

CHAPTER 1

INTRODUCTION

1.1 Background of the Study.

Budgeting is the process of planning expenditure that is expands to extent beyond one year. But capital budgeting is investment decision process which consider the technique generally employed by business firms.

Capital budgeting provides information about investment on fixed assets. It is strategic planning because excessive investment or inadequate investment will have serious consequence for future. Good capital budgeting will improve the timing of assets acquisition and quality of assets purchase. Capital budgeting also considers as decision on long term investment for increasing the revenue then exiting or increase organizational efficiency to employee the capacity as per investment. It is also related to increase the organizational wealth maximization objectives. It is a technique which minimizes the firms risk and increases the revenue for the decision of expansion, replacement, growth, as well invest on different fund on different long term investment better sector to allocate fund. Before to allocate the fund in different long term assets management consider as its impacts on future cash flow and calculate different tools of Capital Budgeting which are used to measure its impact. This provides decision about investment

Generally, planning for capital expenditure is known as capital budgeting. It is a decision making process for an investment on long-term project, capital budgeting is the process of investment, evaluating, planning and financing major investment project of an

organization. In other words, capital budgeting is a process of planning and controlling of the long term and short- term expenditure for expansion, replacement, modification, disposition and contraction of fixed assets. Capital budgeting is useful to earn profit and reduce future costs. Purchase of property, plant equipment, furniture, building, different securities, patent and trademark are some example of capital expenditure. Capital expenditure decision involves both planning and controlling phases.

The area of capital Budgeting is both comprehensive and challenging. It clearly plays a vital role in assisting most business firms to achieve their various goals i.e. profitability, growth, stability, risk reduction, social goals etc. It is closely allied to the economic problem, which is rather broadly defined as the allocation of scarce resources among competing alternatives. Since virtually no unlimited resources are allocated among the best alternative.

Analysis of capital expenditure is predicated on the basis of cash outflows required to obtain assets and the cash inflow that are expected to result from their use.

1.2 Significance of Capital Budgeting

Capital Budgeting decision deserve to be treated in a different manner, as there are conceptual problems involved that necessarily make the decision process maker it also makes the problem more challenging. There are several practical reasons for placing greater emphasis on capital expenditure decision. These are:

i) Long time period:- The consequences of capital intends in to the future and will have to be endured for a longer period than the consequences of current operative

expenditure. The decision maker is bound by the decision whether it is good or bad. To illustrate in the case Mfg firm, capital expenditure decision are going to determine what plants will be built, where they will be built and how they will be equipped. These factors in turn largely determine what can be made in the plants. Such decisions shape the basic character of the firm or its 'image' and as such may be very important.

ii) **Substantial expenditure:-** The fact that capital expenditure usually involve substantial amount of money therefore necessitates a careful judgment of planning and evaluation. This fact is just as important as the first one; if a firm buys expensive capital assets, the decision to do so have better be a good one. Otherwise the firm will suffer financially in time to come in two ways:- the funds of the return from the expenditure will be not be rewarding.

iii) **Irreversibility:-** Capital expenditure decisions are quite often irreversible, because there is little or no second market for many types of capital goods. The only alternative is continuous use of asset to its scrap value. Thus the decision is irreversible. Because of these two features, capital expenditures effectively commit the firm to a given technology, and significantly determine the future pattern of operating expenditures.

iv) **Over and under capacity:-** To improve the timing and quality of asset acquisition, the capital expenditure decision must be carefully drawn. An erroneous forecast of asset requirements can be result in serious consequences. If the firm invests too much amount having large capacity in asset, it will incur unnecessarily heavy expenses. If it has not spent enough on fixed assets, two serious problems mat arise. First, the firm's equipment may not sufficiently be modern to enable it to produce

competitively. Secondly, if it has inadequate capacity, it may lose a position of its share of market to rival firms. To regain lost customers typically requires heavy selling expenses, price reduction, product improvements, and so forth.

1.3 Difficulties in Capital Expenditure Decision

There are three basis reasons why capital expenditure decisions pose difficulties for the decision maker. These are:

- i) **Uncertainty:** - The future business success is today's investment decision. The future in the real world is never known with certainty, though it may be convenient for the economic theorists to assume for some purpose that it is.
- ii) **Difficult to measure in quantitative terms:** - Even if benefits are certain some might be exceedingly difficult to measure in quantitative terms. This is a problem of particular importance, in the case of decisions made by government agencies.
- iii) **Time element:** - Another problem is to phase properly the availability of capital asset in order to have them come "on stream" at the correct time. Due to intermittent spurts in the demand, a firm may plan to add capacity. By the time additional capacity is ready, the company may find there is no demand for its increase output other firms had already expanded there operation and had taken on increased share of the market with the result that demand for this firm had leveled off. In addition, benefits receive and costs incurred at different points in time are not comparable because of the time value of money.

1.4 Capital Budgeting Decision Process

The entire capital budgeting process can be divided into six phases: planning, evaluation, selection, implementation, control, and auditing. The extent to which the process needs to be formalized and systematic procedure established depend on the size of the organization, on the number of project which must be considered, and on their complexity and diversity. It must be remembered that increasing sophistication cost money and the cost of the decision making process should not be increased beyond the saving likely to result from the superior decision.

In most organization ultimate control over capital expenditures is reserved to the highest levels of management. Such expenditure affect the long term spending pattern of the organization, and their effects may not be a easily reserved on decisions over the allocation of current operating expenditures. This does not mean that the entire process has to be confined to the top levels, but it does not means that, when parts of it are to be decentralized, care must be taken to established polices and procedures which retain effective control of the entire process in the hands of the group ultimately responsible for its results, even though some authority may be delegated.

i) **Planning phase:** The decision process begins with an investment opportunity, perhaps sketching framed at first that requires outflow of cash in the near future in exchange for subsequent cash inflow. The opportunity then enters the planning phase when the potential effect on the firm's fortunes is assessed and ability of the management

to exploit the opportunity is determined. Opportunities are advanced in the form of a proposal to enter the evaluation phase.

ii) **Evaluation phase:** In the evaluation phase, all investment opportunities surviving the planning phase in the form of investment proposals will be further refined by estimating all cash flows associated with the proposals. Then, by noting the nature of economic relationship between proposals, They will be grouped in to projects. Finally, a secondary screening of projects will occur and some projects may be eliminated. All projects surviving the evaluation phase will go on to the selection phase.

iii) **Selection phase:** The firm may now apply more formal selection criteria to the surviving projects. Taking account of the return and risks of individual projects as well as the cost of capital for the firm, the firm will choose among projects so as to maximize shareholder wealth with its chosen criteria of selection. Projects not expected to meet this criterion are rejected , while accepted projects enter the implementation phase.

iv) **Implementation phase:** When the final selection has been made, the firm must acquire the necessary funds, purchase the assets, and begin operating the projects to implement the decision to accept projects in the capital budget. This phase may concern financial managers relatively little if all prior phases in the capital budgeting process have been correctly performed. For the formal selection procedure should give adequate account of the cost and availability of capital for the firm, given the particular financing mix of debt and equity to be employed by the firm. However, it may be that necessary funds are not available at the specified cost. This contingency will mean that all project must be reevaluated at a higher cost of capital than initially used or that some way of

selecting projects under a capital constraint will be used to determine the revised size of the capital budget. In either case, higher than expected costs of capital will lead to shrinkage of the total capital budget, with the result either that fewer projects will be taken than originally planned or that projects will be scaled down in size.

v) **Control phase:** Once the projects are implemented, the firm will attempt to manage them to ensure that assets, labor, and material are efficiently employed. The control phase involves the comparison of actual and expected cash flows and the explanation of differences between actual and expected flows. The attempt to explain such differences will have implications for the firm's planning and evaluation procedures.

vi) **Auditing phase:** Audits are constructive in purpose. When a project terminates, or even before, the firm should perform an audit on the entire project to explain its success or failure. Like the control phase, the auditing phase may have implications for firm's planning and evaluation procedures. In addition, the audit may produce ideas for new improved proposals gains from operating now-terminated projects. This advantage of audit may be even more importance for projects judged to be relative failures. Naturally, no firm should repeat mistake if it is at all possible to avoid doing so.

1.5 Guidelines for Capital Budgeting

Guidelines for capital budgeting result from the formulation and implementation of both long and short range plans. Some firms use both long and range plans. Some firms use both long and short-range capital budgets. Others use only short range capital budgets, but very infrequently is a firm found that uses long-range capital budget is an allocation and rationing device. The long-range plans generally emanate from the firm's upper level

of management- the board of directors and the executives of a large firm; and the short range from the owners and the executives of a large firm; and the short range from the owners and managers of a small firm. Long range plans for capital expenditure result from a through analysis of the firm's objectives. Five major areas must be considered:

-) Need and objective of the owners.
-) Size of the market in terms of existing and proposed product lines and anticipated growth of market share.
-) Size of existing plants and plans for new plant sites and plant expansion.
-) Economic conditions, which may affect the firm's operations.
-) Business and financial risk associate with the replacement of existing assets or the purchase of new assets.

The same basic areas must be considered in the development of government capital budgeting guidelines. The primary differences lies in the consideration of the group affected rather than of the business as well as the fact that most government agencies operate in a relatively uncompetitive atmosphere, their share of the market is irrelevant. However, market size is important. Business risk is also very important to government capital budgeting decisions since many government agencies actually are 'in business.'

Short-term plans for capital budgeting generally represent modifications of long-range plans. Day- to-day condition such as competitive activity, sales forecasts, wages rates, material costs, fuel shortages and similar items provide input into the formulation of short-range modification to long-range plans. Changes in these factors in economic

conditions may have drastic effects on capital budgeting decisions. Firms may be forced to modify long-range plans or to restructure them to meet changing conditions.

The extent to which proposed projects cannot be postponed is of critical importance. Generally, management will assign priorities to given projects and will plan to allocate fund accordingly. However, in this short run, equipment failures, rapidly changing market position, rapid inflation or power shortages can all result in the recording of priorities.

In the formulation of both long and short-range plans it is most important to focus on the key factor in all capital investment; the value of the proposed investment to the firm or government agency depends on the future earning and other cash inflows, which will result. Earnings may be measured either in business term of earnings per share or in government terms of improved service or cost reduction. Other cash inflows include those, which may result from depreciation and the like.

Estimates of the benefits must be made using the best available pertaining to wages rates, market size and preferences, price levels, etc. Without accurate data, even the application of the most sophisticated capital budgeting techniques will result in poorly formulated plans. Further, benefits expected to result from an investment should be protected over its life since they may vary in amount from year to year.

1.6 Statement of the Problem

Except a few public enterprises, all public enterprises are in loss and are running with the government subsidy whereas most of the private enterprises are running successfully in their business. Industries can contribute for stable and reliable economic development.

But the cause of less utilization of capacity, lack of integration of activities, lack of good decision power and some other current problems enterprises are becoming failure. Most of the enterprises in Narayani Zone acquire the fixed assets to meet the need of product. They rarely take the feasibility study of the project. Present cash outflow in fixed asset is not compared with the future cash inflow. To achieve the objectives of various enterprises therefore rational use of strategic planning is necessary

The well being of any organization primarily depends upon the planned management and capital budgeting provides technique to support management function. When we see the part of annual report of Nepalese organizations are not perform happy. We have a great question. Whether they proper use the capital budgeting tools and techniques for decision-making.

This research intends to explore the following basic problems

- What types of capital budgeting tools and techniques are used in those organizations?
- Are there any difficulties in the application of capital budgeting tools?
- What are the areas of application of capital budgeting tools for the betterment of the organization?
- Whether or not the enterprises have adopting the evaluation process of capital budgeting?
- Whether or not the companies use the present value concept to determine the investment decisions?

