11 Management Control Systems and Responsibility Accounting

Management Control Systems (MCS) theory is a useful integrative tool for organizing, explaining, and understanding the jargon and concepts of performance measurement. Management consists of the basic functions of planning decision-making and control. Control is the function of the management that ensures the proper implementation of plans and policies to achieve the organizational objectives. Management control systems focuses on motivating managers for the sake of enhancing total profitability of the organization. A management control system is logical integration of techniques to gather and use information to make planning and control decisions, to motivate employee behaviour and to evaluate performance.

Responsibility accounting is an underlying concept of accounting performance measurement systems. The basic idea is that large diversified organizations are difficult, if not impossible to manage as a single segment, thus they must be decentralized or separated into manageable parts. These parts or segments are referred to as responsibility centres that include: 1) revenue centres, 2) cost centres, 3) profit centres and 4) investment centres. This approach allows responsibility to be assigned to the segment managers that have the greatest amount of influence over the key elements to be managed. These elements include revenue for a revenue centre (a segment that mainly generates revenue with relatively little costs), costs for a cost centre (a segment that generates costs, but no revenue), a measure of profitability for a profit centre (a segment that generates both revenue and costs) and return on investment (ROI) for an investment center (a segment such as a division of a company where the manager controls the acquisition and utilization of assets, as well as revenue and costs) (Khan & Jain, 2000:21.2).

2.2 A Brief Review of the Previous Research Work

Researches on the area of capital budgeting practices in Nepalese context are not made in remarkable number. Many researches were in the area of Profit Planning & Control, Revenue planning, Cost Volume Profit Analysis and Management Accounting practices in Nepalese context. As profit planning and control and management accounting practices cover some of the aspects of capital budgeting, researches made on these areas are taken into consideration for the sake of review to examine the position of capital budgeting practice in Nepalese Industrial PEs. An attempt is made here to review some of the researches, which have been submitted in profit planning and control, cost volume profit analysis and management accounting practices in the context of Nepal.

Ojha (1995) had conducted a research on *Profit Planning in Manufacturing Public Enterprise; A Case Study of Royal Drugs Limited and Herbal*

Production and Processing Company Limited. The time period covered by this research was six years from F/Y 046/47 to F/Y 051/52. The data and other necessary information were collected by using secondary as well as primary source of data.

His Main Objectives of the study were:

- To examine practice and effectiveness of profit planning in RDL and HPPCL.
- To analyse the various functional budgets adopted in these companies.
- To evaluate the variances between the target and actual performance of the companies.

His Major Findings were:

- Inadequate planning of profit due to lack of skilled planner
- Inadequate authority and responsibility to planning department.
- Failure in achievements due to inadequate evaluation of internal and external varieties and due to inadequate forecasting system...
- Lack of Entrepreneurship and Commercial concepts in overall operation of the enterprises.
- There is no proper coordination between sales, inventories and production.

Recommendations of the study were:

- HPPCL & RDL should do in-depth analysis of the company's strength and weakness.
- A system approach to comprehensive profit planning should be adopted
- Planning department should be given adequate authority to decide and create new ideas to formulate various plans.
- Price-volume relationship should be taken into consideration while delivering sales plan and pricing strategies.

Acharya (2000) had submitted a dissertation on *Profit Planning in Nepalese PEs (A case study of Herbs Production and Processing Co. Ltd.)*.

His Main Objectives of the study were:

- To see how far the different functional budgets are being applied as a tool for profit planning in manufacturing and business enterprise.
- To examine the practice and effectiveness of comprehensive profit plans and control system of HPPCL.
- To examine the present planning provision adopted by HPPCL on the basis of budgeting.
- To access the BEP analysis of HPPCL.

His Major Findings were:

- The company has been suffering at loss since established to now due to unscientific and imperfect budgets prepared.
- The company has facing marketing problem in international markets as well as Indian Market.
- Achievements and the analysis of CVP and flexible budgeting shows the HPPCL has been suffering with various internal and external problems in the process of formulating and implementing profit plan.

Recommendations of the study were:

- Profit planning system should be systematic with a clear objective and manual should be communicated from top level to lower level.
- Executives should be well versed with business knowledge. The company should hire trained and qualified manpower of budgeting and planning and present manpower should be developed.
- The company should develop sales strategy in domestic and international market.
- The company should try to reduce investment in current assets to avoid idle working capital.

Sharma (2002) had conducted a research on *Management Accounting Practice of the Listed Companies of Nepal*. For this study, Mr. Sharma classified the different companies listed in Nepal Stock Exchange to the different groups according to their nature of service i.e. manufacturing, trading, service, financial etc. He collected the data required for the study from primary sources. Questioners and discussion with the stakeholders was the base of study.

The Prime Objectives of his study were:

- To find out how far the Nepalese companies practice the management accounting tools and techniques.
- The management accounting tools not in use and the difficulties on application.
- To recommend the areas and measures for the application of management accounting tools and techniques.

His Major Findings of the Research works were:

- From the study it was clear that 100% of the banking companies practiced NPV criteria of capital budgeting, 50% practiced PBP and 25% practiced ARR and IRR to make the long term decisions.
- In case of manufacturing companies, it was found that 67% Practiced NPV and IRR while 44% practiced ARR tools of capital budgeting while making decision on purchasing fixed assets. Likewise, 78% of them practiced sensitive analysis, 33% of the companies practiced increasing the required rate of return and shortening the pay back period and 33% practiced estimating probability distribution of cash flows for risk adjustment while evaluating capital investing decision.
- While preparing budgets most of the companies based on actual expenses, 26% of companies used past estimates to prepare budgets. There is no practice of Zero Base Budgeting due lack of information and cognizance about the format and the way of developing it.
- On budget preparation, there is no practice of taking consultancy services.

Recommendations of the study were:

- A separate management accounting department should be established and furnished with the experts.
- Companies can be improved by allowing greater autonomy and more accountability.
- It should hire the professional experts for the budget preparation and other planning activities.
- Enterprises should be motivated for the application of new advance and modern management accounting tools.

Dhakal (2003) had conducted research on *Profit Planning in Manufacturing Enterprises; A case study of Herbs Production & Processing Company Ltd.*

His Main Objectives of the study were:

- To examine present practice of profit planning and control and its effectiveness in HPPCL.
- To observe HPPCL's profit plan on the basis of overall managerial budgeting.
- To analyse the difference between budgeting and actual achievement in the Co.

His Major Findings of the research works were:

- There is serious lack of mgmt. Expertise, which has led to formulation of unrealistic, haphazard plans. The variances are unfavourable and very high.
- Periodic performance has not been maintained to find the underlying causes of poor achievement.
- Cost classification has not been done in scientific manner, which make problem in analysis and control of costs.

- As government enterprises there is lack of autonomy as every major decision need to be sanctioned by the MOF. The excessive red tape makes timely decision impossible leading to loss of market opportunities.

Recommendations of the study were:

- Moves should be made to establish a skilled management to make sure that realistic plans are set and effectively implemented with continuous follow ups.
- The Co. needs to have a periodic performance reporting system to identify loopholes. For this purpose operation should be decentralized and responsibility centres such cost, revenue, profit and investment centre be designated to associate the good or bad performance to a particular centre.
- HPPCL needs to classify costs in a scientific manner like variable, semi-variable and fixed, so that cost can be better analysed effectively planned and controlled.
- Cumbersome procedures lead to loss of marketing opportunities. Government intervention should be avoided.

Namdak (2005) had submitted the thesis on *Cost Volume Profit analysis of Dairy Development Corporation.*

His Main Objectives of the study were:

- To determine the relationship between cost volume and profit and profitability of the DDC.
- To evaluate the profitability and sensitivity of DDC in relation to sales.
- To analyze the productivity of the labour by using different productivity ratios.
- To analyze the CVP of the corporation and its impact on its profit planning.

The Major Findings of the research were:

- DDC has no effective sales forecasting techniques, leading to difference between budgeted and actual sales.
- There is no practice of CVP analysis and segregation of cost into fixed and variables.
- Over utilization of capacity resulting in increasing operation and maintenance cost every year.
- DDC has low contribution margin with high variable cost and high fixed cost, resulting in high BEP sales.

Recommendations of the study were:

- BEP Analysis should be done while planning and segregation of cost should be done.
- DDC should also consider variable cost. It should reduce as much as it can, so as to increase CM ratio.
- There should be separate planning and controlling department. Trained and qualified planning experts should be recruited or hired and all the employees should be well trained.

