"A STUDY ON CAPITAL BUDGETING

AT

DR.REDDY'S LABORATORIES LIMITED"

A Project report submitted to Jawaharlal Nehru Technological University, Hyderabad, in partial fulfillment of the requirements for the award of the degree of

MASTER OF BUSINESS ADMINISTRATION

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CERTIFICATE

This is to certify that the project entitled "A STUDY ON CAPITAL BUDGETING" has been submitted by Ms.G.HARATHI (Reg.No. 10241E0016) in partial fulfillment of the requirement for the award of Master of Business Administration from Jawaharlal Nehru Technological University, Hyderabad, the results embodied in the project has not been submitted to any other University or Institution for the award of any Degree or Diploma.

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I hereby declare that the project entitled **"A STUDY ON CAPITAL BUDGETING AT DR.REDDY'S LABORATORIES LIMITED"** submitted in partial

fulfillment of the requirements for award of the degree of MBA at **Gokaraju Rangaraju Institute of Engineering and Technology,** affiliated to Jawaharlal Nehru Technological University, Hyderabad, is an authentic work and has not been submitted to any other University/Institute for award of any degree/diploma.

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CHAPTER – 1

INTRODUCTION

INTRODUCTION

Capital budgeting is an essential part of every company's financial management. Capital budgeting is a required managerial tool. One duty of financial manager is to choose investment with satisfactory cash flows with high returns. Therefore a financial manager must be able to decide whether an investment is worth undertaking and able to decide and be able to choose intelligently between two or more alternatives.

Capital budgeting involves the planning and control of capital expenditure. It is the process of deciding whether or not to commit resources to a particular long term project whose benefits are to be realized over a period of time.

A capital budgeting decision is defined as the firms decision to invest its current funds efficiently in the long-term assets in anticipation of an expected flow of benefits over a series of years. The firm's investment decisions would generally include expansion, acquisition, modernization, and replacement of the long-term assets. They are the assessment of future events, which are difficult to predict. It is really complex problem to estimate the future cash flow of an investment.

The investment decision of a firm is generally know as Capital Budgeting or Capital Expenditure Decision. Capital budgeting is also known as "Investment Decision Making", "Capital Expenditure Decisions", "Planning Capital Expenditure" and "Analysis of Capital Expenditure.

Capital budgeting is finance terminology for the process of deciding whether or not to undertake an investment project.

A logical prerequisite to the analysis of investment opportunities is the creation of investment opportunities. Unlike the field of investments, where the analyst more or less takes the investment opportunity set as a given, the field of capital budgeting relies on the work of people in the areas of industrial engineering, research and development, and management information systems (among others) for the creation of investment opportunities. As such, it is important to suggest that students keep in mind the importance of creativity in this area, as well as the importance of analytical techniques.

Because a project is financially sound, it must be ethically sound, right? Well . . . the question of ethical appropriateness is less frequently discussed in the context of capital budgeting than that of financial appropriateness.

Budgeting requires the company to look ahead and formalize future goals. It is the planning process used to determine whether an organization's long term investments such as new machinery, replacement machinery, new plants, new products, and research development projects are worth pursuing. It is budget for major capital, or investment, expenditures.

Capital budgeting techniques based on accounting earnings and accounting rules are sometimes used - though economists consider this to be improper - such as the accounting rate of return, and "return on investment."

OBJECTIVES OF THE STUDY

- To know the important differences, that can arise in evaluating projects when using Net Present Value (NPV), Internal Rate of Returns (IRR), Profitability Index(PI).

- To analyze the strengths and weakness of existing Techniques in capital budgeting.

- To evaluate capital projects using traditional methods of investment appraisal and discounted cash flows methods.

- To make recommendations and to improve further process of capital budgeting

- To measure the profitability of the project by considering all cash flows.

NEED OF THE STUDY

- The project study is undertaken to analyze and understand the Capital Budgeting process in Dr. Reddy's Laboratories Ltd, which gives mean exposure to practical implication of theory knowledge.
- To know about the company's operations of using various capital budgeting techniques.
- The financial department can implement and can get positive results by maintaining proper financial reports.
- To analyze the proposal for expansion or creating additional capacities
- To make financial analysis of various proposals regarding capital investment so as to choose the best out of many alternatives proposals.

SCOPE OF THE STUDY

"Preparation of capital budgeting is an important tool for efficient and effective managerial decisions."

So in every organization they have to examine the capital budgeting process, therefore the financial manager must be able to decide whether an investment is worth undertaking and able to decide and be able to choose intelligently between two or more alternatives.

- The process by which company's appraise investment decision, in particular by which capital resources are allocated to specific projects.
- Capital budgeting requires firms to account for the time value of money and project risk, using a variety of more or less formal techniques.
- Capital budgeting decisions affect the profitability in terms of interest of the firm. They also have a bearing on the competitive position of the enterprise. It's a diversification burden
- Capital investment involves cost and the majority of the firms have scarce capital resources.
- Capital budgeting is a complex process as it involves decisions relating to the investment of huge resources for the benefit of achievement in future as it is always uncertain.
- Understanding the importance of the capital budgeting in Dr. Reddy's Laboratories Ltd.

IMPORTANCE OF THE STUDY

Capital budgeting is of paramount important in financial decision making:

- Decisions affect the probability of the firm, as they also have a bearing on the competitive positions of the enterprises.
- A capital expenditure decision has its effect over a long time and inevitable affect's the company future cost structure.
- The capital investments firm acquires the long-lived assets that generate the firm's future cash flows and determine its level of profitability.
- Proper capital budgeting analysis is critical to a firm's successful performance because capital investments decisions can improve cash flows.
- Capital investment involves cost of majority of the firms have scarce capital resources.
- Capital decisions are not easily reversible, without much financial loss to the firm.
- To make financial analysis of various proposals regarding capital investment so as to choose the best out of many alternatives proposals.

LIMITATION OF THE STUDY

- The study is conducted in short period. The time period of study has been limited to less than 45days. The period is small to study the practical investment decision of a company like Dr. Reddy's Laboratories ltd.
- It does not consider all the new unapproved schemes.
- The study is conducted with the available data, gathered from annual reports of Dr. Reddy's Laboratories ltd.
- The formula has been used according to the availability of the data.
- All the techniques of capital budgeting presume that various investment proposals under considerations are mutually exclusive which may not practically be true in some particular circumstance.
- Uncertainty and risk pose the biggest limitation to the technique of capital budgeting.
- Since the procedures and policies of the company does not allow disclosing of all financial information and has to be completed with the available data collected with the maximum effort.

METHODOLOGY OF THE STUDY

The data is collected from Dr. Reddy's Laboratory with the help of Secondary sources.

This sources containing data that have been collected and compiled for another purpose. The secondary sources consist of readily available compendia and already compiled statistical statements and reports whose data may be used by researches for their studies, e.g., census reports, annual reports and financial statements of companies, Statistical statements, Reports of Government Departments, Annual Reports on currency and finance and Financial Journals, newspapers, etc.

Secondary sources consist of not only published records and reports, but also unpublished records. The latter category includes various records and registers maintained by firms and organisations, e.g., accounting and financial records, personnel records, register of members, minutes of meetings, inventory records, etc.

DATA ANALYSIS TECHNIQUES:

- Payback period
- Accounting Rate of Return
- Profitability Index
- Net Present Value
- Internal Rate of Return.

CHAPTER – 2

REVIEW OF LITERATURE

CAPITAL BUDGETING

Capital expenditure management or capital budgeting is concerned with planning and control of capital expenditure. Capital budgeting is defined as the acquisition of durable productive facilities in the expectations of future gains. To win the competitive edge, every organization is much construction on the financial aspect of development. It involves the current outlay of cash in return for an anticipated flow of future benefits and these benefits are available in the long run. Therefore, capital budgeting refers to a long-range investment programmes and is translated into annual budget outlay and may relate to National Five Year Plans.

Capital budgeting is a crucial financial decision of a firm. It relates to the selection of an asset or investment proposal for the lifetime of the project. Capital budgeting is the allocation of available resources of the organization to the various investment proposals, as the demand on resources is almost always higher than the availability of resources.

Capital budgeting decisions are related to allocation of investible funds to different long-term assets. They have long-term implications and affect the future growth and profitability of the firm. For example: the decision to acquire special equipment may require a large immediate outlay of funds. It also commits the company to the maintenance and operations of the equipment for a long period of time.

Organization is frequently faced with capital budgeting decision. Any decisions that require the use of resources or course of action whose benefits are likely to be available in future over the lifetime of the project. Capital budgeting is more or less a continuous process in any growing concern. Some of the decisions may directly affect the profit of the firms whereas some other decisions may directly affect the profit by influencing the operating costs. However, in all cases, the decisions have a long-term impact on the performance of the organization.

Given the importance of capital budgeting, the decision regarding investment, management faces the challenging task of allocating the limited available resources in a matter that would maximize the profits or the objectives of the organization.

Financial management, in the modern sense of the term can be broken down in to four decisions as function of finance, they are:-

- The investment or long-term asset- mix decision.
- Financing or capital – mix decision.
- Dividend or profit allocation.
- Liquidity or short-term asset – mix decision.

DEFINITION:

Charles T Horngreen has defined as "Capital budgeting is the long term planning for making and financing proposed capital outlays."

In other words of ***Lynch,*** "Capital budgeting is concerned with planning and development of available capital for the purpose of maximization the long-term profitability of the concern."

MEANING:

Capital budgeting is the process of making investment decision and capital expenditure. It also involves a non-flexible, long-term commitment of funds thus capital expenditure decisions are also called as long-term Investment decisions.

FEATURES:

- It involves exchange of current funds for the benefits to be achieved in future.
- Future benefits are expected to be realized over a series of years.
- They generally involve huge funds.
- They are irreversible decisions.
- They have long term and significant effect of probability of the concern.
- There is relatively high degree of risk.

GUIDELINES FOR BUDGET DEVELOPMENT

Establish cost guidelines and benchmarks to assist analysts in budget development.

- Clarify our understanding of funding constraints and conditions to make it easier to correctly align project types with funding sources.
- By taking a more comprehensive approach to the budget development and implementation cycle, eliminate low-value tasks and help all participants focus on the most important issues.
- Improve tools for the budget processes to reduce the burden of administrative tasks and increase time available for analysis and decision-making.
- Ensure better connections between the operating and capital budgets
- Improve the allotment and monitoring processes to reduce time spent on non-value added tasks.
- Improve the guidance available for everyone involved in the capital budget process.
- Make better use of information about facility needs and conditions for budget development and monitoring.
- Streamline the budget bill process.

IMPORTANCE:

There are the several factors that make capital budgeting decisions among the critical decisions to be taken by the management. The importance of capital budgeting can be understood from the following aspects of capital budgeting decisions.

- By taking capital budgeting decision, a finance manager makes a commitment into future. He is also committing to the future needs for funds of that project.
- The capital budgeting decisions generally involve large commitment of funds. As a result, substantial portion of capital funds is blocked. Thus, relatively, more attention is required for capital budgeting decisions.
- Most of the capital budgeting decisions are irreversible decisions. Once taken, the firm may not be in a position to revert back unless it is ready to absorb heavy losses which may result due to abandoning a project midway.
- Capital budgeting decisions affect the capacity and strength of a firm to face competition. A firm may loose competitiveness if the decision to modernize is delayed.
- A timely decision to take over a minor competitor may ultimately result even in the monopolistic position of the firm. These decisions affect the future position of the firm to a considerable extent.

DIFFICULTIES:

Capital budgeting decisions are not easy to take. There are number of factors responsible for this. The problems in capital budgeting decisions may be as follows:

- Capital budgeting decisions involve long-term commitments. However, there is a lot of uncertainty in the long-term. Therefore, an element of risk is involved. The uncertainty may be with reference to cost of the project, future expected returns, future competition, legal provisions, political situation etc.
- The cost of benefits of a decision may occur at different time period. They are not logically comparable because of the time value of money.
- The financial manager may face difficulties in measuring the cost and benefits of projects in quantitative terms. It is very difficult in the extent of impact as the sales of other products may also influence by these factors other than the new products.

ASSUMPTIONS:

Capital budgeting decisions process is a multi-faceted and analytical process. A number of assumptions are required to be made and evaluated in the financial aspects.

- The capital budgeting decisions are taken with a primary motive of increasing the profit of the firm. No other motive influences the decision of the financial manager.
- It is very difficult to estimate the cost and benefits (proposal beyond 2-3 years in future) which are reasonably accurate and certain.
- It assumes that a proposal will be accepted or rejected on the strength of its merits alone. The proposal will not be considered in combination with other proposals to consider the maximum utilization of available funds.

INVESTMENT DECISION:

The major second decision of the firm is Financing Decision. It is mainly concerned with mobilization of funds. Here, the financial manager is concerned with determining the best financing mix or capital structure for his firm. The management will decide how much funds should be raised from outside public and financial institutions.

Investment decisions are expected to bring in additional revenue there by raising the size

of firm's total revenue. These decisions involved in acquisition of fixed assets.

