two criteria to judge feasibility are cost required and value to be attained. A well-designed feasibility study should provide a historical background of the business or project, a description of the product or service, accounting statements, details of the operations and management, marketing research and policies, financial data, legal requirements and tax obligations. Generally, feasibility studies precede technical development and project implementation.

A feasibility study evaluates the project's potential for success; therefore, perceived objectivity is an important factor in the credibility of the study for potential investors and lending institutions. It must, therefore, be conducted with an objective, unbiased approach to provide information upon which decisions can be based.

Investment proposals, involving huge capital outlay are invariably irreversible. Therefore, before starting a project/proposal, it is necessary and imperative to find out whether the same is feasible or not.

Feasibility is an analysis and evaluation of a proposed project to determine if it is

- Technically feasible
- Feasible within the estimated cost
- Profitable.

Feasibility studies are almost always conducted where large sums are at stake and are also called **Feasibility Analysis.**

Feasibility study is an assessment of the practicality of a proposed project or system.

Four Test for Feasibility

- **Operational feasibility** is a measure of how well the solution will in the organization. It is also a measure of how people feel about the system/project.
- **Technical feasibility** is a measure of the practicality of a specific technical solution and the availability of technical resources and expertise.
- **Schedule feasibility** is a measure of how reasonable the project timetable is.
- **Economic feasibility** is a measure of the cost effectiveness of a project or solution.

7.4.1 Types of Feasibility Analysis

This feasibility can be ascertained on following parameters:

(i) **Financial Feasibility**
(ii) **Commercial Feasibility**
(iii) **Technical Feasibility**
(iv) **Economic Feasibility**
(v) **Social Feasibility**
(vi) **Environmental feasibility**
(vii) **Legal feasibility**
(viii) **Operational feasibility**
(ix) **Schedule feasibility**
(x) **Market and real estate feasibility**
(xi) **Resource feasibility**

Each one is being discussed in brief below:

(i) **Financial Feasibility:** In order to ascertain financial viability, financial projections are made and on the basis of such projections which need to be objective and realistic, the **followings broad parameters are evaluated for determining the feasibility of the project:**

- Return on Investment
- Payback period of the outlay
- Internal rate of return
- Profitability index.

In case of a new project, financial viability can be judged on the following parameters:

- Total estimated cost of the project
- Financing of the project in terms of its capital structure, debt to equity ratio and promoter's share of total cost
- Existing investment by the promoter in any other business
- Projected cash flow and profitability

The financial viability of a project should provide the following information

- Full details of the assets to be financed and how liquid those assets are
- Rate of conversion to cash-liquidity

particular area/region have a significant impact on the existence of an enterprise. Therefore, it is necessary to ascertain the environment viability as well. The parameters considered are

- Overall protection of public and environmental health
- Effective reduction of hazardous waste toxicity, mobility and volume.
- Long-term and short-term effectiveness of environmental policies of the company
- Potential consequences of the remedial measures taken for protecting environment

(vii) Legal feasibility - It should first be determined whether the proposed project conflicts with legal requirements, and if the proposed venture is acceptable in accordance to the laws of the land. The project team has to make a thorough analysis of the legal issues surrounding the project, across several dimensions. A detailed legal due diligence should be done to ensure that all foreseeable legal requirements, which have not or will not be dealt with, in other appraisal exercises, are met for the development of the project.

The main objectives of the legal feasibility analysis are as follows.

- To ensure that the project is legally doable;
- To facilitate risk management, indicating the risks and obstacles that need to be addressed within the technical analyses, the financial model and/or the Value for Money analysis; and
- To avoid, to the extent possible, major problems in the project's development and implementation, specifying the requirements that need to be considered at subsequent stages of the **PPP process. [public private partnership]**

(viii) Operational feasibility - Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. The operational feasibility assessment focuses on the degree to which the proposed development projects fits in with the existing business environment and objectives with regard to **development schedule, delivery date, corporate culture and existing business processes.**

To ensure success, desired operational outcomes must be imparted during design and development. These include such design-dependent parameters as **reliability, maintainability, supportability, usability,**

producibility, disposability, sustainability, affordability and others. These parameters are required to be considered at the early stages of design if desired operational behaviours are to be realised.

