Lecture 1
1. Introduction

Bibek Ropakheti

Outline

- Project
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  - IT Projects
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- Project Management
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- Project Life Cycle
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Project

- Latin word *projectum* from the Latin verb *proicere*, "to throw something forwards“
- *pro-*, which denotes something that precedes the action of the next part of the word in time and *iacere*, "to throw"
- Project is a specific job which is non routine and temporary job with specific objective which uses to serve a certain purpose uniquely.

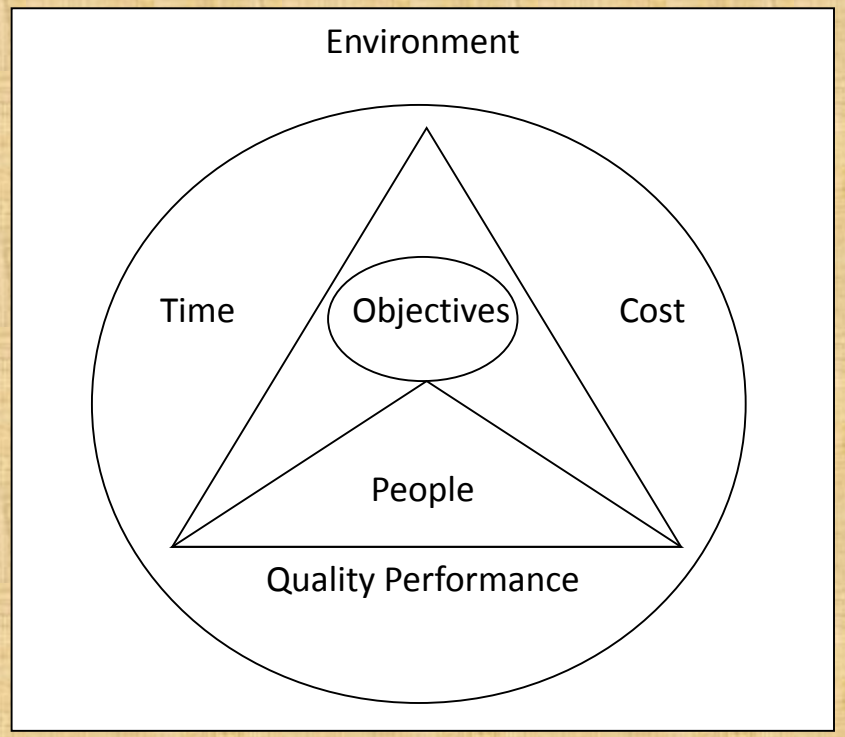
Project Definitions

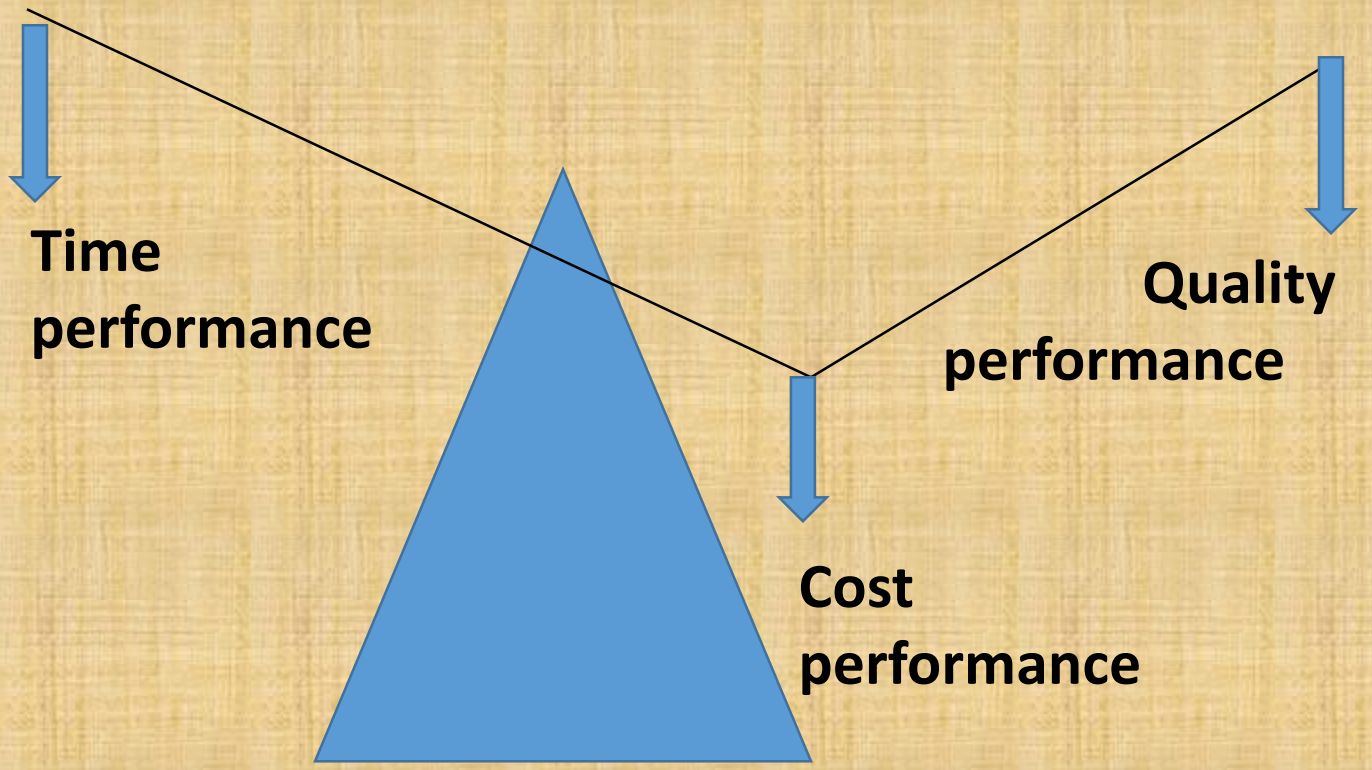
- Management Institute of USA defines project as a temporary endeavor to create a unique product or service
- According to Cleland and King, a project is a combination of human and non human resources pulled together in a temporary organization to achieve a specified purpose
- According to Harold Kerzner, a project is any series of activities and tasks that have a specific objective to be completed within certain specifications, have defined start and end dates, have funding limits and consume resources

Project Definitions

- Dr. Govinda Ram Agrawal in his book, “Project Management in Nepal” described project as, a set of one time only activities designed to attain specific objectives within the constraints of time, cost and quality performance in a dynamic environment, through the planning use and control of a variety of resources to create a unique product or service within a temporary life span in a dynamic environment