SOURCES OF FINANCE:

- Equity Share Capital
- Preference Share Capital
- Debenture Capital
- Long term Loans from Financial Institutions.
- Public Deposits.
- Reserves and Surplus.

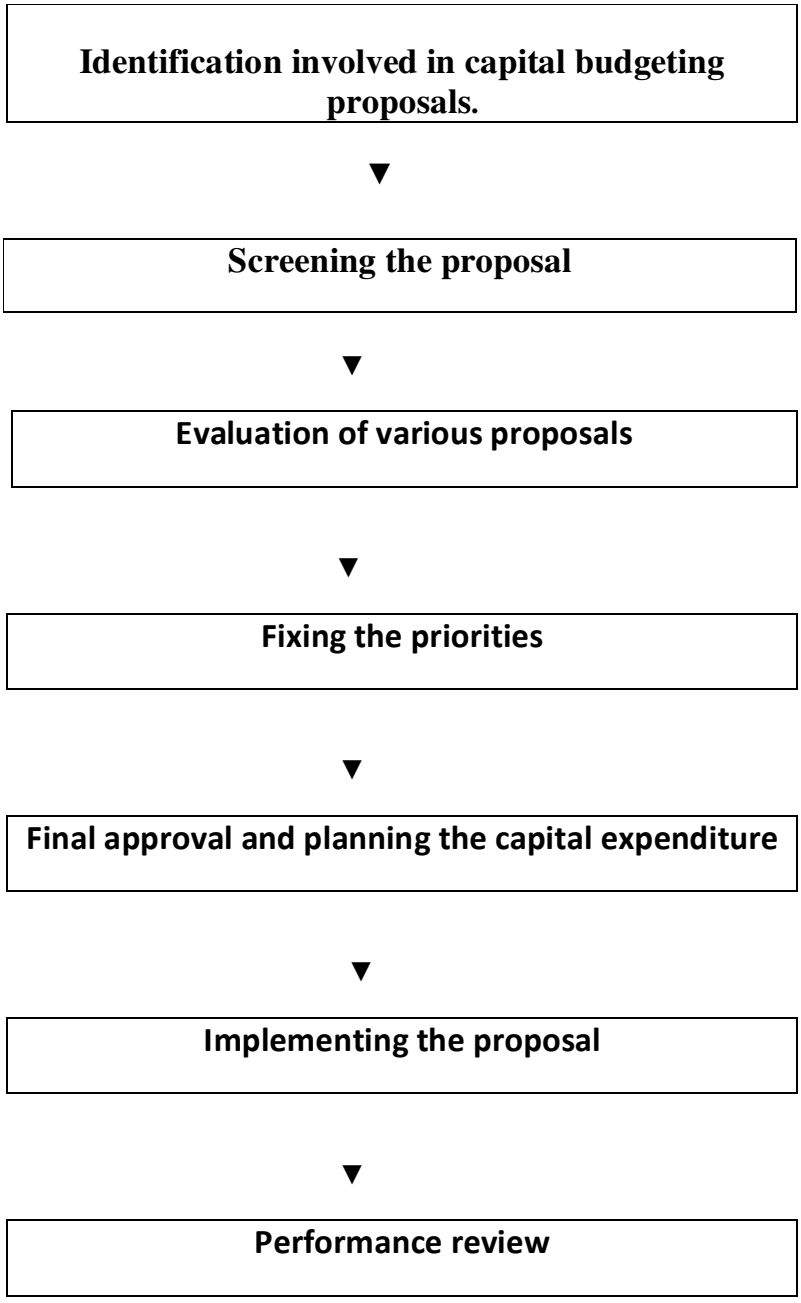
DIVIDEND DECISION:

Dividend refers to that portion of a firm's net earnings, which are paid out to the shareholders. Dividend decision had got two alternatives, one is declaring immediately and issuing in the form of cash/bonus shares to the shareholders, or retailing them with the firm for further investment proposals. Dividend decision will have impact on the value of the firm and its objective is to maximize the shareholders wealth.

CAPITAL BUDGETING PROCESS

Capital budgeting is process of selecting best long-term investment project. Capital budgeting is long-term planning for making and financing proposed capital outlaying.

Steps for capital budgeting process as follows:



Types of Capital Budgeting Decisions

Capital budgeting refers to the total process of generating, evaluating, selecting and following up on capital expenditure alternatives. The firm allocates or budgets financial resources to new Investment proposals. Basically, the firm may be confronted with three types of capital budgeting decisions:

- Accept-Reject Decision.
- Mutually Exclusive Project Decision.
- Capital Rationing Decision.

❖ Accept-Reject Decision:

This is a fundamental decision in capital budgeting. If the project is accepted, the firm would invest in it; if the proposal is rejected, the firm does not invest in it. By applying this criterion, all independent projects are accepted. Independent projects are the projects that do not compete with one another in such a way that the acceptance of one precludes the possibility of acceptance of another.

❖ Mutually Exclusive Project Decision:

Mutually Exclusive Projects are those which compete with other projects in such a way that the acceptance of one will exclude the acceptance of the other projects. The alternatives are mutually exclusive and only one may be chosen. Thus, mutually exclusive projects acquire significance when more than one proposal is acceptable under the accept-reject decision.

❖ Capital Rationing Decision:

Capital rationing refers to a situation in which a firm has more acceptable investments than it can finance. It is concerned with the selection of a group of Investment proposals out of many investment proposals acceptable under the accept-reject decision. The projects can be ranked on the basis of a pre-determined criterion such as the rate of return. The projects are ranked in descending order of the rate of return.

SELECTION OF PROJECTS

Experience shows that many projects are recommended for inclusion in the capital budget that despite of the apparent desirability, may not be necessary for the firm or many not produce additional earnings commensurate with the capital involved. They keep capital outlays within regional limits; capital budgets control producers should be designed to ensure that more desirable project get the priority over others. The proposal submitted by the operating divisions or departments for inclusions or the capital budget can be classified under the following categories:

- Urgently essential to satisfactory operations.
- Replacement resulting from wear and tear or obsolescence.
- Desirable on an earnings basis and
- Desirable from the stand-point of logical expansion and development.

PRINCIPALS OF CAPITAL INVESTMENT:

Capital budgeting involves the generation of investment proposals; the estimate of cash flows for the proposals, the evaluation of cash flows; the selection of projects based upon an acceptance criterion; and finally, the continual revaluation of investment projects after their acceptance.

Depending upon the firm involved investment proposals can emanate from a variety of sources. For purposes of analysis, projects may be classified in to one of five categories.

- New products or expansion of existing products
- Replacement of equipment or buildings
- Research and development
- Exploration
- Others.

Most firms screen proposals at multiple levels of authority. For a proposal originating in the production area, the hierarchy of authority might run from section chiefs to

- Plant managers to
- The vice-president for operations to
- A capital-expenditures committee under the financial manager to
- The president to
- The board of directors

The best procedure will depend upon circumstance where projects are approved at multiple levels, it is very important that the same acceptance criterion be applied objectively and consistently throughout the organization. Otherwise, capital is likely to be misallocated in the sense that one division might accept a project that another would reject.

COMPONENTS OF INVESTMENT ANALYSIS

The capital budgeting process requires an estimate of future events to be expressed in a schedule of cash flows. At any given time, a company may be having a number of alternative ways, termed as project to invest in funds and the purpose of a capital budgeting procedure to obtain an indication of a value each might contribute to the company. Before applying any method to evaluate the relative desirable of a project, it is necessary to analyze the components effecting the projection of cash flows, both in and out, related to the projects, together with the time dimension of each flow. The basic components of investment analysis are:

- Amount of net capital investment.
- Operating cash flows.
- Choice of horizon.

OPERATING CASH FLOWS:

Operating cash flows are not identified with profits or income. It is essential to recognize difficulties that arise in applying a cash flow analysis to investment proposals. A charge in income can occur without any corresponding change in cash flow. The cash flow procedure avoids difficult problems underlying the measurement of corporate income, which usually accompany the accrued method of accounting.

ABSOLUTE AND RELATIVE CASH FLOWS:

A distinction should be made between absolute and relative cash flows. When cash flows are compared with zero cash flows, they are known as absolute cash flows. The cash flows of one project can be compared directly with that of in other project or difference in cash flows of two projects can be determined. If this difference itself is positive in a particular period, it can from another. Such cash flows are known as relative cash flows.

CASH FLOWS AND UNCERTAINTY:

Each computation of cash flows is based on certain assumptions on the level of business activity, nature of production, future availability of improved equipment, cost of factors of production, future demand and the like.

The growing use of computers applications now enables the financial analyst to take analysis of various levels of possible cash flows, return on investment and other results of proposed outlay and obtain an estimate of the odds of each potential outcome. Under the probability approach, estimates of variety of factors such as market size, selling prices, market growth rate, share of the market, investment cost, can be varied.

IDENTIFYING RELEVANT CASH FLOWS:

- **CASH FLOW VS ACCOUNTING PROFIT:**

Capital budgeting is concerned with investment decisions, which yield a return over a period of time in future. The foremost requirements to evaluate any capital investment proposal are to estimate the future benefits accruing from the investment proposals. Theoretically, two alternatives criteria are available to qualify the benefits:

- Accounting profit.
- Cash flows.

The difference in these measures of future profitability is primarily due to the presence of certain non-cash expenditure in the profit and loss a/c. cash flows are theoretically better measures of the net economic benefits or costs associated with a proposed project.

- **INCREMENT CASH FLOW:**

The second aspect of the data required for budgeting relates to the basis on which the relevant cash out flows associated with proposed capital expenditure are to be estimated. The widely prevalent practice is to adopt increment analysis. Only difference is due to the decision at hand.

TECHNIQUES OF CAPITAL BUDGETING

Capital budgeting decision process involves estimation of cost and benefits of a proposal, estimation of required rate of return, and evaluation of different proposals in order to select one. These cost and benefits are expressed in terms of cash flows arising out of a proposal. Once the proposal completed we can discussed the various techniques to arrive at the optimal investment decision.

The method of evaluation of capital expenditure proposal can be classified in to two broad categories:

- Traditional or Non-Discounting Techniques.
- Discounted Cash Flows or Time Adjusted Techniques.

TRADITIONAL AND NON-DISCOUNTING TECHNIQUES:

- Pay Back Period Method.
  - Post Pay Back Profitability Method.
  - Pay back reciprocal Method.
- Rate of Return Method or Accounting Method (ARR).

DISCOUNTING CASH FLOWS OR TIME ADJUSTE TECHNIQUES:

- Net Present Value Method (NPV).
- Internal Rate of Return Method (IRR).
- Profitability Index or benefit cost ration Method (PI).

TRADITIONAL AND NON-DISCOUNTING TECHNIQUES:

The traditional techniques do not discount the cash flows to find out their present worth. There are two such techniques available to find out. They are:

❖ PAY BACK PERIOD METHOD:

The pay back sometimes called as payout or pay off period method represents the length of period of cash proceeds produce by the investment to be equal to the original cash outlay, i.e. the time required for the project to pay for itself back within a certain period. This method is a traditional method of evaluation of capital budgeting decisions.

$$\text{PAY BACK PERIOD} = \frac{\text{INITIAL INVESTMENT}}{\text{ANNUAL CASH INFLOWS}}$$

It is the ratio of the initial fixed investment over the annual cash inflows for the recovery period.

ACCEPT – REJECT CRITERION:

The pay back method can be used as a decision criterion to accept or reject investment proposal by the different alternatives. If single investment is being considered, as line annual pay back period is less than the pre-determined pay back period the project will be accepted, it not it would be rejected.

Projects are under consideration that they may be ranked regarding to the length of the pay back period. However, the different proposals are to be ranked in order to priority, and then the proposal with in shortest payback period will be first in the priority list.

MERITS:

- It is easy to calculate and simple to understand.
- It can be used even by a small firm having limited manpower that is not trained in any other sophisticated techniques.
- Due to its short-term approach, this method is particularly suited to a firm which has shortage of cash or whose liquidity position is not good.
- It is the best method in case of evaluation of single project.

DEMERITS:

- It completely ignores all cash flows after the pay back period.
- It completely ignores time value of money.
- It ignores the concept of rate of return.
- The payback period also ignores salvage value and total economic life of the project.
- The payback period is not consistent with the maximization of the shareholders wealth.
- It treats each asset individually in isolation with other assets, which is not feasible in real practice.

In case the cash flows are unequal, the pay back period can be found by adding up the cash flow until the total is equal to the initial cash outlay of the project.

- **POST PAY BACK PROFITABILITY METHOD:**

One of the drawbacks of payback period is that it does not taken into account the cash inflows earned after one payback period and hence the true profitability of the project cannot be assessed. Hence, an improvement over this method can be made by taking into account the returns which are receivable beyond the payback period.

$$\text{POST PAY BACK PROFITABILITY INDEX} = \frac{\text{POST PAYBACK PROFITS}}{\text{INVESTMENT}} \times 100$$

- **PAYBACK RECIPROCAL METHOD:**

Sometimes, Payback Reciprocal Method is employed estimate the internal rate of return generated by a project. Payback Reciprocals can be calculated as:

$$\text{PAYBACK RECIPROCAL} = \frac{\text{ANNUAL CASH INFLOW}}{\text{TOTAL INVESTMENT}}$$

(This can also be calculated in percentage by multiplying the above by 100.)

