Unit 2: Feasibility, Scope and Objectives of the System

AGENDA

- Technical, Operational and Financial Feasibility
- Request Approval
- Project Selection Requirement and Methods
- Steering Committee
- Information System Group
- Scope
- Boundary and Objective of the Project Undertaken

Feasibility Study

- Feasibility Study can be considered as preliminary investigation that helps the management to take decision about whether study of system should be feasible for development or not.
- It identifies the possibility of **improving an existing system**, **developing a new system**, and **produce refined estimates** for further development of system.
- It is used to obtain the outline of the problem and decide whether feasible or appropriate solution exists or not.
- **The main objective of a feasibility study is to acquire problem scope instead of solving the problem**.
- The output of a feasibility study is a formal system proposal act as decision document which includes the complete nature and scope of the proposed system.

Feasibility Study

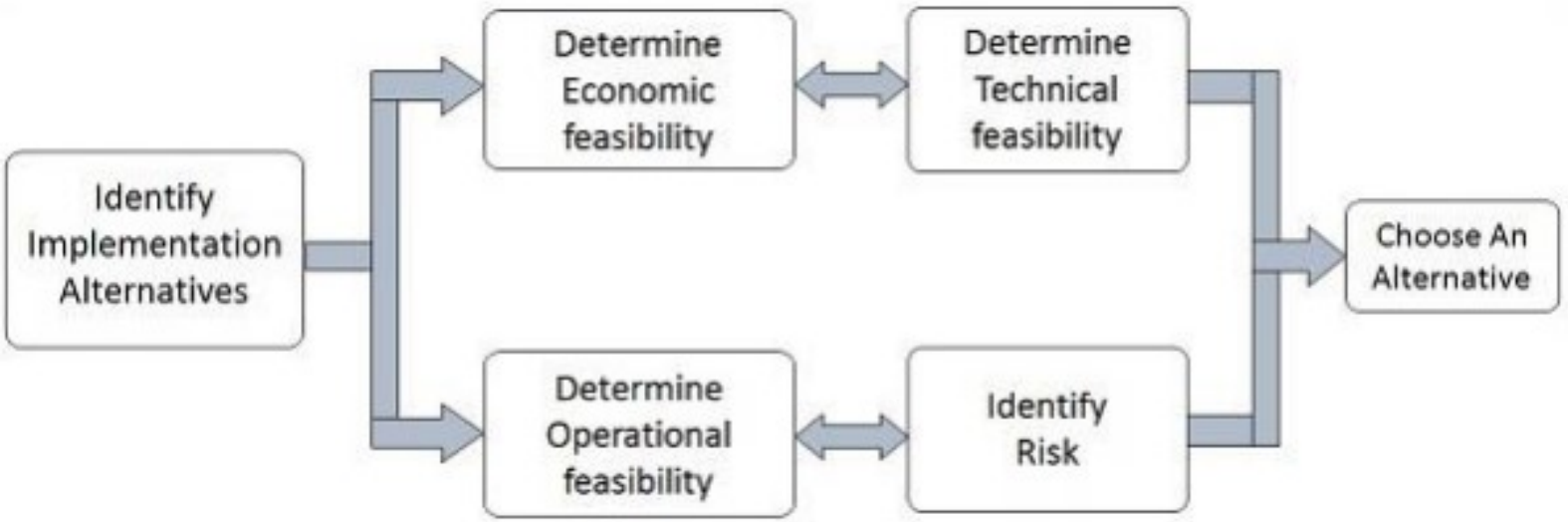
- Steps Involved in Feasibility Analysis
- The following steps are to be followed while performing feasibility analysis:
  - Form a project team and appoint a project leader.
  - Develop system flowcharts.
  - Identify the deficiencies of current system and set goals.
  - Enumerate the alternative solution or potential candidate system to meet goals.
  - Determine the feasibility of each alternative such as technical feasibility, operational feasibility, etc.
  - Weight the performance and cost effectiveness of each candidate system.
  - Rank the other alternatives and select the best candidate system.
  - Prepare a system proposal of final project directive to management for approval.

