ME FOR IT INDUSTRY (18CS51)

Syllabus Module - 4

Preparation of project and ERP - meaning of project, project identification, project selection, project report, need and significance of project report, contents, formulation, guidelines by planning commission for project report,
Enterprise Resource Planning: Meaning and Importance- ERP and Functional areas of Management – Marketing / Sales- Supply Chain Management – Finance and Accounting – Human Resources – Types of reports and methods of report generation.

- **Meaning of project** – "A project is a **temporary endeavour** (attempt) undertaken to create a **unique** product or service"

"A project can be considered to achieve a **specific objective**, which involves a **series of activities and tasks** which **consume resources**"

- The term **temporary endeavour** indicates that the project would be over as soon as the unique product or service gets created.
- The term **unique** signifies that tasks undertaken on a day-to-day routine basis cannot be considered as a project.
- The term **specific objective** is clearly spelled-out that the objective is very crucial for a project, which the project team concerned to achieve.
- The statement **series of activities and tasks** implies that a project requires activities and tasks to be undertaken in a sequence as per their precedence requirements.
- The term **consume resources** means that the activities and tasks of a project should be real, i.e. cannot be completed without using various types of resources like men, machines, and materials.

"The project is a scientifically evolved work plan devised to achieve a specific objective within a specified period of time"

"Project is an approval for a capital investment to develop facilities to provide goods and services"
"A project is whole complex of activities involved in using resources to gain benefits"

- The project may **differ in size, nature, aims and complexity**, but they have three basic common attributes.

1. A course of action
2. Specific objective
3. Finite time duration

➢ Project classification

Project classification helps in expressing and highlighting the essential features of project. Different authorities have classified projects differently. The following are some of the important classification of projects.

1. Quantifiable and Non-Quantifiable Projects
2. Sectoral Projects
3. Techno-Economic Projects
4. Financial Institutional Projects
5. Service Projects

- **Quantifiable Projects**

Quantifiable projects are those in which possible quantitative assessment of benefits can be made.
Example - Projects concerned with industrial development, power generation, and mineral development fall in this category.

- **Non-Quantifiable Projects**

Non-quantifiable projects are those in which possible quantitative assessment of benefits cannot be made.
Example - Projects involving health, education and defence fall in this category.

- **Sectoral Projects**

Classification based on various sectors are

i. Agriculture and allied sector
ii. Irrigation and power sector
iii. Industry and mining sector
iv. Transport and communication sector
v. Information technology sector
vi. Miscellaneous

This type of classification has been found useful in resource allocation at macro level.

- **Techno-Economic Projects**

Classification of projects based on techno-economic characteristic fall in this category.

i. Factor intensity-oriented classification

Based on this projects may be classified as **capital intensive or labour intensive**.

If large investment is made in plant and machinery the project will be termed as **capital intensive.**

On the other hand project involving large number of human resources will be termed as **labour intensive.**

ii. Cause-oriented classification

Based on this projects may be classified as **demand based and raw material based projects.**

The non-availability of certain goods or services and the existence of demand for such goods or services make the **project demand-based**.

The availability of certain raw materials, skills or other inputs makes the **project raw-material based.**

iii. Magnitude-oriented classification

This is based on the size of investment involved in the projects, accordingly project are classified into

i. large scale
ii. medium scale or
iii. Small scale projects.

- **Financial institutional classification**

All India and State Financial Institutions classify the projects according to their age, experience and the purpose for which the project is being taken up. They are

i. New projects
ii. Expansion projects
iii. Modernisation projects
iv. Diversification projects.

The projects listed above are generally profit-oriented.

- **Services Projects**

The services oriented projects are

i. Welfare projects
ii. Services projects
iii. Research and Development projects
iv. Educational projects

➢ Project identification

A project having good market is generally selected as a project by any entrepreneur. Hence identifying project is a crucial step in any business and plays a vital role. An entrepreneur will have a wide choice of projects.

Project identification is concerned with collection of economic data, compiling and analysing it, to identify the possibility of investment to produce the goods or service for making profit.

According to Peter F. Drucker, there are three types of opportunities:

1. Additive
2. Complementary and
3. Break through

- Utilizing of the existing resources and facilities without any change in the existing business are known as additive opportunities.

There is no risk involved in this type of opportunities.

- The opportunities involving new ideas that cause some change in the existing structure are known as complementary opportunities.

There is some amount of risk involved in this type.

- The opportunities involving fundamental changes in both character and structure of business are known as Break through opportunities

This type involves higher risk than the other two.

Project identification may come from one or other of the following ways.

i. Observation: Observation is one of the very important sources of project idea. The scarcity (shortage) of a particular product or service may lead to the development of that.

The available of raw material or skill may lead to an idea of utilizing them to produce goods.
Observations of existing processes/products also sometimes leads to new project ideas.
ii. Trade and professional magazines: Trade and professional literature keeps a person in touch with latest developments and trends and also stimulate to develop new ideas.
iii. Bulletins of Research Institutions: R & D bulletins of some institutions also provide some new ideas based on the findings which are published in the bulletin.
iv. Government sources: Departmental publications of various departments of government also provide useful information that can help in identification of new project ideas.