Acharya (2006) has conducted a research on *Management Accounting Practice in Nepalese Public Enterprise*. Acharya's research is based on primary data collected on the basis of stratified sampling technique. In his study 38 Nepalese public enterprise, Industries, and financial Institutions including RBB and NBL, are included.

His Main Objectives of the study were:

- To study and examine the extent of practice of management accounting tools techniques in Nepalese Public Enterprises.
- To identify the business sector, where MA tools can be applied to strengthen the PEs.

- To identify the major difficulties for applying the Ma tools in Nepalese Companies.

The Major Findings of the research were:

- Traditional approaches of concerned authorities are becoming a prime barrier for proper application of management accounting tools in Nepalese public enterprises.
- Role of government on pricing decision is significant.
- Practicing process of management accounting tools in manufacturing and service enterprises are slightly different and major MA related decision are not depending upon the MA tools and techniques.

Recommendations of the study were:

- To strengthen the competitiveness of PEs and carryout managerial activities, the use of MA tools and techniques are recommended. A separate Management Accounting department should also be established.
- Nepalese PEs must be completely autonomous for their activities. Unnecessary governmental and political intervention should be avoided.
- Business enterprises should put an effort to bring advance MA tools into practice by conducting national seminars. The business houses should conduct short term training programme on MA to update their personnel.

Adhikari (2007) had presented a dissertation on *Cost Volume Profit Analysis of Nepal Lube Oil Limited*.

His Main Objectives of the study were:

- To examine the use of CVP analysis to measure effectiveness of PPC in Nepal Lube Oil Limited.
- To study relationship of Cost, volume and Profit as a tool of budgeting.
- To evaluate the profitability and sensitivity of NLO's activities and its impact in profitability.

The Major Findings of the study:

- Company has usually very low margin of safety and also negative in some fiscal year.
- Both the Sales and Net Profit of the company are fluctuating. But sales is in increasing trend and net profit is in decreasing trend.
- The budgeted sales are more than actual sales inequality.
- BEP is in increasing trend due to decrease in PV ratio.

Recommendations of the study were:

- NLO should consider BEA Analysis while preparing sales plan, production plan and setting price of product.
- NLO should minimize the variable cost by purchasing raw materials in lower price from other supplier from the international market.
- Separate cost control committee should be established for effective control and mgmt. of cost.

Paudel (2008) had presented a dissertation on *Cost volume Profit Analysis tool used to Projected Profit by Salt Trading Corporation Limited*.

His Main Objectives of the study were:

- To examine the use of CVP analysis on the Salt Trading Corporation Limited.
- To analyze the cost and profit and loss of STCL.
- To study the relationship of cost volume profit.
- To analyze the impact of CVP of the corporation on Productivity.

The Major Findings of the study:

- Total sales of the corporation were unstable.

- The company sold different products among them agricultural material and Machine equipment on total sales were found nominal. But other products made highest contribution on total sales.
- Expenses of STCL were fluctuated variable cost as well as fixed cost increased or decreased during the period.
- The corporation has no details of systematic expenses plan. The fixed, variable and mixed expenses planning are essential for profit planning and control.

Recommendations of the study were:

- Every public and private enterprises should practice CVP Analyses.
- System of periodic performance reports should be strictly followed to be conscious about poor performance and take corrective action immediately.
- STCL should classify the costs for controlling purpose.

2.3 Research Gap

Most of the prior research works conducted on accounting was on Profit Planning & Control, Revenue planning, Cost Volume Profit Analysis and Management Accounting practices. Those studies have pointed the similar findings and conclusions. No research was found in the capital budgeting practices in manufacturing PEs. The study focused on the capital budgeting practices in Industrial PEs of Nepal. The main objective of the study was to find out how far the Nepalese Industrial PEs practices the capital budgeting tools and techniques to their business for better performance and results. This study also tries to find Long-term capital investment decision in Industrial PEs. The findings of these studies were mainly based on primary data.

CHAPTER - III

RESEARCH METHODOLOGY

Research methodology is concerned with various methods and techniques, which are used in the process of research studies. It includes wide range of methods including quantitative technique for data analysis and presentation. It facilitates the research work and provides reliability and validity to it. The main objective of this study is to analyze, examine and interpret capital budgeting practices in Industrial PEs of Nepal. The research methodology is followed to achieve the basic objectives and goals of research work. The major components of research methodology followed in this research study are discussed below.

3.1 Research Design

Research design is the plan, structure, and strategy of investigation conceived so as to obtain answer to research question and to control variance. The plan is the overall schemed or program of the research like the structure of research is more specific. It is the outline, the scheme, the paradigm of the operation of the variable and strategy implies how the research objective will be reached and how the problem encountered in the research will be tackled. Research design is an analytical as well as descriptive approach to achieve the objective. Thus research design is a plan to obtain the answer of research questions through analysis of data.

This research design will follow a descriptive design that attempts to measures the capital budgeting practices in Industrial PEs of Nepal.

Descriptive design is a fact finding operation searching for adequate information. It is a type of study, which is generally conducted to assess the opinions, behaviours or characteristics of a given population and to describe the situation and events occurring at present. Descriptive research is a process of

accumulating facts. It does not necessarily seek to explain relationship, test hypothesis, make predictions or get at meanings and implications of the study.

3.2 Sources of Data

The data were collected from the primary sources. Primary data were collected through questionnaire survey.

3.3 Population and Samples

For the purpose of the study of the capital budgeting practices of the Industrial PEs of Nepal, the samples of the Industrial PEs are taken by the judgment and convenient sampling method. It is difficult to study the population of Industrial PEs. Hence only five industrial enterprises are chosen as the sample for the analysis, interpretation and representation of the population of the Industrial PEs. The samples of five Industrial PEs, which are judged for the convenience, are as follows:

1. Dairy Development Corporation
2. Herbs Production and Processing Co. Ltd
3. Janakpur Cigarette Udyog Ltd.
4. Nepal Orind Magnesite (P) Ltd.
5. Nepal Aushadi Ltd.

3.4 Data Collection Procedure

This study is mainly based on primary sources of data, information collected by developing a structured question. The main target respondents were the financial Directors and Accountants of the manufacturing PEs. Altogether 12 questions were included in the questionnaire and analyzed for study.

3.5 Data Processing Procedure

Data collected information from questionnaires was in raw form. The data are tabulated into various tables according to the subject's requirement. Simple arithmetic percentage tool is used for analysis.

3.6 Research Variable

Simple percentages analyses were used to interpret data. The capital budgeting tools like NPV, IRR, PI, ARR, PBP, MIRR were the major research variables. Similarly the management accounting tools like budgeting, Zero base budgeting, capital budgeting, cost volume profit analysis, ratio analysis, cash flow analysis, decision making procedure, preparation of financial documents, short term and long term planning were also the research variables.

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The main objective of this study is to examine the present practice of capital budgeting tools and techniques in Nepalese Public Industrial Enterprises. The other objectives are to identify the areas where capital budgeting tools can be applied to strengthen the companies and to scrutinize the major difficulties in the application of capital budgeting tools in Nepalese Industrial PEs. To make recommendations to overcome the difficulties in applying capital budgeting tools in Nepalese Industrial PEs are the specific objectives of the research study this chapter included the data presentation and analysis.

4.2 Tabulation and Graphical Presentation of Practices of Capital Budgeting Tools

In this part, it has been attempted to analyze the data collected through questionnaire. The data are presented in table and pie chart/ bar diagram.