1.7 Objectives of the Study

The basic objective of this research is to study capital budgeting practices applied by mfg. firm's investment decisions?

The other objectives of the study are:

- To analyze the current scenario of capital budgeting practice of manufacturing organization in Narayani zone.
- To approach the problems in capital budgeting practice in Nepalese manufacturing organizations based in Narayani..
- To identify the area of implementing and examine the capital budgeting tools and techniques for the betterment of Nepalese organizations.
- To provide suggestions for applying capital budgeting tools and techniques.
- To study the capital budgeting techniques used by companies
- To know the levels of manufacturing organization how they practice and implement the capital budgeting tools.

1.8 Research Methodology

This analysis is limited to manufacturing based companies. The analysis in respect of these companies is carried along actual practices followed in capital budgeting decisions.

The relevant data on capital budgeting practices has been collected directly from the sample companies through a questionnaire. The questionnaire mostly contained objectives type questions.

To keep the study more scientific and objective, opinion based and subjective questions have been given lower importance.

1.9 Limitations of the Study

The analysis is limited to manufacturing base companies. The analysis in respect of these companies is carried along actual practices followed in capital budgeting decision. Especially, the main concern of this study is to clear the capital budgeting practice in Narayani Zone. It studies the some selected firms and it is assumed that the selected companies represent all the manufacturing firms of Narayani Zone.

This research helps to find out the weakness of manufacturing based companies upon the subject matter of capital budgeting practice. This study also provides the guidelines and direction for improving the performance to achieve the company's overall goals. And also be the helped for increasing efficiency and for formulating strategic plans to grow in this competitive industrial environment.

1.10 Scheme of the Study

This study has been categorized into five chapters which are as follows:

1. Introduction

This chapter includes background of the study, meaning of capital budgeting, significance of capital budgeting, difficulties in capital budgeting expenditure decision, capital budgeting decision process, guidelines for capital budgeting, statement of the problem, study objective, research methodology, limitation of the study and scheme of the study.

2. Review of literature

The second chapter reviews the pertinent literature related to this study. It includes the review of published books, Journal, Articles, and electronic source etc.

3. Research methodology

This chapter consists of introduction, research design, sources of data, population and sample, method of data collection, and method of research analysis.

4. Presentation and analysis of data

The fourth chapter studies with systematic presentation and analysis of data where various analytical tools and techniques are used to explore and interpret the data. This chapter also deals with the descriptive procedure where the analytical tools cannot be

used. This chapter is a most important chapter for the present study and findings from the analysis are revealed.

5. Major Findings, summary and recommendation

The final chapter is concerned to major findings, summary of the whole study, suggestion and recommendation. Based on findings, summary and conclusion are drawn. Suggestions and Recommendations based on findings are made for future improvement.

CHAPTER II

REVIEW OF LITERATURE

2.1 Conceptual Framework:

The term 'investment' usually refers to the commitment of resources made with the expectation of realizing future benefits over a reasonably long period. In other words, fixed investments are investment in tangible assets with terminable life utilized in production and or distribution of product or services. Fixed investment is also known as capital expenditure.

Capital budgeting is the process and controlling the strategic (long term) and tactical (short term) expenditure for expansion and contraction of investment in operating (fixed) assets". (Walsh, Hilton & Gorden, 2000, p.394)

Capital expenditure is distinguished from operating expenditure, whose chief benefit are recognized within a period of one year, capital expenditure represent outlay whose principal benefit will be recognized over longer period of time.

Much emphasis has been placed in the proper analysis and evaluation of capital expenditure, because they typically need large cash outlays. Decisions relating to capital expenditures as opposed to those for operating expenditures are generally irreversible, and they required careful selection techniques and procedures.

"A capital budgeting decision may be 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 serious of years." (Pandey, I.M., 1992, p.391)

'A capital expenditure is any expenditure of cash where the benefit is expected in the form if future cash return.' (Gray & Kenneth, 1973, p.316)

The capital expenditure decision, through which a firm invests funds in plants, equipment and other long-lived assets. These investments can be divided into four different categories.

1) Physical plant

- a) New building and additions
- b) Major repairs and renovations

2) Equipments

- a) Additional equipments of new type(For new products)
- b) Additional equipment for greater production volume.
- c) Replacement for various reasons.
- d) Equipments for cost reduction, and
- e) Major overhaul

3) Tooling

4) Administration

a) Office equipment, and

b) Renovation

2.1.1 Concept of Fixed Investment Decision/Capital Budgeting Decision

Fixed Investment Decision indicates the process of selecting and allocating funds for tangible fixed assets with terminable life. This can also be viewed as deciding such fixed investment projects, which involves the outlay of cash in return for anticipated flow of future benefits. The FID process involves the planning and management of business investments in fixed assets. This process begins with the search for new and more profitable investment opportunities. It continues through month of preparing engineering, market and economic analysis each investment proposal. And finally concludes with the preparation, approval and implementation of the firm's capital Budget.

FID differs from current asset planning. It usually commits the company to a long term course of action. The operating expenditure can be regulated to the increase or decrease of Market demand. Further, the current assets are of convertible natures which are rolling in the business in one from or order. They can be reduce or increased or converted into cash at frequent intervals. But once the firm commits itself to a fixed investment it restricts to a very high degree its future flexibility.

'Capital investment within any organization is crucial for that organization's well being and long term survival. Capital investments are those which have long term effects on the organization by providing benefits over a number of years. (Broadbent & Cullen, 1997, p.228)

The real distinction between current assets decision and fixed investment decision lies with the duration of time involved in capital expenditure decision. Investment in labor, material and accounts receivable affects cash flows over relatively short period of time, usually a year or less. In contrast, investments in fixed assets affect revenue over much longer time period ranging from 3 to 30 years or more. Like current assets decisions fixed investment decisions require a comparison of costs against benefits for fixed investment decision extends for into the future, it requires the use of more complex tools and techniques in order to analyze them correctly.

Unlike CAP, FID is very often irreversible because there is little or no second hand market for many types of capital assets. Further deviation from its chosen course of action is likely to prove costly in many respects such as:

- a) Loss of all or a portion of funds originally invested in equipment and procurement and training of labor to operate the equipment.
- b) Loss of investment in marketing and procurement efforts.
- c) Loss due to disruption of daily operations, and
- d) Loss of competitive position and or image gone due to the limited availability of funds.

2.1.2 Fixed Investment Classification

Different kinds of investments require different types of analysis. The most useful approach to fixed investment classification is to arrange investment alternatives according to the way benefits from the investment are going to be derived and their effect on other possible investments. The following categories are most frequently used in this classification scheme.

- a) Independent investments
- b) Mutually exclusive investments
- c) Pre-requisite investments, and
- d) Replacements

This classification helps the management in relating each investment proposal to the firm's existing operation, its long plans, and every other current investment proposal before measuring its benefits and costs. Many other classifications are possible based on technical characteristics or the frequency of the budgeting decision and they have their own uses. One such classification suggested by "*Joel Dean*" is based on economic considerations and intended to show distinctive problems of accepting investment proposals. This classification is more relevant for our study and has been discussed below.

a) Replacement Investment:

A replacement investment is an outlay for new equipment that will do the same job as the previous equipment. Primarily, it is intended to produce cost savings. Two kinds of replacement investments can be distinguished. like for like replacements and obsolescence replacements. In case of the first kind, saving result primarily from operating inferiorities caused by physical wear and tear. Whereas in the case of second saving are the result of technical progress. For both types, the source of earning is prospective cost saving.

Thus replacement investments are undertaken for the purpose of replacing existing assets with new ones that will produce the same product or perform the same function either more efficiently or in greater quantity of volume.

b) Expansion of Investment:

Expansion investment is capital expenditure designed to expand the capacity of produce and sale of the existing products. Such investments include proposals for adding more machines of the type already in use or the opening of another branch in the citywide chain of stores. Expansion investments are frequently included in replacement decision. Such as, a larger and more efficient one may replace an old, inefficient machine. The return on an expansion investment is the expected additions to profits that will result from making the investment.

c) **Product Investment:**

Product investment includes both improvements in existing products and addition to the product line. Defensive product improvements have a higher order of productivity than aggressive improvements, and fixed investment decision considerations are quite different for the two types of improvements. Investments to add products to a company's line are of two main kinds. One is the investment for established products that are new to the company, and the other is the investments for pioneering products that are new to the economy. A degree of uncertainty, sometimes extremely high, is clearly involved in this type of expansion investments but the firm at least has the advantage of examining past production and sales experience with similar machines or stores. To measure the return on such investments involve projection of complete income statements over a period of years. These statements require forecasts of sales, prices, market development cost and production cost.

d) **Other Investments:**

The other categories of investments are the intangibles. These Investments include proposals to boost employee's morale and productivity.

2.1.3 Reasons for Fixed Investment

In order to maintain its market position with its present products, a company must have equipment which will produce products as good as, or better than its competitors. It should be remembered that if the company itself did not plan to make its own product

obsolescence, its competitors would. But the present Nepalese conditions do not warrant such situation. However, if the firm which wants to stay healthy must organize its research and development department in order to innovate and grow, for innovation and growth, timely replacement of equipment and addition of capital are required because of the following reasons.

1. Wear and tear

Wear and tear in machine is a silent creeping of old age. Parts wear out at a time and are replaced. Capital additions are made to replace major component. Yet the question arises when the equipment should be replaced to avoid steadily increasing maintenance cost. The reason for wear and tear is portions of the asset being consumed in the process of use. Where the asset is used in many shifts a day and proper maintenances or replacement is not done, wear and tear comes much earlier than of the economic life of assets.

2. Obsolescence:

Often machine does not stay enough to be considered worn or even lose its original operating characteristic. It becomes obsolete because the product designed to produce has become obsolete. This obsolescence occurs when alternative method for performing a function becomes available which are better for some reason. They are economy, quality or newness of product produced or plant safety. Where technological development is more and change in fashion of the customers is frequent there the obsolescence becomes quicker. In spite of the fact that the machine in use is a brand new and has good part of the economic life left, it may need change due to the obsolescence.

3. Change in volume of production:

Many times the product of a company becomes quite popular in the market. Again due to increase in population and publicity might result is an increase in demand for the product. If the company fails to match the demands of the customer it may lose them to its competitors. Once the customers are habituated with other products, it is difficult to make again the product popular. Hence, an expansion investment is necessary to meet the changed volume of production. Further it is not sufficient, only to add a new machinery to increase the volume of production, but at the same time, the other facilities like the warehousing facilities, distribution channel, selling counters and executives etc are also to be increased to avoid dislocation in storing and distributing of the increased to production.

4. Equipment inadequate for product improvements:

A Progressive company is constantly working on improvements of its products. Better finishing, better fit, better material, additional features and new functions are examples of product improvements. It may not be possible to produce such improvement with present processes and equipment. The problem is whether particular improvement or set of improvement is sufficient to justify replacement of present production equipment. Even for the introduction of a new product, the existing equipment may not be found suitable. Hence, either for improvement of the existing or introduction of new products, replacements may be necessary.

5. Working conditions and morale:

Working condition result from among other things, the nature of the plant and its equipment, industrial process are likely to contribute noise, heat, fumes and odors, and other potential hazardous factors. Otherwise profitable machinery can uneconomical if frequent or serious accidents or illness results. At any rate, the expected psychological boost to plant morale obtained through attractive machinery with processes having minimum hazardous factors also may justify equipment replacement.

6. Worker's skill and learning:

The amount of skill, training or education required by the equation operator is another consideration, related to this learning time for worker to reach maximum production, new equipment may either increase or decrease these costs. Opposing costs of upgraded labor versus grater production per unit time may also require consideration.