The project ideas can be discovered from various other sources also. They are.
i. Knowledge of potential customer need.
ii. Watching emerging trends in demands for certain products.
iii. Knowledge about the Government policy, concessions and incentives, list of items reserved for manufacture in SSIs.
iv. Ideas generated by concerned people.
v. Scope for producing substitute product.
vi. Visiting trade fairs, exhibitions of new products etc.
vii. Observation of market and similar products.
viii. Competitor's products.
ix. Ideas given by friends and relatives based on their experience and observations.

➢ Project selection

Project selection starts from where project identification ends.
After identifying some projects, they need to be analysed in the light of existing economic conditions, the government policies, target markets, profit, availability of raw materials and skills etc.
One of the well-known tool for this analysis is **SWOT or SCOT analysis**. (Strength Constraints Opportunities & threats)

The entrepreneur analyses all the **strengths** of the enterprise like skills, manpower, capital, technology etc., with respect to product.

Then the **weakness** or constraints are listed down with an idea to find solutions to overcome them.

The various **opportunities** that emerge with the development of the product are need to
be study. This includes market share, profit, life of product, export possibilities etc.

Finally the **threats** like competition, import of similar product into market, government policies, out dated technology etc. need to be analysed.

The other points to be consider in selection of project are.

i. Investment size - The study of investment required is to be made rationally and accurately. Wrong estimation may lead to shortage of funds in the middle or towards the end of project.
Professional managers, who have worked in multinational companies or large Indian companies, should think of starting medium-sized or large sized units only.
The investment size (project cost) should be at least Rs. 3 to 5 crore. They should not commit the common mistake of restricting the project size to less than Rs. 2 crores.
ii. Location - Suitable location of project is very important. The entrepreneur should locate the project where resources and raw material are available. He should also consider possibility of setting up the project at notified area by government, to avail certain facilities, concessions and subsidies.
iii. Technology – The technology required to develop a project should be available within preferably region. It makes life easier to start with. Else it will be difficult and costly to get technology from foreign.

iv. Equipment - The availability of equipment should be studied. The entrepreneur should select the best equipment available for the project as per advice of experienced technical consultants. He should not compromise on the quality of the equipment.
v. Marketing - The product should be marketable. One should estimate the correct/reliable demand and market share for his product.

➢ Project report

A project report or a business plan is a written statement of what an entrepreneur proposes to take up.

It is a course of action what the entrepreneur hopes to achieve in his business and how is he going to achieve it.

A project report serves like a road map to reach the destination determined by entrepreneur.

Hence a project report can be defined as "a well evolved course of action devised to achieve the specified objectives within a specified period of time"

➢ Need and significance of project report

The preparation of project report is of great significance for an entrepreneur.

The project report essentially serves two functions.

1. Project report is **like a road map**, it describes the direction the enterprise is going in, what are its goals, where it wants to be, and how it is going to get there.

In addition it enables the entrepreneur to know that he is proceeding in the right direction.

2. The second purpose of the project report is to **attract lenders and investors**.

The preparation of project report is beneficial for those entrepreneurs which apply for financial assistance from the financial institutions and commercial banks.

Financial institutions or banks provide financial assistance for the project based on project report.

A project report is prepared by an experts after detailed study and analysis of various aspects of project.

Need :

- For refining the business ideas and to eliminate the shortcomings (faults or failures)
- For securing project capital
- For securing the bank finance
- For attracting joint business partners
- For obtaining clearances and approvals from governmental agencies
- For securing orders from key potential customers
- For providing a road-map and direction during implementation

➢ Contents of a project report (GP-LLP-CUP-RMPM-ER^2)

A good project report should contain the following.

1. General information
2. Promoter
3. Location
4. Land and building
5. Plant and machinery
6. Capital requirement
7. Utilities (Operational requirement)
8. Production process
9. Raw material
10. Man power
11. Products
12. Market
13. Economic Analysis
14. Requirement working capital
15. Requirement of funds

(1) **General information:** The report should contain general information regarding the company, product profile and product details and specification.

(2) **Promoter:** The details of the promotor such as name, educational qualification, work experience, project related experience etc. are to be provided.

(3) **Location:** Details like exact location of the project, lease or own, location advantages etc. need to be indicated.

(4) **Land and building:** Details of land area, construction area, type of construction, cost of construction, detailed plan and estimate are to be included.

(5) **Plant and machinery:** Details of machinery required, their production capacity, suppliers, cost, various alternatives etc. are to be included.

(6) **Capital requirement:** Information about all items cost should be carefully collected and presented.

(7) **Utilities (Operational requirement):** Information about operational cost should be presented. They include the cost of water, fuel, power, labour, repair and maintenance etc.

(8) **Production process:** Description of production process, process chart, technical aspects, technology alternatives available, production programme etc.

(9) **Raw material:** List of raw material required, its quality and quantity, sources of supply, cost of raw material, tie-up arrangements if any, alternate raw material suppliers etc. to be provided.

(10) **Man power:** Detailed of manpower requirement, skilled, semi-skilled, sources of manpower supply, cost of recruitment, requirement for training and its cost.

(11) **Products:** Product produced, by products, product mix, product quality and standard are to be mentioned.

(12) **Market:** End-users of product (target users), distribution channels, national, international, sales promotion, estimated sales etc. need to be included.