This method can be used under the following two conditions:

- ✓ Equal cash inflows are generated every year.
- ✓ The project under consideration has a long life which must be at least twice the payback period.

❖ RATE OF RETURN METHOD:

This method takes into account the earnings expected from the investment over their whole life. It is known as average rate of return method because under this method the concept of accounting profit (Net Profits after tax and depreciation) is used rather than cash inflows. The project with high rate of is selected as compared to the one with lower rate of return.

The return on investment method can be used in several ways as follows:

AVERAGE RATE OF RETURN OR ACCOUNTING RATE OF RETURN(ARR):

Under this method average profit after tax and deprecation is calculated and then it is divided by the total capital outlay or total investment in the project. In other words it establishes the relationship between average annual profits to total investment.

$$\text{ARR} = \frac{\text{AVERAGE ANNUAL PROFIT AFTER TAX}}{\text{AVERAGE INVESTMENT IN THE PROJECT}} \times 100$$

- **RATE PER UNIT OF INVESTMENT METHOD:**

This method is small variation of the average rate of return method. In this method the profit after tax and deprecation is divided by the total investment.

RETURN PER UNIT OF INVESTMENT = TOTAL PROFIT (PADT) × 100

NET INVESTMENT IN THE PROJECT

- **RETURN ON AVERAGE INVESTMENT METHOD:**

In this method the return on average investment is calculated. Using of average investment for the purpose of return on investment is preferred because the original investment is recovered over the life of the asset on account of deprecation charges.

- **AVERAGE RETURN ON AVERAGE INVESTMEN METHOD:**

This is the most appropriate method of rate of return on investment. Under this method, average profit after deprecation and taxes is divided by the average amount of investment.

AVERAGE RATE ON = AVERGAE ANNUAL AFTER DEPRECATION AND TAXES × 100

AVERAGE INVESTMENT

ACCEPT OR REJECT CRITERIA:

The actual rate of return is compared with pre-determined or minimum required rate of return or cut off rate. If the actual average rate of return is higher than the minimum desired average rate of return, then the proposal is to be accepted otherwise rejected. If more then one alternative proposal is under consideration, the average rate of return may be arranged in descending order of magnitude starting with the proposal with the highest average of return.

MERITS:

- It is very simple to understand and easy to calculate.
- It uses the entire earnings of a project in calculating rate of return and hence gives a true view of profitability.

DEMERITS:

- It ignores the time value of money.
- It does not take in to account the cash flows, which are more important than the accounting profits.
- It does not take into consideration any benefits which can accrue firm from the sale or abandonment of equipment which is replaced by new investment.

The above-mentioned methods has to be used along with the discounted cash flow method

(i.e., NPV, IRR) in order to take a right decision.

DISCOUNTING CASH FLOWS OR TIME ADJUSTE TECHNIQUES:

The distinguishing characteristic of the discounted cash flow capital budgeting techniques is that they have taken into consideration the time value of money while evaluating the cost and benefits of the project.

❖ NET PRESENT VALUE (NPV) METHOD:

The NPV method is a modern method of evaluating investment proposals. This method takes into consideration the time value of money and attempts to calculate the return on investment by introducing time element.

It may be defined as the summation of the present value of the cash proceeds in each year minus the summation of the present values of net cash outflows in each year. The NPV of all inflows and outflows of cash during the entire life of the project is determined separately for each year by discounting these flows by the firm's cost of capital.

NPV = CF1 + CF2 - + CFN = e = CFt

(1 + K) 1 + (1 + K) 2 - (1 + K) n = t = 1 (1 + K) T

Where CF = Cash Flow for corresponding year.

K = Cost of capital

N = number of years.

THE STEPS TO BE FOLLWED FOR ADOPTING THE NPV METHOD

- Determine an appropriate rate of interest that should be selected and a minimum rate of return are known as cut off rate.
- Compute the present value of cash outflows at the above determined discount rate.
- Compute the present value of cash inflows at the predetermined rate.
- Calculate the NPV of the project by subtracting the present value of cash outflows from present value of cash inflow.

The present value of rupee 1 due in any number of years can be found by using the following formula:

$$\textbf{PRESENT VALUE (PV)} = \frac{1}{(I + r)\, n}$$

Where

PV = Present Value

R = Rate of interest or discount rate

N = Number of years.

ACCEPT OR REJECT CRITERION:

If NPV is positive the project should be accepted and if NPV is negative the project should be rejected i.e.

If NPV > Zero (ACCEPT).

If NPV < Zero (REJECT).

In case of a number of projects or more than one project select the project with greatest NPV if there is more than one project giving positive NPV.

MERITS:

- It recognizes the time value of money.
- It is based on the cash flows rather than accounting profits.
- NPV calculations allow for a change in the discount rate. The NPV can be computed by using time varying discount rates.
- It considers the total benefits arising out of the proposal over its lifetime.
- This method is very useful for selection of mutually exclusive projects.

DEMERITS:

- It is more difficult to understand and operate.
- It is an absolute measure.
- It is not easy to determine an appropriate discount rate.
- This method may not give satisfactory results in case of projects resulting in case of projects having different effective lives.

❖ INTERNAL RATE OF RETURN (IRR) METHOD:

IRR is a modern technique of capital budgeting that takes into account the time value of money. It is also known as time-adjusted rate of return, discounted rate of return or yield method. In this method, the cash flows of the project are discounted at return as a suitable rate by hit and trail method, which equates the NPV so calculated to the amount of investment. Under this method, since the discount rate is discounted internally, it is called as internal rate of return method.

It is defined as the discount rate, which equates the aggregate present value, i.e., net cash inflows after tax (CFAT) with the aggregation present value of cash outflow of a project.

$$\mathbf{C = A1 + A2 + A3 + - - - - - - - - - - - - (1+R)\ 1 + (1+R)\ 2 + (1+R)\ 3}$$

Where

C = Initial cash outlay at time Zero.

A1, A2, A3--- Future net cash flows at different periods.

1, 2, 3…. N number of years.

R= Rate of discount or internal rate of return.

THE STEPS TO BE FOLLWED FOR ADOPTING THE IRR METHOD:

- Prepare the cash flow table using an arbitrary assumed rate to discount the net cash flow to the present value.
- Find out the NPV by deducting from the present value of total cash flows calculates in above the initial cost of investment.
- If the higher discount rate still gives a positive NPV increases the discount rate further until the NPV becomes negative.

If the NPV is negative at this higher rate, the IRR must be between the approximately taken discount rates.

The actual IRR is determined by interpolation. This can be calculates using the formula:

$$\textbf{IRR} = \textbf{Ri} + \frac{\textbf{PV of CF at Ri - PV of COF}}{\textbf{PV of CF at Ri – PV of CF Rh}} \times \textbf{(Rh – Ri)}$$

Where

Ri = Rate of interest which is Lower.

Rh = Rate of interest which is Higher.

PV = Present Value.

CF = Cash Flow.

COF = Cash Out Flow.

ACCEPT OR REJECT CRITERION:

Accept the proposal if the IRR is higher than or equal to minimum required rate i.e., the discount or cut off otherwise reject.

If IRR > K (ACCEPT). If IRR < K (REJECT). Where K = Cost of Capital.

In case of alternative proposals, one which higher IRR has to be accepted as long as the IRR is greater than the discount rate.

MERITS:

- It recognizes the time value of money.
- It is based on the cash flows rather than accounting profits over the life of the project to calculate its rate of return.
- This method is also compatible with the objective of maximum profitability and also consideration with the shareholder's wealth.

DEMERITS:

- It is difficult to understand and operate; it gives misleading and inconsistent results when the NPV of a project does not decline with discount rates.
- It also fails to indicate a correct choice between mutually exclusive under certain situations.
- It is based on the assumption that the earnings are reinvested at the IRR for the remaining life of the project. This is not a justified assumption.

❖ PROFITABILITY INDEX METHOD (OR) BENEFIT-COST RATIO:

It is also a time – adjusted method of evaluating the investment proposals. Profitability Index is also called a Benefit- Cost Ratio or Desirability Factor is the relationship between the present values of cash inflow at the required rate of return to the initial cash outlay of the investment.The formula to calculate Benefit – Cost Ratio or Profitability Index as follow:

$$\text{PROFITABILITY INDEX (PI)} = \frac{\text{PV OF CASH INFLOWS}}{\text{INTITAL CASH OUTLAY}}$$

ACCEPT OR REJECT CRITERION:

If PI > 1 (ACCEPT). If PI < 1 (REJECT).

In case of the alternative proposal, the project with higher PI has to be accepted.

MERITS:

- It recognizes time value of money.
- It is relative measure of the projects profitability. (Find out the ratio).
- Takes into consideration the objective of maximum profitability.

DEMERITS:

- It is difficult to understand.
- It is not easy to determine and appropriate discount rate.
- It involves more computation than traditional method.
- It may not give good result while comparing projects with unequal investment funds.

RISK AND UNCERTAINITY IN CAPITAL BUDGETING:

Capital budgeting entails decisions to commit present funds in long term investment in anticipation of future returns. The amount of investment and the returns from them cannot be predicted with certainty due to certain variables like market for the product, technology, government policies, etc.

The uncertainty associated with the investment and the returns is what makes decision makers to consider probability distributions in their estimates, hence, making capital budgeting to be considered under uncertainty and risk.

All the techniques of capital budgeting requires the estimation of future cash inflow and cash outflow. The cash flow is estimated, based on the following factors:

- ✓ Capacity of the project.
- ✓ Depreciation cost.
- ✓ Rate of taxation.
- ✓ Future demand of the product.
- ✓ Expect economic life of the product. Etc.

But due to uncertainties about the futures, the estimates of demand, production, sales, selling price, etc., cannot be exact. To evaluate and select among projects that will maximize owner's wealth, we need to assess the uncertainty associated with project's cash flows. In evaluating a capital project, we are concerned with measure of risk.

The uncertainty arises from different sources, depending on the type of investment being considered, as well as the circumstances and the industry in which it operating. Uncertainty may due to:

- ✓ Economic conditions.
- ✓ Market conditions.
- ✓ Taxes.
- ✓ Interest rates.
- ✓ International conditions.

STEPS INVOLVED:

Identifying the need of the project preparation of project report with respect to as follows:

- ➢ Utilization.
- ➢ Efficiency.
- ➢ Capacity of the particular project.
- ➢ Loss of market.
- ➢ Loss of good will.
- ➢ Technological requirements.
- ➢ Justification based on money earnings.

FACTORS INFLUENCING CAPITAL EXPENDITURE DECISION:

There are many factors like financial as well as non-financial which influence the capital expenditure decisions and profitability of the proposal.

They are:

- **URGENCY:**

Sometimes an investment is to be made due to urgency for survival of the firm or to avoid heavy loses. In such circumstances, proper evaluation cannot be made through profitability tests. Examples of such urgency are break down of some plant and machinery, fire accidents etc.

- **DEGREE OF UNCERTAINTY:**

Profitability is directly with some lower profitability may be selected due to constraint flow of income as compared to another project with an irregular and uncertain inflow of income.

- Sometimes a project with some lower profitability may be selected due to constant flow of income as compared to another project with an irregular and uncertain inflow of income.
- **INTANGIBLE FACTORS:** Sometimes a capital expenditure has to be made due to certain emotional and intangible factors such as safety and welfare of the workers, prestigious project, social-welfare, goodwill of the firm etc.,
- **AVAILABILITY OF FUNDS:** As the capital expenditure generally requires large funds, the availability of funds is an important factor that influences the capital budgeting decisions.

CHAPTER - 3

INDUSTRY PROFILE

PHARMACEUTICAL INDUSTRY PROFILE

The Pharmaceutical Industry develops, produces and markets drugs licensed for use as medications. Pharmaceutical companies can deal in generic and/or brand medications. They are subject to a variety of laws and regulations regarding the patenting, testing and marketing of drugs. The main aim of a particular Pharmaceutical Industry is to develop research and distribute drugs in order to provide health care for the people in the society. The Pharmaceutical Industry like other industries is subjected to follow certain rules and regulations.

"The Indian Pharmaceutical Industry is a success story providing employment for millions and ensuring that essential drugs at affordable prices are available to the vast population of the sub-continent"

Richand Gerster

The Pharmaceutical Industry needs to follow rules about patent, marketing as well as testing of drugs that are scheduled to come to the market as medicines. Since the inauguration of the Pharmaceutical Industry in the 19th century, it has covered a long way and now it has become one of the most influential and successful industry in the world with both controversy and praise on its part.

