

Course Title:

System Analysis and Design (BScCSIT)

BSc.CSIT 5th semester-Tribhuvan University (TU)

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Unit-2

Planning

❑ Introduction to Planning

- The first phase of SDLC is planning, consisting of the **project identification and selection, and project initiation and planning activities.**
- *It means that the principle work of planning phase of SDLC is conducted in two phases:*
 - ✓ First, **Project identification and selection.**
 - ✓ And, **Project initiation and planning.**

A. Identifying and Selecting Systems Development Projects

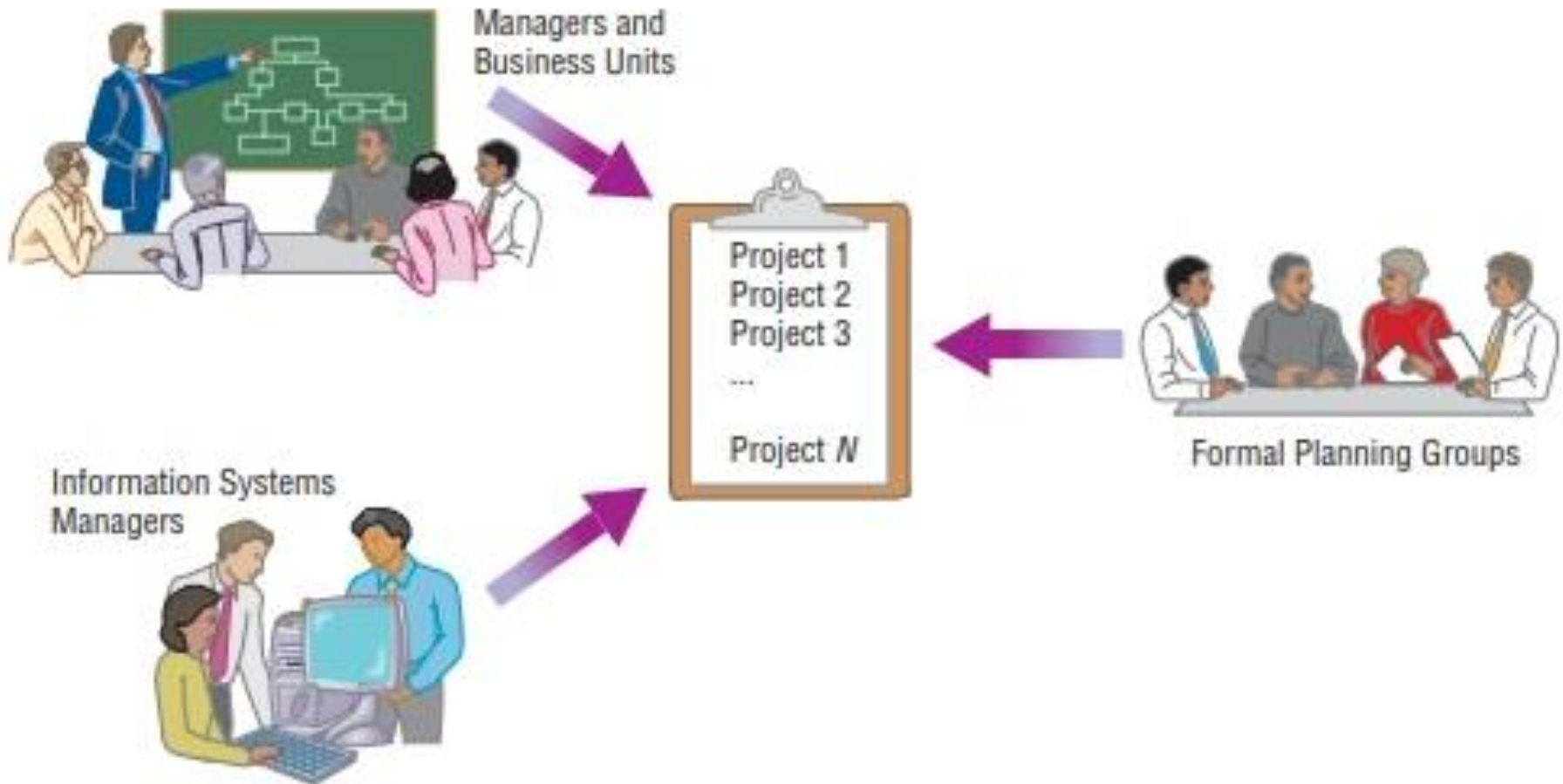
- During project identification and selection, *a senior manager, business IS manager* or a *steering committee* or *project manager* identifies and assesses all the possible system development projects that an organization unit could undertake.
- *Project identification and selection process consists of the following three primary activities:*