(13) **Economic analysis:** profit, return on investment, break even analysis, market share etc. need to be included.

(14) **Requirement of working capital:** Working capital required, sources of working capital, nature and extent of credit facilities offered and available, need to be included.

(15) **Requirement of funds:** Break-up project cost in terms of costs of land, building, machinery, miscellaneous assets, preliminary expenses, arrangements for meeting, the cost of setting up of the project etc. need to be included.

➢ Project formulation

Project formulation is the systematic development of a project idea.
It involves step by step investigation and development of project report.
It involves joint efforts of a team of experts, each member of the team must be fully familiar with the broad strategies, objectives and other aspects of the project.
The main aim of project formulation is to achieve the project objectives with minimum expenditure and adequate resources. (i.e it is to drive maximum benefits from minimum expenses in short span of time).

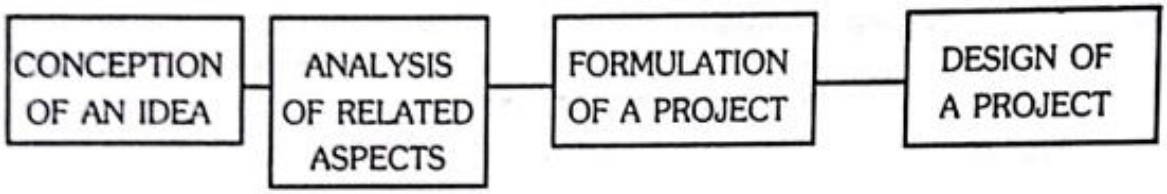


Figure: Phases of project formulation.

➢ Stages of project formulation

The process of project formulation has been categorised into seven sequential stages.

1. Feasibility Analysis
2. Techno-Economic Analysis
3. Project Design and Network Analysis
4. Input Analysis
5. Financial Analysis
6. Social Cost-Benefit Analysis
7. Pre-Investment Analysis

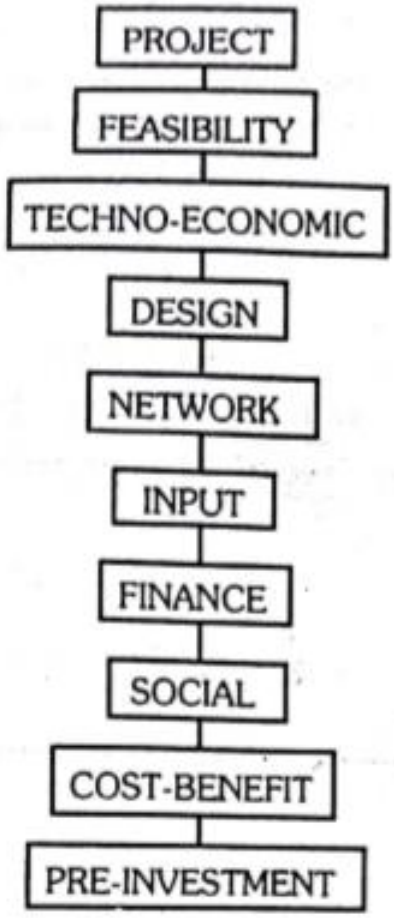


Figure: Sequential Stages of project formulation

1. Feasibility Analysis

This is the first step in project formulation.

At this stage the project idea is examined from the point of view whether to go for a detailed investment proposal or not.

The project idea is examined with the internal and external constrains.

Three alternatives could be considered

1. The project idea seems to be feasible.
2. The Project idea is not feasible.
3. Unable to arrive at a conclusion due to lack adequate data.

If it is feasible, we proceed further, if not feasible we abandon the idea, if sufficient data is not available we put more effort to collect the required data.

2. Techno-Economic Analysis

In this stage, estimation of project demand and choice of optimal technology is made.

The project may produce goods or services, it is important to know the market for such goods or services produced. So market analysis also comes in this step.

Techno economic analysis gives the project technology based on demand and sets the stage for detailed design development.

3. Project Design and Network Analysis

This stage defines individual activities which constitute the project and their inter-relationship with each other.

Here the sequence of events of project are presented.

A detailed work plan of the project is prepared with time allocation for each activity.

4. Input Analysis

This stage gives details about the input requirements during the construction of the project and also during the operation of a project.

In the previous step the project is divided into several activities, need to see the input required for each activity and sum it up to get the total input requirement for the project.

Input includes material, human resources, utilities, capital etc.

Input analysis also considers the recurring and non-recurring resources requirement of the project.

And evaluate from the point of view of the availability of these resources.

5. Financial Analysis

This stage mainly involves estimation of project cost, estimation of operating cost and fund requirements.

Financial analysis also helps in comparing various project proposals on a common scale.

6. Cost-Benefit Analysis

The overall worth of a project is the main consideration.

While financial analysis will go to justify a project from the profitability point of view.

Cost benefit Analysis will consider the project from the national viability (Ability to survive) point of view.

When we talk of Cost benefit Analysis we not only take into account the direct cost and indirect benefits of the projects, but also the costs which all entities connected with the project and benefits which will be enjoyed by all such entities.

7. Pre-Investment Analysis

The project proposal gets a formal and final shape at this stage.