- Harvey Maylor defined project as any non repetitive, low volume, high variety activity which is a temporary endeavor undertaken to create a unique product or service with a start and a finish, done by any individual or an organization to meet the specific performance objective within defined schedule, cost and performance parameters

Project Definitions – Model of a Project





Project Definitions

- The engineering project is a particular type of technological system, embedded in the context of technological systems in general. Engineering projects are, in many countries, specifically defined by legislation, which requires that such projects should be carried out by registered engineers and/or registered engineering companies. That is, companies with license to carry out such works as design and construction of buildings, power plants, industrial facilities, installation and erection of electrical grid networks, transportation infrastructure, gadgets, robots, software, and the like.

IT Projects

- IT Projects Success & Failure
  - Successful Projects : 12% in 1994, 46% in 2001 & 36% in 2004
  - Failed Projects: 37% in 1994, 51% in 2001 & 13% in 2004
- Nature of Failed Projects
  - Complex & Technology Driven
  - Ambiguous and Have Poor Change Management
  - Lack of Experts Involvement
- Nature of Successful Projects
  - Small Scale, Well defined Objectives, Modular
  - Better Infrastructure and Management Support, Better Tools, Methodology
  - Proper Testing and QA

Challenges in IT Projects

- Communication
- Staff Turnover
- Information Security and Privacy
- Visibility
- Political & Cultural Risks
- Environmental & Infrastructural Risks
- Connectivity Problems
- Brain Drain & Loss of Institutional Knowledge
- Regulatory Requirements