Feasibility Study

- **Aim of feasibility study**
- The overall objective of the organization are covered and contributed by the system or not.
- The implementation of the system be done using current technology or not.
- Can the system be integrated with the other system which are already exist?

Feasibility Study

- Feasibility Study



- **Types of Feasibilities**
- Technical Feasibility
- Operational Feasibility
- Economic Feasibility
- Behavioural Feasibility
- Schedule Feasibility
- Legal Feasibility

Feasibility Study

- **Technical Feasibility**
- In Technical Feasibility current resources both hardware software along with required technology are analyzed/assessed to develop project.
- Technical feasibility study gives report whether there exists correct required resources and technologies which will be used for project development.
- It also analyzes technical skills and capabilities of technical team, existing technology can be used or not, maintenance and up-gradation is easy or not for chosen technology etc.

Feasibility Study

- **Operational Feasibility**
- It determines whether the system is operating effectively once it is developed and implemented.
- It ensures that the management should support the proposed system and its working feasible in the current organizational environment.
- It analyzes whether the users will be affected and they accept the modified or new business methods that affect the possible system benefits.
- It also ensures that the computer resources and network architecture of candidate system are workable

Feasibility Study

- **Economic Feasibility**
- In Economic Feasibility study cost and benefit of the project is analyzed.
- A detail analysis is carried out about what will be cost of the project for development which includes all required cost for final development like hardware and software resource required, design and development cost and operational cost and so on.
- After that it is analyzed whether project will be beneficial in terms of finance for organization or not.

Feasibility Study

- **Behavioural Feasibility**
- It evaluates and estimates the user attitude or behaviour towards the development of new system.
- It helps in determining if the system requires special effort to educate, retrain, transfer, and changes in employee's job status on new ways of conducting business.
- **Schedule Feasibility**
- It ensures that the project should be completed within given time constraint or schedule.
- It also verifies and validates whether the deadlines of project are reasonable or not.

Feasibility Study

- **Legal Feasibility**
- In Legal Feasibility study project is analyzed in legality point of view. This includes analyzing barriers of legal implementation of project, data protection acts or social media laws, project certificate, license, copyright etc.
- Overall it can be said that Legal Feasibility Study is study to know if proposed project conform legal and ethical requirements.

Request Approval

- **Why System Projects?**
- Systems projects are initiated for different reasons. The most important reasons are:
- (a) CAPABILITY
- Business activities are influenced by an organisation's ability to process transactions quickly and efficiently.
- Information systems add capability in three ways:
- *(i) Improved processing speed*: The inherent speed with which computers process data is one reason why organisations seek the development of systems projects.
- *(ii) Increased volume:* Provide capacity to process a greater amount of activity, perhaps to take advantage of new business opportunities.

Request Approval

- (iii) *Faster retrieval of information*: Locating and retrieving information from storage. The ability in conducting complex searches.
- (b) CONTROL
- (i) *Greater accuracy and consistency*: Carrying out computing steps, including arithmetic, correctly and consistently.
- (ii) *Better security*: Safeguarding sensitive and important data in a form that is accessible only to authorised personnel.
- (c) COMMUNICATION
- (i) *Enhanced communication*: Speeding the flow of information and messages between remote locations as well as within offices. This includes the transmission of documents within offices.
- (ii) *Integration of business areas*: Coordinating business activities taking place in separate areas of an organisation, through capture and distribution of information.

Request Approval

- (d) COST
- (i) *Monitor costs*: Tracking the costs of labour, goods and overhead is essential to determine whether a firm is performing in line with expectations - within budget.
- (ii) *Reduce costs*: Using computing capability to process data at a lower cost than possible with other methods, while maintaining accuracy and performance levels.

Request Approval

- (e) COMPETITIVENESS
- (i) *Lock in customers*: Changing the relationship with and services provided to customers in such a way that they will not think of changing suppliers.
- (ii) *Lock out competitors*: Reducing the chances of entering the competitors in the same market because of good information systems being used in the organisation.
- (iii) *Improve arrangements with suppliers*: Changing the pricing, service delivery arrangements, or relationship between suppliers and the organisation to benefit the firm.
- (iv) *New product development*: Introducing new products with characteristics that use or are influenced by information technology.