All the results obtained in the above steps are consolidated,

At this stage, the project is presented in such a way that the project sponsoring body, the project-implementing body and the external consulting agencies are able to decide whether to accept the proposal or not.

➢ Guidelines by planning commission for project report

1. General information
2. Preliminary analysis of alternative
3. Project description
4. Marketing plan
5. Capital requirements and cost
6. Operating requirements and costs
7. Financial analysis
8. Economic analysis

1. General information - The report should contain general information regarding the company, past performance of the company, product profile and product details and specification.

2. Preliminary analysis of alternative

This should contain present data and the gap between demand and supply for the outputs which are to be produced.

A complete list of all existing plants in the industry, giving their capacity and their level of production.

All options that are technically feasible should be considered at this preliminary stage. The location of the project and its implications should also be looked in.

3. Project description

The feasibility report should provide a brief description of the technology/process chosen for the project.

Environmental effects of a project should also mention i.e., population, water, land, air, flora, fauna, effects arising out of the project's pollution, other environmental destruction, etc.

4. Marketing plan - It should contain the following items: Data on the marketing plan, demand and prospective supply in each of the areas to be served.

End-users of product (target users), distribution channels, national, international, sales promotion, estimated sales etc. need to be included.

Estimates of the degree of price should be presented. It should contain an analysis of past trends in prices.

5. Capital requirements and cost - The estimates should be reasonably complete and properly estimated. Information on all items of costs should be carefully collected and presented.

6. Operating requirements and costs - Information about all items of operating cost should be collected. Operating costs relate to cost of raw, materials and intermediaries, fuel, utilities, labour, repair and maintenance, selling expenses and other expenses.

7. Financial analysis – financial and fund flow analysis need to be carefully included.

8. Economic analysis: profit, return on investment, break even analysis, market share etc. need to be included.

Enterprise Resource Planning (ERP)

➢ Meaning and Importance

ERP serves as functional backbone of an enterprise that integrates and automates (Operates) many internal business processes and information systems within the manufacturing, distribution, accounting, finance, sales, logistic (Organizing) and human resource functions of a company.

"An Enterprise Resource Planning (ERP) system is a fully integrated business management software that covers functional areas of an enterprise like manufacturing, distribution, accounting, finance, sales, logistic and human resource"

➢ Importance of ERP

- ERP organizes and integrates operational processes and information flows to make optimum use of resources such as men, material, money and machine.
- It provides one database, one application, and one user interface for the entire enterprise.
- It gives a real time view of company's core business processes such as production, order processing, and inventory (Stock) management.
- ERP systems track business resources (such as cash, raw materials), and the status of commitments made by the business (such as customer orders,

purchase orders), no matter which department (manufacturing, accounting etc.) has entered the data into system.

- Reduce paper documents by providing online formats for quickly entering and retrieving information.
- Improves timeliness of information by updating data daily instead of monthly.
- Greater accuracy of information with detailed content, better presentation gives satisfactory for auditors.
- Improved cost control.
- Faster response and follow-up on customers.
- More efficient cash collection and reduction in delay in payments.
- Better monitoring and quicker resolution of queries.
- Enables quick response to change in business operations and market conditions.
- Helps to achieve competitive advantage by improving its business process.
- Provides a unified customer database usable by all applications.

➢ Supply chain management (SCM)

SCM helps a company to get the right products to the right place at the right time in the proper quantity and at an acceptable cost.

The goal of SCM is to efficiently manage the above process by forecasting (Predict or estimate) demand and controlling inventory.

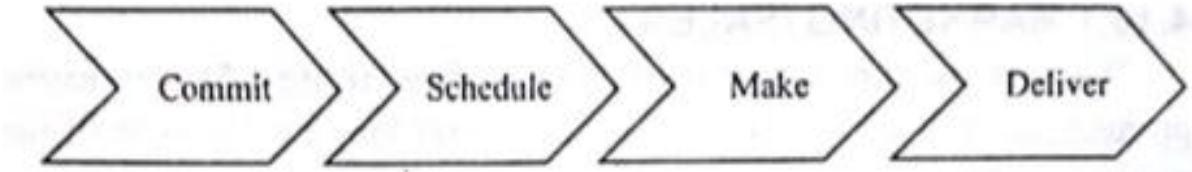
It enhance the network of business relationships of a company with its customers, suppliers, distributors and others. And receiving feedback on the status of every link in the supply chain.

The goal of SCM is to create a fast, efficient and low-cost network of business relationships, or supply chain to get a company's products from concept to market.

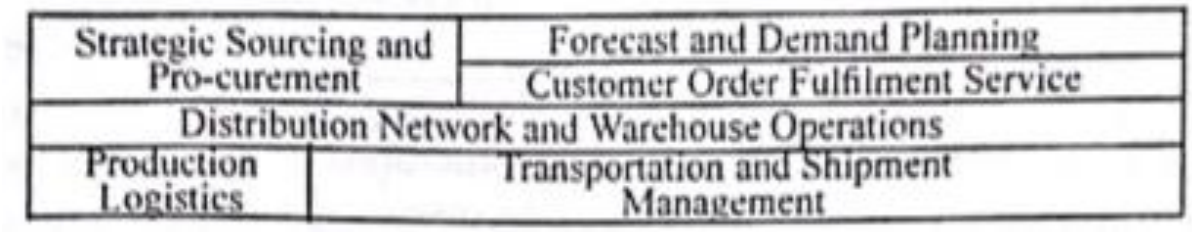
A supply chain is also called as a **value chain** since each supply chain process should add value to the products or services a company produces.