4.2.1 System of Budgeting Practices in Public Industrial Enterprises of Nepal

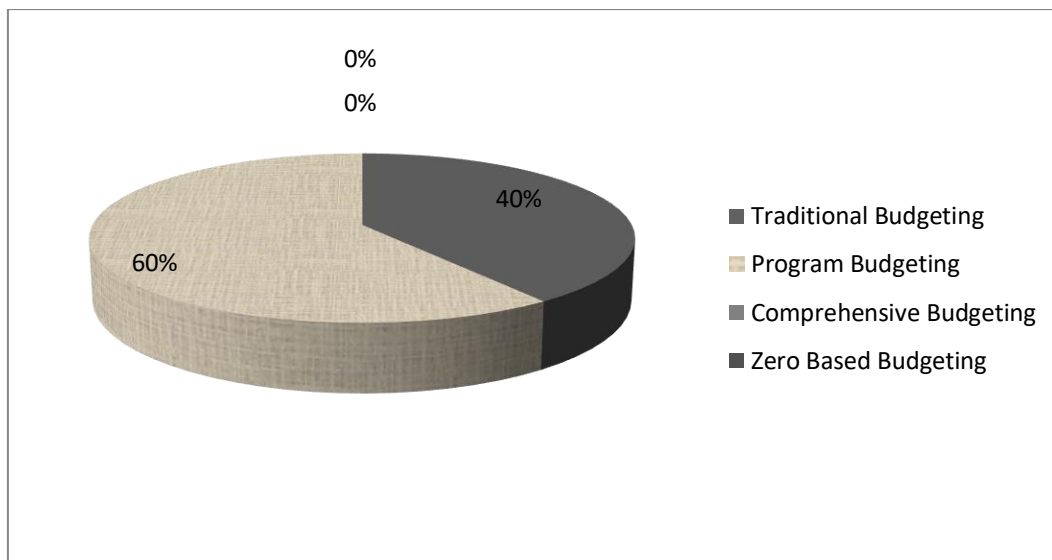
System of budgeting practices plays an important role in questioning, visualizing, analyzing, and measuring implemented strategies. It also helps to manager in overall managerial activities by providing information and helping in planning, controlling, and decision making. The following table and chart shows the current status of budgeting system practices of Nepalese Industrial PEs.

Table : 4.1
System of Budgeting Practices

Budgeting System	No. of enterprises	Percent
Traditional Budgeting	2	40
Program Budgeting	3	60
Comprehensive Budgeting	0	0
Zero Based Budgeting	0	0
Total	5	100

Source: Field Survey

Figure : 4.1
System of Budgeting Practices



The above table and figure exhibit the system of budgeting practice in Nepalese Industrial PEs. Regarding the response of sample Nepalese organizations, there is significant practice of programmed budgeting i.e. 60 percent. 40 percent of the sample companies have been practicing traditional budgeting system. Although ZBB is a justified budgeting system of every activity in the budget, none of the sample Nepalese Industrial PEs has applied zero based budgeting.

4.2.2 Basis of Budget Preparation

Budgeting summarized the estimated result of future transactions for the entire company in much the same manner as the accounting process records and

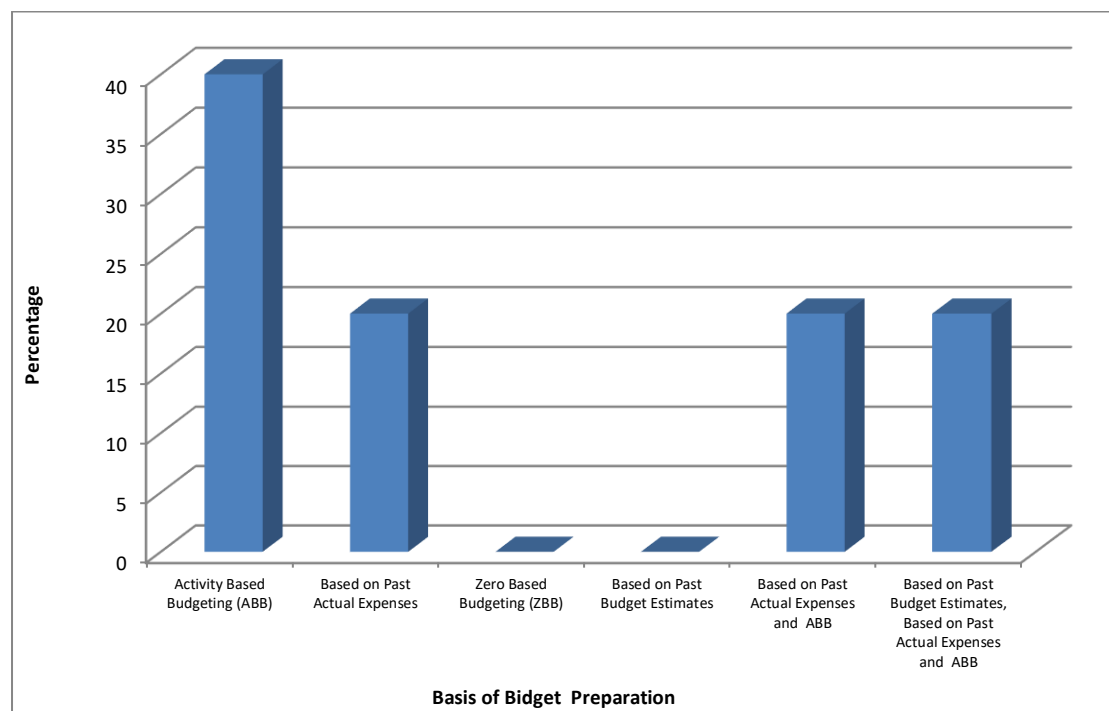
summarizes the result of completed transactions. For assisting the management in the functions of planning and control budgeting techniques is applied. Budget can be used as benchmark that allows manager to compare actual performance with estimated or desired performance. The following table gives the Nepalese Industrial PEs' response regarding the basis of budget preparation.

Table: 4.2
Basis of Budget Preparation

Basis of Preparing Budget	No. of Enterprises	Percent
Activity Based Budgeting (ABB)	2	40
Based on Past Actual Expenses	1	20
Zero Based Budgeting (ZBB)	0	0
Based on Past Budget Estimates	0	0
Based on Past Actual Expenses and ABB	1	20
Based on Past Budget Estimates, Based on Past Actual Expenses and ABB	1	20
Total	5	100

Source: Field Survey

Figure: 4.2
Basis of Budget Preparation



The above table and figure reflect the budget estimation technique practiced by sample Nepalese Industrial PEs. It is seen in the table and Figure that 40 percent of Nepalese Industrial PEs have been preparing their budget on the basis of activity based budgeting, 20 percent enterprises have been preparing their budget based on past actual expenses, 20 percent enterprises have been preparing their budget based on past actual expenses and activity based budgeting and next 20 percent enterprises have been preparing their budget based on past budget, past actual expenses and activity based budgeting. None of the Nepalese Industrial PEs have practised modern useful technique zero based budgeting due to lack of time and manpower. It seems that, in Nepal most of the enterprises do not have trained manpower for budgeting and planning.

4.2.3 Method of Investment Plan in Nepalese Public Industrial Enterprises

Investment plan helps to get maximum return from the prospective investment for the Industrial Enterprises. Systematic plan is necessary for capital fund management of the organization. On the basis of management perception different method of investment planning can be used. Following are the methods of analysis for investment plan undertaking by the sample Nepalese Industrial PEs:

Table: 4.3

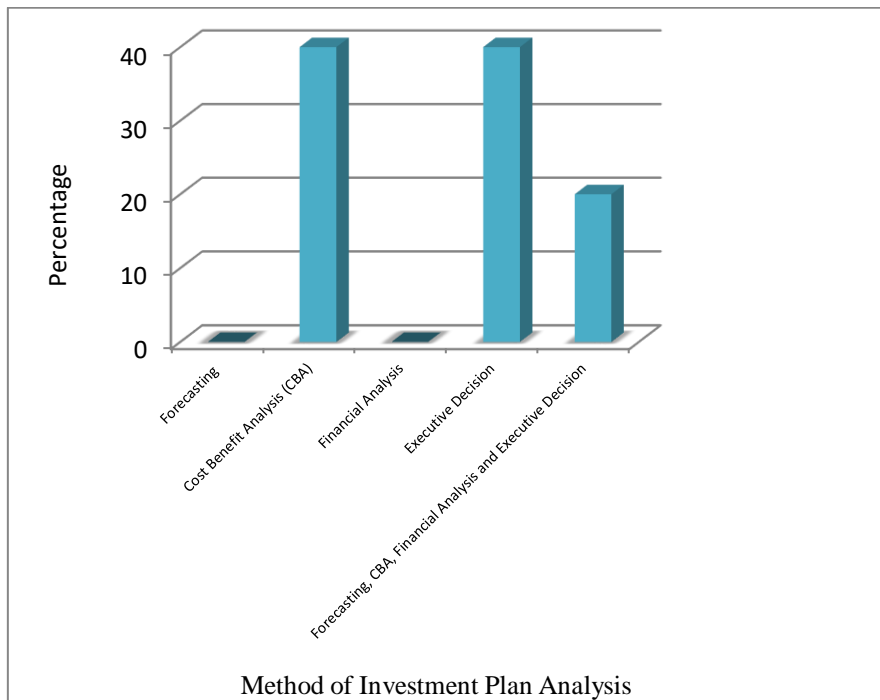
Method of Investment Plan Analysis

Methods	No. of Enterprises	Percent
Forecasting	0	0
Cost Benefit Analysis (CBA)	2	40
Financial Analysis	0	0
Executive Decision	2	40
Forecasting, CBA, Financial Analysis and Executive Decision	1	20
Total	5	100