7. Change to a new plant site:

It is possible for many reasons such as expansion, new sources of raw materials, new markets, labor conditions, transportation, taxes, or termination of a lease that entire plant may have to be relocated.

2.1.4 Factors Influencing the Fixed Investment Decision

Fixed investment represents not just a temporary commitment, but rather a long term commitment of the company. The resources of fixed investment problem lie in (I)

Contemporary operating circumstances in some cases and (II) dynamic leadership in other cases. The management before taking any decision should answer three types of every fixed investment proposal.

Why do this at all? Will a proposal new investment be profitable? Shall an existing investment be expanded? Shall existing process be modified? Why do it now? Are market conditions favorable now? Shall the excess capacity be utilized? Are the interest rates favorable for development?

Why do this way? This is the choice between alternative ways of doing the same thing and is common to all types of engineering activity. In order to get appropriate answers to the above questions the management has to adequately consider following factors which influences the investment decision.

1. Nature of the business:

The type of investment decision considerably depends upon the nature of the business undertaking. In some cases, a quick and frequent decision on fixed investment is necessary to avoid disruption in production and sale. Whereas in some other cases a well regulated investment policy can prevail in the business for a long period, except some minor changes from

2. Market analysis sales and forecasts:

Management must forecast long range as well as short range market and sales potential and plan its efforts to participate in growth and innovation. Investment decision based

upon faulty market analysis and sales forecast will certainly lead the companies into difficult in getting back the investment.

3. Rate of growth:

The rate of growth of the company is to be estimated from the past performances. The increase in fixed investment during the same period has to be compared with the rate of growth and correlation between them to be established. The management has to see whether the increase in fixed investment is keeping with that of the rate of growth or not.

4. Alternative opportunities:

The basic question management must answer is, where can we employ our resources so that we maximize our return over the long run? To evaluate old versus new equipment or alternative new equipment projects, the following equipment characteristic need to be considered:

- a) Degree of Newness of Processes
- b) Service life of equipment
- c) Cost of equipment and net investment
- d) Salvage value
- e) Operating cost
- f) Quality of output, and

- g) Non-economic advantages and disadvantages such as safety and working condition.

5. Taxes and depreciation:

Income taxes depend upon profits and profits depend upon the depreciation charges. Thus a large new investment means a big annual depreciation charges. Thus a large new investment means a big annual depreciation charge deducted from the revenue for purpose of tax consumption. The lower the tax, the greater the cash flow for a given investment depreciation for tax purpose is called tax depreciation as opposed to physical depreciation. It does not usually represent the loss in value of the assets. The actual differences in value of the assets at the beginning of a year and at the end are called economic depreciation. The tax law permits two types of depreciation methods; straight line method and declining balance method. An Appropriate selection of two methods can produce a substantial amount of after tax earning for FID.

6. Sources of funds:

Capital structure determines the claims against the corporation. Every time management makes its decision to undertake a new investment project, it is at the same time making a decision as to the type of capital structure the company should have. There are only two broad ways to financing fixed investment or the acquisition of any capital assets:

- i) Obtaining funds from gross retained earning or from sale of share which increases ownership claims.

- (ii) Obtaining funds by borrowing and taking long term debt, which a firm decides upon affects the cost of new assets and hence the decision as to purchase and when.

7. Working capital:

Most of the times management concentrate on the purchase prices, operating costs and revenues of alternatives projects and fails to estimate the need of additional working capital. When the company is considering a choice of making entirely different products, it is likely that large capital expenditure will be made. Working capital may be quite different for various alternatives. To maintain adequate working capital, the company may have to increase its long term debt or raise additional equity capital.

Even if internal capital is available, care must be exercised to ensure that liquidity is maintained. When the costs of working capital are considered it is possible that other wisely profitable project may be dropped from the budget.

8. Cash flow budget:

The cash flow budget which shows a flow of funds into and out of the company should be developed for alternative investment projects being considered. Its analysis may affect FID as (I) it may indicate that a change in timing is necessary to give place to some more important expenditure and (II) investment which yields highest cash inflow in the earlier years of its life would be preferred.

9. Inflation price change:

This is a very significant factor in evaluating investment proposals, in which the equipment and facilities have long useful lives, due to a constant decrease in the purchasing power of the currency. In case of inflationary price change the depreciation amount will not be sufficient to recover the historical cost. So the deficiency is to be met either from retained profits or from additional capital for replacement. Besides, due to change in purchasing power of the company, firms invest in fixed assets in earlier years at a less cost than the years in which they actually need them?

10. Risk and Uncertainty:

Factors taken into consideration for evaluation of a fixed investment project are related to the future and subject to variation due to uncertainties. Operating costs, revenues, interest rates or cost of capital, and even installed costs may vary. In comparing alternatives, management may have to choose between the different risk situations. Sometimes there may be no way of estimating what specifically will happen in the future. Management may want to be prepared for the worst or to be prepared for the best, and must choose its strategy accordingly.

2.1.5 Evaluation Process of the Fixed Investment

The fixed investment evaluation process in any business enterprise involves several distinct steps. The first step in evaluating investment is that of defining what that investment is and what its costs and benefits are. In order to define what that investment is one has to classify the investment proposal. Once all the investment opportunities have been properly classified the task of sorting out and measuring the relevant project

classified the task of sorting out and measuring the relevant project benefits and costs, so that each potential investment can be correctly evaluate.

Fixed investment analysis requires the use of definition of project benefits and costs, distinct from the more familiar accounting definitions of income or profit, and cost. An investment must be evaluated in terms of the cash flow it will generate in each interval over an appropriate period, generally the project's expected life time.

'Inadequate management attention to a capital addition may result in overinvestment or under investment and a consequent deterioration of a company's competitive position in the industry. A prudent management should not undertake a capital addition unless (a) it is necessary for continued operations, or (b) it is probable that it will yield a return at least equal to the long term objective for return on investment.' (Welsch, Hilton & Gorden, 2000, p.400)

Therefore, the evaluation process should also recognize only the *incremental cash flows*, the differences between the firm's cash inflows and outlay with and without the project respectively. Finally the cash flow must be measured on a comparable basis that recognizes difference in the timing of the cash receipts and disbursements.

After each project in a firm's current list of prospective capital investments have been properly defined and all relevant project costs and benefits have been identified, the next step is that of ranking the proposals in order of desirability. The desirability is based upon Keynesian concept of the marginal efficiency of capital. According to this concept, it will be found that a firm will continue to invest in fixed assets up to the point at which the rate

of return of the last project is equal to or just exceeds the firm's established cut off rate of interest, which is the firm's cost of capital.

The different method of analysis for ranking the fixed investment projects involve two steps, first, a comparison between two proposals has to show which is better. Thus a new project may be compared with each other. Second, an index for each project which permits comparison of ranking of any number of project. Certain implicit assumption underlines the various methods. The probable assumptions are that the type of assets being compared on the basis of cost/benefit relationships:

1. Perform the same function at difference costs.
2. Perform different functions at:
 - (a) The same cost
 - (b) different costs
3. Perform improved functions yielding greater revenues at:
 - (a) The same cost
 - (b) Different costs
4. Perform new functions
5. Have different lives and patterns of costs and revenue.

Thus, methods of analysis of which compare only costs saving imply that all other factors remain the same.

In most firms there are more proposals for project than the firm is able or willing to finance. Some proposals are good and other are poor. Methods must be developed for

distinguishing between the good and the poor. In reaching decision any suitable criterion should follow the following fundamental principles:

(a)The ' Bigger the Better' principle. Other things being equal, bigger benefits are preferable to smaller once.

(b)The 'Earlier the Better' principle. Other things being equal, early benefits are preferable to later benefits.

In the process of FID one has to perform the quantitative evaluation of each investment proposal. Although there are many techniques one can use in profitability analysis, only four are examined and evaluated here. And of these four, only two are acceptable from a theoretical point of view, the net present value method and internal rate of return on investment and the payback periods are presented merely because both are widely used.

2.1.6 Cash Flow Consideration

The cash inflows for a project usually come from revenues and/or a cost saving. A cost saving is equivalent to a revenue because it increases profits. Cash outflows usually occur at the beginning of a project, and cash inflow typically occurs during the life of a project.

Typical cash flows are as follows:

Cash Inflows:

Revenues from the project

Cost saving from project

Reduction of current assets

Increase in current liabilities

Residual (salvage) value on project assets at the end of their useful life

Cash Outflows

Initial investment (including directly related payments)

Repairs and maintenance

Operating costs of the project

Increase in current assets

Reduction in current liabilities'(Welsch, Hilton & Gorden, 2000, pp.408-409)

2.1.6.1 Shortcut and Simple (non-DCF) Method for Computing the Investment Worth of a Proposal Capital Expenditure.

(a)The Payback Period

'Earlier the Better principle' is the principle of PBP.

'It is defined as the number of years required to recover the original cash outlay invested in a project.' (Pandey, I.M., 1992, p.405)

The PBP calculates the payback period, which is the number of years that it takes to recoup a investment from the annual net cash inflows from the investment.

That's why the formula for computing PBP is:

$$\text{PBP} = \frac{\text{Net cash Investment}}{\text{Annual Net cash Inflow or Cost Saving}}$$

Example:

Machine X (5 year life) --- net cash investment Rs.30000 and annual net cash inflow is Rs.15000

$$\text{PBP} = \frac{\text{Rs.30000}}{\text{Rs.15000}}$$
$$= 2 \text{ years.}$$

Machine Y (5 year life)--- net cash investment Rs.27000 and annual net cash inflow is Rs.9000.

$$\text{PBP} = \frac{\text{Rs.27000}}{\text{Rs.9000}}$$
$$= 3 \text{ years.}$$

Acceptance Rule:

Project with shorter PBP will be selected so machine X is to be selected because the cash investment will be fully recouped one year earlier than machine Y.

Advantages of PBP

- a) Easy to calculated and does not require extensive data,
- b) Based on cash flows rather than accrual- basis amounts,
- c) Measures comparative investment worth,

- d) By screening the comparative result can eliminate the worst alternatives, and
- e) Does not take more time and cost.

Disadvantages of PBP

- a) Fails to take account of cash inflows earned after the PBP,
- b) Does not measure profitability of an investment, such as 12% p.a.
- c) Does not consider the time value of money.
- d) It breaks down when alternative investments have significantly different useful lives, and
- e) Alternative difficulties may be faced in determining the maximum acceptable PBP.

Although the weakness is there in PBP, but this method is very popular in practice because it gives quick information and if the risk is high or the future potentials beyond the payout period are difficult to assess then it is quite useful. In narayani district most of the firms are operating in small scale and the persons involved in business have lack of education. In that condition, this method is used for calculation of tentative earning and investment.

(b) The Accounting Rate of Return

The accounting rate of return is found out by dividing the average after tax profit by the average investment. (Pandey, I.M., 1992, 409)

This method is also known as the return on investment (ROI) method uses accounting information, as revealed by financial statements, to measure the profitability of an investment.

Here, two basic principles are considered; it is compatible with the 'Bigger the Better' principle 'Earlier the Better' principle for equal weight is given to project earning in the first and last year.