The objective is to significantly reduce costs, increase efficiency and improve their supply chain cycle times.

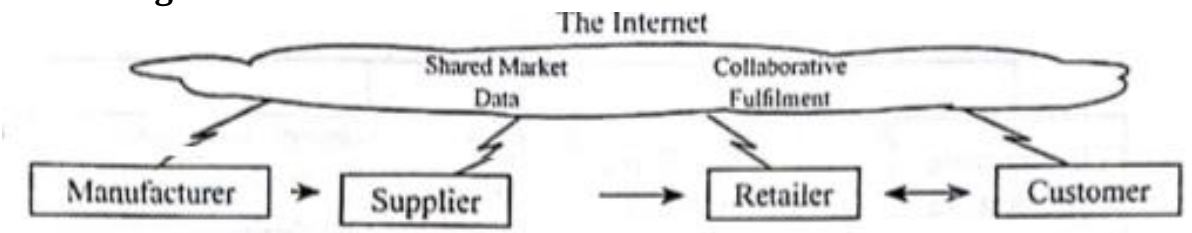
Supply chain life cycle –



SCM functional processes –



SCM integrated solution –



➢ Functional areas of management

The functional areas of management are

1. Marketing
2. Accounting
3. Finance
4. Operations management and
5. Human resource management

1. Marketing

- Customer relationship management
- Interactive marketing
- Sales force automation
- Market research and forecasting
- Advertising and Promotion
- Product management

2. Accounting

- Order processing
- inventory control
- Account receivable
- Account payable

- Payments
- General ledger

3. Finance

- Cash management
- Credit management
- Investment management
- Capital budgeting
- Financial forecasting

4. Production/Operations

- Manufacturing resource planning
- Manufacturing execution system
- Process control

5. Human Resource Management

- Compensation analysis
- Employee skills analysis
- Personal requirements
- Forecasting

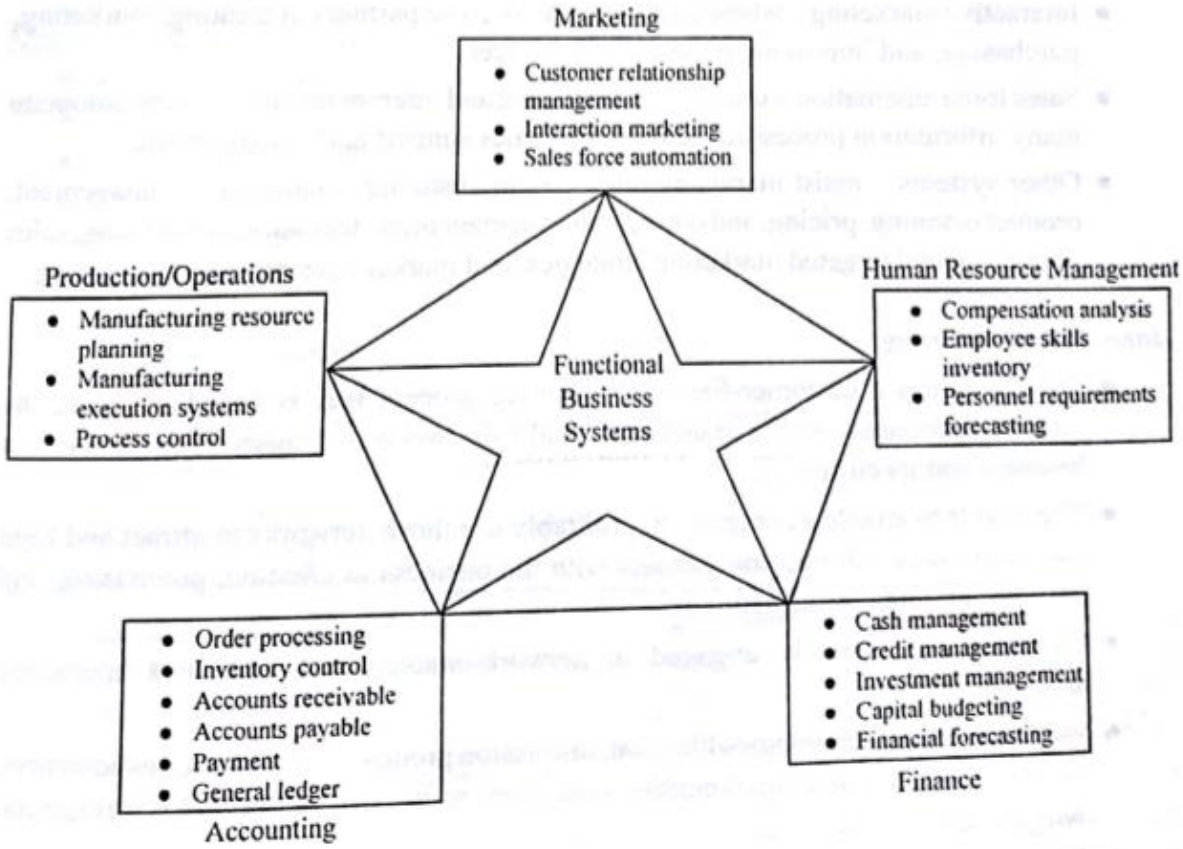


Figure: Functional areas of management

➢ **Marketing / Sales**

Figure: Marketing /Sales

The business functions of marketing which are shown in the above figure are Interactive marketing, Sales force automation, Customer relationship management, Sales management, Market research and forecasting, Advertising and promotion, Product management.