Project Management

- Project management is the discipline of planning, organizing, controlling and managing every aspect of the project to bring about the successful completion of specific project goals and objectives
- Successful project management can be defined as having achieved the project objectives within time and cost at the desired level of performance and technology while utilizing the assigned resources effectively and efficiently

Project Management

- According to Harold Kerzner, project management is the planning, organizing, directing and controlling of company resources to complete specific goals and objectives
- Dr. Govinda Ram Agrawal gave the definition of Project management as, the task of getting the project activities done on time, within budget, and according to specifications by a project team in a dynamic environment

Project Management - Model

Project Management

- Project management involves project planning and monitoring and include such items as:
  - Project Planning
    - Definition of work requirements
    - Definition of quantity of work
    - Definition of resources needed
  - Project Monitoring
    - Tracking progress
    - Comparing actual to predicted
    - Analyzing impact
    - Making adjustments

Project Objectives

- Objectives are the ends towards which the activities of an organization are directed. These are project delivery.
- A project has a desired objective. It is result directed. It ceases to exist when object has been achieved.
- A project without objective is unthinkable. Hence, the first step of your project is to define your objectives.
- How should project objective be?
  - SMART

Project Objectives

- You need to define your objectives in order to be able to
  - Make sure that you have identified your objective/s.
  - Focus in the other member of the project team about what the project is about.
  - Create team commitment and agreement about the project objectives.
  - Ensure that you involved all interested parties in achieving a successful project output.

SMART Goals/Objectives

- **S**: Specific, clearly defined, not vague.
- **M**: Measurable, so that the project achievement can be measured, compared and controlled.
- **A**: Agree, by all the members of the team. Agreed goals raise the sense and commitment.
- **R**: Realistic considering the given possible resources, experience, knowledge and time available.
- **T:** Time bound, if there is no time to complete the process it will never be completed.

Project Characteristics

- **Specific Objective:** A project clearly defines objectives, on achievement of which a project succeeds. Objects are the deliverables of a project and the end results. Objectives are predetermined and outputs are measurable.
- **Temporary (Life Span):** A project cannot continue endlessly. It is a temporary endeavor. It has beginning and end from its birth to death. It passes through various stages i.e. formulation, planning, design, construction, operation and termination.
- **Non-routine and Non-repetitive:** A project is non routine and non-repetitive in nature.

Project Characteristics

- **Constraints:** A project operates within constraints of time, cost and quality.
- **Uniqueness:** No two projects are exactly similar. There are complex set of activities involved within a project which doesn’t go with some other case.
- **Flexibility:** A project operates in a dynamic environment, so project needs flexibility to provide rapid response to changing environment. Risks and changes are inevitable and project needs to address these issues for which a project needs to be flexible.

Project Characteristics

- **Resource Integration:** Every project uses resources such as man, machine, money and minutes. So, integration of these resources is necessary for efficient use of these resources.
- **Team Work:** A project normally consists of diversified personnel specialized in their respective area. They work from a various discipline so the coordination among them is called team work. A manager leads the team to accomplish the goal of the project.
- **Planning and Control:** each project has an effective planning and control system in order to efficient and effective completion of the project.

Project Characteristics

- **Contracting and Subcontracting:** Most projects are contract based. Complexity of a project increases the need of contracting and subcontracting. Contract may be of various types such as, lump-sum contract, unit price contract, negotiated coat plus fixed fee contract and turnkey contract.
- **Beneficiaries:** The ultimate users of the project are the project beneficiaries. Each project has certain community of beneficiaries who are directly associated with the project outputs.