Source: Field Survey

Figure: 4.3

Method of Investment Plan Analysis



The above table and figure show the method of investment plan analysis by the sample Nepalese Industrial PEs. 40 percent of the enterprises have been using executive decision for investment plan analysis. 40 percent of the Industrial PEs have been practising CBA for investment plan analysis. In the same way 20 percent of them have been applying all four forecasting, cost benefit analysis, financial analysis and executive decision to plan their investment. Although there are many effective techniques available to analyze investment plan, executive decision dominated the Nepalese Industrial PEs. It seems that in the Nepalese Industrial PEs there is still lack of practicing modern approach like participatory in decision making.

4.2.4 Sources of Fund for Investment Projects

A public enterprise has different sources available to raise fund to invest in projects. Raising fund involves additional cost for the enterprise and has long term effect in the life of project. Company policy and financial structure & position play a vital role in selecting source of fund. So, the table below tries to

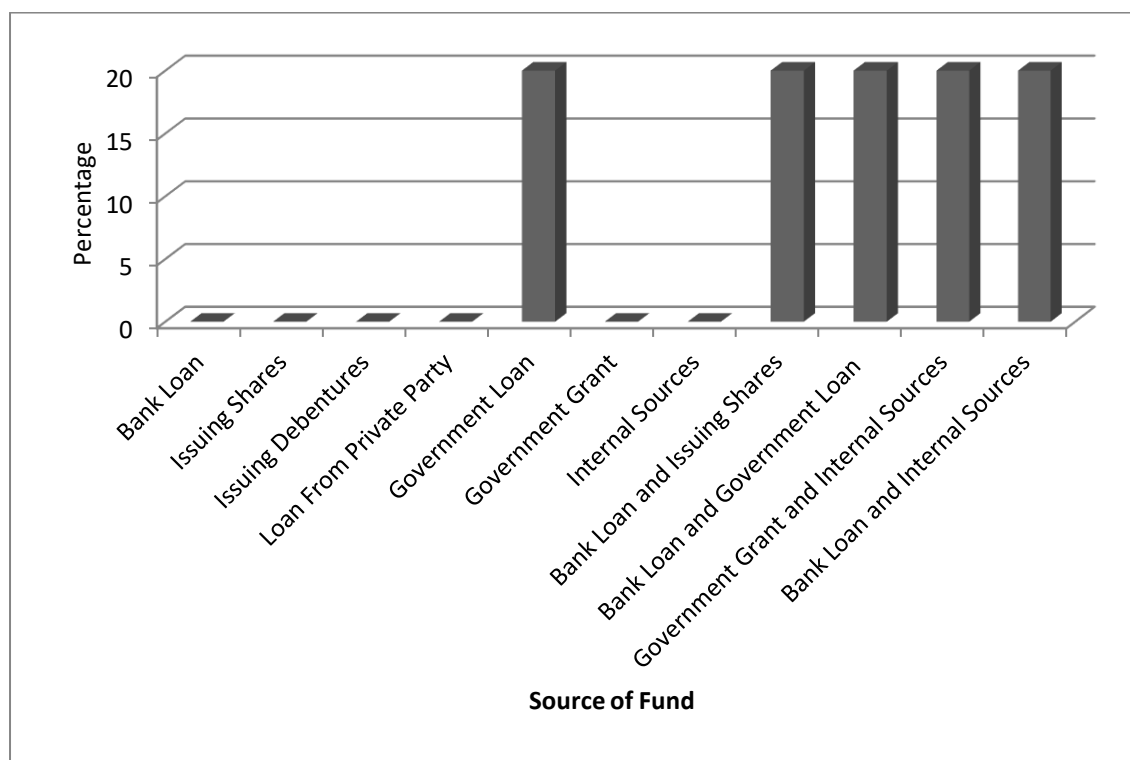
find out the preference given by Nepalese Industrial PEs in selecting the source of fund.

Table: 4.4
Sources of Fund for Investment Projects

Sources of Fund	Frequency	Percent
Bank Loan	0	0
Issuing Shares	0	0
Issuing Debentures	0	0
Loan From Private Party	0	0
Government Loan	1	20
Government Grant	0	0
Internal Sources	0	0
Bank Loan and Issuing Shares	1	20
Bank Loan and Government Loan	1	20
Government Grant and Internal Sources	1	20
Bank Loan and Internal Sources	1	20
Total	5	100

Source: Field Survey

Figure: 4.4
Sources of Fund for Investment Projects



The above table and figure reveal the source of fund for investment projects by the sample Nepalese Industrial PEs. 20 percent of the Industrial PEs have been collecting their fund from government loan for their investment projects. Both bank loan as well as issuing share was used for fund collection by 20 percent of the Industrial PEs. Similarly, 20 percent of the PEs have been collecting their fund from Grant and Internal Sources. Similarly, next 20 percent of the PEs have been collecting their fund from bank and government loan and remaining 20 percent of the PEs have been collecting their fund from bank loan and internal sources. None of the enterprises have been using debentures and loan from private party for their fund collection. Collection of fund plays a major role in investment decision which determines the cost of project. Every commercial organization requires choosing the optimal source of fund which minimizes the cost. Nepalese Industrial PEs are depending on government loan and grants.

4.2.5 Method Follows While Analyzing Investment Project

Selecting investment project is not an easy task. Investment project involves huge amount. So, it requires analysis by using different methods with the help of available information. There are different methods developed for analyzing the investment projects. The following table presents the responses acquired from the sample Nepalese Industrial PEs regarding the method follows while selecting investment project.

Table: 4.5

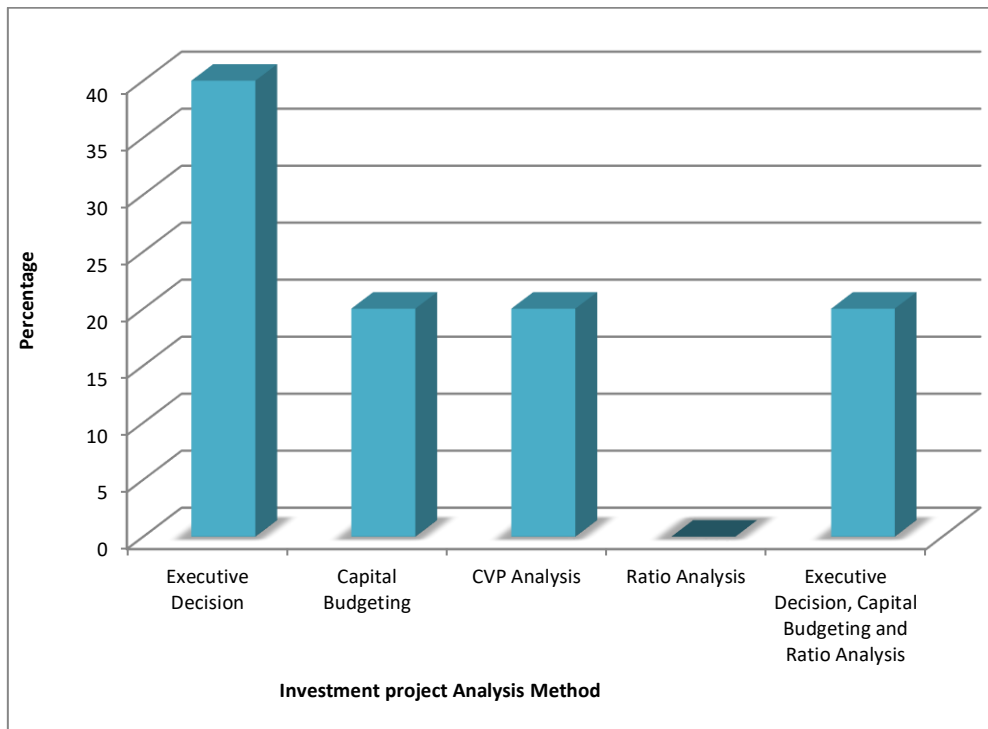
Investment Project Analysis Method

Methods of Analyzing Investment Project	No. of Enterprises	Percent
Executive Decision	2	40
Capital Budgeting	1	20
CVP Analysis	1	20
Ratio Analysis	0	0
Executive Decision, Capital Budgeting and Ratio Analysis	1	20
Total	5	100

Source: Field Survey

Figure: 4.5

Investment Project Analysis Method



The above table and figure exhibit the methods of investment project analysis practicing by sample Nepalese Industrial PEs. 20 percent of the enterprises have been practicing capital budgeting technique, 20 percent of the enterprises have been practicing CVP analysis and 40 percent of them have been practicing executive decision while analyzing investment projects. Similarly, 20 percent of them have been practicing executive decision, Ratio Analysis and capital budgeting.