- **Interactive marketing**

Where customers can become partners in creating, marketing, purchasing, and improving the products and services.

- **Sales force automation**

Use mobile computing and internet technologies to automate information processing activities for sales support and management.

- **Customer-relationship management**

Customer-relationship management (CRM) is an approach to manage a company's interaction with current and potential customers.

It uses data analysis about customer's history with a company to improve business relationships with customers, specifically focusing on customer retention and increasing the sales growth

- **Sales management**

The sales management process monitors and measures each staff member's ability to either support sales or do the actual selling to customers.

- **Market research and forecasting**

A market forecast is a core component of a market analysis. It projects the future numbers, characteristics, and trends in your target market.

- **Accounting management**

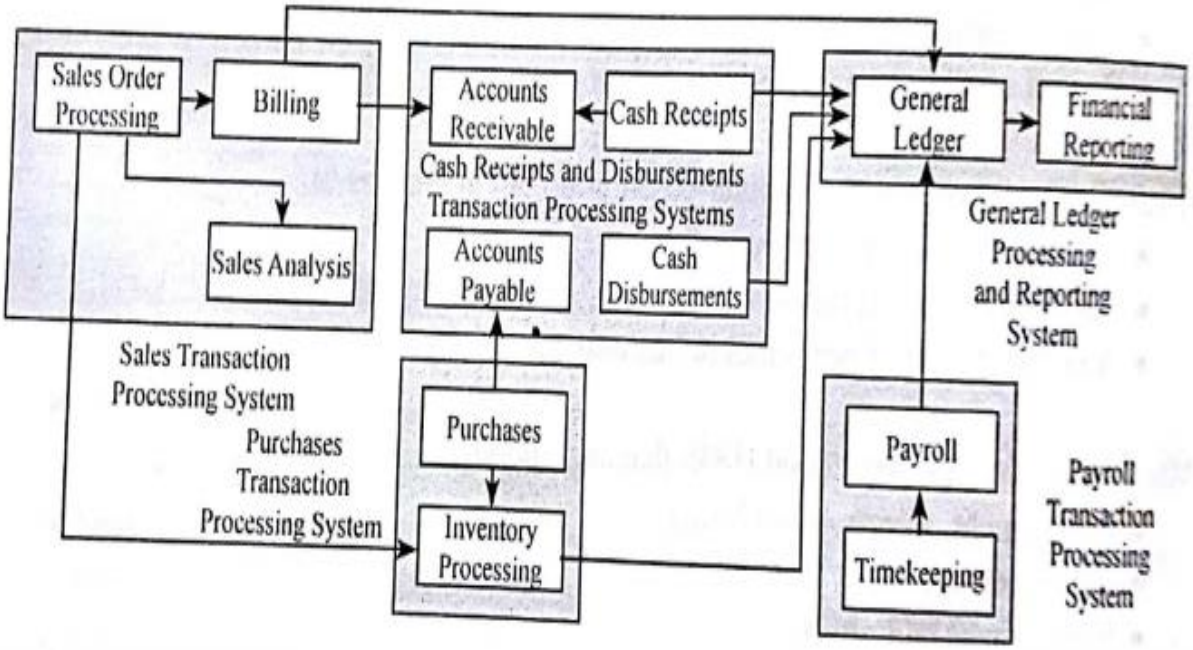


Figure: Accounting information system

Accounting information system as shown in the above figure, record and report business transactions and other economic events.

It includes different transaction processing systems such as order processing, inventory control, accounts receivable and accounts payable, payroll and general ledger systems.