(ix) Schedule feasibility - A project will fail if it takes too long to be completed before it is useful. Typically this means estimating how long the system will take to develop, and if it can be completed in a given time period using some methods like payback period. Schedule feasibility is a measure of how reasonable the project timetable is. Some projects are initiated with specific deadlines. It is necessary to determine whether the deadlines are mandatory or desirable. To do proper scheduling, the versatile techniques like **PERT & CPM** are adopted.

(x) Market and real estate feasibility - Market feasibility studies involve testing geographic locations for a real estate development project, and usually involve parcels of real estate land. Developers often conduct market studies to determine the best location within a jurisdiction, and to test alternative land uses for given parcels. Jurisdictions often require developers to complete feasibility studies before they will approve a permit application for retail, commercial, industrial, manufacturing, housing, office or mixed-use project. Market Feasibility takes into account the importance of the business in the selected area.

(xi) Resource feasibility - This involves questions such as how much time is available to build the new system, when it can be built, whether it interferes with normal business operations, type and amount of resources required, dependencies, and developmental procedures with company revenue prospects.

There are resources necessary to complete any project. All the important resources like human resource, artificial resources, financial resource etc. are taken care of by indulging in complete research on feasibility of the resources needed to complete the project.

7.4.2 Steps involved in Conducting a Feasibility Study

(i) Conduct a Preliminary Analysis - The primary purpose of the preliminary analysis is to screen project ideas before extensive time, effort, and money are invested. Two sets of activities are involved. **In this step** the planned services, target markets, and unique characteristics of the services are described or outlined, as specifically as possible by **answering following questions:**

- Does the practice serve a currently unserved need?
- Does the practice serve an existing market in which demand exceeds supply?
- Can the practice successfully compete with existing practices?
- Are capital requirements for entry or continuing operations unavailable or unaffordable?
- Do any factors prevent effective marketing to any or all referral sources?

If the information gathered so far indicates that the idea has potential, then it is continued with a detailed feasibility study.

(ii) **Prepare a Projected Income Statement** - Anticipated income must cover direct and indirect costs, taking into account the expected income growth curve. Working backward from the anticipated income, the revenue necessary to generate that income can be derived in order to build a projected income statement. Factors that determine this statement are services provided, fees for services, volume of services, and adjustments to revenues etc.

(iii) **Conduct a Market Survey** - A good market survey is crucial. If the planner cannot perform this survey, an outside firm should be hired. The primary objective of a market survey is a realistic projection of revenues. **The major steps include:**

- Defining the geographic influence on the market.
- Reviewing population trends, demographic features, cultural factors, and purchasing power in the community.
- Analyzing competing services in the community to determine their major strengths and weaknesses. Factors to consider include pricing, product lines, sources of referral, location, promotional activities, quality of service, consumer loyalty and satisfaction, and sales.
- Determining total volume in the market area and estimate expected market share.
- Estimating market expansion opportunities (e.g., responsiveness to new/enhanced services).

(iv) **Plan Business Organization and Operations** - At this point, the organization and operations of the business should be planned in sufficient depth to determine the technical feasibility and costs

involved in start-up, fixed investment, and operations. Extensive effort is necessary to develop detailed plans for:

- Equipment
- Merchandising methods
- Facility location and design & layout
- Availability and cost of personnel
- Supply availability (e.g., vendors, pricing schedules exclusive or franchised products)
- Overheads