Project Selection Requirement and Methods

- **Sources of Project Requests**
- There are mainly four primary sources of project requests.
- The requesters inside the organization: Department Managers, Senior Executives, Systems Analysts, and Government agencies outside the organization.
- Requests from Department Managers
- Department managers who deal with day-to-day business activities are looking for assistance within their departments.
- They are often not satisfied with the amount of time that the staff takes to complete the job and duplication of work they require to do.
- In this case, the manager will discuss this problem with other administrators regarding their clerical as well as processing work and persuade higher authority to approve the development of a computer-based system for office administration.

Project Selection Requirement and Methods

- Requests from Senior Executives
- Senior executives like presidents, vice-presidents usually have more information about the organization as compared to department managers.
- Since these executives manage the entire organization, and hence systems project requests submitted by them carry more weight and are generally broader in scope also.

Project Selection Requirement and Methods

- Requests from Systems Analysts
- System analysts may prefer either writing systems proposal themselves or encouraging a manager to allow the writing of a proposal on their behalf.
- For instance, in an organization, an analyst sees that the library information systems takes more time in processing and is inefficient, may prepare a project proposal for a new library information system.
- By the direction of the analyst who is fully aware about the new technology that improves the existing library information system, the Librarians may initiate the development of information system to the higher authority for approval.

Project Selection Requirement and Methods

- Requests from Outside Groups
- Developments outside the organization also lead to project requests.
- For example, government contractors are required to use special cost accounting system with government stipulated features.
- Generally, it has been observed that new demands from external groups bring about project requests, either for new systems or changes in current ones.
- Project requests originated from this source are also quite important.

Project Selection Requirement and Methods

- Managing Project Review and Selection
- It is true that a number of requests for systems development are generated in the organization and from outside of it.
- Someone in the organization must decide which requests to pursue and which to reject.
- The criteria to accept or reject a request can be decided in a number of ways. One of the suitable methods commonly in use is by committee.
- Mainly three committees formats are commonly used:
- (i) Steering Committee
- (ii) Information Systems Committee
- (iii) User-Group Committee

Steering Committee

- In many organizations, steering (also called operating committees, operating councils, or project selection boards) supervise the review of project proposal.
- The steering committee typically consists of key managers from various departments of the organization, as well as members of the information systems group.
- However, systems specialists do not dominate the committee.
- A typical seven to ten – person committee would consist of the following membership:

Steering Committee

- Example
- 1. Upper – management members:
    - Executive Vice president
    - Vice President for manufacturing
- 2. Departmental management:
    - Manager of retail marketing
    - Credit manager
- 3. Technical managers:
    - Manager of research and development
    - Quality control coordinator
- 4. Information system group:
    - Data processing manager
    - Senior systems analyst

Steering Committee

- The committee receives proposals and evaluates them.
- The major responsibility of the committee is to make a decision, which often requires more information than the proposal provides, therefore, a preliminary investigation, is often requested to gather those details.
- The steering – committee method brings high respectability and visibility to the review of project proposals.
- The committee consists of managers with the responsibility and the authority to decide which projects are in the best interest of the entire firm.

Steering Committee

- Because several levels of management are included on the committee, members can have informed discussions on matters relating to day – to – day operations (treating patients, ordering materials, or hiring staff members) and long – range plans (new facilities, new programs) that many have a bearing on the project request.
- The managers provide practical information and insight about operations and long – term development.
- Systems specialists on the committee provide technical and developmental information that is useful in reaching decisions about project management.

Steering Committee

- The steering committee approach is often favoured because systems projects are business investments.
- Management, not systems analysts or designers, selects projects for development, decisions are made on the basis of the cost of the project, its benefit to the organization, and the feasibility of accomplishing the development within the limits of information systems technology in the organization.