- **Finance management**

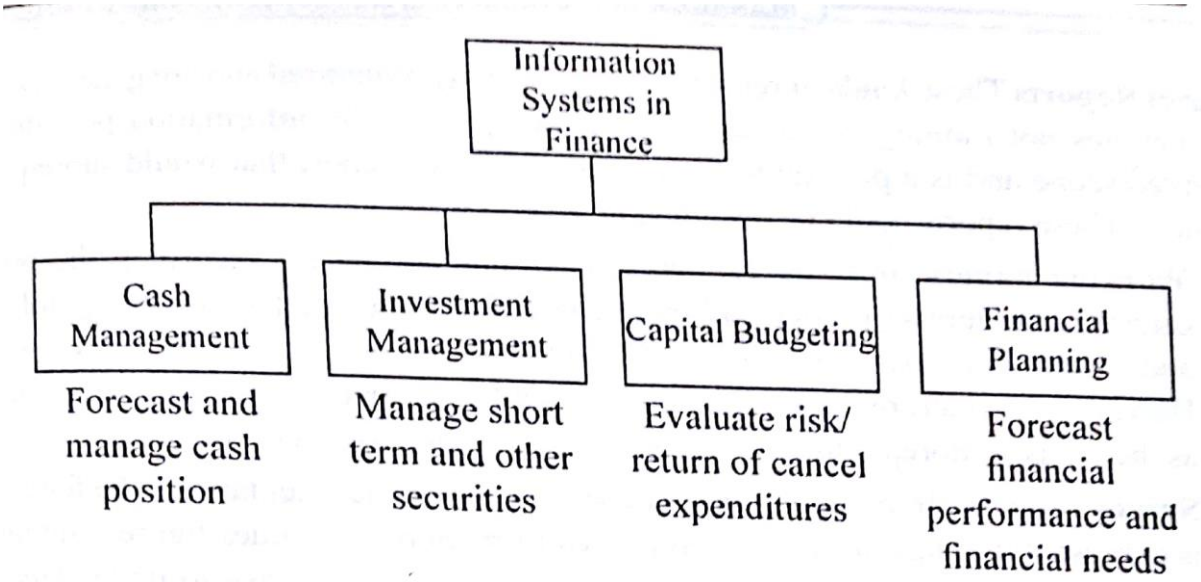


Figure: Financial management system

- **Cash management -** is the process of collecting and managing cash as well as using it for short-term investing. It is a key component of a company's financial stability.
- **Investment management -** is the process of ensuring that a company's tangible and intangible assets are maintained, accounted for, and put to their highest and best use.
- **Capital budgeting-** Involves evaluating the profitability and financial impact of proposed business. Which are analysed using return on investment (ROI) evaluation technique.

It uses spreadsheet models for analysis of expected cash flows, profitability and analysis of risk.

- **Financial planning -** Evaluate the present and projected financial performance of the business. Financial analysts use financial forecasts concerning the economic situation, business operations and type of financing available, interest rates etc. to develop an optimal financial plan of the business.

- **Human resources**

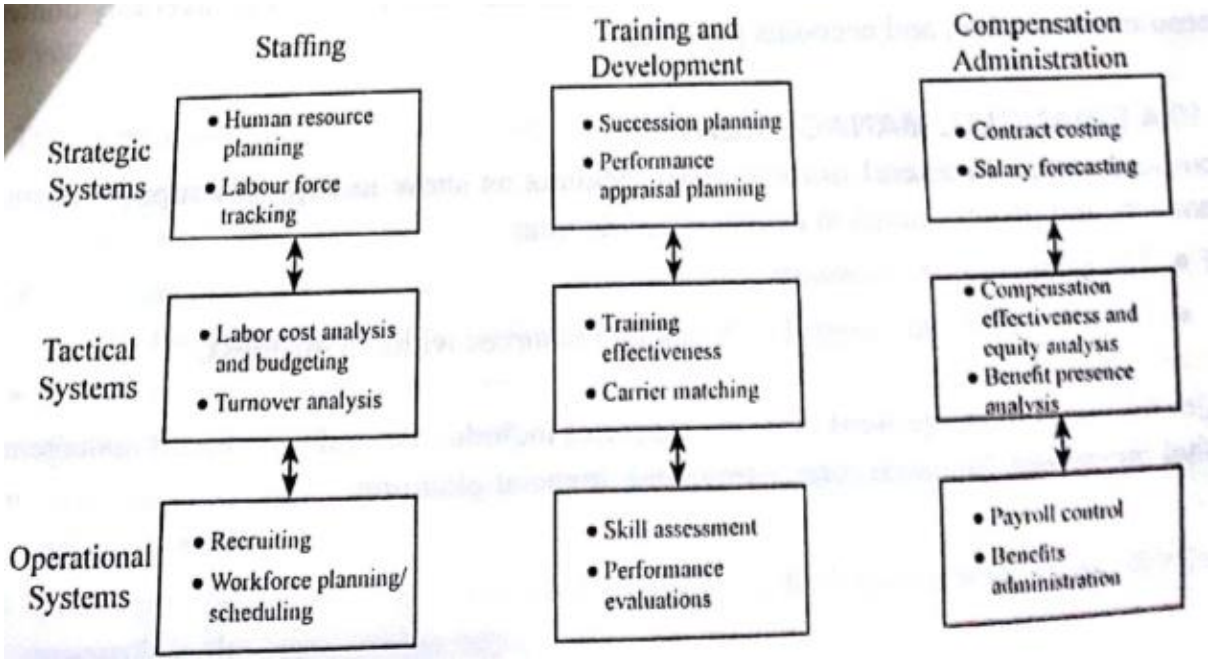


Figure: The Human Resource Management (HRM)

The Human Resource Management (HRM) involves the recruitment, selection, evaluation, compensation, and development of the employees of an organisation. The goal of HRM is the effective and efficient use of the human resource.
HRM plans to meet the personnel needs of the business. Train the employees to their full potential, Maintain personnel records and Analyse the use of personnel in business operations.

- **Types of reports**

1. **Brief reports** – these kind of reports are not formally structured and are generally short. Sometimes not running more than four to five pages. The Information provided has limited scope.

These reports could be designed in several ways.

- **Working papers or basic reports** - They are used to record the activities carried out in terms of scope and framework of study and methodology used. The results and findings would also be recorded here.

Focus is more on the present study rather than past literature.

- **Survey reports** – these reports are used to record past literature survey of different projects. Different methodology used, cost involved etc.