(v) **Prepare an Opening Day Balance Sheet** - The Opening Day Balance Sheet should reflect the practice's assets and liabilities as accurately as possible at the time the practice begins, before the practice generates income. Prepare a list of assets required for practice operations. The list should include item, source, cost, and available financing methods. Necessary assets include everything from cash necessary for working capital to buildings and land. Although the resulting list is rather simple, the amount of effort required may be extensive. Liabilities to be incurred and the investment required by the practice must also be clarified. **These items need to be considered:**

- Whether to lease or buy land, buildings, and equipment
- Method to finance asset purchases
- Way to finance accounts receivable

(vi) **Review and Analyze All Data** - The planner should determine if any data or analysis performed should change any of the preceding analyses. Basically, this step means is based on the principle **"Step back and reflect one more time."** Re-examine the Projected Income Statement and compare with the list of desired assets and the Opening Day Balance Sheet. It is good to find out that all expenses and liabilities, in the Income Statement are reflecting realistic expectations. Risk and contingencies are Analyzed for Considering the likelihood of significant changes in the current market that could alter projections.

(vii) **Make "Go/No Go" Decision or Green/red signal decisions**

All the preceding steps have been aimed at providing data and analysis for the "go/no go" decision. If the analysis indicates that the business should yield at least the desired minimum income and has growth potential, a "go" decision is appropriate. Anything less, than the desired result, will imply a **"no go"** decision. **Additional considerations include answers to following questions:**

- Is there a commitment to make the necessary sacrifices in time, effort and money?
- Will the activity satisfy long-term aspirations?

7.4.3. Objectives of feasibility analysis

Businesses undertake feasibility studies to determine if a proposed strategic action is operationally viable and will produce the desired results. The studies enable company leaders to understand both positive and negative impacts before making a change.

The main objectives of carrying out a feasibility analysis are:

(*i*) To determine the outcome of the proposed action.

(*ii*) To ascertain whether it will work as anticipated and generate the projected revenue or anticipated cost savings.

(*iii*) To identify the customers in the current and potential market

(*iv*) To learn more about customers' current and future needs,

(*v*) To gauge interest of the customer in the product or service that is being offered.

(*vi*) To determine whether the primary customers will need the new product or service and how much they can and will pay.

(*vii*) To determine if the product will be satisfactory.

(*viii*) To ascertain company's strengths, weaknesses and position in the marketplace

(*ix*) To determine the financial benefits of the action vs its costs.

(*x*) To gauge the competitor's strengths and weakness and take corrective actions while carrying out the feasibility analysis.

7.4.4. Advantages of feasibility analysis

Effective feasibility studies can do more than just help executives choose which projects to **green light.** Managers involved in a feasibility study can actually use much of the same data to shape the project planning process.

Four main advantages to feasibility studies can generate crucial insight for approved projects.

(*i*) **Helps in Understanding Demand -** Feasibility studies always analyze whether a real demand exists for a product or a service. This holds true for internal projects as well as for potential consumer offerings. This way, project managers can avoid spending resources on features or projects with low impact and low demand among end users.

(*ii*) **Helps in Assessing Resources -** Another of the advantages of feasibility studies is the opportunity to catalogue the current resources available for a project and to estimate the need for additional resources. Feasibility studies that recommend against projects often cite a lack of human resources or financial capital.

(*iii*) **Helps in ascertaining Marketing Feasibility -** Even for products and services with measurable demand, companies must examine their ability to spread the word about a new offering. During the evaluation process, project managers learn whether the market is already over saturated with stronger competitors. Company leaders can also discover any potential legal roadblocks involving trademarks, patents, or other intellectual property rights.

(*iv*) **Helps in Marking a Timeline -** One of the biggest advantages of a feasibility study is the validation of a prospective timeline. When moving into a formal project planning phase, a project manager can use data generated by the study to help set milestones and deadlines. A quality feasibility study examines the timetable suggested by project sponsors for potential delays or breakdowns.

