Creating a project team and appointing a project leader

The first step in feasibility analysis involves forming a project team. The teamconsists of analysts and user staff. In some cases, an outside consultant andan information specialist are required to join the team until the job iscompleted.Projects are planned to consume a time period ranging fromseveral weeks to months. The senior system analyst is generally appointed asproject leader. This assignment is temporary and lasting till the completion ofthe project. Regular meetings take place to keep up the progress andaccomplish the mission by selecting the best candidate system. A record iskept of the progress made in each meeting.

Designing system flowcharts

The next step in feasibility study is to prepare a system flowchart for the system. Information-oriented charts and data flow diagrams prepared in the initial investigation are reviewed at this time. The system flowchart introduces the importance of inputs, outputs and data flow among key points in the existing system.

Enumerating potential candidate systems

This step identifies the candidate systems which are capable of producing the outputs included in the flowcharts. This requires a transition from logical to physical system models. Another motive of this phase is the consideration of the hardware that can handle the total system requirements such as CPU processing speed and main memory capabilities.

Describing and identifyingthe characteristics of candidate system

In this step, the analysis is mainly based on what each candidate system can and cannot do. For determining the characteristics of candidate system, technical knowledge and expertise in the hardware/software area arechallenging work for determining what each candidate system can and cannot do. The information along with additional data through the vendor focus on the positive and negative features of each system. The constraints unique to each system are also to be mentioned.

of initial investigation. The system's benefits are analysed and transformed them into measurable objectives.

7.6 DESCRIPTION OF OUTPUTS

The final step is to describe the outputs required by the customer. An actual sketch of the format and contents of the reports are prepared here. Further, a specification of the media used, their frequency and the size and number of copies required are organizedat this point. Finally, the analyst can go for evaluating the feasibility of candidate system in order to produce these outputs.

7.7 FEASIBILITY CONSIDERATIONS

Feasibility study can be considered as preliminary investigation that helps the management to take decision about whether study of the proposed system should be feasible for development or not. A feasibility study is basically an analysis that considers all relevant factorsof a project including economic, technical, legal, and behavioural considerations in order to ensure the likelihood of completing the project successfully.

Whether a project is feasible or not can depend on several factors, including the project's cost and return on investment which means whether the project will generate enough revenue or sales from consumers.For example, a feasibility study could help to determine whether a hospital can generate enough donations and invest money to expand and build a new cancer centre.

Although feasibility studies can help project managers to determine the risk and return of pursuing a plan of action, several steps and best practices should be considered before moving forward.

A feasibility study is a test of a system proposal according to its workability, impact on the organization, ability to meet user needs, and effective use of resources. It focuses on three major questions:

1. What are the user's demonstrable needs and how does a candidate system meet them?

2. What resources are available for given candidate systems? Is the problem worth solving?
3. What is the likely impact of the candidate system on the organization?

Each of these questions must be answered carefully. They revolve around investigation and evaluation of the problem, identification and description of candidate systems, specification or performance and the cost of each system and final selection of the best system.

The objective of feasibility study is not to solve the problem but to acquire a sense of its scope. During the study, the problem definition is preserved and aspects of the problem to be included in the system are determined. Consequently, costs and benefits are estimated with greater accuracy at this stage. The result of the feasibility study is a formal proposal. This is simply a report- a formal document detailing the nature and scope of the proposed solution. The proposal summarizes what is known and what is going to be done. It consists of the following:

1. **Statement of the problem** - a carefully worded statement of the problem that led to analysis.
2. **Summary of findings and recommendations**- a list of the major findings and recommendations of the study. It is ideal for the user who requires quick access to the results of the analysis of the system under study. Conclusions are stated followed by a list of the recommendations and a justification for them.
3. **Details of findings**- an outline of the methods and procedures undertaken by the existing system followed by coverage of the objectives and procedures of the candidate system. It also includes the discussions of output reports, file structures, and costs and benefits of the candidate system.
4. **Recommendations and conclusions**- specific recommendations regarding the candidate system including personnel assignments, costs, project schedules, and target dates.

Importance of Feasibility Study:

The importance of a feasibility study is based on organizational desire to “get it right” before committing resources, time, or budget. A feasibility study might uncover new ideas that could completely change a project’s scope. It’s best to make these determinations in advance, rather than to jump in and to learn that the project won’t work. Conducting a feasibility study is always beneficial to the project as it gives you and other stakeholders a clear picture of the proposed project.

Below are some key benefits of conducting a feasibility study:

- Improves project teams’ focus
- Identifies new opportunities
- Provides valuable information for a “go/no-go” decision
- Narrows the business alternatives
- Identifies a valid reason to undertake the project
- Enhances the success rate by evaluating multiple parameters
- Aids decision-making on the project
- Identifies reasons not to proceed

7.8 STEPS IN FEASIBILITY ANALYSIS

Feasibility analysis is accomplished through the following eight steps:

1. Creating a project team and appointing a project leader.
2. Designing system flowcharts.
3. Enumerate potential candidate systems.
4. Describing and identifying the characteristics of candidate system.
5. Determine and evaluate performance and cost effectiveness of each candidate system.
6. Weight the performance and cost effectiveness of each candidate system.
7. Rank the other alternatives and select the best candidate system.
8. Prepare a system proposal of final project directive to management for approval.

fulfilled by completing the project. It also examines how a project plan satisfies the requirements identified in the requirements analysis phase of system development.