4.2.6 Capital Budgeting Practice

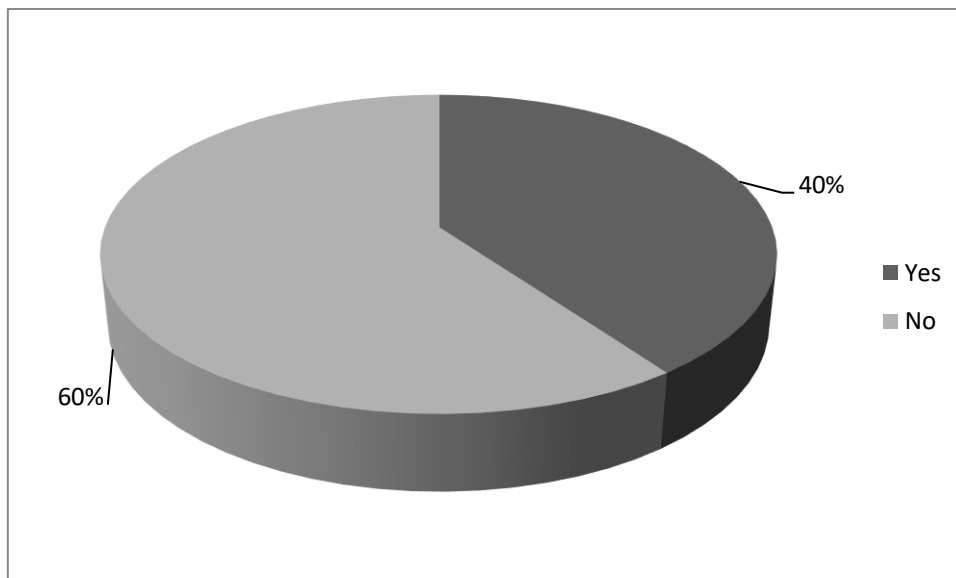
Capital budgeting as the decision making is the process by which firms evaluate the purchase of major fixed assets including building machinery and equipment. It is also covers decision to acquire other firms either through the purchase of their common stock or groups of assets that can be used to conduct an ongoing business. So, the below table tries to find out the preference given by Nepalese Industrial PEs to the capital budgeting.

Table: 4.6
Capital Budgeting Practice

Response	No. of Enterprises	Percent
Yes	2	40
No	3	60
Total	5	100

Source: Field Survey

Figure: 4.6
Capital Budgeting Practice



According to the above table and figure it can be concluded that only 40% Nepalese Industrial PEs have been practicing capital budgeting for the long term investment project. Capital budgeting is one of the most important and useful technique to evaluate investment project for each and it minimizes the cost of the project. But it has not been used in Nepalese Industrial PEs.

4.2.7 Capital Budgeting Tools Practice in Nepalese Industrial Public Enterprises

More purposes for project are at the threshold of the business firm comparing to its ability and wiliness to finances some proposals good, other are different and at others poor. A screening has to be devised for finding out the real content of such proposal. Methods of differentiating them should be developed. For this purpose, numerous methods of measuring the economic value of an investment can be found. The following table presents the responses acquired from the sample Nepalese Industrial PEs regarding the capital budgeting tools practiced.

Table: 4.7

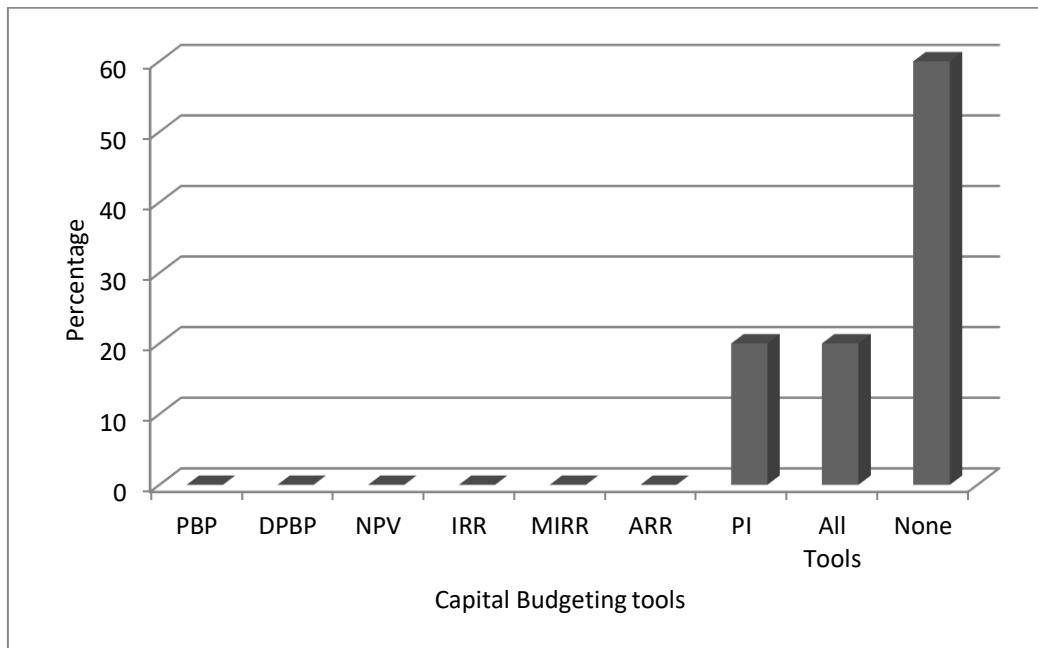
Capital Budgeting Tools Practice in Nepalese Industrial PEs

Tools	No. of Enterprises	Percent
PBP	0	0
DPBP	0	0
NPV	0	0
IRR	0	0
MIRR	0	0
ARR	0	0
PI	1	20
All Tools	1	20
None	3	60
Total	5	100

Source: Field Survey

Figure 4:7

Capital Budgeting Tools Practice in Nepalese Industrial PEs



The above table and figure show the capital budgeting tools practiced by the Nepalese Industrial PEs. 20 percent of the enterprises have been practicing PI to analyze project and next 20 percent have been practicing all tools where as 60 percent enterprises have been practicing none of the capital budgeting tools. Time value of money is also the important factor which should be considered in the calculation of expected cash flows. Every business industrial enterprises need to consider this factor while making decision to minimize risk.

4.2.8 Major Difficulties for Practicing of Capital Budgeting

Capital budgeting is investment decision-making as to whether a project is worth undertaking. Capital budgeting is basically concerned with the justification of capital expenditures. Although, capital budgeting is an important decision making tool for investment project, some enterprises were not practicing it till now. The table below presents the difficulties in practicing capital budgeting by sample Nepalese Industrial PEs.