7.5 DESIGNING A FEASIBILITY REPORT

a feasibility study is one of the key activities within the project initiation phase. It aims to analyze and justify the project in terms of technical feasibility, business viability and cost-effectiveness. The study serves as a way to prove the project's reasonability and justify the need for launch. Once the study is done, a feasibility study report (FSR) should be developed to summarize the activity and state if the particular project is realistic and practical.

Let us learn what FSR means and contents of a good feasibility report

7.5.1. Feasibility Study Report (FSR) meaning - It is just a document that aims to identify, explore, and evaluate a project's solutions to save time and money. The following definition gives a broader understanding of the document: A Feasibility Study Report (FSR) is a formally documented output of feasibility study that summarizes results of the analysis and evaluations conducted to review the proposed solution and investigate project alternatives for the purpose of identifying if the project is really feasible, cost-effective and profitable. It describes and supports the most feasible solution applicable to the project.

The report gives a brief description of the project and some backgroun information. Formally this document is the starting point for running th Pre-Charter Sub-Phase. In practice, it signifies that the sponsor can procee with deciding on project investment and make necessary assignments to the project manager.

7.5.2 Importance of FSR

The process to write the report is called feasibility study reporting. Often it is a responsibility of the project manager to control such a process.

The importance of writing the report can be summarised as follows:

(i) It helps in providing legal and technical evidence of the project's vitality, sustainability and cost-effectiveness.

(ii) The reporting process allows the senior management to get the necessary information required for making key decisions on budgeting and investment planning.

(iii) A well-written feasibility study report template helps in developing solutions for Project Analysis

(iv) FSR helps link project efficiency to budgeted costs.

(v) It helps in Risk Mitigation because it helps with contingency planning and risk treatment strategy development.

(vi) The report can be used by senior management to identify staffing needs as well as acquire and train necessary specialists.

7.5.3 Steps in Writing A FSR

(i) **Write Project Description** - At this step, you need to collect background information on your project to write the description. A brief and candid description will help the reader to know the purpose of the FSR.

(ii) **Describe Possible Solutions** - In this step you are required to perform an alternatives analysis and make a description of possible solutions for your project.

(iii) **List Evaluation Criteria** - Under this third step, set and define evaluation criteria for possible solutions. This step of feasibility study report writing requires you to investigate the solutions and put them against a set of evaluation criteria.

(iv) **Propose the Most Feasible Solution** - The next step for writing a feasibility study report is to determine the most economically reasonable and technically feasible solution which lets the company (1) keep to optimal use of project resources and (2) gain the best possible benefit. **The report might include:** "After the evaluation of the possible solutions, the most feasible solution for this project is identified and selected, so the project turns to be cost-effective, vital and practical."

(v) **Write Conclusions** - The final step of the feasibility study reporting process requires you to make a conclusion by summarizing the project's aim and stating the most feasible solution.

7.5.4 Contents of a Feasibility Report

The content of sample feasibility report is formatted and structured according to a range of requirements which may vary from organization to organization but there are common suggestions, which are listed below.

(i) **Title page or Front Matter**

To begin with writing a sample feasibility report, first you need to create a title page that provides a descriptive yet concise title, containing the name of the writer, email, job position, and also the organization for which you are writing the report.

Next, you must include an itemized list of contents that provides headings and sub-headings sequenced the same way as they are structured in the report body. Also add a list of all material such as tables, figures, illustrations, annexes etc. which have been used within the document.

Keep in mind that the title page should not be numbered and that no more than 4-5 pages should be dedicated to the front matter.

(ii) **Body of the Report**

There are many different styles and requirements for formatting the body of feasibility study report, it may be difficult to select right format. However, there are several common suggestions which are as follows:

- Each page of the report body needs to include a descriptive header with an abbreviated title for the report, the author's name and page number
- Structure the report by headings and sub-headings and indicate this structure within the document content
- Make sure headings are properly formatted (i.e., flush left, indented, etc.) on each page
- Use the same style for headings throughout the entire report template
- Never use too larger or too small font (font should have a professional look, 10-12 point)