Information System Group

- In some organizations, the responsibility for reviewing project requests is assigned to a committee of managers and analysts in the information systems department.
- Under this method, all request for service and development are submitted directly to a review committee within the information systems department.
- The information system committee approves or disapproves projects and sets priorities, indicating which projects are most important and should receive immediate attention.

Information System Group

- This method can be used when many requests are for routine service or maintenance on existing applications.
- For these projects, information systems staff members can offer good insight into project requirements.
- In addition, by working with other projects (and by coordinating their efforts with the organization's business planning committee) systems developers can have access to information about where the firm is moving overall – an important consideration for effective project selection.
- Sometimes, such as when major equipment decision must be made or when long – term development commitment are needed to undertake a project, the decision authority is shared with senior executives who determine whether a project should proceed.

Information System Group

- However, sharing project decision authority may confuse users who want to know how the committee will make the decision about a request.
- In addition, if top managers and systems- committee members disagree about the merit or priority of a request, the
- potential for conflict can disrupt the handling of future project proposals.
- In still other cases, users may attempt to submit a request directly to senior executives after it has been disapproved by the information systems committee. If upper management approves the
- request, the authority of the information systems committee is undermined.

User-Group Committee

- In some organizations, the responsibility for project decisions is delegated to the user themselves.
- Individual department or divisions hire their own analysts and designers, who handle project selection and carry out development.
- Although the practice of having user committees both choose and develop systems does take some of the burden from the systems development group, it can have disadvantages for the users.
- **For example**,
  - A number of small departments working independently toward the same goal could unknowingly waste resources and miss the opportunity to coordinate planning of a shared and integrated information system that could benefit the entire firm.

User-Group Committee

- Some user groups may find themselves with defective or poorly designed systems that require additional time and effort to undo any damage caused by the misinformation that such systems could generate.
- Although user groups may find the decisions of steering committees and information systems committees disappointing at times, the success rate for users who undertake development job is not very encouraging.

Scope

- **Project scope** is a detailed outline of all aspects of a project, including all related activities, resources, timelines, and deliverables, as well as the project's boundaries.
- A project scope also outlines key stakeholders, processes, assumptions, and constraints, as well as what the project is about, what is included, and what isn't.
- All of this essential information is documented in a scope statement.
- **The project scope statement**
- The project scope statement is a key document that provides all stakeholders with a clear understanding of why the project was initiated and defines its key goals.
- Most project scope statements will include following elements:

Scope

- A project statement of work (SoW), which is a detailed breakdown of all work to be performed by a project team and any important elements that may impact the outcome.
- Constraints that might limit or negatively impact the outcome of the project, including resources, procurement issues, timing, or lack of information.
- Scope exclusions, which can be anything that will not be part of the project or its deliverables.
- Milestones that provide the exact date that something will be delivered or completed.
- Acceptance criteria that spell out exactly how success will be measured.

Scope

- The final deliverables that will be provided to the customer at the end of the project — for example, a report, a software feature, any process insights or analysis, or any product or service that a customer needs.
- Final approval whereby the customer will sign-off on the scope statement confirming that all parameters have been included and the document is complete and accurate.
- **Key steps for defining your project scope**
- Properly defining the scope of a project is the key to successfully managing your project.
- Here are the steps you can follow to define your project scope.

1. Work with key stakeholders to define and create a scope statement by identifying what is within scope, and out of scope.