The accounting rate of return can be determined by the following formula:

$$\text{ARR} = \frac{\text{Average Cash Inflow}}{\text{Average Cash Investment}}$$

Where,

Average cash Inflow = Average Annual Income (after taxes without an adjustment for interest as EBIT (1-t))

$$\text{Average Cash Investment} = \frac{\text{Total Investment}}{2}$$

Example:-

Machine X (5 year life) ---Total cash investment Rs.72000 and the average cash inflow p.a. is Rs.13800

$$\text{ARR} = \frac{\text{Rs.13800} * 2}{\text{Rs.72000}}$$

$$= 0.383 \text{ or } 38.33\%$$

Machine Y (5 year life) ---Total cash investment Rs.44000 and the average cash inflow p.a. is Rs.5500.

$$\begin{aligned} \text{ARR} &= \frac{\text{Rs.5500} * 2}{\text{Rs.44000}} \\ &= 0.25 \text{ or } 25\% \end{aligned}$$

Acceptance Rule:

Project or machine with higher ARR is to be selected therefore the ARR of machine X is higher than the ARR of machine y, machine X is to selected.

Advantages of ARR

- a) It is easy to understand, to convince others and to calculate.
- b) No adjustments are required to arrive at cash inflows of the project it means that the ARR can be readily calculated from the accounting data.
- c) It mainly concentrates upon the project's profitability.
- d) This method is economy.

Disadvantages of ARR

- a) It uses accounting profit.
- b) It ignores time value of money
- c) The ARR rule uses an arbitrary current return on its assets (book value).

- d) It uses average cash inflows for both equal and unequal annual cash inflows.

2.1.6.2 Discounted Cash Flow (DFC) Methods

(a) Net present value Method

Conversion of the future estimated cash inflows into the present value is known as the total present value and difference between total present value and net cash outlay is called as net present value. In the equation form, we can write as follows:

$$\text{NPV} = \text{Total Present Value} - \text{Net Cash Outlay}$$

To determine the net present value we have to use the discount rate or cost of capital or cutoff rate or target rate or market rate etc. Whatever is to be said but all represents the same meaning. In this method, cash inflows and cash outflows both discounted at the firm's cost of capital. To convert the estimated cash inflows of the future into present value we can use two methods.

(I) Formula approach and (II) NPV table

(I) Formula approach

$$\text{NPV} = \frac{\text{CFAT}}{(1+r)^n}$$

Where,

NPV = Net Present Value

CFAT= Cash Inflow after tax

r= Rate of return of Rs.1

n= Number of years amount to be received

(II)NPV Table Approach

In this method, we can use two different tables for two types of cash flows as even net cash flows and uneven net cash flows.

Acceptance Rule:-

If $NPV > 0$, then accept

If $NPV < 0$, then reject

If $NPV = 0$, then indifference (BEP) position

Advantages of NPV

- It takes care about time value of money.
- In it, all types of cash flows are considered from the whole life of the project.
- In this method, profitability and risk of the project both are mainly prioritized.
- To gain maximum profit and to make fruitful the financial objectives of the firm, this Method helps.

Disadvantages of NPV

- It is difficult to compute.
- In the case of different amounts of the various projects, NPV can provide the wrong decision.
- Different projects life also may be difference, by that cause, the decision of NPV something may be wrong.

Internal Rate of Return method

The IRR method is another discounted cash flow techniques which takes account of the magnitude and timing of cash flows and this method also uses time adjusted rate of return and so on. It is easiest to understand by taking one year project, suppose that if you deposit Rs.20000 in bank and would get back Rs.22000 after one year. The rate of return on your investment would be:

$$\text{Rate of return} = \frac{\text{Rs.22000}-20000}{\text{Rs.20000}}$$

$$= 0.10 \text{ or } 10\%$$

The IRR method computes the true rate of return whereas in NPV method, rate of return is determined by top management.

The internal rate of return can be defined as that rate which equates the present value of cash inflows with the present value of cash outflows of an investment. (Paney, I.M., 1992, p.399)

'The internal rate of return is usually the rate of return that a project earns.

It is that rate which gives project NPV of Zero.' (Khan & Jain, 1990, p.234)

In other words, IRR is that rate which the net present value of the investment is Zero.

Procedures for Calculating IRR

The computation of IRR involves two cases:

Even cash inflows for each period, and

Uneven cash inflows for two or more periods.

Even cash inflows for each period, and

For even cash flows we have to follow-up these steps to calculated IRR.

Step 1: To find out factor by using the following formula. (Like calculation of PBP)

$$\text{PBP} = \frac{\text{Net Investment}}{\text{Annual Cash Inflow}}$$

Step 2: Match the factor on annuity table is the line of period equal to final year of the projects and determine the rate. If the figures on table are equal to factor, take two figures corresponding to two rates, are more than factor and another less than factor.

Step 3: Interpolate the two rates and determine IRR.

Step 4: The highest rate of return is acceptable for the acceptability of the project IRR should be greater than cost of capital.

Example:-

Determine internal rate of return for the given project.

Year:	0	1	2	3	4	5
Cash flows:	25000	7000	7000	7000	7000	7000

Solution:-

$$\text{Factor} = \frac{\text{Net Investment}}{\text{Annual Cash inflow}} = \frac{\text{Rs.25000}}{\text{Rs.7000}} = 3.571$$

Matching the factor 3.571 on annuity table for 5 years, we find nearest to factor is 3.605 and 3.571 corresponding to 12% respectively.

To obtain the rate of return, we also can use interpolation formula:

$$\text{IRR} = \frac{\text{FLR} - \text{RF}}{\text{LR} + \text{LR} - \text{FHR}} * (\text{HR} - \text{LR})$$

Where, LR= Lowest Rate

HR= Highest Rate

FLR= Factor of Lowest Rate

FHR= Factor of Highest Rate

RF = Required Factor

From the given example, RF=3.571, LR=12%, HR=13%, FLR= 3.605, and

FHR= 3.517

$$\text{Now, IRR} = 12 + \frac{3.605 - 3.571}{3.605 - 3.571} * (13 - 12)$$

0.034 *1

$$= 12 + 0.088$$

$$= 12.386\% \text{ or } 12.39\%$$

Uneven cash inflows for two or more periods.

For uneven cash flows we use trial and error approach to calculate the IRR. This approach is to select any discount rate to compute the present value of cash inflows. If the present value of the expected cash inflows is lower than the present value of cash outflows a lower rate should be tried otherwise vice versa. This step will be repeated unless the NPV becomes Zero.

Interpolating Formula

$$\text{IRR} = \frac{\text{TPV at LR} - \text{NCO}}{\text{TPV at LR} - \text{TPV at HR}} * (\text{HR} - \text{LR})$$

Where, LR = Total present value of Lowest Rate

TPV at LR = Total Present value of Lowest Rate

TPV at HR = Total Present Value at Higher Rate

NCO = Net Cash Outlay

HR = Highest Rate

Example:-

The cash flows of a project are given below:

Period 1 to 9 Rs.28000 each

10th year Rs.78000

NCO= Rs.150000

Solution:-

$$\text{Average cash inflow} = \frac{\text{Rs.28000} * 9 + \text{Rs.78000}}{10} = \text{Rs.33000}$$

$$\text{Payback Period} = \frac{\text{Rs.150000}}{\text{Rs.33000}} = 4.545$$

Now, we try arbitrarily the discount rate to the near factor of 4.545

Period	PV at 17%	PV at 12%
1-9 year	Rs.28000*4.451=Rs.124628	Rs.28000*5.328=Rs.1491
10th year	Rs.78000*0.208=Rs.16224	Rs.78000 * 0.322=Rs.251
	TPV at 17% = Rs.140852	TPV at 12% = Rs.174

$$\text{IRR} = \frac{\text{LR} + \frac{\text{TPV at LR} - \text{NCO}}{\text{TPV at LR} - \text{TPV at HR}} * (\text{HR} - \text{LR})$$

$$\text{IRR} = 12 + \frac{174300 - 150000}{174300 - 140852} * (17 - 12)$$

$$= 15.63\%$$

Therefore, actual IRR= 15.63%

Acceptance Rule:-

If $IRR > \text{Opportunity cost of capital}$ then accept

If $IRR < \text{Opportunity cost of capital}$ then reject

If $IRR = \text{Opportunity cost of capital}$ then indifference point.

Advantages of IRR

- a) It take care the time value of money,
- b) The entire cash flow of the project adjusted and computed,
- c) No need to prior thinking of discount rate,
- d) It is excellent method to investors because the real rate of return of the project represents in the present value, and

Obtaining the maximum profit it helps to maximum the wealth.

Disadvantages of IRR

- a) This method is complex to understand and to compute,
- b) The mismatching of project life and investment outlay, the NPV and IRR can show different results,
- c) This method assumes that the earning amount of the project reinvests to the IRR but it is unfit in the behaviors, and
- d) It is difficult to use for risk and sensitivity analysis.

The application of discounted cash flow techniques of evaluation has not become popular in Narayani zone. The general feeling about the discounting techniques among the business enterprise in this district is that there is too much sophistication in these techniques. There are many factors affecting the anticipated rate of return, the estimated cash inflows and outflows under different heads of account. If one or more of these estimates go wrong, the rate of return indicated by discounting technique is likely to become unrealistic. Further, the use of discounting cash flow methods presupposes planning for long period. As long term planning under the present conditions is not quite possible in Narayani zone. The use of discounted cash flow methods does not seem to be possible.

2.1.7 Financing Fixed Investment

Introduction

The FID is directly related to the financing decision because the acceptance of the fixed investment proposal gives rise to the financing decision. In the process of financing decision, one has to determine the best financing mix or capital structure of a firm, If a company can change its return on investment simply by varying its capital structure, an optimal financing mix would exist in which the return is maximized. The financing decision takes into account the firm's present and expected future portfolio of assets, for they determine the business risk complexion of the firm as perceived by investors.

Sources of Financing

Whether large or small investment it need funds to settle it. There are really only two broad ways to finance fixed investments; to increase the claims of the owners or to increase the claims of the creditors. The sources of financing can also be classified as external financing and internal generation of funds. The sum of various means of raising funds comprises the financial structure of any business, which is revealed by the left hand side of the balance sheet such as liabilities plus net worth. When we omit short term borrowing from this list we call the remaining assorted claims the structure of the business.

'A firm in practice may plan to finance an investment under consideration either by debt or equity, or partly by debt and partly by equity.' (Pandey, I.M., 1992, p.466)

Equity Financing

(i) Preference Share

'Preferred stock is capital stock which grants the owners certain right and privileges that are not available to owners of common stock. In other words, preferred stock will have certain "Preferences" over common stock. The specific preference will vary from the company to company, but two frequent ones are:

1. Stock which has preferences to dividends and consequently may be;
 - Cumulative or non-cumulative
 - Participating or non-participating
2. Convertible or non-convertible

Callable (Kindsfather, prarish, and Magers, 1978, pp.544-545)

This share which is preferred to dividends to the owners before the owners of common stock and accumulating the dividends until they are paid are known as cumulative preference share whereas not accumulating the dividends of the loss year is non-cumulative Preference share.

If the sock is in participating nature, then it has to right take dividend from the remaining profit (that part of profit which is remained after distributing the dividends to the common stock holders). If it is not right to take dividend from the remaining profit then it is known as non-participating preference shares.

The share which has a right to change in ordinary share is known as convertible preference share otherwise non-convertible preference share.

Callable preference share has the power to redeem the stock at any time when the corporation desires. In practice, most of the preferred stock issued is callable.

(ii) Ordinary Share

Ordinary shares are those shares which get the dividend after distributing the dividend at given rate to the preference share from the profit. Ordinary shareholders are the real owner of the corporation.

'Common shares represent the ownership position in a company. The holders of common shares, called shareholders or stockholders, are the legal owners of the company. Common shares are the sources of permanent capital since they do not have a maturity date. For the capital entitled for dividends by purchasing common shares, they are

decided by the company's board of directors. A common share is, therefore, known as variable income security. Being the owners of the company, shareholders bear the risk of ownership; they are entitled to dividends after the income claims of others have been satisfied. Similarly, when the company is wound up, they can exercise their claims on assets after the claims of other suppliers of capital have been met. (Pandey, I.M., 1992, p.981)

Internal Sources

A company's main internal sources of funds are depreciation and general reserves. Internal sources are said to have certain peculiar advantages as a source of financing. These sources are within full control of management, available without delay, no negotiation, no publicity or no explanation is needed and free from any commitment to interest payment.