Pharmaceutical Industry is very much dependent upon the developments and discoveries that are made to search new types of drugs and also to search for new kind of medicines. One can also differences within the industry regarding the same drug or report and different companies within the Pharmaceutical Industry look to follow different paths for the same thing. Drug Discovery and Drug Innovation are two very aspects in the Pharmaceutical Industry:

DRUG DISCOVERY:

Drug Discovery is a process through which potential drugs are designed or discovered. It has been observed in the past that most of the drugs were invented by means of isolating the active component from remedies which are traditional in nature or through another kind of discovery known as serendipitous discovery.

DRUG DEVELOPMENT:

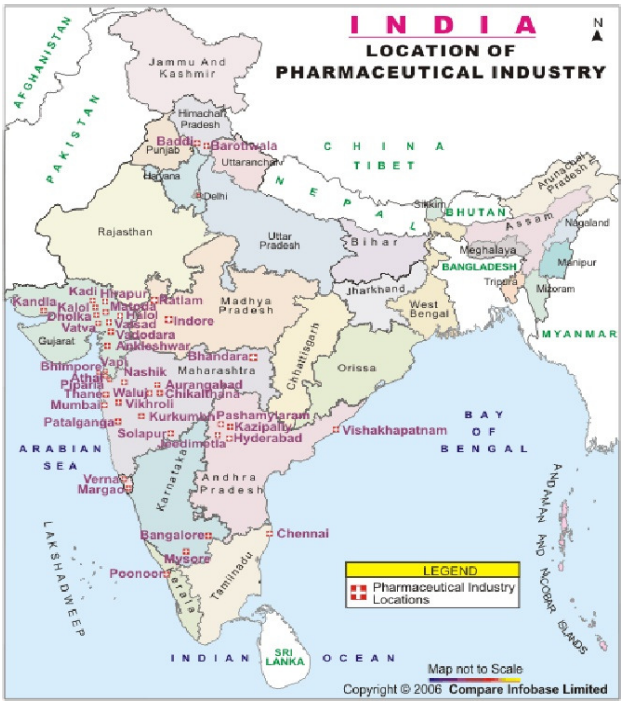
This process is taken forward after the discovery is done and a thing is identified as a potential drug. The development takes place immediately after that as the component is turned into a medicine. So this is also considered as a very important process and has great importance in the Pharmaceutical Industry. For the first time ever, in 2006, global spending on prescription drug stopped $643 billion, even as growth slowed somewhat in Europe and North America. The United States accounts for almost half of the global pharmaceutical market, with $289 billion in annual, sales followed by the EU and Japan. Emerging markets such as China.

Russia, South Korea and Mexico outpaced that market, growing a huge81 percent.US profit growth was maintained even whilst other top industries saw slowed or no growth. Despite this, the pharmaceutical industry is —and has been for years — the most profitable of all businesses in the U.S. In the annual Fortune 500 survey, the pharmaceutical industry topped the list of the most profitable industries, with a return of 17%on revenue.

Indian Pharmaceutical Industry today is the front runner of India's science-based industry with wide ranging capabilities in the complex field of drug manufacture and technology. A highly organized sector, the Indian Pharmaceutical Industry is estimated to be worth $4.5billion, growing at about 8to9persent annually. It ranks very high in the world, in terms of technology, quality and range of medicines manufacture. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously.

INDIAN PHARMECUTIAL INDUSTRY:

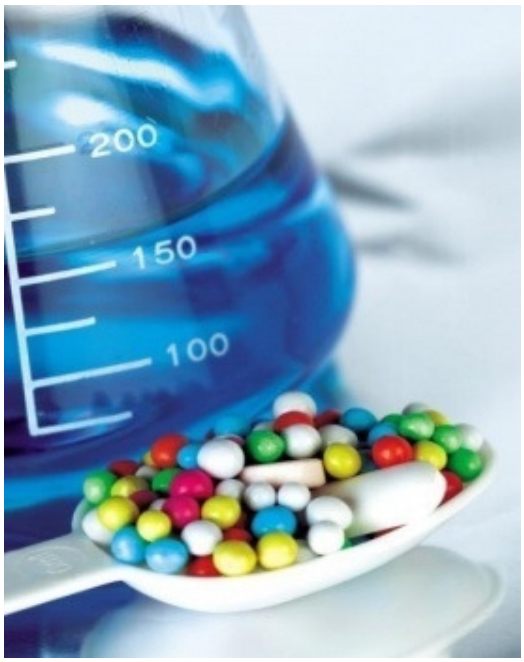
It plays a key role in promoting and sustaining development in the vital field of medicines, boasts of quality producers and many units approved by regulatory authorities in USA and UK. International companies associated with this sector have stimulated assisted and spread headed this dynamic development in the past 53 years and helped to put India on the Pharmaceutical map of the world.



The pharmaceutical sector is highly fragmented with more than 20,000 registered units. It has expanded drastically in the last two decades. The leading 250 pharmaceutical companies control 70% of market with market leader holding nearly7%of the market share. It is an extremely fragmented market with seven price competition and government price control. The pharmaceutical industry in India meets around 70%of the country's demand for bulk drugs, drug intermediates, pharmaceutical formulations, chemicals, tablets, capsules, orals and injectibles. There are about 250 large units and about 8000 Small Scale Units, which form the core of the pharmaceutical industry in India (including 5Central Public Sector Units). These units produce the complete range of pharmaceutical formulations, i.e., medicines ready for consumption by patients and about 350 bulk drugs. i.e., chemicals having therapeutic value and used for production of pharmaceutical formulation.

Manufactures are free to produce any drug duly approved by the Drug Control Authority. Technologically strong and totally self-reliant, the pharmaceutical industry in India has low costs of production, low R&D costs, innovative scientific manpower, strength of national laboratories and an increasing balance of trade. The Pharmaceutical Industry, with its rich scientific talents and research capabilities, supported by Intellectual Property regime is well set to take on the international market.

US PHARMACEUTICAL INDUSTRY



The United States in the world's largest market for Pharmaceuticals and the world leader in biopharmaceutical research. U.S. firms conduct 80 percent of the world's research and development in biotechnology and hold the intellectual property rights to most new medicines. In 2010, the pharmaceutical sector employed approximately 272000 people and according to the Pharmaceutical Research and Manufactures of America (PhRMA), those manufactures spent $67.4 billion on research and development in 2010.

The U.S. market is the world's largest free-pricing market for pharmaceutical and has a favorable patent and regulatory environment. Product success is largely based on competition in product quality, safety and efficacy, and price. U.S. government support of biomedical research, along with its unparalleled scientific and research based innovative biotechnology sector, make the U.S market the preferred home for growth in the pharmaceutical industry

PHARMACEUTICAL INDUSTRIES IN INDIA

Some of the below list of the Pharmaceutical industries in India are as follows:

- Dishman Pharmaceuticals
- Elder Pharmaceuticals
- J B Pharmaceuticals
- Torrent Pharmaceuticals
- Sun Pharmaceuticals
- Ranbaxy India
- Cadila Pharmaceutical Limited
- Wockhardt
- Strides Arcolab
- IPCA Laboratories
- Alembic
- Amrutanjan
- Virchow Laboratories
- Polydrug Laboratories
- Dr. Reddy?s Laboratories
- Aurobindo Pharma
- Jubilant Organosys
- Astrazeneca Pharma
- Divis Laboratories
- Merck Ltd.

ADVANTAGE INDIA:

- **COMPETENT WORKFORCE:**

  India has a pool of personnel with high managerial and technical competence as also skilled workforce. It has an educated work force and English is commonly used. Professional services are available.

- **COST-EFFECTIVE CHEMICAL SYNTHESIS:**

  Its track record of development, praticularly in the area of improved cost-beneficial chemical synthesis for various drug molecules is excellent. It provides a wide variety of bulk drugs and exports sophisticated bulk drugs.

- **LEGAL & FINANCIAL FRAMEWORK:**

  India has a 60 year old democracy and hence has a solid legal framework and strong financial markets. There is already an established international industry and business community.

- **INFORMATION & TECHNOLOGY:**

  It has a good network of world-classes educational institutions and established strengths in Information Technology.

- **GLOBALIZATION:**

  The country is committed to a free market economy and globalization. Above all, it has a 70 million middle class market, which is continuously growing.

CURRENT SCENARIO

THE GROWTH SCENARIO

India's US$ 4.1 billion pharmaceutical industry is growing at the rate of 14 percent per year. It is one of the largest and most advanced among the developing countries. Over 20,000 registered pharmaceutical manufactures exist in the country. The domestic pharmaceutical industry output is expected to exceed Rs.260 billion in the financial year 2002, which accounts formerly 1.3% of the global pharmaceutical sector. Of this, bulk drugs will account for Rs. 54 bn (21%) and formulations, the remaining Rs 210 bn (79%).

EXECUTIVE SUMMARY

This report has been made keeping in mind the Indian Pharmaceutical industry, its growth rate as compared to the global Pharmaceutical Industry. India's US$ 3.1 billion pharmaceutical industry is growing at the rate of 14 percent per year. It is one of the largest and most advanced among the developing countries. The Indian Pharmaceutical sector is highly fragmented with more than 20,000 registered units. It has expanded drastically in the last two decades. The leading 250 pharmaceutical companies control 70% of the market with market leader holding nearly 7% of the market share. It is an extremely fragmented market with severe price competition and government price control. Then, we look at the market and growth scenario of Pharmaceutical companies in India which brings us to research on MATRIX PHARMALABS

FUTURE PROSPECTS

The Indian Pharmaceuticals market is expected to reach US$55 billion in 2020 from US$12.6 billion in 2009. This was started in a report title "Indian Pharma 2020: Propelling access and acceptance, realizing true potential" by McKinsey & Company. In the same report, it was also mentioned that in an aggressive growth scenario, the pharma market has the further potential to reach US$70 billion by 2020.

Due to increase in the population of high income group, there is very likelihood that they will open a potential US$ 8 billion market for multinational companies selling cost drugs by 2015. This was estimated in a report by Emst & young. The domestic pharma market is estimated to touch US$ 20 billion by 2015. The health care market in India to reach US$ 31.59 billion by 2020.

The sale of all types of pharmaceutical drugs and medicines in the country stands at US$ 9.61 billion, which is expected to reach around US$ 19.22 billion by 2012. Thus India would really become a lucrative destination for clinical trials for global giants.

There was another report by RNCOS titled "Booming Pharma Sector in India" in which it was projected that the pharmaceutical formulations industry is expected to prosper in the same manner as the pharmaceutical industry. The domestic formulations market will grow at an annual rate of around 17% in 2010 and 2011, owing to increase middle class population and rapid urbanization.

Steps to strengthen the Industry:

- Indian companies need to attend the right product- mix for sustained future growth.
- Core competencies will play an important role in determining the future of many Indian Pharmaceutical companies in the post product-patents regime after 2005.
- The companies in an effort to consolidate their position will have to increasingly look at merger and acquisition options of either companies or products.
- Research and development has always taken the back seat amongst Indian Pharmaceutical companies.
- The Indian Pharmaceutical Industry also needs to take advantage of the recent advance in biotechnology and information technology.

COMPANY PROFILE

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ABOUT THE COMPANY

Dr. Reddy's laboratories was founded by Dr. Anji Reddy, entrepreneur-scientist, in 1984 the DNA of the company; is drawn from its founder and his vision to establish India's first discovery led global pharmaceutical company .in, fact, it is this spirit of entrepreneurship that has shaped the company to become what it is today. The company is focused on creating and delivering innovative and quality products to help people lead healthier lives.

Dr. Reddy's is the research based company with vertically integrated operations. The company develops, manufactures and markets a wide range of pharmaceutical products India and overseas. Dr. Reddy's produces finished dosage forms, active pharmaceutical ingredients, diagnostic, kits, critical are and biotechnology products. The basic research program of Dr. Reddy's focused on cancer diabetes, bacterial infections and pain.

Since its inception in 1984, Dr. Reddy's has chosen to walk the path of discovery and innovation in health sciences R eddy's has been a quests to sustain and improve the quality of life, and they; heaves had nearly two decades of creating safe pharmaceutical Solutions with the ultimate purpose of making the world a heather place. Dr. Reddy's create and deliver innovative pharmaceutical health care solutions that people enjoy longer, healthier and more productive lives. Reddy's generic formulations have also become very popular in quality-conscious regulated markets such as the US and Europe. We are all set to spread pure wings further and touch more lives across the globe

In 1973, after gaining six years of experience in the manufacturing and implementation of new technologies in bulk drugs from public sector company IDPL, Hyderabad. Dr Reddy's decided to start up basic drugs unit at that time there were few other players in the private sector at that end of the pharmaceutical value chain.

In 1975, Dr. Reddy's started the construction of uniloids of which he was the founder-managing director it was here that they made a move that was to become the hallmark of the group in the years to come.

This move was first to construct and stat R&D laboratory ever before commencing the construction of the plant. Based on the work done in these laboratories he constructed a plant in 1976 to manufacture, for the first time in India, drug called 'metrodinazole' for the treatment of amoebic dysentery the drug became a hit.