Scope

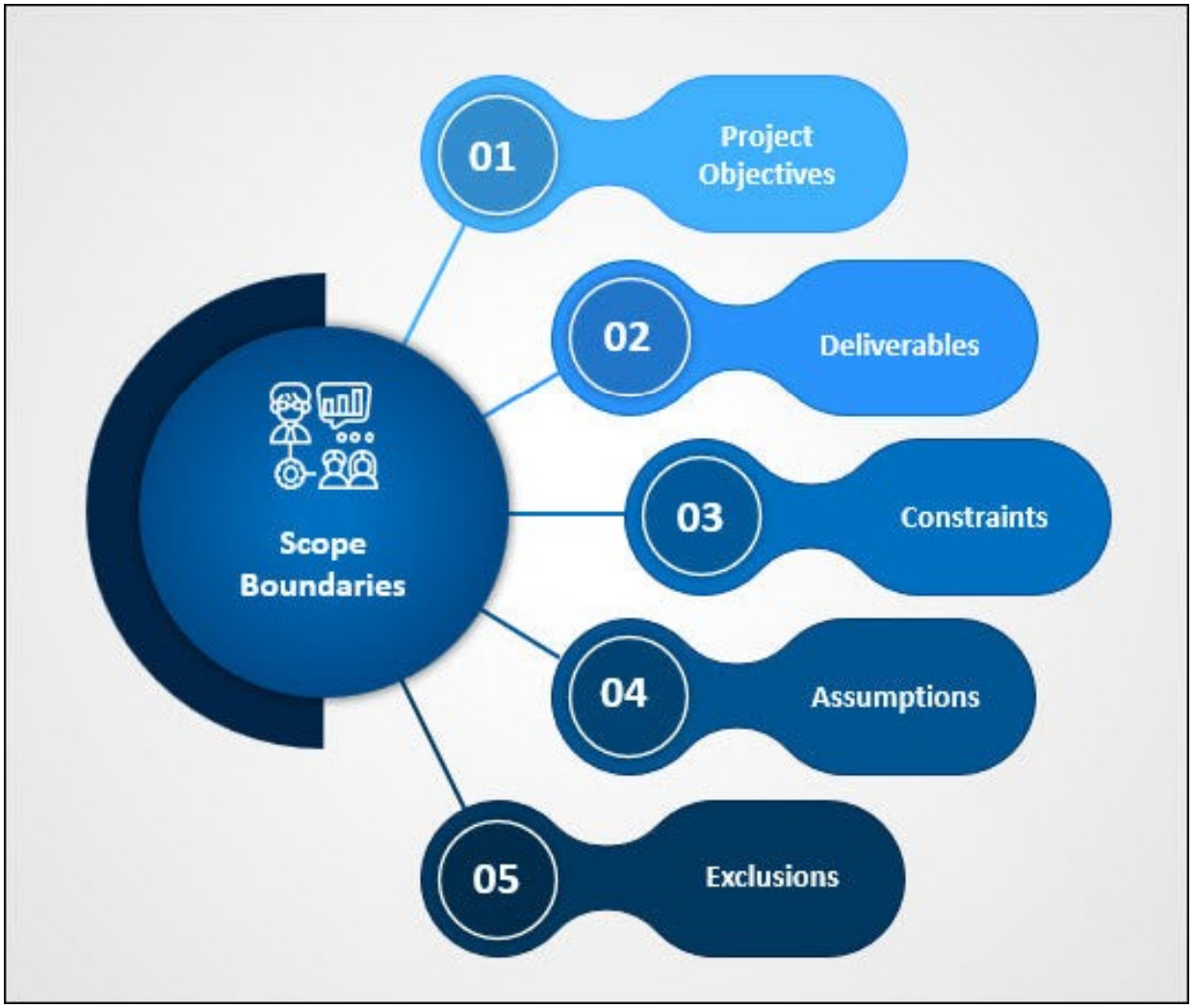
2. Collaborating with stakeholders helps to ensure essential things do not fall through the cracks.
3. Identify, document, and communicate assumptions.
4. Assumptions are those elements that relate to the project that are assumed to be true for the duration of the project.
5. Assumptions are necessary to provide an estimate of the cost and schedule to deliver the project's scope during the planning phase of a project.
6. Gain buy-in for the scope statement with the stakeholders who are most impacted to ensure that everyone is on the same page.

Boundaries and Objectives

- **Project Scope Boundaries**
- Defining project **scope boundaries** is a crucial step in project management that involves clearly outlining the parameters and limitations of a project.
- It establishes the scope of work, deliverables, objectives, and constraints that guide the project team throughout the project lifecycle.
- Here are the key components involved in defining project scope boundaries:
- **Project Objectives:** Clearly articulate the desired outcomes and goals that the project aims to achieve.
- Objectives should be specific, measurable, achievable, relevant, and time-bound (SMART) to provide a clear direction for the project.