Classification of Projects

- On the Basis of:
  - Sponsorship of Project
  - Nature of Project
  - Orientation of Project
  - Speed of Project
  - Funding Source of Project
  - Technique of Project
  - Size of Project

- On the Basis of:
  - Objectives
  - Sectors
  - Number of Key Purposes
  - Type of Relationship
  - Nature

Classification of Projects

- Sponsorship
  - Customer
  - Organization
  - Contractor
  - Government
  - Donor
- Orientation
  - Product
  - Process
- Nature
  - Individual
  - Staff
  - Special
  - Complex
- Speed
  - Normal
  - Crash
  - Disaster

Classification of Projects

- Funding Source
  - Indigenous
  - Foreign
    - Joint Venture
    - Bilateral
    - Multilateral
- Technique
  - Labor Intensive
  - Capital Intensive
- Size
  - Mega
  - Major
  - Medium
  - Small

Classification of Projects (Alternate Approach)

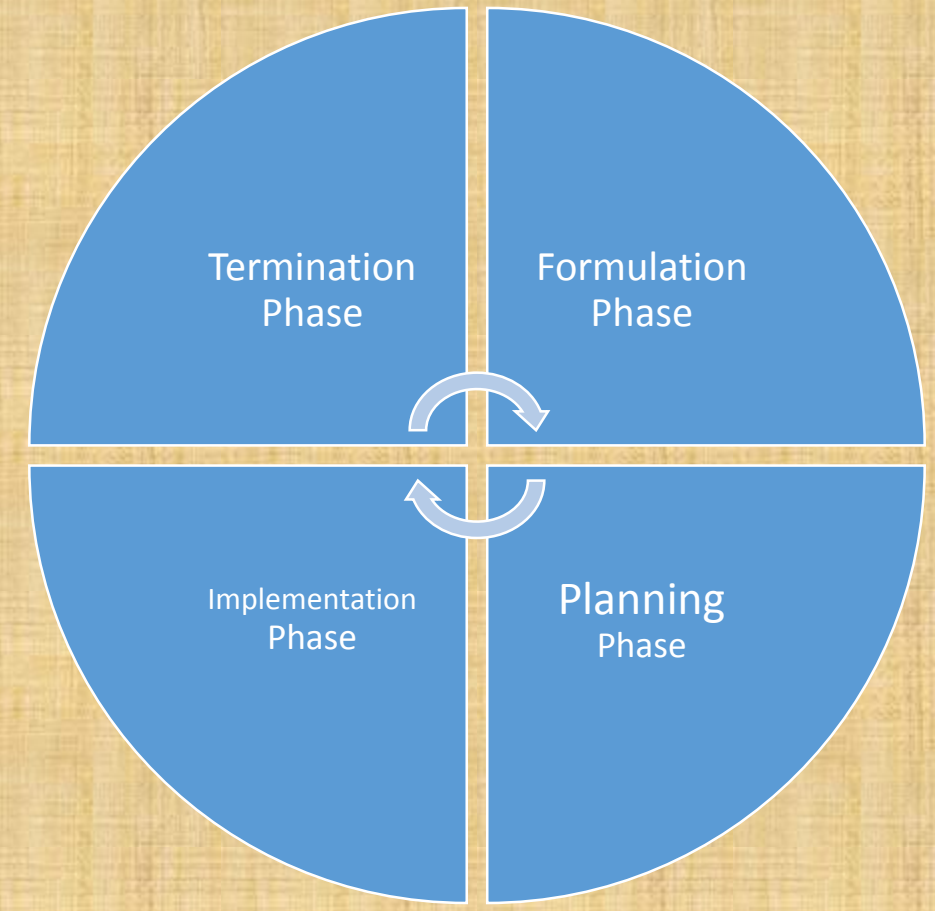
- Objectives
  - Social Development
  - Economic Growth
- Sectors
- Number of Key Purposes
  - Single Purpose
  - Multi Purpose
- Type of Relationship
  - Independent
  - Dependent
  - Mutually Exclusive
- Nature
  - Emergency
  - Fixed Budget
  - Fixed Time

Project Life Cycle

- Project has fixed life span.
- It has beginning and end points.