(a) Depreciation Reserve or Sinking Fund

The sinking fund method not only takes depreciation into account but also makes provision for replacement of the assets. Under this method, a fund is created by debiting Depreciation Account and crediting Sinking Fund Account. An amount equivalent to depreciation charged is invested outside the business in gilt- edged or other securities and allowed to accumulate at compound interest so as to produce the required amount to replace the assets after a specified period of time. The main advantage of this is that it avoids strain on working capital, if substantial sums are withdrawn from the business to replace the assets at the end of its life. (Mukherjee & Hanif, 1998, p.163)

(b) General Reserve

Where a part of the undistributed profit is set aside for strengthening the general financial condition of the business, it is called a general reserve. Such reserves are also termed as free reserves, since they represent profits which are freely available for distribution. The contingency reserve or undistributed balance of the profit and loss account also comes within this category. The aim or objectives of creating such a reserve may be classified as under--

- (I) For meeting unknown future losses;
- (II) For expansion of business;
- (III) For strengthening the financial position of the business; and
- (IV) For equalization of dividend over years, in case of Joint Stock Companies. (Gupta & Singh, 2002, p.13.5)

The size of the reserve of a company can build up every year is determined by the following factors:

- (I) Profit after tax,
- (II) Capital structure, and
- (III) Dividend policy.

General reserve may be created in the year in which the profits are sufficient and the management thinks it proper to do so.

Debt Financing

'Debt financing is the process of obtaining operating funds by borrowing.' The individual or firms loaning the funds to a business are called creditors. The business is expected to repay the loan, with interest, at some designated date. If the business firm fails to make loan repayments when due, the creditors may take legal action against the business in an attempt to make collections.

Fund are borrowed either by obtaining a loan from various lending institution and individuals or through the selling of bonds. (Kindsfather, paris, and Megers, 1978, p.538)

(i) Debenture

'A debenture is a long- term promissory note for raising loan capital. The firm promises to pay interest and principal as stipulated. The purchases of debentures are called debenture holders. An alternative term for debenture in India is bond. In U.S.A when the term debenture is used, it generally means unsecured bond.

Features

A debenture is a long-term, fixed-income financial security. Debenture holders are the creditors of the firm. The par value of a debenture is the face value appearing on the debenture certificate.' (Pandey I.M., 1992, p.990)

'Debenture or bond is long term promissory note. The debenture trust deed or indenture defines the legal relationship between the issuing company and the debenture trustee who represent the denture holders. Debenture holders have a prior claim on the company's

income and assets. They will be paid before shareholders are paid anything. Debenture could be secured and unsecured and convertible and non-convertible. Debentures are issued with a maturity date.'

(Pandey I.M., 1992, p.996)

(ii) Bank Credit

Bank and finance companies provide the short-term and long-term loan. A line of credit also can be settled.

'A line of credit is a statement by the bank that it will lend up to a certain maximum amount to specific customer. Before issuing the line of credit, the bank will thoroughly study the financial condition of the customer. The bank's board of directors must give approval of the line of credit to comply with the legal requirement that directors approve all loans.

Establishing a line of credit may be very advantageous to a business. Banks do not cancel or reduce it unless adverse changes occur within the business. Therefore, the business is aware of the maximum amount it may borrow, it knows it may obtain a loan quickly, and it can operating activities accordingly.'(Kindfather, Parish, and megers, 1978, pp.523-524)

(iii) Family and Friends

Family and friend are frequent sources of short-term financial aid to very small business operations. Unfortunately, many businessman turn to them only when they are unable to obtain funds elsewhere. The family and friends often are not able to refuse and sink their

money into a losing venture. In other cases, however family and friends have been valuable sources of loans to many small successful businesses that were in need of temporary financial aid. (Kindfather, Parish, and Magers, 1978, p.533)

2.2 Review of Empirical Studies

2.2.1 Global Capital Budgeting Practice

The cost of obtaining a capital good- the value sacrificed – is its purchase price. Private firms, non-profit institution, and state and local governments all weight expected benefits against full cost in capital budgeting. Although budget decisions involve both costs and benefits. Only costs are tallied in the budget. That focus on costs is appropriate because the perceived benefits of many government actions vary with one's political values and therefore are difficult to measure objectively.

With current budget accounting, there have been many episodes of rapidly expanding public investment the construction of the Interstate highway system, the U.S space exploration program, culminating in the landing on the moon; and the large defense build up in the 1980's. In each case, the critical element appears to have been strong political support for the investment.

Private investment is subject to market discipline, which provides strong incentives to invest in projects with high expected return, private investment, unlike, government investment, is subject to severe penalties for failure.

Most Govt. purchases produce a flow of benefits overtime. For example, future benefits flow not only from structures, roads, and bridges but also from many forms of education and training, research, health care that enhances and extends life, child nutrition that increases the ability of children to learn and mature and public safety that fosters investment in housing and other forms of private capital.

Under current practice, acquisition costs are frequently paid for by an account other than that of the user, and the holding costs of capital are almost never recognized. Purchases are often paid for by a funding source outside the program, such as central capital account, an agency other than the user, or even a different level of government. And once an asset is acquired, neither the decline in its value from aging and use nor than interest on the public debt that could be retired if the asset was sold is recognized as a cost of the decision to retain and use that asset. In fact the costs of acquiring and holding capital are reflected in the operating costs of the using entity only in the unusual case in which the assets is purchased by the program agency with funds borrowed from the Treasury.

Large, well run firms in the world routinely evaluate their operating components by comparing by comparing revenues with costs if those costs include charges for both the consumption of capital and alternative uses of the firm's resources. Many national governments, including the United Kingdom, New Zealand, and the Nether lands, are following that example by recognizing those capital costs in the operating budgets of the agencies that make uses of assets in carrying out their mission. Both the U.K and the Dutch governments are moving to charge the cost of capital to users while retaining the recognition of full, up-front acquisition costs in the budget aggregates.'

<<http://WWW.cbo.gov/showdoc.cfm>>

According to I.M Pandey's study(1984), In U.S.A., it has been observed that majority of new proposals originate at plant level i.e. they follow mostly bottom-up as well as top-down process exist' in practice.

More ever, in the global context, from the article-'Evaluating Signals of Technological Change' by James R. Bright(1971), 'to evaluate the signals of technological change, the foreign companies establish the R&D department to anticipated innovation, the political, social, and other factors influencing its progress.' This situation clears that the world's investment practice is based on R&D whereas our practice is routine and expansion. As well as for the evaluating proposals, from the article- 'Investment policies that payoff' by David B. Hertz (1969), they are parting conventional approaches to risk and describe a more sophisticated approach, involving the use of computer-based risk analysis techniques to compare probable payoffs'. Firms in U.S.A. have come to depend increasingly on discounted cash flow techniques, particularly IRR. According to Rockley's study (1973), 'the British companies use both DCF techniques and return on capital, sometimes in combination and sometimes solely, in their investment evaluation; the use of payback is wide spread.'

2.2.2 Capital Budgeting Practice in Nepal

Mr. Neupane (2006) had done study in the topic of ' Practice of Capital Budgeting in Rupandehi' and he concluded that the forty pre cent of the firms of Rupandehi districts were practicing capital budgeting in establishment phase.

In the topic of ‘ Capital expenditure planning and employees involvement’, in 2007 Mr. Jha found that Nepalese organization had not considered employees involvement in capital investment decision.

In the context of literature review the researcher can’t find any specific topics related to capital budgeting practices in manufacturing organization in Nepalese perspective.

The increasing number of manufacturing organization in Narayani zone and its miserable condition of the corporations the researcher select this topics to find the practice of capital budgeting in this territory. In order to find the present response rate rather than previous study, some issues could not be investigated in detail. Nevertheless, questionnaire surveys, such as this one, have the benefit of updating our knowledge of practice, identifying gaps between theory and practice, and thus suggesting are as for future research that might bridge those gaps.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction:

This research has been tried to explore the capital budgeting practice in Narayani zone that do the entrepreneurs or the managers know about capital budgeting technique? Do they applying capital budgeting technique while making the capital budgeting decision? From which level new project originates? What are the difficulties in capital budgeting? From where, they finance to acquire the fixed assets? Which method of capital budgeting evaluation technique, they prefer? What is the procedure, they adopt for the determination of cut-off rate, etc? With finding out that they are not emphasizing properly to acquire the fixed assets.

For this, it can be the research problem runs too far if sequential steps would be taken. For the concept of the research, it is the systematic and organized efforts which investigate a certain problem that needs a solution.

Research Methodology is the way to solve systematically about the research problem.
(Kothari, C.R., 1990,p.39)

Research methodology is that procedure of planned outline which deals with the research design, data collection procedure, nature of data, identifying the population, making confidence of the sampling method and sampling variables, data selecting styles,

presentation style of collected information and interpreting it. Now, no doubtingly it is obvious that the research methodology is helpful to attain the objectives of the research.

3.2 Research Design

Research design is the outline which configures the collection and analysis style of the data and information.

Research design is a plan of structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances. (Kerlinger, F.N, 1986, p.275)

As the topic of this research capital budgeting practice in Narayani zone. So it mostly tries to flash the present status of capital budgeting practices in such region.

The information of this research concerns with descriptive and analytical type of research design.

Descriptive research is process of accumulating facts. It does not necessarily seek to explain relationship and test hypothesis make predictions or get at meanings and implications of a study. (Wolff & Pant, 2002,p.81)

Where as analytical type of research design is used to clear the situations by the help of various tools. According to the subject matter this research also clarified by using various tools.

The research is to be based on the providing information of the sample-companies i.e. primary information as well as it uses some second information from relevant sources of

information i.e. secondary information and that information tries to describe all the facts, which have been collected for the aim of the study.

3.3 Sources of Data

The research is to be based on the information of the sample companies through structured questionnaire and some relevant books, journals, reports, electronic media such as website etc. It means the analysis is done on the basis of primary and secondary information but primary information is mostly prioritized. The primary information is gained through the sample respondent companies and secondary information is gained through the various sources of flashed information.

3.4 Population and Sample

The population for this study comprised all the manufacturing based corporate enterprises of Narayani zone which are registered in the book of Department of Cottage and small Industries and department of Industries. Due to the cause of reluctant ness of personnel to provide the information, ignorance to related terms and lack of time of researcher own self, only 20 manufacturing based corporate enterprises have been taken for the sample.

The sample companies are as follows:

1. Bottlers (Tarai) Ltd. Bharatpur, Chitwan
2. Baba Gas Udhhyog , Khairahani, Chitwan
3. Saibaba Gas Udhhyog, Khairahani , Chitwan
4. Narayani Gas Udhhyog Khairahani, Chitwan
5. Unilever Ltd. Barsamadi Makawanpur

6. Enviroplast Pvt. Ltd. Ratnanagar 11 Chitwan
7. Colgate-Palmolive (Nepal) Pvt. Ltd, Hetauda Makawanpur
8. Dabur Nepal Ltd. Hetauda Makawanpur
9. EverestPolymersPvt.Ltd. Hetauda, Makawanpur
10. Aagreni Almunium industry,Simara,Bara
11. Hulash Still Industries,Simara Bara,Nepal
12. Nepal Gas Udyog , Simara Bara
13. Nepal Cable Bara Nepal
14. Jagadamba Still, Bara
15. Hama Iron Industries, Simra -3 Bara
16. Baba Biscuits, Simara-4, Bara
17. Nepal Boards, Simara, Bajani-4
18. Ashok Still, Simara, Bara
19. Saakh Still Industries, Simara Bara
20. Dabar Nepal Industries, Parbanipur, Bara

3.5 Method of Data Collection

This research is related with the capital budgeting practices of manufacturing based companies in Narayani zone. As stated previously that the research is based on the primary and secondary sources of information.