In 1981, as managing director of standard organics Ltd; Dr. Reddy's aim was to develop and manufacture a wide spectrum of bulk drugs to enable the pharmaceutical industry to launch their formulations. Unfettered. There were only a couple of – pharmaceutical company's at that time with the capacity to develop newer drugs bit they would not sell the bulk to other formulators. Here, Dr. Reddy's played a major role in pioneering the technology and production of 'sulphamethonazole 'an anti bacterial in India. Another dream was to do it on his own, because that was the time that his second experiment with partnership was also crumbling. He realizes his dream shortly thereafter, then the established Dr. Reddy's laboratories in 1984. The process and production of methyldopa was the ultimate challenge.

The company has several distinctions to its credit. Being the first pharmaceutical company from Asia Pacific (outside Japan) to be listed on the New York Stock Exchange (on April 11, 2001) is only one among then. And as always, Dr. Reddy's chose to do it in the most difficult of circumstances against widespread skepticism. Dr. Reddy's came up trumps not only having its stock oversubscribed but also becoming the best performing IPO that year.

Dr. Anji Reddy's is well known for his passion for research and drug discovery. Dr Reddy's started its drug discovery programmed in 1993 and within three years it achieved its first break through by out licensing an anti –diabetes molecule to Novo Nor disk in March 1997/ With this very small but significant step, the Indian industry went through a paradigm shift in its image from being known as just 'copycats' to 'innovators'! Through its success, Dr. Reddy's pioneered drug discovery in India. There are several such inflections points in the company's evolution from a bulk drug (API) manufacturer into a vertically integrated global pharmaceutical company today.

Today , the company manufactures and markets API(Bulk Actives), Finished Dosages and Biologics in over 100 countries worldwide, in addition to having a very promising Drug Discovery Pipeline. When Dr. Reddy's started its first big move in 1986 from manufacturing and marketing bulk actives to the domestic (Indian) market to Manufacturing and exporting difficult-to-manufacture bulk votes such as Methyldopa to highly regulated overseas markets, it had to not only overcome regulatory and legal hurdles but also battle deeply entrenched mind-set issues of Indian Pharma being seen as producers of 'cheap' and therefore 'low quality' pharmaceuticals.

Today, the Indian pharma industry, in stark contrast, is known globally for its proven high quality-low cost advantage in delivering sage effective pharmaceuticals. This transition, a tough and often-perilous one, was made possible thanks to the pioneering efforts of companies such as Dr. Reddy's Laboratories.

Dr. Reddy's is a global, vertically integrated pharmaceutical company with a presence across the value chain, producing and delivering safe, innovative, and high quality finished dosage forms, active pharmaceutical ingredients and biological products. Our products are marketed across the globe, with an emphasis on North America, Europe, India, Russia and other emerging markets. We conduct NCE drug discovery research in the areas of metabolic disorders and cardiovascular indications at our research facilities in Atlanta (USA) and Hyderabad (India). Through our Custom Pharmaceutical Services business unit, we provide drug substance and drug product development and manufacturing services on a proprietary basis.

Today, Dr. Reddy's continues its journey. Leveraging on its 'Low Cost, High Intellect" advantage. Foraying into new markets and new businesses. Taking on new challenges and groaning stronger and more capable. Each failure and each success renewing the sense of purpose and helping the company evolve with over 950 scientists working across the globe, around the clock, the company continues its relentless march forward to discover and deliver a breakthrough medicine to address an unmet medical need and make a difference to people's lives worldwide. And when it does that, it would only be the beginning and yet it would be the most important step. As Lao Tzu wrote a long time ago, 'Even 1000mile journey starts with a single step.

DR.REDDY'S LTD IN INDIA:

Dr. Reddy's originally launched in 1984 producing generic medications. In 1986, Reddy's started operations on branded formulations. Within a year Reddy's had launched Norilet, the company's first recognized brand in India. Soon, Reddy's obtained another success with Omez, its branded omeprozole – ulcer and reflux oesophagitis medication – launched at half the price of other brands on the Indian market at that time.

Within a year, Reddy's became the first Indian company to export the achieve ingredients for pharmaceuticals to Europe. In 1987, Reddy's started to transform itself from a supplier of pharmaceutical ingredients to other manufactures into a manufacture of pharmaceutical products.

Dr. Reddy's began as a supplier to Indian drug manufactures, but it soon started exporting to other less-regulated markets that had the advantage of not having to spend time and money on a manufacturing plant that would gain approval from a drug licensing body such as the U.S. Food and Drug Administration. This allowed their movement into regulated markets such as the US and Europe.

Dr. Reddy's began as a supplier to Indian drug manufactures, but it soon started exporting to other less-regulated markets that had the advantages of not having to spend time and money on a manufacturing plant that would gain approval from a drug licensing body such as the U.S. Food and Drug Administration.

OBJECTIVES:

- To creating a work environment that promotes safety, people training and development and performance orientation in line with Dr Reddy's values and policies.
- To Improvement in supply and availability of utilities and time bound repair of m/c and equipments (along with the relevant records as per site objectives).
- Ensure that the equipment and related systems (both old and new) are (re)qualified / (re)validated as per schedule.
- Reduce utilities consumption in line with the site objectives. To identify and implement energy conservation measures.
- To ensure that all the drawings and technical specifications of the equipment and system in his/her area is updated.
- To ensure clean room performance (checks, calibration, qualification and maintenance, along with documentation, of filters and other related equipments) as per SOP.
- To reuse and recycle equipments, etc. where ever possible.
- Trouble shooting with an objective of finding permanent solution.
- To ensure the facility is as per site objectives at all times.
- To ensure the good upkeep of the department.
- Liaisoning (with peers and outside agencies) to meet business objectives.

COMPANY VISION

Our vision is to become a discovery-led global pharmaceutical company.

We will achieve this vision by building:

A work place that will attract, energise and help retain the finest talent available. An organizational culture that is relentlessly focused on the speedy translation of scientific discoveries into innovative products to make a significant difference in people's lives.

COMPANY MISSION:

To be the first Indian pharmaceutical company that successfully takes its products from discovery to commercial launch globally.

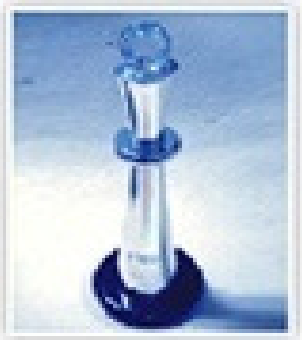
We are on a tough mission and energies can easily dissipate unless there is direction and dedication.

AWARDS:

The Dr. Reddy's ltd has been a regular recipient of the awards for excellence in Pharma sector, best employees and most respected company.

The Saumen Chakroborty- CFO of awarded to Dr. Reddy's lab the Best Performance Award sustained for CFO in the Pharma Sector for 2007 development of overseas business.

D .Reddy's lab also received the award in 2004 for the Most Respected Company award.



It also received the award in 2004 for the Best Employers in India.

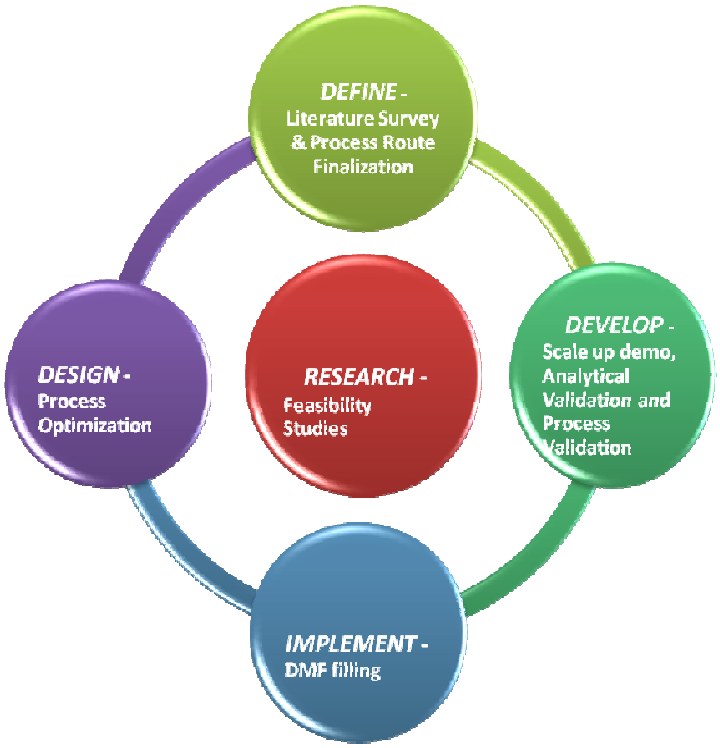
For development of indigenous know-how, continued support is also necessary and a detailed write up on R&D facilities is enclosed.

INSIGHT INTO VARIOUS DEPARTMENTS:

- **RESEARCH AND DEVELOPMENT:**

The research and development division, established in the late 1980's, is central to the active pharmaceutical ingredients business. It contributes significantly to our business by creating intellectual property, providing research to reduce the cost of production of the products and playing an active role in the selection and development of new products.

The analytical research group supports the development activity by carrying out impurity profiling, structure elucidation and stability studies.



- **MANUFACTURING UNITS:**

Cheminor drugs Ltd. Merged in to Dr. Reddy's Labs in the year 2000-01 restructured as Strategic Business Units.

- Bulk
- Branded formulation
- Generics
- R&D emerging business
- Corporate center

Units: Strategic Business Units Bulk has 6units.

- ✓ 3 units in Bollarum
- ✓ 1 unit in Jeedimetla.
- ✓ 1 unit in Miryalaguda
- ✓ 1unit in PydiBhimavaram

- **QUALITY POLICY:**

Dr. Reddy's is committed to provide customer's products meeting or exceeding exceptions consistently in terms of specifications, delivery, technical support, regularity compliance & competitive.

Customer Focus:

We are committed to delight customers by providing products and services that exceed expectations consistently in terms of quality, speed to market, delivery and competitiveness

Execution Excellence:

We will constantly improve systems, technologies, infrastructure, regulatory compliance and technical support.

Competency Building:

We will ensure high level of competency by attracting and retaining talented personnel in all areas through continual education and development.

Beneficial Partnerships:

We will develop and maintain mutually beneficial relationships with all business associates and provide lasting value to all stakeholders. Constantly improve the procedure, technologies & infrastructure to continuously better the quality of products produced. Ensure optimum training to all personnel accountable for quality related activities. Maintain mutually beneficial relationship with vendors, enrich the quality of life of employees & provide lasting value of shareholders.

- **SOCIAL INITIATIVES:**

We at Dr. Reddy's take pride in the company's mission – to help people lead healthier lives. This objective is achieved by increasing access and affordability of medicines through the company's generics, API, and branded generics products, and by addressing unmet medical needs by innovation through its Specialty and NCE businesses.

We see Social Initiatives as an integral component of Corporate Social Responsibility. Our investments in the community have gone beyond the adhoc disbursement of funds, to planned programs in capability building. We do this by supporting the following organizations:

- Dr. Reddy's Foundation
- The Naandi Foundation
- Dr. Reddy's Foundation For Health Education (DRFHE)
- The Centre for Social Initiative & Management (CSIM)

Our Social Initiatives do not involve just the community, but employees as well by including employees in our definition of Social Initiatives, the company ensures that the initiators also figure among the beneficiaries.