Scheduling Feasibility

This assessment is the most important for project success.A project may fail if not completed on time. In scheduling feasibility, an organization estimates how much time the project will take to complete.When these areas have all been examined, the feasibility analysis helps to identify any constraints the proposed project may face.



CHECK YOUR PROGRESS

Q.1: Choose the correct options from the followings:

a) Which of the following is among the aspects of technical feasibility study?
   i. Demand ii. Location iii. Security
   iv. Instruction

b) A feasibility study
   i. includes a statement of the problems
   ii. considers a single solutions
   iii. both (a) and (b)
   iv. a list of alternative solution considered

c) The main objective of feasibility study is
   i. to assess whether it is possible to meet the requirements specifications
   ii. to assess if it is possible to meet the requirements specified subject to constraints of budget, human resource and hardware
   iii. to assist the management in implementing the desired system
   iv. to remove bottlenecks in implementing the desired system

Benefits of a Feasibility Study:

There are several benefits to feasibility studies which includes:

1. It helps project managers to determine the pros and cons of undertaking a project before investing a significant amount of time and capital into it.
2. It provides a company's management team with crucial information that could prevent them from entering into a risky business venture.
3. It also helps companies with new business development, including determining how it will operate, potential obstacles, competition, market analysis, and the amount and source of financing needed to grow the business.

Best Practices for Conducting a Feasibility Study:

Although each project can have unique goals and needs, below are some best practices for conducting a feasibility study:

- Conducting a preliminary analysis, which involves getting feedback about the new concept from the appropriate stakeholders.
- Analysing and asking questions about the data obtained in the early phase of the study to make sure that data are perfect.
- Conducting a market survey or market research to identify the market demand and opportunity for pursuing the project or business.
- Preparing an organizational, operational, or business plan, including identifying the amount of labour needed, at what cost, and for how long
- Making a projected income statement, which includes revenue, operating costs, and profit.
- Preparing an opening day balance sheet.
- Identifying obstacles and any potential vulnerabilities, as well as how to deal with them.

A feasibility analysis evaluates the project's potential for success and therefore, apparent objectivity is an essential factor in the credibility of the study for potential investors and lending institutions. There are three key classes of feasibility studies each of which are separately examined in the following:

7.7.1 Economic Feasibility

This assessment typically focuses on cost/ benefits analysis of the project, helping organizations to determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility by helping decision-makers to fix the positive economic benefits to the organization that the proposed project will provide. If benefits outweigh costs, then the decision is finalised to design and implement the system. Otherwise, further review is to be made in the proposed system.

The financial and economic questions raised by analysts during the preliminary investigation include the following: a) The cost to conduct a full systems investigation.b) The cost of hardware and software for the class of application being considered.

7.7.2 Technical Feasibility

This assessment focuses on the technical resources (hardware, software, etc.) available to the organization and to what extent it can support the proposed system. It aids organizations to determine whether the technical resources meet capacity and whether the technical team is capable of converting these new ideas into working systems. The availability of the hardware, software, and other technical requirements like power supply of the proposed system are considered in technical feasibility study.The technical challenges usually involved during the feasibility stage of the investigation which includes the following:

1. Does the necessary technology exist to do what is suggested?
2. Does the proposed equipment have the technical capacity to hold the data required to use the new system?
3. Will the proposed system provide adequate responses to inquiries, regardless of the number or location of users?
4. Can the system be expanded if developed?

5. Are there technical guarantees of accuracy, reliability, ease of access, and data security?

For example, if the proposal includes a printer that prints at the rate of 15,000 lines per minute, a brief search shows that this specification is technically feasible. On the other hand, if a user is requesting voice input to write, read, and change stored data, the proposal may not be technically feasible.On the other hand, if new proposal requires additional hardware, financial liabilities are also to be considered.

7.7.3 Behavioural Feasibility

It evaluates and estimates the user attitude or behaviour towards the development of new system.It is known to all that computer installation in an organization can turnover and change in employee job status. It helps in determining whether the system needs special effort to educate, retrain, transfer, and changes in employee's job status on new ways of conducting business. An estimate should be made of how strong a user staff shows reaction toward the development of a computerised system.

In addition to these three key feasibility considerations, some other feasibility studies can also be reviewed which are explained here.

Legal Feasibility

This assessment investigates whether any aspect of the proposed project conflicts with legal requirements like zoning laws, data protection acts or social media laws. Let's consider an organization wants to construct a new office building in a specific location. A feasibility study might reveal that the organization's ideal location isn't zoned for that type of business. That organization has just saved considerable time and effort by learning that their project was not feasible right from the beginning.

Operational Feasibility

This feasibility study involves undertaking a study to analyse and determine whether and how wellthe organization's needs can be