1. Identifying potential development projects (सम्भावित विकासक परियोजनाहरूको पहिचान)

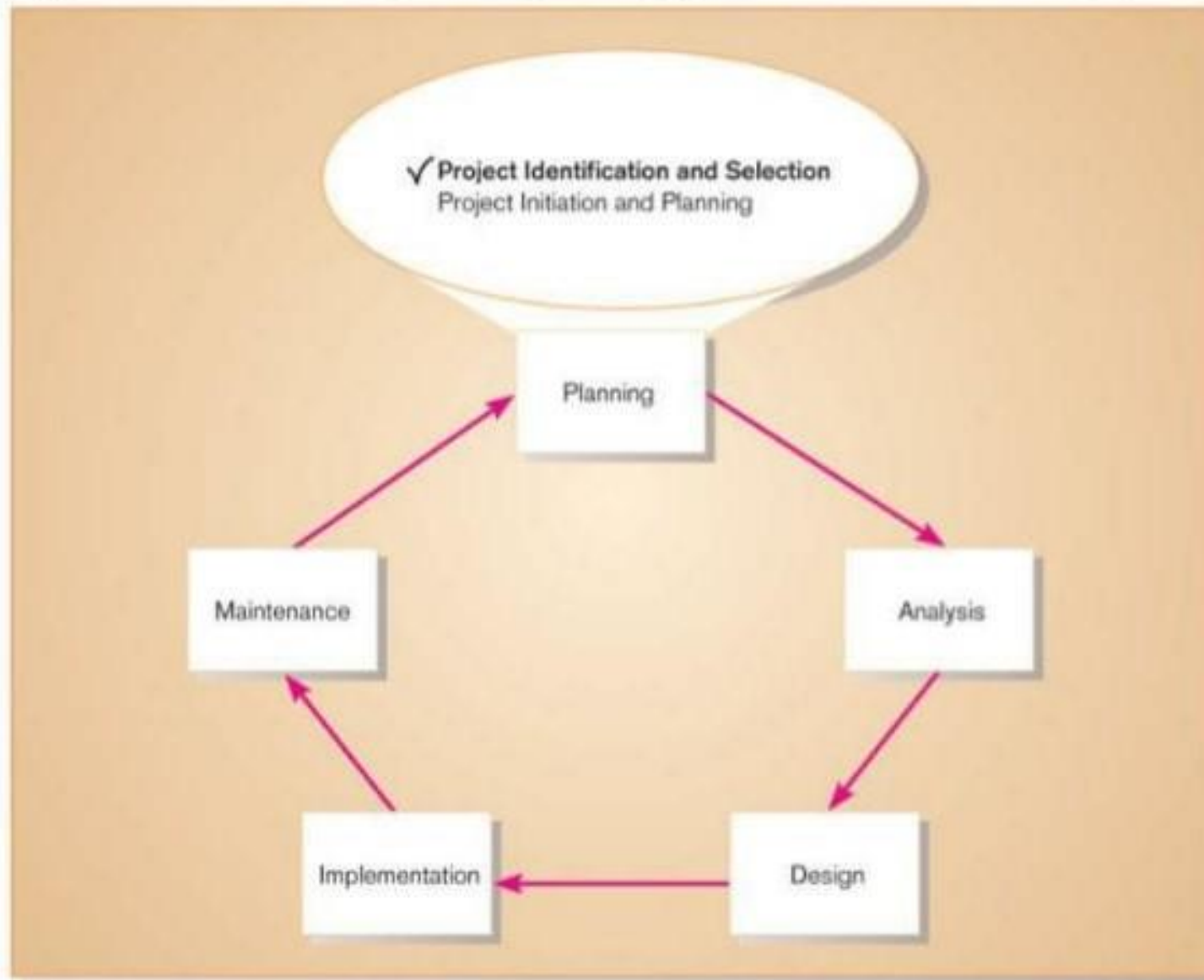
➤ This can be performed by:

- ✓ A key member of top management either CEO of a small or medium – sized organization or a senior executive in a larger organization.
- ✓ A steering committee composed of a section of managers with an interest in the system.
- ✓ The development group of senior IS managers.
- ✓ User departments, in which makes sure that the work product meets the needs and requirements of the project's customer.