Table: 4.8

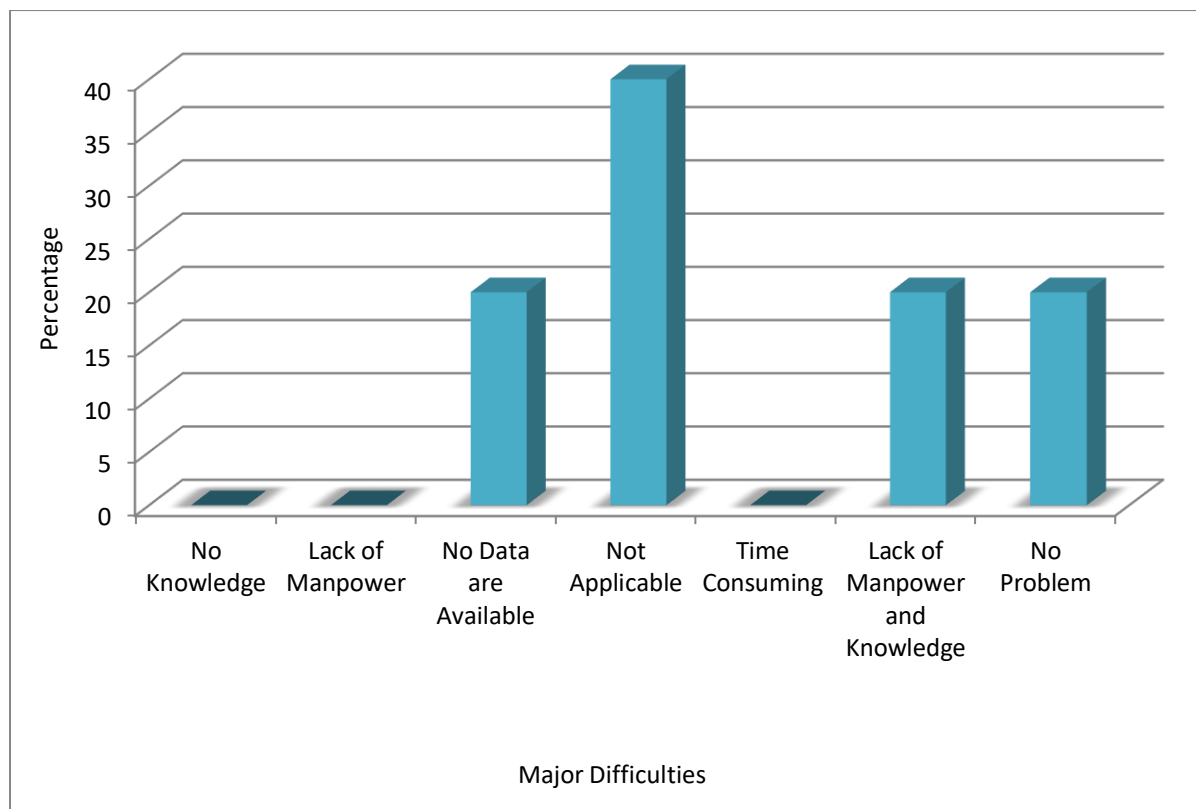
Difficulties for Practicing of Capital Budgeting

Reasons	No. of Enterprises	Percent
No Knowledge	0	0
Lack of Manpower	0	0
No Data are Available	1	20
Not Applicable	2	40
Time Consuming	0	0
Lack of Manpower and Knowledge	1	20
No Problem	1	20
Total	5	100

Source: Field Survey

Figure: 4.8

Difficulties for Practicing of Capital Budgeting



The above table and figure illustrate the major difficulties faced by sample Industrial PEs while applying capital budgeting techniques. 40 percent of Nepalese Industrial PEs assumes that capital budgeting is not applicable in

present PEs. It is seen in the figure that 20 percent of the PEs assumes that non availability of data and next 20 percent of them assumes lack of manpower and non availability of data as a problem in applying capital budgeting. Only 20 percent of the respondents have mentioned that they have not any problem in practicing capital budgeting to analyze investment project.

4.2.9 Decision Body for Investment

Capital budgeting is an important managerial tool. Every organization needs to take decision. Here the concerned is that who takes the decision to invest on project. To do this, a sound procedure to evaluate, compare, and select projects is needed. It is crucial to select the investment project for each organization which requires huge investment. Therefore, decision maker must be able to decide whether an investment is worth undertaking and be able to choose intelligently between two or more alternatives. There are modern approaches like participatory approach came in to practice which includes all employees in decision making process. The approaches may save the cost for the organization and help to reach in the best alternative. The table below presents the state of decision taking body on capital investment.

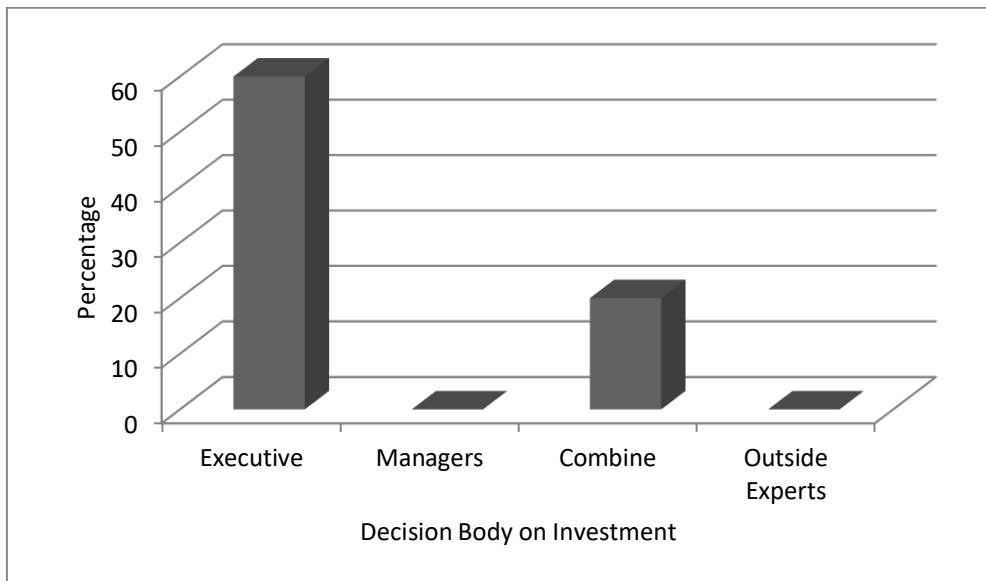
Table: 4.9
Decision Body on Investment

Investment Decision Body	No. of Enterprises	Percent
Executive	3	60
Managers	0	0
Combine	1	20
Outside Experts	0	0
Total	5	100

Source: Field Survey

Figure: 4.9

Decision Body on Investment



The above table and figure verify the decision body on investment. In most of the Nepalese Industrial PEs i.e. 80 percent PEs decision on investment projects are taken by executive. Only the 20 percent of PEs decisions are taken by combine. Although hiring outside experts to make decision is useful but it might be costly. Every enterprise should train and develop their employees for analytical purpose while making decision. So, they should be focused on modern participatory approach in decision making process.

4.2.10 Method of Risk Adjustment While Evaluating Capital Investment

The capital budgeting decision is based on the benefits to be derived from the project in future. The benefits are measured in terms of cash flows. The estimated future cash flows are based on various assumptions. The accuracy of the estimates of future return largely depends upon the accuracy with which these factors are forecast. The actual return will not precisely correspond to the estimate. In other words, the actual returns will vary from the estimate. This is technically referred to as risk. The firm generally uses its normal or average, required rate of return to evaluate projects that have average risk, a few percentage points are added to the average required rate of return to evaluate

projects that have above-average risk, and a few percentage points are subtracted from the average required rate of return to evaluate projects that have below-average risk. It is important that a project's risk be considered in capital budgeting analysis, because incorrect decisions might be made if risk is not considered.