Boundaries and Objectives

- Project Scope and Boundaries



Boundaries and Objectives

- **Project Scope Boundaries**
- **Deliverables:** Identify the tangible or intangible outputs that the project will produce.
- Deliverables can include completed tasks, finalized documents, prototypes, software modules, or any other specific results that the project intends to deliver to meet its objectives.
- **Constraints:** Determine the limitations and restrictions that impact the project.
- Constraints can include factors such as time, budget, resources, available technology, regulatory requirements, or any other boundaries that need to be considered during project execution.

Boundaries and Objectives

- **Project Scope Boundaries**
- **Assumptions:** Document any assumptions made about the project, including expectations, conditions, or dependencies that are considered true but may need validation or further analysis.
- Clearly identifying assumptions helps manage uncertainties and reduces risks during the project.
- **Exclusions:** Define what is explicitly outside the boundaries of the project. This helps avoid scope creep, where additional work or deliverables are added beyond the original project scope.
- By clearly stating what is not included, expectations are managed, and the project team can focus on delivering the agreed-upon scope.

The Purpose of Project Scope Boundaries

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The Purpose of Project Scope Boundaries

- The purpose of project scope boundaries is to establish the parameters, limitations, and deliverables of a project.
- These boundaries serve several important purposes, including:
- **Clear Definition**: Project scope boundaries provide a clear definition of what is included in the project and what is not.
- They help stakeholders understand the project's objectives, deliverables, and the extent of work that will be performed.
- **Scope Management**: By defining project scope boundaries, project managers can effectively manage and control changes to the project.
- Any proposed modifications can be evaluated against the established boundaries to determine their alignment with the project's goals and objectives.

The Purpose of Project Scope Boundaries

- **Stakeholder Alignment**: Scope boundaries facilitate alignment and agreement among project stakeholders.
- By clearly communicating the project's boundaries, expectations are set and stakeholders can have a shared understanding of what will be delivered, reducing the risk of misunderstandings and conflicts.
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The Purpose of Project Scope Boundaries

- **Resource Allocation:** Well-defined scope boundaries help in optimizing resource allocation.
- Project managers can allocate resources, such as time, budget, and personnel, based on the specific requirements and deliverables outlined within the scope boundaries.
- This ensures that resources are utilized efficiently and effectively.
- **Risk Management:** Scope boundaries play a crucial role in risk management.
- By clearly delineating what is included and excluded in the project, potential risks can be identified and managed more effectively.
- It allows project managers to focus on mitigating risks within the defined scope and reduces the likelihood of scope creep.

The Purpose of Project Scope Boundaries

- **Risks of Not Setting Project Scope Boundaries**
- Clarity and Focus: By defining project scope boundaries, team members gain a clear understanding of what needs to be accomplished and what falls outside the project's scope.
- This clarity helps them stay focused on the defined objectives and deliverables, reducing distractions and enhancing productivity.
- Scope Control: Clearly defined boundaries enable effective scope control throughout the project lifecycle.
- Project managers can monitor and manage changes, ensuring that any proposed modifications align with the established boundaries and project objectives.
- This helps prevent scope creep, where uncontrolled changes can jeopardize project timelines, resources, and success.

The Purpose of Project Scope Boundaries

- Resource Optimization: Well-defined scope boundaries facilitate efficient resource allocation.
- Project managers can allocate resources based on the specific requirements within the scope, ensuring that time, budget, and personnel are utilized effectively.
- This optimization minimizes resource wastage and improves overall project efficiency.
- Risk Management: Scope boundaries play a crucial role in risk management.
- By clearly defining what is within the project's scope, project managers can identify and manage potential risks more effectively.
- They can focus on mitigating risks that directly impact the defined objectives and deliverables, reducing the likelihood of project failures or setbacks.

The Purpose of Project Scope Boundaries

- Project objectives are what you plan to achieve by the end of your project.
- Project objectives are a critical element of project management- without them, you don't have a succinct way to communicate your goals before and during the project, nor do you have a measurable way to evaluate your success after the project ends.