Identifying and Selecting Systems Development Projects



❑ Identifying and Selecting Systems Development Projects



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2. Analyzing IS development projects

- The second major activity in the project identification and selection process performed by the top level managers, a steering committee(Project managers), business units, or the IS development group.
- Possible Evaluation criteria when Analysis IS development Projects.

a. Value chain Analysis:

→ A value chain is the process of analyzing the an organizational activities/full range of activities – including design, production, marketing and distribution – that businesses conduct to bring a product or service from conception to delivery.

→ For companies that produce goods, the value chain starts with the raw materials to make the products and consists of everything added before the product is sold to consumers.

→ Value chain analysis finds any deficiencies(fault/defect) in these processes and improves them, saving money, improving quality and expediting time to market.

→ One of the goals of value chain analysis is to ensure the company's product is placed in the customers' hands as seamlessly as possible.

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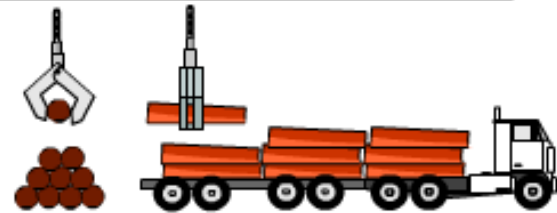
STAGE ONE - TREE FELLING



STAGE TWO - STORAGE



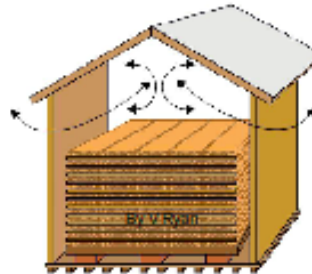
STAGE THREE - TRANSPORT TO SAWMILL



STAGE FOUR - BREAKING DOWN
/ ROUGH SAWING IN THE SAWMILL



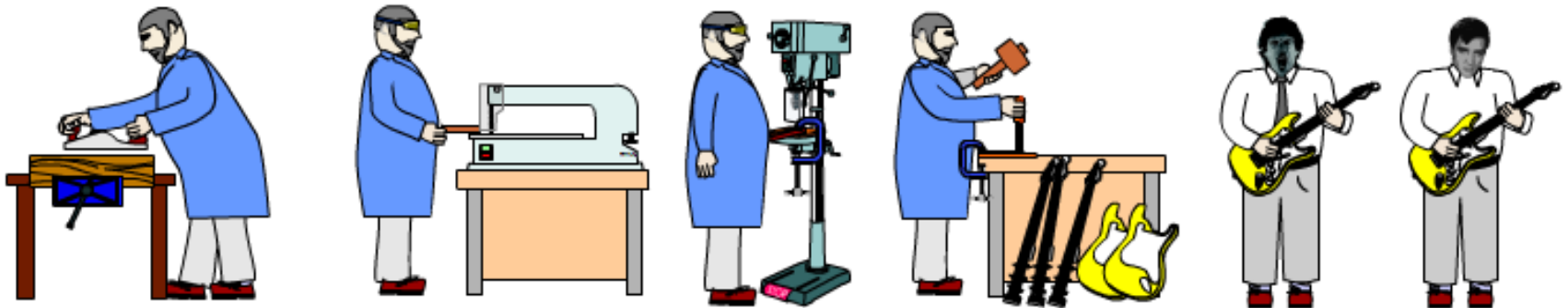
STAGE FIVE - SEASONING



STAGE SIX - RESAWING TO
ACCURATE SIZES



STAGE SEVEN - MANUFACTURE
A PRODUCT



❑ Contd.

b. Strategic Alignment Analysis

- Strategic alignment in project management is aligning the project goals with your organization's long-term vision and mission.
- Understanding **strategic alignment in project management** is easy when you know why you are working on a project.
- Every project has its purpose. While some may aim to deliver a service or product, others may aim to attain intangible benefits, and some intends positive customer relationships or company goodwill(Kindness). These strategic goals actually drives your everyday business efforts and transition your ideas into desired outcomes.

c. Potential Benefits Analysis

- Project is viewed for improving profits gain , customer service and duration of these benefits.

d. Resource Availability Analysis

- Amount and type of resources the project requires and their availability.