ORGANIZATION STRUCTURE

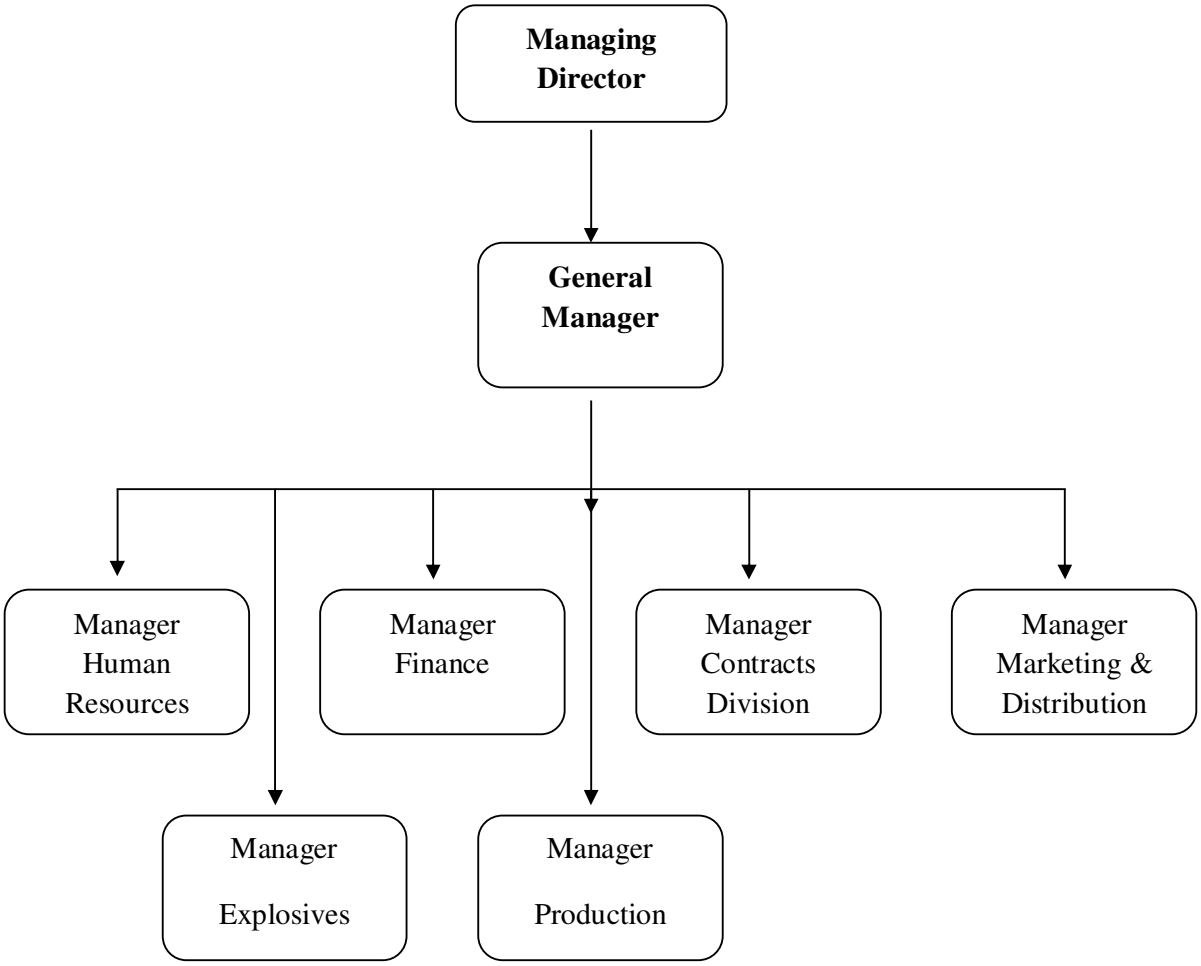


Illustration No. II.1 Organization Structure of Dr. Reddy's lab

PERFORMANCE OF THE COMPANY

Dr. Reddy's laboratories (DRL) reported higher-than-expected 4qfy2012 top-line performance, while its bottom line came in below expectations.

The company's net sales increased by 31.8% yoy, led by 29.9% yoy and 26.8% yoy growth across the global generics and proprietary products businesses, respectively. This led to OPM expansion and net profit growth during the period. Management has reinforced its FY2013 guidance of us$2.7bn, with RoCE expected to come in at 25%. We recommend accumulate on the stock.

Results much above expectations: DRL reported net sales of Rs.2,658 cr for 4QFY2012, registering 31.8% yoy growth, which was higher than our estimate of Rs.2,272cr. The U.S. and row were the key growth drivers for the company, registering strong growth of 47.5% yoy and 32.3% yoy, respectively. The domestic market reported single-digit growth of 16.7% yoy. The company's EBIT margin expanded by 235bp yoy to 18.9%, resulting in adjusted net profit growing by 28.9% yoy to Rs.431cr during the quarter.

Outlook and valuation: DRL has reinforced its earlier revenue guidance of US$2.7bn by FY2013E with RoCE of 25%. We expect net sales to report a 9.8% CAGR to rs.11,662cr and adjusted EPS to record a 2.3% CAGR to rs.92.9 over FY2012-14E. We maintain our Accumulate Recommendation on the stock with a target prize of Rs.1,859.

BOARD OF DIRECTORS:

- Dr's Anji Reddy, Chairman
- GV Prasad , Vice Chairman & CEO
- K. Satish Reddy, COO & MD
- Abhijit Mukharjee, President Global Genetics
- Dr. Cartikeya Reddy, Senior Vice-President & Head Biologics
- KB. Shankara Rao, Exicutive Vice-President IPDO
- Vilas bholye, Head – Formulations Manufacturing
- Dr. Raghav Chari, Senior Vice-President-Proprietary Products
- Prabir Jha, Senior Vice-President Global Chief HR.
- Amit Patel, Senior Vice-President & Head-NA Genetics
- Saumen Chakraborty, President-Corporate
- Umang Vohara, Chief Financial Officer
- VS Vasudevan, Head of Europe Operations.

COMPANY VALUES

Our business practices are guided by highest ethical standards of truth integrity and transparency. To strive for excellence in everything they think, say and so. The values that guide the thoughts and actions are:

- **Quality:**

  Reddy's are dedicated to achieving the highest levels of quality in everything we do to delight customers, internal & external, every time.

- **Respect for the individual**:

  We uphold the self-esteem and dignity of each other by creating an open culture conducive for expression of views and ideas irrespective of hierarchy.

- **Innovation & continuous learning:**

  We create an environment of innovation and learning that fosters, in each one of us, a desire to excel and willingness to experiment.

- **Collaboration & Teamwork:**

  Dr.Reddy's seek opportunities to build relationships and leverage knowledge, expertise and resources to create greater value across functions, businesses and locations.

- **Harmony & Social Responsibility:**

  Dr.Reddy's take utmost care to protect our natural environment and serve the communities in which they live and work.

SWOT ANALYSIS OF DR.REDDY'S LAB

- **STRENGTH:**

  - Strong products portfolio.
  - Low cost based.
  - Six-new chemical entities.
  - Wide range of anti-cancer drugs developed.
  - Contribute to company's high profit margin of around 34% of sale.
  - Manufacturing & market over 250 medicines targeting a wide range of therapies.
  - Expertise in developing innovative product formulations.
  - Markets pharmaceutical products in 115 countries.
  - Joint ventures in China & South Africa.

- **WEAKNESSES**

  - High amount of revenues from overseas.
  - Generic drugs smallest focus.
  - Lack of patent legislation in India harms sales of its products.
  - Smallest portion of revenues from generic at around 20%.

- **OPPORTUNITIES**

  - Take a drug then way to market.
  - Domestic generic drugs market.
  - In another 4-6 years many product patent obtained after the 2004 legislation will go off providing an opportunity to the company increase its domestic footprints in Generic.
  - Buy back of the integrated drug development company from ICICI venture & Citigroup.

- **THREATS:**

  - Need to gain FDA approval for all sources & products.
  - Heightened concerns about profitability of German generics business of Beta pharm.
  - Revenue running into billions which dwarfs Reddy's annual turnover litigation charges.
  - Products have to pass strict FDA trails before going to market, which can be costly and time consuming.

CHAPTER - 5

DATA ANALYSIS AND INTERPRETATION

PREPARING THE BUDGETING

As firms grow, the amount of control that a firm owner has on their firm reduces significantly. It is therefore important that you remain in control of the firm by budgeting to increase profits and performance. Consequently, budgeting allows you to think ahead to control the management of your firm. As you will see, budgeting is based largely on the objectives of the firm. To meet their firm's objectives they need to prepare the budgeting to estimate the forecast, so that they can coordinate the budget to help achieve them.

Without budgeting, many businesses carry the threat of failure and for those that do budget: failing to carry out the task correctly can have the same effect.

Many businesses overlook budgeting as they feel it is just more paperwork that ties away time that can be used elsewhere: they can do without more work in their already tight schedule. In fact, budgeting can help eliminate the pressure of time as it prepares for the future and foresees problems before they occur.

"Budgeting prepares for the future and foresees problems before they occur"

Hopefully, after reading the article, you will learn that budgeting is an integral process in business and realize that the way forward comes from successful planning.

Budgeting period has been determined (weekly, monthly, yearly, etc), the manager needs to gather information to guide him when compiling the budgeting. This will include past and current performance figures obtain from the cash flows and present value factors. It can be very risky and uncertain.

CAPITAL BUDGET

Preparing a budget is vital to any company or business for a number of reasons. A capital budget is needed to increase revenue while decreasing costs and expenses. Many corporations normally plan an annual budget that will assist management in evaluating the total performance of the organization. Capital budgets, on the other hand, focus more on the long term investments. At the same time, management can examine and analyze the costs of purchasing or upgrading equipment and other fixed assets.

A capital budget helps the management in:

- To examine the existing financial objectives and capital development goals and determine what level the company is at.
- It helps in ranking of projects according to their true profitability.
- It helps to choose among mutually exclusive projects, that project with the maximization of the shareholder's wealth.
- Determining the future cash flows of the firm.
- Application of decision rule making a choice for long-term investments.

Capital budgeting main uses are:

- The formulation of long-term goals.
- The creative search for and identification of new investment opportunities.

- Classification of projects and recognition of economically and/or statistically dependent proposals.
- The estimation and forecasting of current and future cash flows.
- A suitable administrative framework capable of transferring the required information to the decision level.
- The controlling of expenditures and careful monitoring of crucial aspects of project execution.
- A set of decision rules which can differentiate acceptable from unacceptable alternatives is required.

Basic Steps of Capital Budgeting:

Step1: Estimate the cash flows

Step2: Assess the riskiness of the cash flows.

Step3: Determine the appropriate discount rate.

Step4: Find the PV of the expected cash flows.

Step5: Accept the project if PV of inflows > costs.IRR > Hurdle Rate and pay<policy.

The capital budgeting will be analyzed the process of evaluating how we invest in capital assets; i.e. assets that provide cash flow benefits for more than one year. Therefore, we will focus much of our attention on present values so that we can understand how expenditures today influence values in the future.

CAPITAL BUDGETING PREPARATION AT DR.REDDY LABS:

Dr. Reddy's lab limited has been in business for 50 years. Over these years it has diversified organically and inorganically. The Company has the advantage of its good distribution network. It walks with an objective – ***by providing world class products and services in explosives, initiating systems, mining and infrastructure projects with special emphasis on safety events to total customer satisfaction.***

To achieve this objective, "Preparation of capital budgeting is a key as it is the roadmap to the financial success and independence of an organization. It also helps in managerial decisions to an investment appraisal in a company and also in financial decisions to earning their goals".

The organization prepares a "Capital budgeting" for every financial year April 1st – March 31st, before the commencement of the next financial year. The capital budgeting is prepared by using the methods (PBP, NPV, ARR, PI, IRR).

The Finance Manager with the help of Planning & Development department is responsible for preparing the capital budgeting, which looks after the capital budgeting decisions for collection of data and had a discussion with the official's engaged in the capital budgeting process. The data that has been collected from the planning and development department has been recast by me to present the same in an appreciable and easily understandable manner.

The procedure with regard to the capital budgeting followed by Dr. Reddy lab limited is explained in detail.

INTRODUCTION:

In Dr. Reddy's lab a number of new projects are going on. Out of which 5 projects are selected for the study. Some of the essential aspects of the projects are Depreciation Rate, Corporate Income Tax Rate and The Discounting Factor. In this Dr. Reddy's lab the Depreciation rate is 4.75% as their given, the Corporate Income Tax Rate is 34% (approximately) and the Discounting Factor is 15% which is normally followed by the corporate houses. The following table gives the abstract for these projects of the company.

SL. NO.	PROJECT NAME	BUDGET ESTIMATES	DEPREC-IATION	TAX	PV FACTOR
1.	Pharma Atrotone	60 Lakhs	4.75%	34%	15%
2.	Pharma calmagzine	25 Lakhs	4.75%	34%	15%
3.	Pharmacokinetic Drug Interaction	20 Lakhs	4.75%	34%	15%
4.	Chronic diseases general mangement	10 lakhs	4.75%	34%	15%

1. Pharma Atrotone
(Estimated Budget Rs 60 lakhs)

Calculation of Cash Flow after Tax (CFAT)

Year	1	2	3	4	5	Total
PBDT	35.00	38.20	40.00	42.50	42.50	198.20
Less: Dep @ 4.75%	2.85	2.85	2.85	2.85	2.85	14.25
PBT	32.15	35.35	37.15	39.65	39.65	183.95
Less: Tax @ 34%	10.93	12.02	12.63	13.48	13.48	62.54
PAT	21.22	23.33	24.52	26.17	26.17	121.41
Add: Dep	2.85	2.85	2.85	2.85	2.85	14.25
CFAT	24.07	26.18	27.37	29.02	29.02	135.66
CCFAT	24.07	50.25	77.62	106.64	135.66	

Calculation of pay back period:

The pay back period lies between 2 and 3 years. Therefore the exact pay back period will be as follows:

Pay back period = Base year + required CFAT
Next year CFAT

$$\text{Exact pay back period} = 2 + \frac{60 - 50.25}{27.37}$$

$$= 2 + 0.35$$
$$= 2.35$$

PBP = 2.35

Calculation of ARR:

$$\text{ARR} = \frac{\text{AVERAGE ANNUAL PAT}}{\text{AVERAGE INVESTMENT}} \times 100$$

$$= \frac{24.282}{30} \times 100$$

$$= 80.94\%$$

ARR = 80.94%

Calculation of NPV:

Year	Cash Flows	PV @ 15%	PV of Cash Flows
0	(60.00)	1.00	(60.00)
1	24.07	0.870	20.94
2	26.18	0.756	19.79
3	27.37	0.658	18.01
4	29.02	0.572	16.59
5	29.02	0.497	14.42
	Total Cash Flow		**89.75**
	NPV		**29.75**