- The phases are:
  - Formulation
    - Identification
    - Formulation
  - Planning
    - Feasibility
    - Appraisal
    - Approval
    - Design
  - Implementation
    - Implementation
    - Monitoring & Control
  - Termination
    - Operation & Evaluation
    - Handover

Project Life Cycle



Project Life Cycle – Alternative Approach

- Define the project
- Design the project process
- Deliver the project (Do it!)
- Develop the process

- Conceive
- Develop
- Execute
- Finish

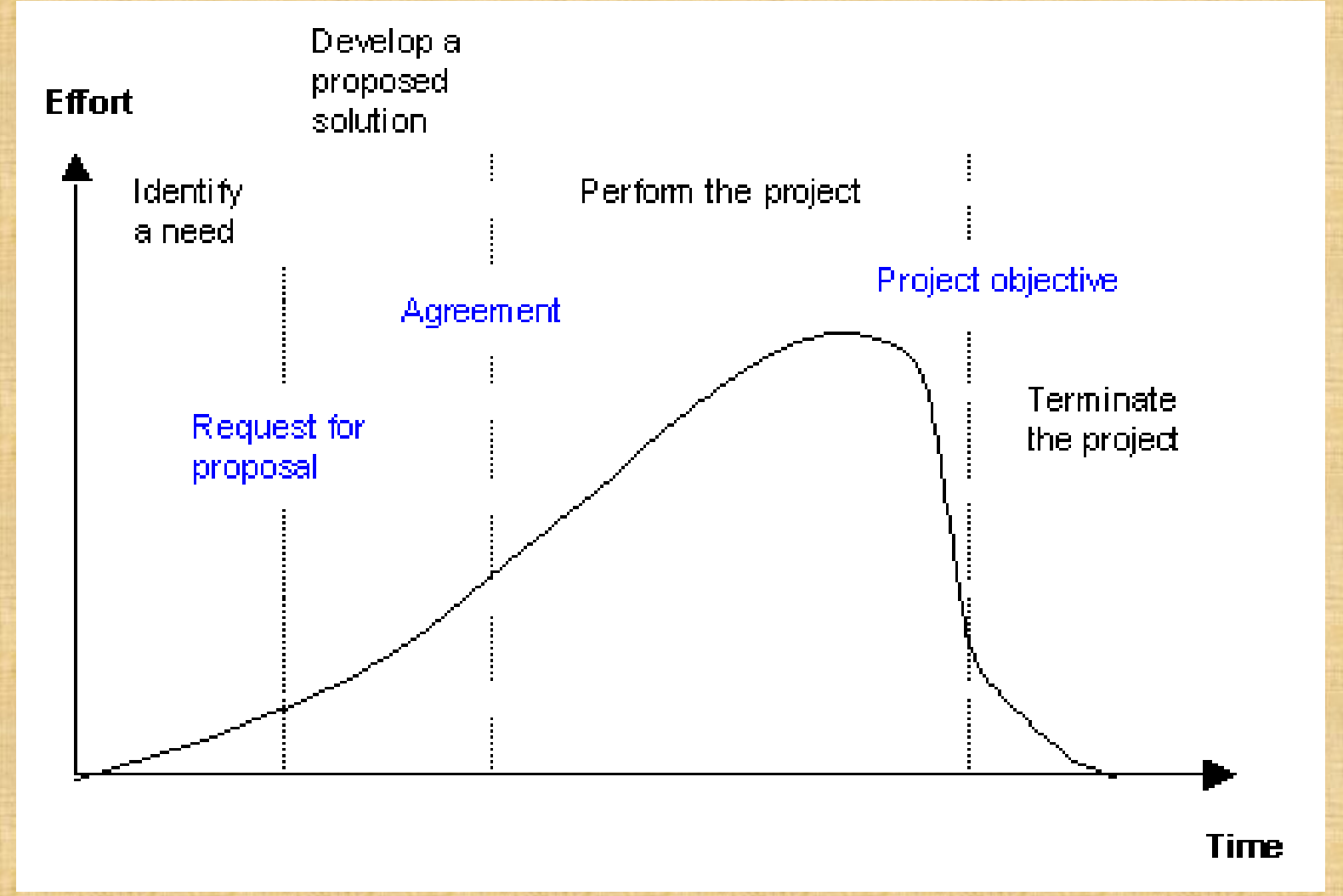
IT System Development

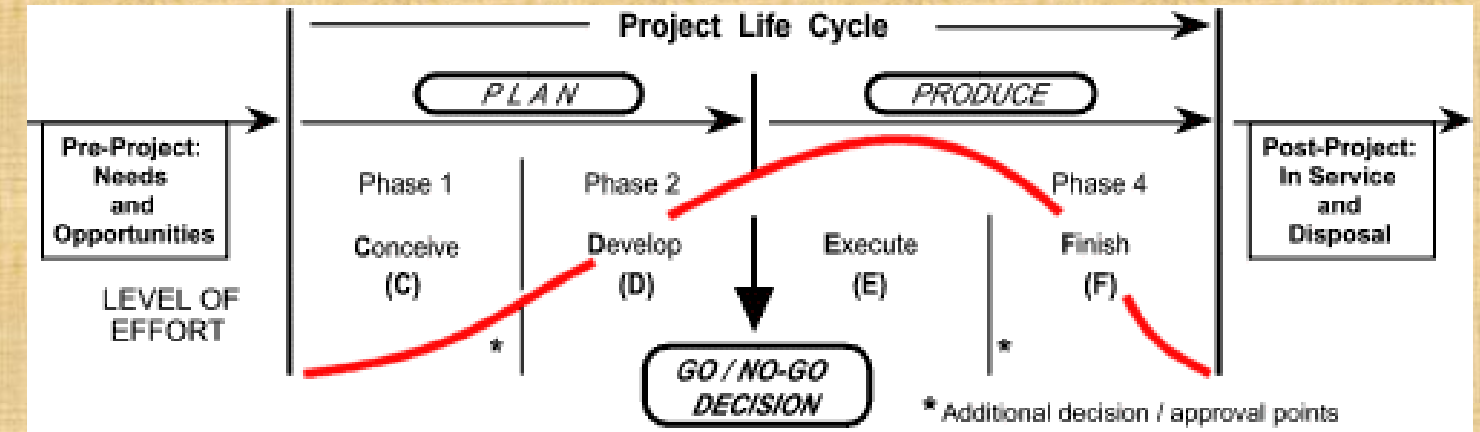
- Communication
  - Requirement Analysis
  - Feasibility Analysis
  - Project Proposal Development
- Planning
  - Scheduling
  - Cost Estimation
  - Quality Management
  - Change Management
  - Risk Management
- Modelling
  - Analysis
  - Design
- Construction
  - Coding
  - Testing
- Deployment
  - Maintenance
  - Feedback

Project Proposal – Key Elements

- Rational for the Proposal
- Project Planning Matrix
  - Presentation of goal, purpose, inputs and outputs of the project
- Solution of the Problem
- Project Implementation Plan
  - Estimates, Cost Benefit Analysis, Resources, Schedule, Risk & Contingency Plan, Milestones and Deliverables
- Logistic Support and Administration Plan
- Budget or Financial Plan