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e. Project Size and duration Analysis

→ Here we analyse the size and complexity of a project and on the basis of that we plan to allocate the no of individuals and resources as well as the length of time needed to complete the project is also analysed.

f. Technical difficulty / Risks Analysis

→ Level of technical difficulty to successfully complete the project within the given time and resource constraints.

3. Selecting IS development projects

- The selection of projects is the final activity in the *project identification and selection* phase. The short-and long-term projects most likely to achieve business objectives are considered/selected.
- Numerous factors must be considered when selecting a project, These factors include:
 - ✓ Perceived(Identify) needs of the organization
 - ✓ Nature of the existing systems and ongoing projects.
 - ✓ Resource Availability
 - ✓ Current business conditions/Market Trends and Behaviors
 - ✓ Perspectives of the decision makers. Etc.

B. Process of Initiating and Planning IS Development Projects

- *Project initiating and planning (PIP)* process describes several techniques that are used when performing the project development process.

1. Project initiation focuses on the activities designed to assist in *organizing a team to conduct project* planning as well as it create detailed goals and a project roadmap

Whereas

2. Project planning, the second activity in the PIP process is the *process of defining clear, discrete activities, and the works* needed to complete each activity within a project development process.

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❖ Project Initiation Includes-

- Establishing the project initiation team.

→ Project managers are accountable for every aspect of the project, including leading a team capable of meeting or exceeding client expectations for their vision. Hence creating a capable team is the major concern to achieve the goals.

- Establishing a relationship with the customer.

--> The successful relationship is built on mutual respect, confidence and trust between the parties. The client representative must have complete confidence that the project manager will get the job done on schedule and within budget.

- Establishing a project initiation plan.

→ The purpose of a project initiation plan is to gather key planning information that will help to steer/drive the project in the right direction, gain approval from stakeholders and decision-makers, and establish a clear plan for project delivery. Without a project initiation plan, there is a high chances of project risks due to a lack of direction and a lack of engagement from stakeholders.

- *Establishing management procedures and management Environment.*

→ This includes setting and managing client expectations, developing a detailed project plan, defining the scope of the project and assigning team members to specific tasks.

- *Developing the project charter.*

→ A project charter is a formal, typically short document that describes your project in its entirety — including what the objectives are, how it will be carried out, and who the stakeholders are. It is a crucial ingredient in planning the project because it is used throughout the project lifecycle.

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❖ Elements of Project Planning

- *Describing project scope, alternatives and feasibility.*
- *Dividing the project into manageable tasks.*
- *Estimating the resources and creating a resource plan.*
- *Developing a preliminary schedule.*
- *Developing a communication plan.*
- *Determining project standards and procedures.*
- *Identifying and assessing risks.*
- *Creating a preliminary budget.*
- *Developing the project scope statement.*
- *Setting a baseline project plan (BPP).*

❑ Assessing Project Feasibility

- The aim of feasibility study is to determine whether developing the system is financially or technically feasible or not.

The following areas questions need to be evaluated as a basis to proceed beyond the feasibility stage:

- **Is It Real?**

- ➔ Does a market exist for the product?
- ➔ Is there a true need in the marketplace?
- ➔ Which markets might benefit from such a product?
- ➔ Will customers buy it?
- ➔ How large is the opportunity?
- ➔ Can the product actually be made?
- ➔ What technologies are required?
- ➔ Do we have these technical capabilities in-house?

❑ Assessing Project Feasibility

- **Can You Win?**

→ Analyze the competitive environment like will we compete based on *price, performance, innovative features, service, reliability, or time-to-market?*

→ Is this competitive basis sustainable?

→ Is the basis of competition in line with our overall strategy?

❑ Assessing Project Feasibility

- **Is It Worth It?**

- Are product costs acceptable?

- Are development costs affordable and acceptable?

- Is the product going to be profitable?

- Is this project is good or better in terms of cost benefit than other opportunities that the firm has?

- Is there an adequate return on investment?

- Are the risks understood and are they acceptable?

- Is this product in line with our company strategy?

#There are various types of feasibility study and some major of them are discussed below:

❖ Technical Feasibility

- This assessment focuses on the technical resources available to the organization.
- It helps organization to determine whether the technical team is capable of converting the ideas into the working systems.
- Technical feasibility also involves the evaluation of the *hardware, software and other technology requirements of the proposed system.*

❖ Operational Feasibility

- This assessment involves undertaking a study to analyse and determine whether and how well the organizational needs can be met by completing the project.
- It also studies and analyses how a project plan satisfies the requirements identified in the requirement analysis phase of the system development.