Table: 4.10

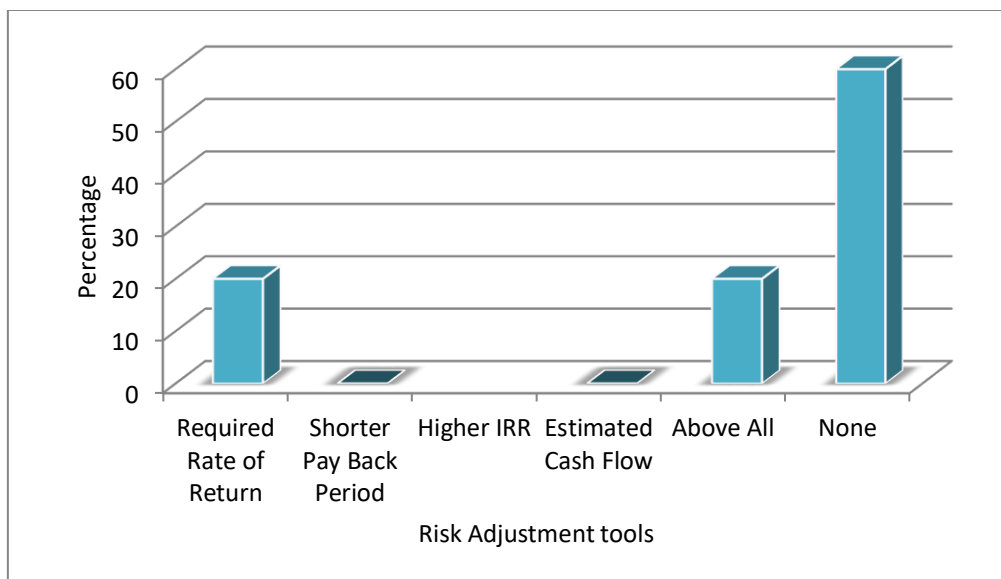
Method of Risk Adjustment of Capital Investment Evaluation

Methods of Risk Adjustment	No. of Enterprises	Percent
Sensitivity Analysis	0	0
Required Rate of Return	1	20
Shorter Pay Back Period	0	0
Higher IRR	0	0
Estimated Cash Flow Basis	0	0
Above All	1	20
None	3	60
Total	5	100

Source: Field Survey

Figure: 4.10

Method of Risk Adjustment of Capital Investment Evaluation



The above table and figure show the risk adjustment tools while practising capital budgeting. 20 percent of the Nepalese Industrial PEs have been practising required rate of return to adjust risk in capital budgeting. Similarly, 20 percent of the enterprises used all four required rate of return, shorter payback period, higher IRR and estimated cash flow which might be the biasness in answering questionnaire. Remaining 60 percent of them haven't practising any risk adjustment tool.

4.2.11 Management Accounting Tools Practices in Nepalese Industrial PEs

Management accounting for Nepalese Industrial PEs has to contribute to focusing the process of strategic planning and provide information to facilitate decision making and financial control of the different units involved. Different management accounting tools are needed to be carried out for planning, controlling and decision making process. Management accounting tools are applied discipline used in various industries. The following table presents the response acquired from the Nepalese Industrial PEs regarding the management accounting tools practised.

Table: 4.11

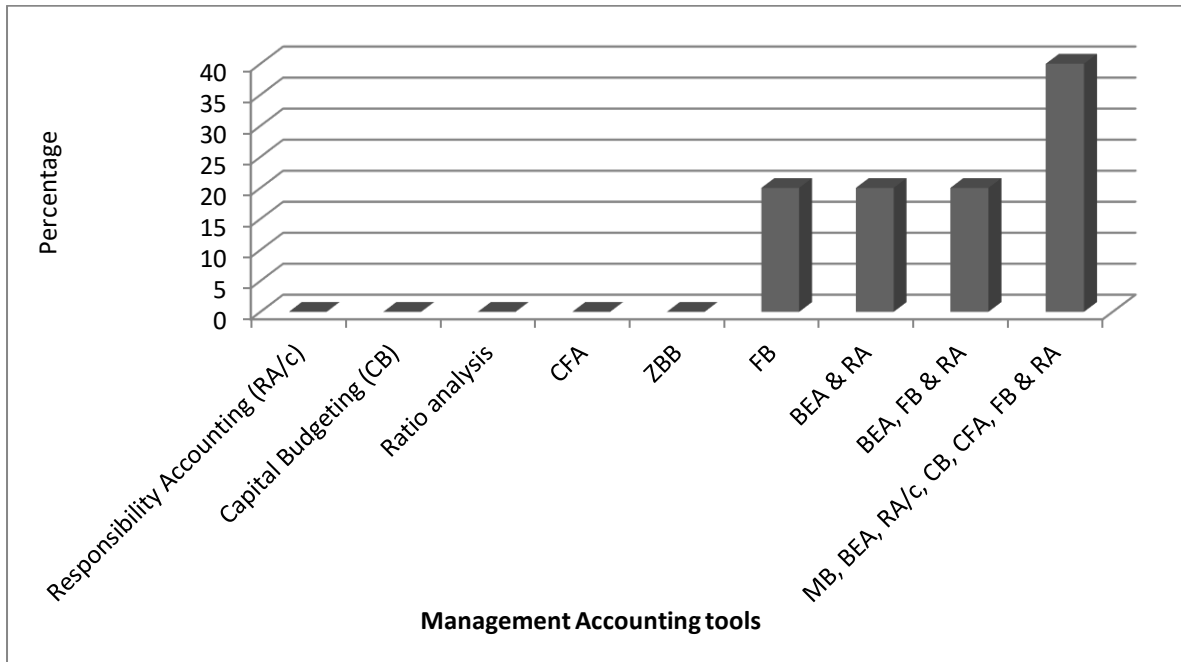
Practice of Management Accounting Tools

Management Accounting Tools	No. of Enterprises	Percent
Master Budget (MB)	0	0
Breakeven Analysis (BEA)	0	0
Responsibility Accounting (RA/c)	0	0
Capital Budgeting (CB)	0	0
Ratio analysis (RA)	0	0
Cash Flow Analysis (CFA)	0	0
Zero Based Budgeting (ZBB)	0	0
Flexible Budgeting (FB)	1	20
BEA & RA	1	20
BEA, FB & RA	1	20
MB, BEA, RA/c, CB, CFA, FB & RA	2	40
Total	5	100

Source: Field Survey

Figure: 4.11

Practice of Management Accounting Tools



The above table and figure exhibit the practice of management accounting tools in sample Nepalese Industrial PEs. Most of the Industrial PEs have been practising more than one management accounting tools. 20 percent of respondents have been practising flexible budgeting and 20 percent of respondents have been practising break even analysis & ratio analysis. Similarly, next 20 percent of respondents used break even analysis, flexible budgeting & ratio analysis. Master budget, break even analysis, Responsibility accounting, capital budgeting, cash flow analysis, flexible budgeting and ratio analysis, all these combinations have been practising by 40 percent of the Industrial PEs. None of the Industrial PE has been practising zero base budgeting.

Nepal is proceeding towards globalization and got the membership of WTO, Nepalese business enterprises should adopt themselves to the global environment. Managers should think in a global perspective. Information should be updated. For better utilization of the limited resources and for

achieving goals under the circumstances of ruthless competition, application of advanced managerial accounting tools can be of great help.

4.2.12 Comment

The study was done with an objective to study and examine the present practice of capital budgeting tools in the Industrial PEs of Nepal, and to identify the areas where capital budgeting tools can be applied to strengthen the Industrial PEs through saving cost.

Although universities and government have put greater effort on practices of capital budgeting for investment project but in some enterprises there is lack of its practice. One of the respondent mentioned that, most of the major decision are taken by executive body. So all these theoretical concept of capital budgeting does not fully implemented in practical scenario. This might represent the actual situation of capital budgeting practices.

4.3 Major Findings

On the basis of above analysis, examinations and information discussion the following key findings have been drawn.

- There is a weak practice of capital budgeting in Nepalese Industrial PEs. The practice is also inefficient and merely for the sake of practicing capital budgeting.
- Regarding the response of Nepalese Industrial PEs there is significant practice of program budgeting i.e. 60% and 40% of the enterprises are practicing traditional budgeting. None of the industrial enterprises are applying comprehensive and zero based budgeting.
- 40% of Nepalese industrial enterprises are preparing their budget on the basis of activity based budgeting. Similarly, 20% of them are preparing budget on the basis of the past actual expenses and 20% of them are preparing on the basis of both past actual expenses and activity based budgeting. Similarly, next 20% enterprises are preparing their budget on the

basis of past budget, past actual expenses and activity based budgeting. None of the industrial enterprise is practising modern useful tool zero based budgeting.