NPV = PV OF CASH INFLOW – PV OF CASH OUTFLOW

PV of cash flow @ 15% = 89.75

Cash Out Flow = 60.00

Therefore to decrease the cash flow we increase the rate. Let the new rate be 18%

Year	Cash Flows	PV @ 18%	PV of Cash Flows
0	(60.00)	1.00	(60.00)
1	24.07	0.847	20.38
2	26.18	0.718	18.79
3	27.37	0.609	16.66
4	29.02	0.516	14.97
5	29.02	0.437	12.68
	Total Cash Flow		**83.48**
	NPV		**23.48**

Calculation of IRR & IR:

The IRR is usually the rate of return that a project earns. PI measures the present value of returns per rupee invested.

$$\textbf{IRR} = \textbf{Ri} + \frac{\textbf{PV of CF at Ri - PV of COF}}{\textbf{PV of CF at Ri – PV of CF at Rh}} \times \textbf{(Rh – Ri)}$$

$$= 15 + \frac{89.75 - 60}{89.75 - 83.48} \times (18 - 15)$$

$$= 29.2$$

IRR = 29.2%

$$\textbf{PROFITABILITY INDEX (PI)} = \frac{\textbf{PV OF CASH INFLOWS}}{\textbf{INTITAL CASH OUTLAY}}$$

$$= \frac{89.75}{60}$$

$$= 1.49$$

Profitability Index (PI) = 1.49 times

2. Pharma calmagzine:
(Estimated Budget Rs 25 lakhs)

Calculation of Cash Flow after Tax (CFAT)

Year	1	2	3	4	5	Total
PBDT	10.25	15.84	20.50	20.50	20.50	87.59
Less: Dep @ 4.75%	1.1875	1.1875	1.1875	1.1875	1.1875	5.9375
PBT	9.0625	14.6525	19.3125	19.3125	19.3125	81.6525
Less: Tax @ 34%	3.08125	4.98185	6.56625	6.56625	6.56625	27.75385
PAT	5.98125	9.67065	12.74625	12.74625	12.74625	53.89065
Add: Dep	1.1875	1.1875	1.1875	1.1875	1.1875	5.9375
CFAT	7.16875	10.85815	13.93375	13.93375	13.93375	59.8281
CCFAT	7.16875	18.0269	31.9606	45.89435	59.8281	

Calculation of pay back period:

The pay back period lies between 2 and 3 years. Therefore the exact pay back period will be as follows:

$$\textbf{Pay back period} = \textbf{Base year} + \frac{\textbf{required CFAT}}{\textbf{Next year CFAT}}$$

$$\text{Exact pay back period} = 2 + \frac{25.00 - 18.0269}{13.93375}$$

$$= 2 + 0.5 = 2.5$$

PBP = 2.5

Calculation of ARR:

$$\text{ARR} = \frac{\text{AVERAGE ANNUAL PAT}}{\text{AVERAGE INVESTMENT}} \times 100$$

$$= \frac{10.77813}{12.5} \times 100$$

$$= 86.2\%$$

ARR = 86.2%

Calculation of NPV:

Year	Cash Flows	PV @ 15%	PV of Cash Flows
0	(25.00)	1.00	(25.00)
1	10.25	0.870	8.9175
2	15.84	0.756	11.97504
3	20.50	0.658	13.489
4	20.50	0.572	11.726
5	20.50	0.497	10.1885
	Total Cash Flow		**56.29604**
	NPV		**31.29604**

NPV = PV OF CASH IN FLOW – PV OF CASH OUTFLOW

PV of cash flow @ 15% = 31.29604

Cash Out Flow = 25.00

Therefore to decrease the cash flow we increase the rate. Let the new rate be 18%

Year	Cash Flows	PV @ 18%	PV of Cash Flows
0	(25.00)	1.00	(25.00)
1	10.25	0.847	8.68175
2	15.84	0.718	11.37312
3	20.50	0.609	12.4845
4	20.50	0.516	10.578
5	20.50	0.437	8.9585
	Total Cash Flow		**52.07587**
	NPV		**27.07587**

Calculation of IRR & IR:

The IRR is usually the rate of return that a project earns. PI measures the present value of returns per rupee invested.

$$\textbf{IRR} = \textbf{Ri} + \frac{\textbf{PV of CF at Ri - PV of COF}}{\textbf{PV of CF at Ri – PV of CF at Rh}} \times \textbf{(Rh – Ri)}$$

$$= 15 + \frac{56.29604 - 25.00}{56.29604 - 52.07587} \times (18 - 15)$$

$$= 37.23$$

IRR = 37.23%

$$\textbf{PROFITABILITY INDEX (PI)} = \frac{\textbf{PV OF CASH INFLOWS}}{\textbf{INTITAL CASH OUTLAY}}$$

$$= \frac{56.29604}{25}$$

Profitability Index (PI) = 2.25 times

3. Pharmacokinetic Drug Interaction: (Estimated Budget Rs 20 lakhs)

Calculation of Cash Flow after Tax (CFAT)

Year	1	2	3	4	5	Total
PBDT	7.83	13.42	19.00	20.03	20.03	80.31
Less: Dep @ 4.75%	0.95	0.95	0.95	0.95	0.95	4.75
PBT	6.88	12.47	18.05	19.08	19.08	75.56
Less: Tax @ 34%	2.3392	4.2398	6.137	6.4872	6.4872	25.6904
PAT	4.5408	8.2302	11.913	12.5928	12.5928	49.8696
Add: Dep	0.95	0.95	0.95	0.95	0.95	4.75
CFAT	5.4908	9.1802	12.863	13.5428	13.5428	54.6196
CCFAT	5.4908	14.671	27.534	41.0768	54.6196	

Calculation of pay back period:

The pay back period lies between 2 and 3 years. Therefore the exact pay back period will be as follows:

Pay back period = Base year + required CFAT

Next year CFAT

Exact pay back period $= 2 + \frac{20 - 14.671}{12.863}$

$= 2 + 0.4$

$= 2.04$

PBP = 2.04

Calculation of ARR:

$$\text{ARR} = \frac{\text{AVERAGE ANNUAL PAT}}{\text{AVERAGE INVESTMENT}} \times 100$$

$$= \frac{9.97392}{10} \times 100$$

$$= 99.73\%$$

ARR = 99.73%

Calculation of NPV:

Year	Cash Flows	PV @ 15%	PV of Cash Flows
0	(20.00)	1.00	(20.00)
1	7.83	0.870	6.8121
2	13.42	0.756	10.14552
3	19.00	0.658	12.502
4	20.03	0.572	11.45716
5	20.03	0.497	9.95491
	Total Cash Flow		**50.87169**
	NPV		**30.87169**

NPV = PV OF CASH INFLOW – PV OF CASH OUTFLOW

PV of cash flow @ 15% = 30.87169

Cash Out Flow = 20.00

Year	Cash Flows	PV @ 18%	PV of Cash Flows
0	(20.00)	1.00	(20.00)
1	7.83	0.847	6.63201
2	13.42	0.718	9.63556
3	19.00	0.609	11.571
4	20.03	0.516	10.33548
5	20.03	0.437	8.75311
	Total Cash Flow		**46.92716**
	NPV		**26.92716**

Therefore to decrease the cash flow we increase the rate. Let the new rate be 18

Calculation of IRR & IR:

The IRR is usually the rate of return that a project earns. PI measures the present value of returns per rupee invested.

$$\textbf{IRR} = \textbf{Ri} + \frac{\textbf{PV of CF at Ri - PV of COF}}{\textbf{PV of CF at Ri – PV of CF at Rh}} \times \textbf{(Rh – Ri)}$$

$$= 15 + \frac{50.87169 - 20.00}{50.87169 - 46.92716} \times (18 - 15)$$

$$= 38.47$$

IRR = 38.47%

$$\textbf{PROFITABILITY INDEX (PI)} = \frac{\textbf{PV OF CASH INFLOWS}}{\textbf{INTITAL CASH OUTLAY}}$$

$$= \frac{50.87169}{20}$$

Profitability Index (PI) = 2.5 times

4. Chronic Diseases General Management:
(Estimated Budget Rs 20 lakhs)

Calculation of Cash Flow after Tax (CFAT)

Year	1	2	3	4	5	Total
PBDT	0.50	1.83	2.05	2.05	2.05	9.38
Less: Dep @ 4.75%	0.475	0.475	0.475	0.475	0.475	2.375
PBT	0.025	1.355	1.575	1.575	1.575	6.105
Less: Tax @ 34%	0.0085	0.4607	0.5355	0.5355	0.5355	2.0757
PAT	0.0165	0.8943	1.0395	1.0395	1.0395	4.0293
Add: Dep	0.475	0.475	0.475	0.475	0.475	2.375
CFAT	0.4915	1.3693	1.5145	1.5145	1.5145	6.4043
CCFAT	0.4915	1.8608	3.3753	4.8898	6.4043	

Calculation of pay back period:

As the cumulative cash flows are less than initial investments of Rs. 10 lakhs, therefore the cash flows are not recoverable in the project duration. For this project, the discounted pay back period is not existed

Calculation of ARR:

$$\textbf{ARR} = \frac{\textbf{AVERAGE ANNUAL PAT}}{\textbf{AVERAGE INVESTMENT}} \times 100$$

$$= \frac{0.80586}{5} \times 100$$

ARR = 16.11%

Calculation of NPV:

Year	Cash Flows	PV @ 15%	PV of Cash Flows
0	(10.00)	1.00	(10.00)
1	0.50	0.870	0.435
2	1.83	0.756	1.38348
3	2.05	0.658	1.3489
4	2.00	0.572	1.144
5	3.00	0.497	1.491
	Total Cash Flow		**4.4189**
	NPV		**(5.5811)**

As the total cash flows, are less than the out flows. The NPV is also negative. In this situation, the company earning or internal rate of returns also negative. Even if calculated IRR it will become an interactive and complicated process. It can better solved by the MIRR method.

Calculation of IR:

PROFITABILITY INDEX (PI) = PV OF CASH INFLOWS / INTITAL CASH OUTLAY

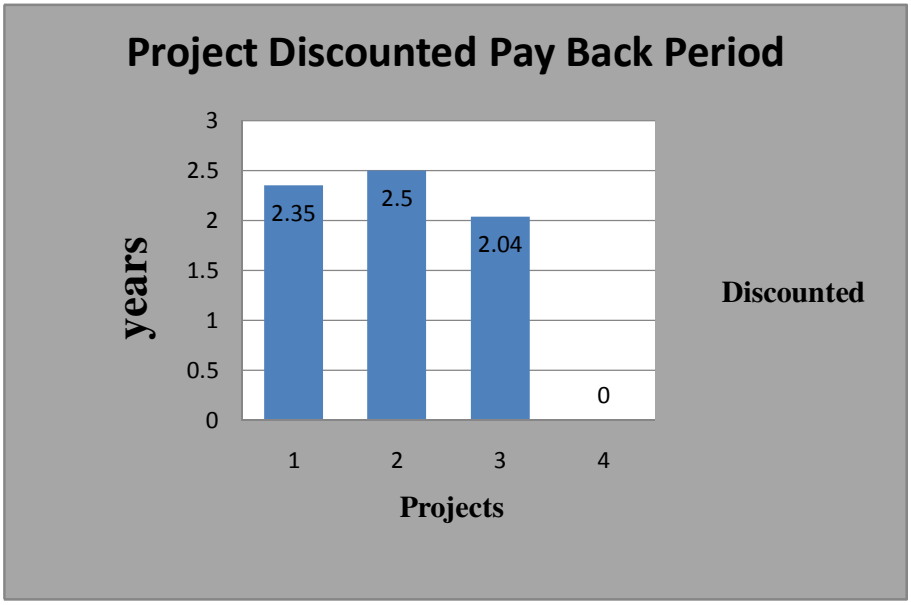
$$= \frac{4.4189}{10}$$

$$= 0.44$$

Profitability Index (PI) = 0.44 times

Comparative Analysis of all the 4 projects

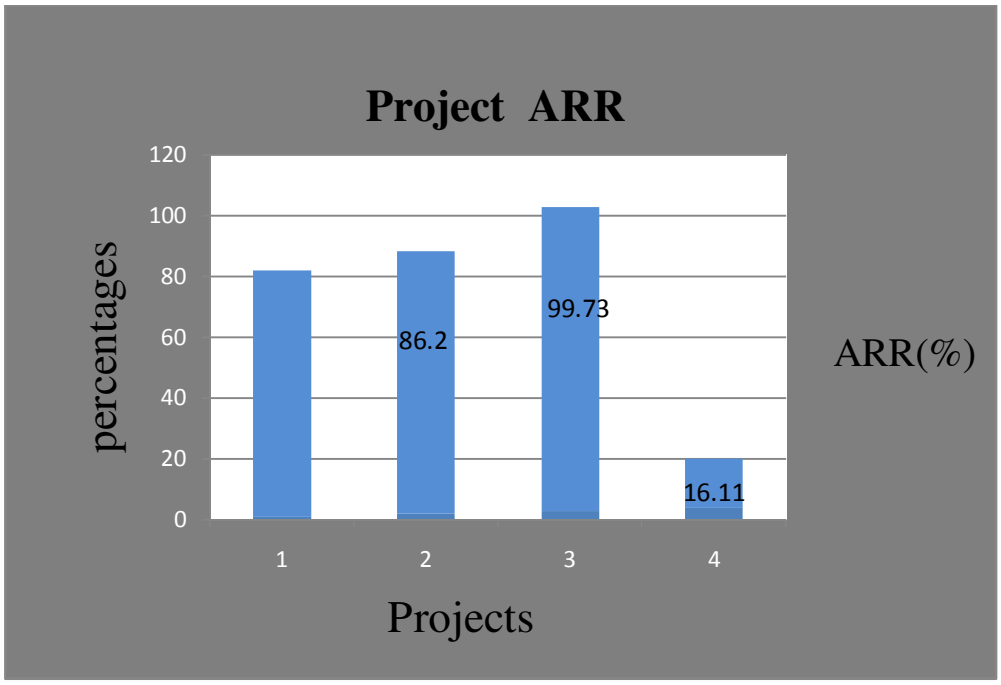
Project Names	Discounted PBP (years)	ARR (%)	NPV (Rs in Lakhs)	PI (times)	IRR (%)
1. Pharma Atrotone	2.35	80.94	29.75	1.49	29.2
2. Pharma Calmagzinc	2.5	86.2	31.29604	2.25	37.23
3. Pharmacokinetic Drug Interaction.	2.04	99.73	30.87169	2.5	38.47
4.Chronic diseases general management.	-	16.11	(5.5811)	0.44	-



INTERPRETATION:

When compare to all the 4 projects except the ***4th project i.e., chronic diseases general management*** does not have the PBP, because the project investment is not recover in the present cash flows, *it shows the negative value of the project*, therefore the project should be rejected. Other 3 projects are showing the positive values, therefore the projects are accepted.