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❖ Economic Feasibility

- This assessment typically involves a cost – benefit analysis (CBA) of the project, helping the organization determine the liabilities, costs and the benefits associated with a project before the financial resources are allocated.

❖ Schedule Feasibility

- This is the most important assessment for the success of the project; after all, a project will fail if not completed in time.
- In schedule feasibility, an organization estimates how much time the project and its corresponding activities will take to complete.
- Generally, Gantt chart is prepared and constructed in order to forecast the view of the schedule feasibility.

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❖ Legal and Contractual 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, project certificate, license, copyright etc.

Let's say, an organization wants to construct a new office building in a specific location. Here, a feasibility study might reveal the organization's ideal location is not zoned for this type of business. *Hence it is Legally not feasible.*

❖ Political Feasibility

- This assessment involves understanding how key stakeholders within the organization view the proposed system.
- Those stakeholders not supporting the project may take steps to block, disrupt, or change the project's intended focus or target.

❑ Building and Reviewing the Baseline Project Plan (BPP)

❖ Building the Baseline Project Plan (BPP)

- All the information collected during project initiation and planning is collected and organized into a document called the BPP.
- Once the BPP is completed, a formal review of the project can be conducted with the customers.
- *An outline of a baseline project plan (BPP) consists of the following four major sections:*
 - ✓ *Introduction section*
 - ✓ *System description section*
 - ✓ *Feasibility assessment section*
 - ✓ *Management issues section*

BASELINE PROJECT PLAN REPORT

1.0 Introduction

- A. Project Overview—Provides an executive summary that specifies the project's scope, feasibility, justification, resource requirements, and schedules. Additionally, a brief statement of the problem, the environment in which the system is to be implemented, and constraints that affect the project are provided.
- B. Recommendation—Provides a summary of important findings from the planning process and recommendations for subsequent activities.

2.0 System Description

- A. Alternatives—Provides a brief presentation of alternative system configurations.
- B. System Description—Provides a description of the selected configuration and a narrative of input information, tasks performed, and resultant information.

3.0 Feasibility Assessment

- A. Economic Analysis—Provides an economic justification for the system using cost-benefit analysis.
- B. Technical Analysis—Provides a discussion of relevant technical risk factors and an overall risk rating of the project.
- C. Operational Analysis—Provides an analysis of how the proposed system solves business problems or takes advantage of business opportunities in addition to an assessment of how current day-to-day activities will be changed by the system.
- D. Legal and Contractual Analysis—Provides a description of any legal or contractual risks related to the project (e.g., copyright or nondisclosure issues, data capture or transferring, and so on).
- E. Political Analysis—Provides a description of how key stakeholders within the organization view the proposed system.
- F. Schedules, Timeline, and Resource Analysis—Provides a description of potential time frame and completion-date scenarios using various resource allocation schemes.

4.0 Management Issues

- A. Team Configuration and Management—Provides a description of the team member roles and reporting relationships.
- B. Communication Plan—Provides a description of the communication procedures to be followed by management, team members, and the customer.
- C. Project Standards and Procedures—Provides a description of how deliverables will be evaluated and accepted by the customer.
- D. Other Project-Specific Topics—Provides a description of any other relevant issues related to the project uncovered during planning.

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✓ Introduction Section

- The purpose of the introduction section is to provide a brief overview of the entire document and outline a recommended course of actions for the project.
- The entire introduction section is often limited to only few pages. Actually, it provides a summary of important findings from the planning process and recommendations for the subsequent activities.

✓ System Description Section

- The second section of the BPP i.e. the system description section, contains an outline of possible alternative solutions in addition to the one regarded must be appropriate for the given situation.

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✓ Feasibility Assessment Section

- In the third section of the BPP feasibility assessment, issues related to the project cost and benefits, technical difficulties, and other such concerns are outlined.
- This is also a section where high – level project schedules are specified using Gantt chart and network diagrams.

✓ Management Issues Section

- The final section of the BPP, the management issues section, outlines a number of managerial concerns related to the project.
- This will be a very short section if the proposed project is going to be conducted exactly as prescribed(निर्धारित) by the organization's standard system development methodologies.