For the collection procedures of data, some questions answer is to be found out, as, why is it studied? What may be the relevant data? Which organization and sources may be the

right for the collection of data and information? Who may be the right person to obtain the requires data and information? How does one can to contact with such person? Who is the supervisor for such particular research? What may be the right instrument as books, journals, reports, electronic media such as websites etc. for the solution of the research problem?

Once the data and information properly collected then the compilation, tabulation, presentation, analysis and interpretation has been done.

3.6 Methods of Data Analysis:

For the analysis of the collected data and information, analysis has been done as the nature of data is available. First of all the collected data and information has been grouped and re-arranged so as to make comparison easy. Pilot study and pre-testing has been done to test the reliability and validity of the information. A variety of methodology is applied according to the reliability and consistencies of data, then the grouped and rearranged data is tabulated, presented, analyzed, and interpreted systematically as it is needed.

For the data analysis and interpretation, statistical tools and financial tools are used according to the nature of the data.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Clarification About The Concept of Capital Budgeting

To know whether the respondent companies were acquainted with the concept of capital budgeting, they were asked “Do you know that the capital budgeting is related with the decision making process by which firms evaluate the purchase of major fixed assets?”

The result has been presented in the following table.

Table no 4.1.1 clarification of concept of capital budgeting

S.N	Clarity option	No of respondents	Respondents %
1	Yes	14	70
2	No	6	30
Total		20	100

It is absorbed that 70% of the respondents have knowledge of capital budgeting .It means the majority of the respondents have knowledge of CB technique clearly. However, a few respondents don't understand the meaning of CB as estimation of total amount of annual budget. Thus it is conclude that most of the companies have clarity about the concept of

capital budgeting technique. Those respondents who replied yes said that they were management graduate.

4.2 Knowing about the Capital Budgeting Technique.

To know whether the respondent companies have clear about the knowledge of capital budgeting technique, were asked, do you know about capital budgeting technique?. The result has been presented in the following table.

Table 4.2.1 Knowledge about the capital budgeting technique

SN	Knowing Option	No of respondents	Response%
1	Yes	14	70
2	I don't know	6	30
Total		20	100

It is observed that the sample companies have knowledge about capital budgeting technique by 70% and who replied 'do not know' said either they are from other faculties or undergraduate.

4.3 Knowing of Evaluation Technique or Methods

In a question 'what methods/technique of capital budgeting familiar with? The respondent's replies were as:

Table no 4.3.1 knowing of capital budgeting technique/ methods

SN	Evaluationtechnique	No of respondents	Response % based On knowing ie 14	Response % based on total Sample ie 20
1	PBP	2	14.29	10
2	ARR	-	-	-
3	NPV	2	14.29	10
4	IRR	-	-	-
5	PI	-	-	-
6	ALL	10	71.42	50
7	Not any	6	-	30
Total		20	100	100

70% of the sample companies know capital budgeting technique and rest of the 30% do not know any technique. Out of the familiar respondents of the 70%, 71.42% know all the CB methods i.e. both traditional and modern approach, while 14.29% know only pay back period and Net Present Value technique as capital budgeting.

4.4 Application of Capital Budgeting Technique

To know whether they have been applying CB technique while acquiring the fixed assets, it was asked that, ‘have you been applying capital budgeting technique while investing capital in your project?’ the response obtained from respondents has been presented in the following table.

Table 4.4.1 Application of capital budgeting technique

SN	Application response	No of respondents	Application % based on On knowing i.e14	Application % based on Total sample i.e. 20
1	Yes	12	85.71	60
2	No	8	14.29	40
Total		20	100	100

The survey flashed that the sample companies have applied and have not applied capital budgeting technique while investing in capital is 60% and 40% respectively. But out of total population who has knowledge of CB technique, only 85.71% have applied the CB technique while acquiring the fixed assets. This study conclude that, although they the technique yet they have not used the evaluation technique in practice i.e. 14.29%.

4.5 Preference of capital budgeting technique

Twelve companies out of twenty apply capital budgeting technique while investing the capital outlay. The respondent companies were asked ‘if you have applied CB technique, which method you preferred ?’The respondent were requested to prioritize their answer from 1 to 6.The response are presented in the following table.

Table 4.5.1 Preference of Capita Budgeting Technique

SN	Techniques/Methods	Response frequency (out of twelve)	Response %
1	PBP	2	16.67
2	ARR	1	8.33
3	NPV	2	16.67
4	IRR	5	41.66
5	All	2	16.67
6	Others	-	-
Total		12	100

From the above table, percentage of respondents is calculated according to the total frequency obtained by each technique. For priority purpose highest percentage is assigned as first priority. Here the preferred methods of evaluation are as follows.

-) Internal Rate Of Return (IRR)
-) Pay Back Period (PBP),
-) Net Present Value (NPV)
-) Average Rate Of Return (ARR)

Thus it can be conclude that the main preferred technique of evaluation is IRR. 41.66% of the respondent applied IRR which represent true interest rate earned on an investment over the course of economic life. It magnitude the timing of cash flow and this method also use time adjusted rate of return and so on. IRR equates the net present value of cash inflow with the present value of cash outflow. The study shows PBP, NPV and All as second position of application with 16.67% out of total respondent and ARR is applied 8.33% as third position.

4.6 Reason for preferring particular technique.

Twelve companies out of twenty or 60% of the sample companies use particular evaluation technique. To know the answer why they prefer such particular evaluation technique only, the respondents were asked, “elucidate the reason for preferring a particular technique” The obtained response have been presented in the following table.

Table No 4.6.1 Reasons for preferring particular technique

SN	Reasons	Response frequency (Out of 12)	Response %
1	Simplicity	3	25
2	Easy to explain to BOD	5	41.66
3	Incorporate time value of money	2	16.67
4	Others reason (specify)	1	8.33
Total		12	100

From the above table, it is clear that the reason, “easy to explain to board of directors” has got the highest percentage of priority, simplicity, Incorporate time value of money and others reason (i.e PBP,ARR) second, third and last priority respectively

After this analysis, it is concluded that the reason for preferring a particular technique is easy to explain board of directors. Because of ignorance, difficulty and costly technique majority of the sample companies replied the methods of evaluation techniques are unsuitable in the context of Nepal.

Out of total respondents of 20 companies, 8 companies denied to use CB technique while acquiring fixed assets the reason attributed by them is uncertainty of future cash flow. According to respondents view, they said that although calculating CB technique is valuable information for capital expenditure decision, however lack of expertise general concept of investment decision technique has been taken.

4.7 Period of advance planning.

Respondent companies were asked to indicate the period of advance planning for capital budgets. The following table shows the response number and percentage under different planning period.

Table 4.7.1 Advance planning period

SN	Planning period	No of respondent (out of 20)	Response %
1	One Year	2	10
2	five Year	3	15
3	As and when opportunity arise	10	50
4	Any other period	5	25
Total		20	100

From the above study, it is observed that 50% of the respondent companies out of 20, purchase their fixed assets When the opportunity arises. It means they do not plan properly, when the investor think as opportunity to invest then they decide about their capital budgeting. And 25% of the companies manage their assets at any period most of them managed at the time of commencement. However 15% and 10% of respondents have planning for 5 and 1 year respectively. It means these companies have a policy of well assesses the cost and benefit of the capital investment in advance.

4.8 Difficulties in capital expenditure decision

It is known that most companies want to implement the capital budgeting technique to improve their capital expenditure decision but it has practical difficulties in real application on fixed investment. To know their problems, Respondents were asked “what are the difficulties in capital expenditure decision?” The response was as follows.

Table 4.8.1 Difficulties in capital expenditure decision

SN	Reasons of difficulties	Response frequency (out of 20)	Response %
1	Uncertainty	5	25
2	Difficult to measure cash inflow In quantitative figure	6	30
3	Time element and competition	8	40
4	Attitude of employees towards The change	1	5
Total		20	100

The capital budgeting decision is based on the benefit to be derived from the project in future. These benefits are measured in terms of cash flow. The estimated future cash flow is based on various assumptions. According to the respondent 40% of the difficulties are related to time element and competition. It means the future cash inflow depends on variety of factors such as price, sales volume, effectiveness of advertising, manufacturing cost, unhealthy competition and state of economy, rate of inflation, liquid political environment also play vital role to create difficulties in long term decision. Similarly 30% of the respondent faced difficulties to measure actual cash

Inflow in quantitative figure because the future inflow will have lots of risk..25% of the sample argued that future uncertainty creates difficult. Nominal percentage of the sample i.e.5% replied that employees attitude of restriction towards change creates difficult on capital expenditure decision.

4.9 Method of forecasting future cash flow

The respondent co. was asked ‘How do you forecast the cash flow?’ Upon this question, the opinion s are disclosed on following table

Table 4.9.1 methods of forecasting cash flow

SN	Methods	Response Frequency (Out of 20)	Response%
1	Quantitative method	4	20
2	Management estimate	11	55
3	Expert opinion	5	25
Total		20	100

According to above study most of the companies used management estimate to forecast the cashflow.It means 55% of the respondent forecast own self on the behalf of possibilities and circumstance.25% of them called expert of specific field and with the view of them, tried to get as much as relevant information to forecast the cashflow.such Delphi technique helps to analyses the opportunity and threats from the environment.

And rest 20% used quantitative method to find cash flow which means prepared master budget and also used statistical tools to forecast and analyze the cash flow i.e. time series, decision making, decision tree etc

4.10 Studying the past results

According to the past result and present situation future will be forecasted i.e. general principle of budgeting. To know about this, the respondent companies were asked 'Do you study the past results while making invest decision? The response is listed on following table.

Table 4.10.1 Response of past results

SN	Response Option	No of respondent (out of 20)	Response %
1	Yes	19	95
2	No	1	5
Total		20	100

This study shows that 95% of the sample co. considered past result while investing fixed assets. Favorable past result leads an organization to invest. For this companies major consideration is market level, potentiality, competition, technology etc.5% of the sample(single) company don't consider past result because this organization is new and only consider about future.

4.11 Reasons lead to take capital expenditure decision

To know the respondents view about the factors prompt to go ahead with capital expenditure decision, a question was asked what factors prompt you to go ahead with capital expenditure decision. The response was as follows.

Table 4.11.1 Reasons Lead to Take Capital Expenditure Decision

SN	Reasons	Response Frequency (out of 20)	Response %
1	Were and Tear of fixed Asset	5	25
2	Obsolesces	1	5
3	Inadequate for product improvement & meet the demand	8	40
4	Working condition & moral	1	5
5	Workers skills & learning	1	5
6	For reducing operating cost	4	20
Total		20	100

It is observed that 25% of the sample co. used to purchase new fixed asset (especially machinery) because of the existing machine's deterioration. Similarly 5% of the respondent used to purchase the new machine because of absences.40% of sample co replaced the existing machine by new machine when the existing machine is inappropriate for product improvement and meet the demand.5% of the companies considered employees and purchase the new machine. Likely next 5% of the sample

companies considered level of worker’s skill and learning when they had to purchase new machine. And 20% of the sample companies compare the operating cost and their durability.

From the above study, the prioritized reasons to go ahead with capital expenditure decision is inadequacy for product improvement to meet the demand and secondly to reduce their operating cost. This implies that they have the practice of accruing new assets.