2. Detailed reports - These are more formal and could be academic, technical or business reports.

- **Technical reports** - These are major documents and would include all elements of the basic report.

This would have a complete problem background and any additional past data that are essential for understanding the problem.

All sources of data, sampling plan, data collection instrument(s), data analysis outputs would be formally and sequentially documented.

- **Business reports -** These reports include conclusions as understood by the business manager. The tables, figures and numbers of the first report would now be pictorially shown in terms of bar charts, and different graphs.

➢ Methods of report generation / Steps involved in report writing

1. Preliminary Section
2. Background Section
3. Methodology Section
4. Findings Section
5. Conclusions Section
6. Appendices

7 Bibliography

1. Preliminary Section

This section mainly consists of the following information

i. Title page - The cover page of the project report should contain the title of the project on top and the name/address (including phone numbers, website address and email id) so that the readers of the report (like investors) may easily contact you when required.

ii. Letter of authorization – the author of this letter is the business manager who formally gives permission for executing the project.

iii. Executive summary - The summary of the entire report, starting from the scope, objectives of the study, applications etc in brief.

iv. Table of contents - All reports should have a section that clearly indicates the division chapter name, number, main headings and sub headings.
v. Acknowledgement - A small note acknowledging the contribution of the respondents, and experts who provided input for accomplishing the study.

2. Background Section

i. Problem definition - This section begins with the formal definition of the research problem.
ii. Study background – it includes the literature survey. Study about various related projects their advantages and dis-advantages.
iii. Study scope and objectives - Scope of the study and what is the main goal of the study. Advantages of the proposed problem.

3. Methodology Section

The section specifies the details of how the research was conducted.

i. Research framework or design - The variables and concepts being investigated are clearly defined, with a clear reference to the relationship being studied.
ii. Data collection methods - In this section, the researcher should clearly list the information needed for the study and various sources of data.
iii. Data analysis – The assumptions and constraints are need to analysis here.
iv. Design – overall design, architecture, different modules, and algorithm /different methodology used need to be clearly mention.

4. Findings Section

Study results and findings – the expected result of the study and different finding on each module.

5. Conclusions Section – the conclusion of the report should summarize the key aspects of the report in comprehensive (clear) manner. It should end the report in positive note.

6. Appendices - Secondary information or supplementary data like articles, case studies, reference to some technical information need to mention.

7. Bibliography – this is the final section it provides complete details of the information sources and papers, journals referred for the study.

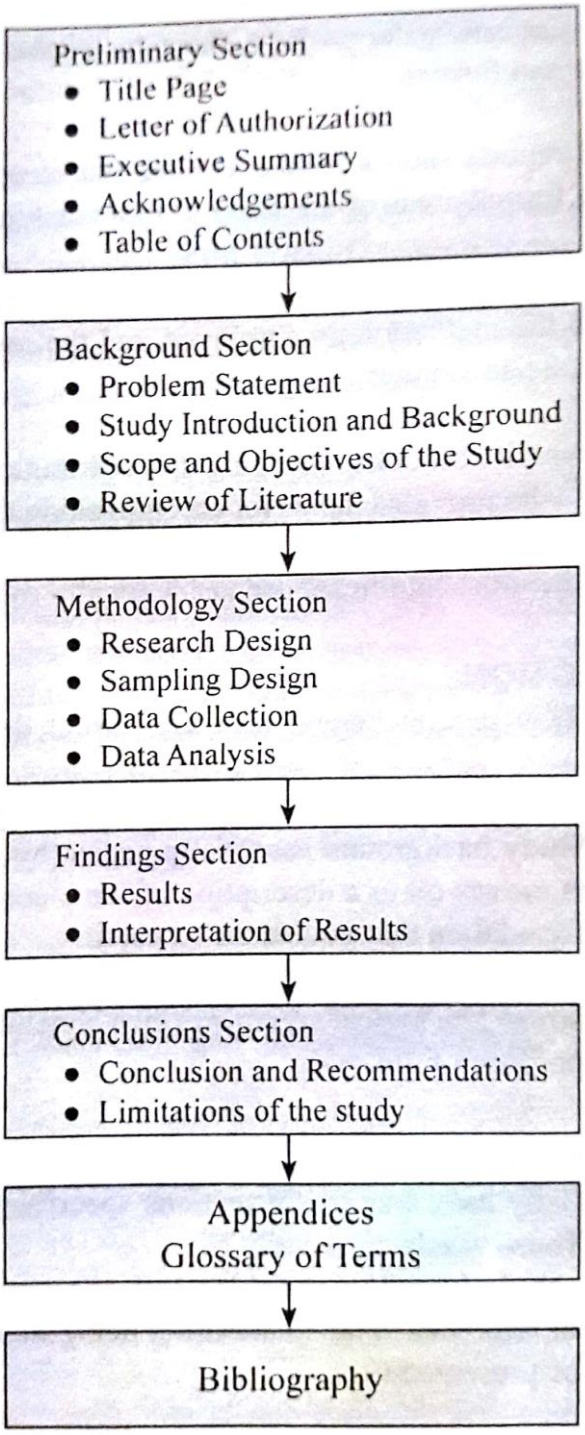


Figure: Steps involved in report writing