- Most of the Nepalese industrial enterprises are making investment plan through executive decision (60%) and 40% of the enterprises are practicing cost benefit analysis whereas 20% of the enterprises are applying all four forecasting, cost benefit analysis, financial analysis and executive decision to plan their investment. Executive decision is dominating in planning investment.
- Most of the industrial enterprises collect their fund from government loan or grant for their investment projects. Only 40% of industrial enterprises are able to raise fund from internal sources for their investment projects.
- To evaluate investment project, 40% of the enterprises are practicing capital budgeting technique. 40% of the enterprises are practicing executive decision and 20% each of the enterprises are practicing capital budgeting and CVP analysis only to analyze project. Similarly, 20% of them are practicing executive decision, Ratio Analysis and capital budgeting to analyze project.
- 20% of the enterprises are using PI to analyze project and next 20% are using all tools where as 40% enterprises are not practising any of the capital budgeting tools.
- Most of the Nepalese Industrial PEs are facing the problems of non availability of data, lack of men power and knowledge in applying capital budgeting. 40% of the enterprises are feeling not applicable to analyze investment project. Similarly, 20% of the respondents are facing the problem of non availability of data in applying capital budgeting. Next 20% of the respondents are facing lack of manpower and knowledge in applying capital budgeting. Only 20% of the respondents have mentioned that they have not any problem in practicing capital budgeting to analyze investment project.

- In most of the Nepalese Industrial PEs i.e. 80% PEs' decision on investment projects are taken by executive only. Only the 20% of PEs' decisions are taken by combine.
- 20% of the Nepalese Industrial PEs are practising required rate of return to adjust risk in capital budgeting. Similarly, 20% of the enterprises are using all four required rate of return, shorter payback period, higher IRR and estimated cash flow. 60% of them do not use any risk adjustment tool.
- Most of the Industrial PEs have been practising more than one management accounting tools. 20% of enterprises are using flexible budgeting and 20% of the enterprises are using break even analysis and ratio analysis. Similarly, next 20% of the enterprises are using break even analysis, flexible budgeting and ratio analysis. Master budget, break even analysis, Responsibility accounting, capital budgeting, cash flow analysis, flexible budgeting & ratio analysis, all these combinations are used by 40% of the Industrial PEs. None of the Industrial PE has been practising zero base budgeting.
- As government enterprises there is lack of autonomy as every major decision need to be sanctioned by the line ministry, MOF and other government bodies, parliamentary committee and constitutional bodies. The excessive red tape makes timely decision impossible leading to loss of market opportunities.
- Instable and political appointments are becoming the barriers in the efficient management of industrial PEs. This is increasing corruption in the PEs.
- Many PEs have not been able to introduce new and efficient technology. At the same time lack of adequate working capital has been a great challenge.

CHAPTER - V

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Capital budgeting decisions are involved with the use of cash now and get back the investment over a period longer than a year. Evaluating such decisions requires determining the investment and its resulting cash flows. Investments provide future cash flows through additional revenues and costs, and through cost saving critical to capital budgeting is that most, if not all, of the numbers used in the analyses are estimates.

The company's circumstances in terms of available funds and investment opportunities should be considered before selecting a single capital budgeting technique for general use. Capital investments must earn returns on both working capital and plant investments. Investments that reduce inventories are especially desirable because the payoff is very high. Capital budgeting decisions involve many estimates, so managers perform sensitivity analysis to alert themselves to areas where they might face problems.

Capital budgeting decision requires recognizing the time value of money. The two most popular approaches, called discounted cash flow techniques, are the net present value (NPV) and the internal rate of return (IRR) methods. The traditional methods-payback period and accounting rate of return are often used, but are conceptually inferior because they fail to consider the time value of money. Yet, such methods, particularly payback, might be useful as rough screening devices. The source of financing a particular investment is not considered in it.

Risk is only one condition a decision maker may face. Uncertainty and risk describe the conditions most financial managers face. Probability and statistics

provide useful methods for describing such situations. If only one outcome is possible, the situation can be described as certainty. If more than one outcome is possible but the probabilities of these states of nature are unknown, decisions are made under conditions of uncertainty. Different decisions rules are followed in each decision situation. Decision making under risk is different from decision making that considers the degree of risk or uncertainty.

Industrial sector plays an important role in the economic development of the country. Manufacturing enterprises are one of the vital aspects of this sector. About 10% share in the GDP has contributed by manufacturing sector. Out put value, value added and fixed capital investments are increasing in manufacturing sectors. Though Nepalese Industrial PEs are running in losses, they have played important role in the economic development as well as in the delivery of goods and service in the country. They have contributed to nation by providing direct employment to 3977, substituting the exports and others. The major capital budgeting tools are PBP, NPV, PI, IRR, ARR, DPBP, MIRR etc. The research was conducted to find out the facts that the Nepalese Industrial PEs are getting benefits from using those capital budgeting tools or not.

The study was done with an objective to study and examine the present practice of capital budgeting tools in the Industrial PEs of Nepal, and to identify the areas where capital budgeting tools can be applied to strengthen the Industrial PEs through saving cost.

As per the nature and demand of the study, survey type research design was adopted with descriptive and analytical approach. The research is mostly based on primary source of information. Surveys of 5 Nepalese Industrial PEs were made through questionnaires. All together 12 questionnaires were distributed and analyzed. The raw data was applied to analyze and interpret the findings.

5.2 Conclusions

On the basis of the major findings of study, some conclusions have been drawn about the capital budgeting tools practice in Industrial PEs of Nepal.

- Capital budgeting practices in industrial PEs is not satisfactory. Most of the Nepalese Industrial PEs adapt the tools like PBP and PI. The tools not in well practice were DPBP and MIRR. It can also be concluded that the major difficulties applying for capital budgeting are time consuming, lack of knowledge and non availability of data.
- Although universities and government has put greater effort on practices of capital budgeting for investment project but in some enterprises there is lack of its practice. One of the respondents argues that, most of the major decisions are taken by executive body. So all these theoretical concept of capital budgeting does not fully implemented in practical scenario which might represent the actual situation of capital budgeting practices.
- Capital budgeting in Nepalese Industrial PEs is still evolving and will continue to do so in the future. So far, they are trying to adopt such tools and techniques to cope with the future expected opportunities and challenges to be faced due to the accession of globalization.

5.3 Recommendations

In the light of the study following are the recommendations for the further managerial actions to the Nepalese Industrial PEs:

- Practice of development of investment plan for capital investment programme should be developed by the Industrial PEs.
- For each investment in fixed assets each and every enterprise should develop the practice of feasibility analysis by using capital budgeting.
- For budget preparation, Nepalese Industrial PEs have been practicing based on the basis of past actual expenses and past budget estimates. Those are traditional methods and can not adjust the future uncertainty because past will not happen in the future. So, it is recommended to use activity based budgeting and zero based budgeting for budget preparation.

- Participatory system of decision making should be implemented for effective implementation and participation of all members affected by the decision. It helps to motivate the personnel of organization.
- To strengthen the competitiveness of Nepalese Industrial PEs and to carry out the managerial activities, the use of management accounting tools is recommended.
- Academicians should put effort to bring management accounting tools into the light by the help of books, journals, articles and campaigns such as seminar, workshop and training. It is helpful to get more information about the tools and techniques. Long term as well as short term training packages should be offered for the managers about the techniques of management accounting and to update the knowledge and skill.
- Hiring the outside experts to analyze the long term investment plan may increase the cost burden for the organization. So it is recommended to develop the expert internally by providing training and development programme.
- It is recommended to Nepalese Industrial PEs for the risk adjustment while purchasing fixed assets or making long-term investment through the tools like shorter payback period and sensitivity analysis.
- Combine efforts of all Nepalese Industrial PEs is recommended to stand in the global environment through providing training and development programme to their staffs and make familiar about the tools and techniques not only of capital budgeting but also the on other modern management accounting tools.
- Political and excessive government intervention should be stopped. Professional management should be hired and PEs should be given autonomy for their decisions.

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APPENDICES

Appendix-I Questionnaire

The questionnaires are base line to conduct a research work entitled “**Capital Budgeting Practices in Industrial Sector of Public Enterprises of Nepal.**” in partial fulfilment of the requirement for the Master Degree of Business Studies (MBS). All the alternatives are equally important.

Name (Optional) :

Position (Optional) :

Name of Enterprise :

1) What system of budgeting do you practice in your enterprise?

- a) Traditional Budgeting []
- b) Program Budgeting []
- c) Comprehensive Budgeting []
- d) Zero Based Budgeting []
- e) Others.....

2) What is the basis for budgeting in your enterprise?

- a) Based on past budget estimates. []
- b) Based on past actual expenses. []
- c) Zero based budgeting. []
- d) Activity based budgeting. []
- e) Others

3) How do you plan your investment in your enterprise?

- a) Forecasting. []
- b) Cost Benefit Analysis. []
- c) Financial Analysis. []
- d) Executive Decision. []
- e) Others.....

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