4.12 Sources of financing capital expenditure

The sources various sources of fund comprise the financial structure of any business, which are shown in left hand side of the balance sheet such as either liabilities or net worth or both. To know the sources of financing, the respondent were asked ‘what are the various sources from which you finance the capital expenditure? The response were as follows

Table 4.12.1 Sources of financing capital expenditure

SN	Sources	Response frequency (out of 20)	Response %
1	Equity	6	30
2	Depreciation fund & others reserve	3	15
3	Debt	10	50
4	Government source	-	-
5	others	1	5
Total		20	100

From the above table, it can be concluded that most of the respondent companies i.e 50% use debt financing especially from bank debt on installment basis.30% use equity financing. Similarly 15% use depreciation fund and other reserve and 5% use as others source to manage fixed asset like leasing, lending etc. This study shows that mostly using source of finance for capital expenditure is debt then equity and so on.

4.13 Types of capital expenditure undertaken

To know the respondents companies' practice about the type of capital expenditure undertaken, a question was asked ' what are the various types of fixed investment undertaken by you? The response were as follows

Table4.13.1 capital expenditure undertaken

SN	Types of capital expenditure	Response Frequency (out of 20)	Response %
1	Routine investment/ Replacement	5	25
2	Expansion investment	7	35
3	Research & development investment	2	10
4	Employees welfare investment	3	15
5	Pollution control investment	3	15
Total		20	100

Above study shows that 25% of the total respondents was undertaken the routine investment as per their own schedule.35% used expansion investment decision to increase their capacity and quality as per market demand.15%,15% of the respondents used Employees welfare and pollution control investment decision respectively. Where

as only 10% of the respondents used research and development technique to invest on fixed assets

Replacement investments are undertaken for the purpose of replacing existing assets with new ones that will produce the same product or perform the same function either more efficiently or in greater quality.

4.14 Adoption of depreciation method

To know the method adoption for depreciation of the assets, the respondents were asked ‘which method is adopted for depreciation of the assets? The response were as follows

Table 4.14.1 Adoption of depreciation method

SN	Dep. Methods	No of respondents (out of 20)	Response %
1	Fixed installation	0	0
2	Diminishing	20	100
3	Others	-	-
Total		20	100

The above study shows that 100% of the sample companies used diminishing balance method of depreciation to depreciate their fixed assets.. Where as others methods of depreciation were ignored by all of them. The government of Nepal has compelled the companies to use diminishing balance method for tax purpose.

4.15 Preference of cash flow

There are two ways for the generation of income i.e. either maximizing the sales or reducing the expenses, so to know the preference of cash flow a question was asked 'what kind of cash flow you like most?' The response were as follows

Table no 4.15.1 Preference of cash flow

SN	Types of cash flow	No of respondents	Response %
1	Increment of cash inflow	8	40
2	Reduction of cash out flow	4	20
3.	Both (increase sales and decrease cost)	8	40
Total		20	100

From the above table, it has become cleared that most of the sample companies i.e. 40% want to increase the cash flow by maximizing the sales, 20 % of the respondents increase the cash flow by reducing the operating cash expenses and remaining 40% of the respondents prefer to increase the cash flow by taking both methods i.e. maximizing sales and reducing cash expenses.

In the course of talking with the respondents the researcher found that lots of the companies try to prefer incremental cash flow which means try to increase the sales and to decrease the operating expenses to empower the strength of the organization.

4.16 Awareness to safety of the employee

To know awareness to safety of the employee, a question was asked ‘Do you prefer that types of investment decision which improve the working condition and safety of the employee but the quality of earning offered by the new proposal is same as the general quality of earning on existing investment?’

The response of the respondent companies is present on following table

Table no 4.16.1 Awareness to safety of the employee

S.N	Response options	No of respondents	Response %
1	Yes	20	100
2	No	0	0
Total		20	100

From the above table, it is observe that dominantly cent percent of the sample companies prefer such type of investment decision. This implies that they also prefer employee welfare investment indirectly.

4.17 Project abandonment policy

Respondent companies were asked ‘after how many years do you normally abandon a particular project and technology? The response were

Table 4.17.1 Project Abandonment Period

S.N	Abandonment period	No of respondent	Respondent %
1	Up to 3 years	0	0
2	4 to 5 years	3	15
3	6 to 10 years	4	20
4	More then 10 years	13	65
Total		20	100

From the above table, it can be concluded that most of the companies normally abandon a particular project and technology after ten years. i.e. 65% of the sample companies use same technology more then ten years.20% of the sample change their project technology after five years it means these companies analyze trend in between 6 to 10 years And only 15% of the terminate their particular project life in between 4 to 5 years and no one company get change their technology before three years.

4.18 Procedure adoption for the determination of cut off rate

The respondents were asked ‘what is the procedure adopted for the determination of cut off of rate? The respondents have been presented in the following table.

Table 4.18.1 Procedure adoption for the determination of cut of rate

SN	Procedure	NO of Respondents	Response%
1	WACC	-	-
2	Decided by management	20	100
3	Others	-	-
Total		20	100

To determination of the cut off rate, the cent percent of the respondents companies follow the management decision. They ignored others method for determining cut off rate.

4.19 Method adoption of determination of cost of equity capital

For this, the respondents were asked ‘which method is adopted for determination of cost of equity capital in your company?’ The response was as follows.

Table 4.19.1 Application of methods for the determination of cost of capital.

SN	Method	No of respondent	Response %
1	Dividend valuation model	2	10
2	Earning Theory	-	-
3	No cost is considered	-	-
4	Absolute value determine by management	18	90
Total		20	100

According to the study, most of the company does not apply any definite method to determine the cost of capital. The management owns self determine the absolute rate of cost of capital i.e. 90% and 10% of the respondent used dividend valuation model.

4.20 Financial objective of the firm

Every business has different objectives so to know the objective of the firm, the respondent were requested to tick mark the financial objective of the firm. The response have been presented in the following table.

Table 4.20.1 financial objective of the firm

S.N	Financial objective	No of respondents	Response%
1	Maximizing ROI	11	55%
2	Achieving direct growth rate in EPS	2	10
3	Maximizing aggregate earning	4	20
4	Maximizing market value of common stock	2	10
5	Others(collective materialism economic value added)	1	5
Total		20	100

From the above table,55% of sample companies have the objective of maximizing return on investment,10% companies have the objective of achieving desired growth rate in earning per share.20% companies have the objective of maximizing aggregate earning .10% of the companies have the objective of maximizing market value of common stock and others (collective materialism, economic value added) related objective were placed by only 5% of the sample companies.

Now, it can be concluded that most of the sample companies in practice to pursue a set of goals with maximizing return on investment in total assets, ‘as the most dominant goal ‘.This study show the contradiction with the popular assumption that the firms single goal of maximizing market value of common stock.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary:

Present research seems to be successful to meet the objectives designed for the study. This part presents the results of the study based on the finding and study work. The researcher introduces the meaning and importance of the research paper and to meet the objectives has followed various sequential steps.

First chapter dealt about the basic assumption, introduction and plan of the significance of this research .This part basically presented research issue; objective of the study and limitation of the study.

The second chapter dealt with literature review, helped the researcher to provide knowledge about the development and progress made by the earlier scholars on the concerned field of study. This chapter complete through different relevant books, journal, articles and published and unpublished dissertations.

In third chapter, research methodology, explain the techniques to analyze the data in suitable way. Research methodology signifies research design, nature and source of data, sample and population of survey design, data collection and processing technique and various tools and techniques employed to analyze data.

Presentation and analysis of data are studied in fourth chapter. In this chapter the generated data were presented in tabular form and analyze it systematically as per requirement. The responses of sample companies through structure questionnaire were present individually on this chapter.

The study reveals that most of the sample companies know that capital budgeting is related with the decision making process by which firms evaluated the purchase of major fixed assets and some of them understand

The term capital budgeting as related with budget. This situation clarifies that capital budgeting practices in Narayani Zone are still more art than science and more gamble than art because if they do not understand the concept than how they can use evaluation technique? They invest and acquire the project as fulfill present requirement. While it is needed to acquire the fixed assets they study the project only from single angle, here I mean that often the companies only analyze the cost although they know the evaluation technique of capital budgeting. However, some companies use evaluation technique and estimate both cost and benefit of the proposed project.

Those companies which use evaluation technique felt that payback is a convenient method of communicating an investment's desirability, it is best and protected the recovery of capital, they think: where as global capital budgeting practice differ from Nepalese context. A study by school, Sundem and Geijsberk, 1978 for USA showed that 86% of firms use either internal rate of return or net present value models, only 14% used such discounting technique without also using the pay back period or average rate of return models. As well as for the evaluating proposals, from the article -'Investment

policies that pay off” by David B. Hertz (1969), they are practicing conventional approach to risk and describe a more sophisticated approach, involving the use of computer based risk analysis technique to compare probable payoff’s but here i.e. Especially in Narayani, we are in the root, companies are using conventional approach even most of them are not practicing such approach too. Firms in USA have come to depend increasingly on discounted cash flow techniques, particularly IRR. According to Rockley’s study (1973) the British companies use both DCF technique and return on capital, sometimes in combination and sometimes solely, in their investment evaluation; the use of payback is wide spread.

From the above in over all, one important different between Nepalese companies and in the world regarding the capital budgeting is that best-guess estimate and payback is used as primary method and NPV/IRR etc as secondary method for evaluating proposal, while it just reverse in developed countries like USA,UK etc.

Not followers of capital budgeting technique while acquiring the fixed assets in Narayani zone are more than 50% and some of them say that it is important to use capital budgeting technique while acquiring the fixed assets whereas others say that it is not important to use evaluation technique because future is uncertain. Any investment decision is concerned with a choice among the available alternatives, and it is always subjected to an unknown environment. Actual future costs, markets and prices will inevitably differ from any single set of assumptions used as a framework for weighing proposals. Thus the arguments of those companies, which do not apply capital budgeting technique, opine that it is not important to use evaluation technique because application of CB technique and obtaining the information is not a simple task. Specially, their

argument is that no one can forecast the future cash inflow exactly in the present economic scenario of the country.

Much management follows the practice of their best-guess estimates. If the best guesses are not all on target as in fact they are highly unlikely to be. If the outcome is to the likelihood, however, the decision maker has not added much to his assessment of the uncertainty. It is clear that most companies want in a practical way to improve their capital expenditure decision and maximize the chances of attaining their rupees and paisa investment but there are difficulties in capital expenditure decision that's why to reduce the risk it is needed to start the practice of capital budgeting evaluation technique.

The investment proposal may originate within the firm, though they may call on technical specialists for advice, the proposal may originate at any level with in the company, from the board of directors down to the production line worker. In practice a large portion of proposals originate in a fashion. However, because of the future uncertainties and the desire of management for sustained growth in the firm, many firms have found that it is desirable to be more systematic in the search for new investment opportunities. Thus, the search for investment opportunities usually begins at the top but the growing role of operating personnel at the plant level is also emerging. Besides, highly competitive and volatile environment seems to have restricted the planning horizon of most of the sample companies to next year and as when the opportunity arises, the planning will start.

The authority to commit a company to specific capital expenditure and to examine proposal is limited to a few top corporate officials. However, the duties of progressing,

the examination and evaluation of a proposal is somewhat spread throughout all the levels of management in case of a few of the sample companies.