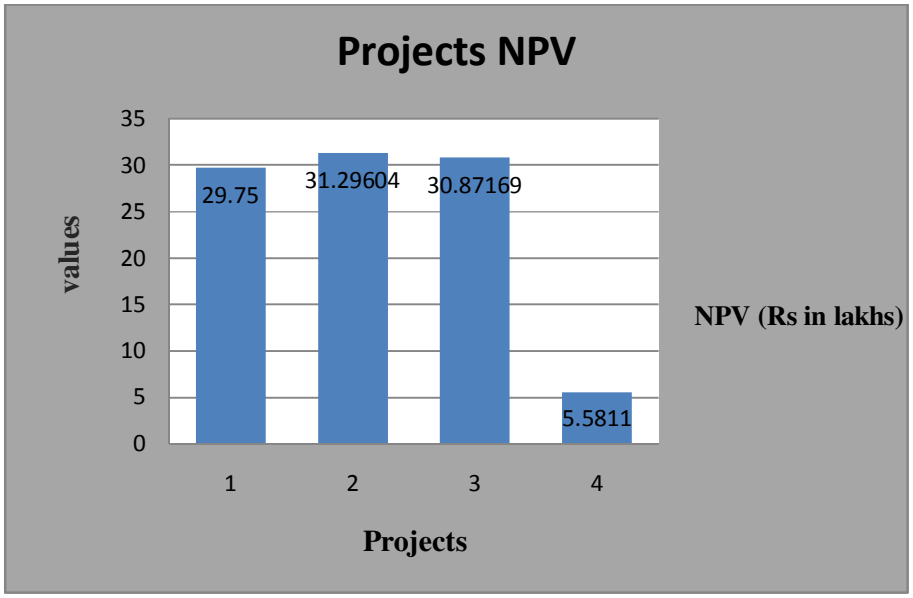
In project 3 we can recover the investment within a short period of time i.e., 2.04 years, when compare with the other projects.



INTERPRETATION:

When compare to all the projects of ARR, in the 3 project ***i.e., Pharmacokinetic Drug Interaction*** the ARR % is 99.73%, so in this project the average rate of return is more.

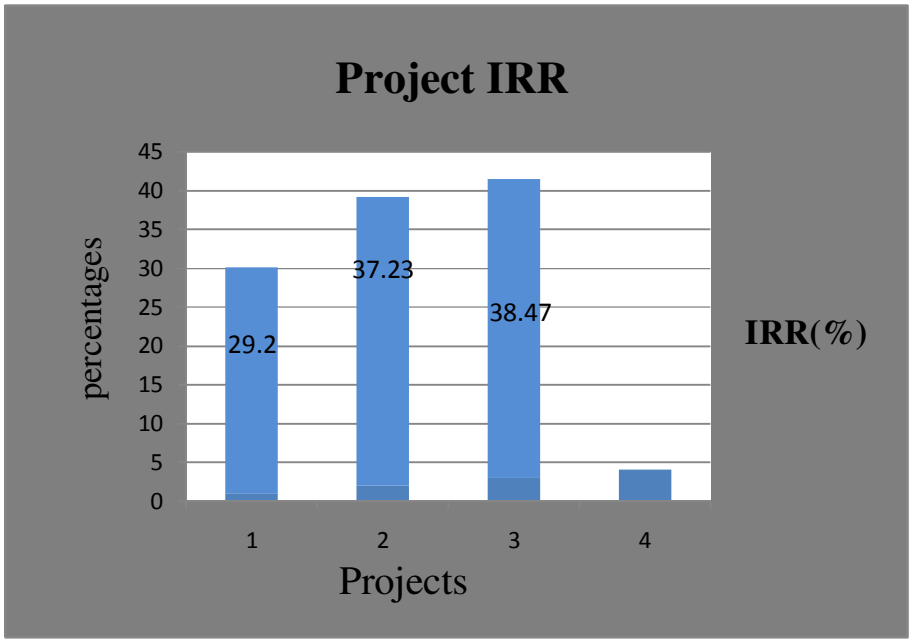
When compare to all projects expects the ***Chronic Diseases general mangement i.e., project 4*** is less than the companies minimum required rate of return.



INTERPRETATION:

The NPV should be greater than the cash outflow then only the project should be accepted. Except 4th projects ***all projects*** are showing the ***positive values only***. In the ***4th project the NPV is less than the cash outflow***, therefore the project should be ***rejected***. It shows the negative value of the project.

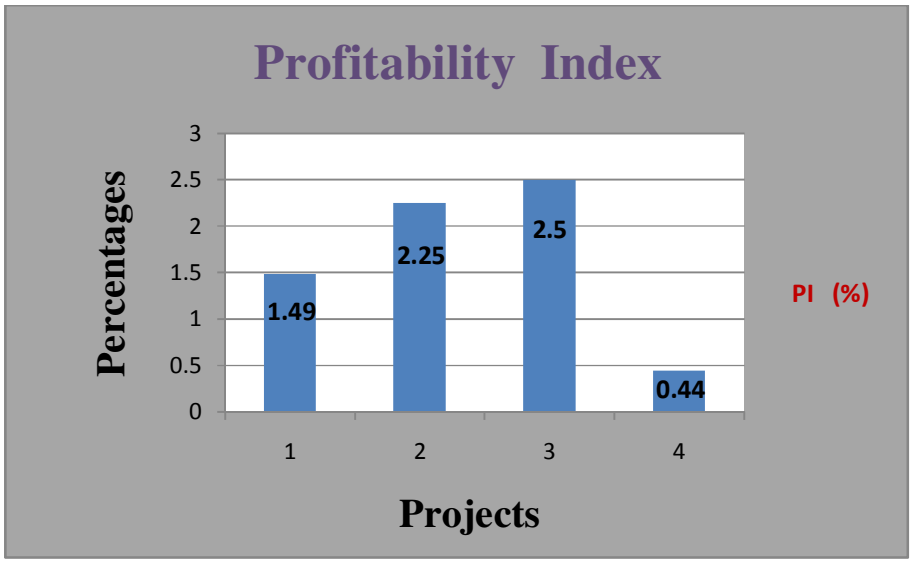
When compare to all the projects the NPV value is more in 3rd project ***(Pharmacokinetic Drug Interaction) i.e., 30.87169.***



INTERPRETATION:

In the 4th project ***we can not calculate*** the IRR because the NPV is less than the project investment.

When compare to all the projects the IRR percentage is more in 3rd project ***(Pharmacokinetic Drug Interaction)*** i.e., 38.47, better we can choose the 3rd project.



INTERPRETATION:

The above projects Profitability Index are ***more than 1*** but in the ***4th project it fails to earn a profit of 0.44*** at rupee of investment.

When compare to all the projects the Profitability Index is more in 3rd project i.e., 2.5 times. But we can choose the project 1, because we can recover over investment with short period in this project i.e., 1.49 times.

NOTE: Here the profitability index is more than 1 other wise the project should be rejected.

CHAPTER – 6

FINDINGS, SUGGESTIONS & CONCLUSION

FINDINGS

The followings points were observed from the capital budgeting is as follows:

- ❖ The first project i.e., Pharma Atrotone is generating unequal cash flows for 5 years. The initial investment is Rs. 60 lakhs.
    - The ARR is 80.94% which is greater than the company's rate of return.
    - The discounted pay back period is 2.35 years.
    - NPV and IRR are positive for the proposal.
    - The Profitability Index (PI) is 1.49 > 1.

- ❖ Pharma Calmagzine for 1 stage crimping shops bldgs is experiencing the unequal cash flows and the initial investment is Rs. 25 lakhs.
    - The ARR is 86.2% more than required rate of return. Therefore, accept on ARR basis (traditional method).
    - NPV is positive for the project and the IRR > ARR.
    - The discounted pay back period is 2.5 years.
    - The Profitability of the project on every one rupee of its investment is 2.25 times.

- The 3rd project is Pharmacoknetic Drug Interaction is also generating unequal cash flows for 5 years. The initial investment is Rs. 20 lakhs.

    - The ARR is 99.73% which is greater than the required rate of return.
    - The discounted pay back period is 2.04years.
    - NPV and IRR are positive for the proposal.
    - The Profitability Index (PI) is 2.5 times which is higher among all projects. As its returns are high, the project is also risky.

- Chronic Diseases general mangement is the 4th project generating unequal cash flows for 5 years. The initial investment is 10 lakhs. But in this the investment will not recoverable in the project duration.

    - The ARR is 16.11% which is less than the required rate of return.
    - We cannot calculate the discount pay back period because in this project the investment is not recoverable.
    - NPV negative. If NPV negative then the project is not worthy or in other words at present the company will not get profits if it invest now.
    - The Profitability Index (PI) is 0.4 which is less than 1 (0.4 < 1), which is not good sign.

SUGGESTIONS AND RECOMMENDATIONS

Few of my suggestions are based on the results observed in four of the projects which were as follows:

- In 1st project i.e., Pharma Atrotne is having a high Accounting Profit (ARR) no 80.94%, NPV, IRR and PI are also positive. This is risky project as its returns are also high. Therefore, the project is accepted.
- Pharma Calmagzinc for 1 stage crimping shops bldgs is profitable in all contexts. PBP, ARR, NPV, IRR and PI are positive. As it returns are positive, accept the project.
- The 3rd project is Pharmacokinetic Drug Interaction is having a high Accounting Profit (ARR) no 99.73% and remaining all techniques are positive, but this is a risky project as its returns are high. Therefore, the project is accepted.
- Chronic Diseases General Management is not profitable project, it is generating losses at present. Therefore the project is rejected.

CONCULSION

- When an organization is setting up a capital budgeting for the business, they are planning for the outcome of the month. How involved the project budgeting is individual will be depends on their investment decisions in a business.
- When making the capital budgeting decision, the financial manager effectively analyzed the long term investment programmes, so that it will improve the business over all.
- Many businesses ignore or forget the other half of the budgeting. Capital budgeting are too often proposed, discussed and accepted. It can be used to influence managerial action for long-term implications and affect the future growth and profitability of the firm. Good management looks at what that difference means to the business.
- Remember to keep the records that have been created. The company should have capital budgeting records of the projects always on file, so that it gives the future course of action for the investment proposal for long-term period.
- Organizations must make sure that, more attention should be paid upon the investment proposal or course of action whose benefits are likely to be available in future over the lifetime of the project, as the demand on resources is almost always higher than the availability of resources.

BIBLIOGRAPHY

BIBLIOGRAPHY

Name of the books	Authors Name
Financial Management	I.M. Pandey (9th Edition)
Management Accounting (2nd Edition)	M.Y. Khan, P.K. Jain
Financial Management	Prasanna Chandra
Financial Management & Investment Analysis	Evgene. F. Brighan
Financial Management	Dr. S.N. Maheshwari
Capital Budgeting	Annual reports of Dr. Reddy's Lab

Websites:

www.google.com

www.drreddys.com

www.studyfinance.com

www.wikipedia.org/wiki/capital_budgeting

www.eximfm.com/training/capital budgeting.doc

http://educ.jmu.edu/~drakepp/principles/modules6/cbrisk.pdf