- Relevant Past Experiences

Efforts and Tasks during Project Life Cycle Phases





TYPICAL MAJOR TASKS	• Gather Data • Identify Need • Goals • Practicality • Economics • Resources • Strategies • Risks • Alternatives • Selling • Approvals	• Feasibility • Rationale • Tactics • WBS • Project Team • Schedule • Budget, • Cash Flow • Re-assess Risks • Project Brief • Go/No-Go	• Start Up • Motivate Team • Technical Rquts • Work Packages • PERT/CPM • Procurement • Execute Work • Control Systems • Progress Rprts • Forecasting • Resolve Issues	• Finalize Project • Reviews and Acceptances • Training • Settle a/c's • Transfer Responsibility • Reassign Team • Final Report • Close-out Records
ORGANIZATIONAL STRATEGY	• Free Form • Working Committee	• Simple Matrix • Task Force	• Project Team • Strong Matrix	• Matrix • Functional
LEADERSHIP versus MANAGEMENT SKILLS	• **Visionary** • **Creative** • **Conceptualizer** • **Analytical** • **Innovator**	• **Leader** • **Facilitator** • **Planner** • **Integrator** • **Technically strong**	• **Team leader** • **Organizer** • **Interface Manager** • **People & Task Oriented** • **Controller**	• **Team Leader** • **Trainer** • **Doer** • **Technical Writer** • **Compulsion to Complete**

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Thank You

Let us Discuss Now!