The practice of capital expenditure in Narayani zone is dominantly expansion and routine investment. These are also known as the replacement investment. Replacement investments are undertaken for the purpose of replacing existing assets with new ones that will produce the same product or perform the same function either more efficiently or in greater quantity of volume. In Narayani zone, that type of replacement is more common than others. Moreover, in the global context, from the article –‘Evaluating Signals of Technological Change’ by James R. Bright (1971), ‘to evaluate the signals of technological change, the foreign companies established the R & D department to anticipate innovation, the political, social, and other factors influencing its progress.’ This situation clears that the world’s investment practice is based on R & D whereas our practice is routine and expansion.

For the determination of minimum required rate of return, the practice in Narayani is either decided by management or no cost considered. Most of the sample companies in view of some limit imposed on the size of capital budget, the companies were not foregone profitable investment opportunities. This situation implies that there is not any difficulty to the financing capital expenditure from the financial point of view.

5.2 Conclusion:

Majority of the sample companies i.e. 70% in Narayani zone are cleared about the concept of capital budgeting.

1. Same as the percentage of sample companies in point 1, most of the companies know about capital budgeting technique.
2. Although, most of the sample companies know concept and technique of capital budgeting yet only 60% companies have been applying capital budgeting technique while investing in the project.
3. The applicant of capital budgeting technique while making the capital expenditure decision preferred the evaluation technique in this order.

i) IRR,

ii) NPV

iii) PBP and using one particular technique in conjunction with order.

4. Reason for preferring a particular technique according to preference of applicants companies are as follows:

) Easy to explain to BOD.

) Simplicity

5. Incorporates time value of money and PBP is more practical and convenient in present situation.

8 companies out of the 20 i.e. 40% do not apply capital budgeting evaluation technique while making the capital expenditure decision.

Most of the companies practice upon the purchase of major fixed assets is as and when the opportunity arises and one year period for advance planning. Thus, it is noticed that majority companies do not consider the planning of capital budget on purchase of their fixed assets. Which consequently turns into failure of the company due to heavy losses.

The prioritized sequence of difficulties felt by the respondent companies are:

-) Uncertainty
-) Time element and competition
-) Difficult to measure cash flow exactly in quantitative figure.
-) Attitude of the employee towards the change

Cent percent of the respondent companies study the past result about the history of the product, machine, layout, demand, worker's skill and learning technology, competition , financing source, cost of capital, etc.

The prioritized list by the respondents to reasons for going ahead with capital expenditure decision are as follows.

- Inadequate for product improvements and meet the demand
- Wear and tear of the machinery
- Working conditions and morale
- Worker's skill & learning and for reducing the operating cost
- Obsolescence

The main reason for going ahead with capital expenditure decision is inadequate for product improvements and meet the demand. Machine become obsolete because the product designed to produce has become obsolete but such type of reason for going ahead with capital expenditure decision seemed no more practice in Narayani Zones.

6. Mostly using source of financing for capital expenditure is debt and then equity. Some companies also use depreciation fund and other reserves.

Types of fixed investment undertaken in prioritized sequence are as follows.

- Expansion investment
- Routine investment
- Pollution control investment
- Employee welfare investment

7. In Narayani Zones, most of the same companies i.e. 90% use diminishing balance method for the deprecation of the assets and only 10% companies use fixed installment method for depreciation of the assets.

8. Most of the sample companies i.e. 40% want to increase the cash inflow whereas 20% companies want to reduce the operating cost and 40% want both methods

9. Cent percent of the sample companies prefer that type of investment decision which improves the working condition and safety of the employee. This implies that they also prefer employee welfare investment indirectly.

10. Normally in Narayani Zone, the companies abandon a particular project and technology over more than 10 years due to high operating cost and efficiency.

11. Cent percent responses in favor of decided by management is obtained to the procedure adoption for the determination of cut-off-rate and no cost is considered by them to calculate the cost of capital.

According to the company's preference to the financial objective of the firm, the prioritized lists are as follows:

-) Maximizing ROI
-) Maximizing aggregate earning
-) Achieving desired growth rate in EPS and maximizing market value of common stock.

12. Most of the sample companies in Narayani Zone are not foregone profitable investment opportunities in view of some limit imposed on the size of capital budget. This situation implies that there is not any difficulty to the financing capital expenditure.

5.3 Suggestion and Recommendations

After studying the capital budgeting practice in Narayani Zone, the following hints and suggestions can be provided to rectify the present drawbacks as well as to overcome the inefficiency and weaknesses. The suggestions, which are based in the finding of sample, are given below.

5.3.1 Involve the managers from management faculty

From the survey, it is found that basically the new project originates from top level itself but people in top level are neither from management faculty non from technical education then how can they best guess estimates and evaluate the new project? If the company has not any expert they have to hire the experts.

5.3.2 Participative Management and decision making.

Mostly the generating level of new project by it's top-level means that they don't have practice of participative management. For the better achievement it is needed to flow the information top to down and down and down to top. By maintaining this type of information flow every level of management will be pleased with each other and co-ordination, co-operation and sincerity enriched as well as the employees do not restrict the change.

5.3.3 Follow the capital budgeting evaluation techniques

Historically, has any investment policy given you the highest possible return? Think it. To provide a better screen for future proposals, and hopefully to improve investment results, a new policy is required. The trend of acquiring the major fixed assets without any calculation should be avoided and practice of capital budgeting evaluation technique should be followed. As well as for the evaluating proposals, from the article 'Investment Policies that Payoff by David B. Hertz(1969), they are practicing conventional approaches to risk and describe a more sophisticated approach, involving the use of computer-based risk analysis techniques to compare probable payoff' but we are in the root i.e. we are using conventional approach even some of us are not using such conventional approach too. We also can use such computer simulation model to minimize the risk and to maximize the chances of attaining more return on investment. But only seeing the day dream can not reward until you do not start your step forward so start to lunch training and management development to your employee about computer simulation model for the evaluation of the fixed investment proposal.

5.3.4 Study the income tax act, 2058

There are some provisions and facilities in the income tax act such as repair and improvement cost, expansion investment, pollution control investment, employee welfare investment, R&D investment etc. These are those capital expenditure from which specific amount of expenses can be deducted.

The deduction allowed under the repair and improvement cost by 5% of the depreciation basis of the pool at the end of the income year and the deduction shall be allowed with respect to costs in which they are incurred.

Government has a will of controlling pollution and then protection of environment thus government has made a provision that pollution control costs can be deducted to 50%.

For the purpose of calculating income for an income-year from any business, there shall be deducted research and development costs to the extent incurred by the person during the year in conducting the business. But the deduction allowed to a person for an income year with respect to all business conducted by the person shall not exceed 50% of the taxable income calculated without a deduction of research and development cost. Any excess, or part of thereof, for which deduction is not allowed shall be capitalized and will be depreciated in accordance with rules. So, study the income tax act and get benefit by deducting the partial portion of major fixed investments from your income. Ultimately, these provisions will reduce your tax liability.

Recommendation to future Researcher

- This study attempts to verify the practice capital budgeting in limited area. future researchers are recommended to test in several area with different models.
- This study has done only as descriptive way, future researcher may use analytical tools to find further result.
- This study remains incomplete to generalize position of Nepalese companies about to application of capital Budgeting, researcher may study on others zone to find complete and aggregate result.

- This study analyses only limited data so it would better to incorporate more data and information that may add better confidence on finding and conclusion.

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Appendix Questionnaire

CAPITAL BUDJETING PRACTICES IN NARAYANI ZONE (WITH SPECIAL REFERENCE TO MANUFACTURING BASED COMPANIES)

I am carrying out a study titled Capital Budgeting Practices in manufacturing organization of Nepal (With Special Reference to Manufacturing Based Companies in chitwan). I would like to request you kindly spare some valuable time of yours in filling this questionnaire. This study forms part of the MBS as Faculty of Management, T.U, Nepal.

KINDLY INDICATE

1. Information about the respondent	2.Information about the Company
Name:.....	Name:.....
Designation:.....	Address:.....
Academic qualification:.....	Year of commencement:.....
Experience in capital	Capital employed:.....
Budgeting decision (in yrs):.....	Total no of shareholders:.....

QUESTIONNAIRE

Q.1) Do you know that the capital budgeting is related with the decision making process by which firms evaluate the purchase of major fixed assets?

Yes I don't know

Q.2) Do you know about capital budgeting technique?

Yes I don't know

Q.3) If 'Yes is the answer of Q.2, then, what methods/techniques you know?

Pay Back Period Average Rate of Return

Net Present Value Internal Rate of Return

Profitability Index All

Not any

Q.4) Have you been applying capital budgeting technique while investing capital in your project/company?

Yes No

Q.5) If you have applied CB technique, which is the most preferred evaluation technique in your organization?

Pay Back Period Average Rate of Return

Net Present Value Internal Rate of Return

Using one particular technique in conjunction with other technique

Q.6) Please elucidate the reason for preferring a particular technique.

Simplicity Easy to explain to Board Of Directors

Incorporates time value of money Other reasons (If any specify.....)

Q.7) If 'No' is the answer of Q.4, then, which one of the statement is true?

It is important to use capital budgeting technique while acquiring the fixed assets

It is not important to use capital budgeting technique while acquiring the fixed assets because future is uncertain.

Q.8) Kindly indicate the levels in which level of new projects are originated in your company.

Central/Top Middle

Lower Mixed

Q.9) Kindly indicate the period of advance planning for capital budgets.

One year Five year

As and when the opportunity arises Any other period

Q.10) What are the difficulties in capital expenditure decision?

Uncertainty Difficult to measure cash inflow exactly in quantitative figure

Time element and competition Attitude of the employee towards the change

Q.11) While making investment decision, do you study the past results?

Yes No

Q.12) What are factors prompt you to go ahead with a capital expenditure decision? (More than one also)

Wear and tear of machinery Obsolescence

Inadequate for product improvements and meet the demand

Working conditions and morale Worker's skill and learning

For reducing operating cost

Q.13) What are the various sources from which you finance the capital expenditure? (More than one also)

Equity Depreciation fund and other reserves

Debt Government sources

Others Please specify.....

Q.14) What are the various types of fixed investment undertaken by you?

Routine investment (Replacement and maintenance)

Expansion investments (Capacity and new product)

Research & Development investment Employees welfare investment

Pollution control investment

Q.15) Which method is adopted for depreciation of the assets?

Fixed installment method Diminishing balance method

Others (If any specify.....)

Q.16) What kinds of cash flow you like most?

Increment of cash inflow Reduction of cash outflow (Operational outflow)

Q.17) Do you prefer that type of investment decision which improves the working conditions and safety of the employee but the quality of earnings offered by the new proposal is the same as the general quality of earnings on existing investments?

Yes No

Q.18) After how many years do you normally abandon a particular project/technology?

3 years 4 to 5 years

6 to 10 years More than 10 years

Q.19) Approximately what percentage of product life cycle is being used by you? (As a result of technological break through product life cycle may be shortened.)

10-20% 20-40%

40-50% 50-60%

60-70%

More than 70%

Q.20) What is the procedure adopted for the determination of cut-off rate (cost of capital)?

Weighted average cost of long term sources of finance

Decided by management

Others (if any)

Q.21) Which method is adopted for determination of cost of equity capital in your company?

Dividend valuation model

Earning theory

No cost is considered

Absolute value determined by management

Q.22) Which method is used for determination of cost of retained earnings?

Opportunity cost of funds for the firms Cost of equity capital

No cost considered

Others (If any specify).....

Q.23) Please tick mark following financial objective of your firm. (You can choose more than one also.)

Maximizing ROI

Achieving desired growth rate in EPS

Maximizing aggregate earnings

Maximizing market value of common stock

Others (Collective materialism, Economic value added)

Q.24) Indicate whether your company would for..... profitable investment opportunities in view of some limit imposed on the size of capital budget.

Yes

No

(Note: This questionnaire's response is only used for thesis purpose.)

Thanking you,

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