ICT Project Management

Chapter 2: Project Management Life Cycle & Project Initiation Phase

2.1 Systems view of Project Management

Though projects are temporary and intended to provide unique products or service, they cannot be run in isolation. Projects must operate with a broader organizational environment, and project managers need to consider projects within the greater organizational context

- Systems approach describes a holistic and analytical approach to solving complex problems that includes using a systems philosophy: overall model of thinking about things a systems
- systems analysis: a problem solving approach that requires defining the scope of the system, dividing it into components and then identifying and evaluating its problems opportunities, constraints and needs and
- systems management: addresses the business, technological and organizational issues associated with creating, maintaining and making change to a system.

Project managers must follow the systems philosophy to understand how the project relate to the whole organization, use the systems analysis to address needs with a problem-solving approach. He / she must use the systems management to identify the key business, technological and organizational issues related to each project in order to identify and satisfy key stakeholders and do what is best for the entire organizations

2.2. Systems Management and Impact on Project Management

Organizational Issues: organizational issues are often the most difficult part of working on and managing projects. Organizational issues that have an impact / influence on project management includes; organizational structure, culture, commitment to technology and organizational standards.

a). Organizational Structure

1. Functional organization Structure: An organization structure in which staff are grouped hierarchically by specialty / function (engineering, production, finance, production etc.
2. Matrix organization structure: project managers share the responsibilities with functional managers for assigning priorities and directing the work of staff assigned to a project.
3. Projectized organization structure: an organization in which the project manager have full control and authorities to assign and direct the activities of the individuals assigned to the project

Project Characteristics	**Organizational Structure type**				
	Functional	**Matrix**			**Project**
		Weak Matrix	**Balanced Matrix**	**Strong Matrix**	
Project managers authority	Little or none	limited	Low to moderate	Moderate to high	High to almost total
Who controls the project Budget	Functional manager	Functional manager	Mixed	Project manager	Project manager
% of personnel assigned to full time project work	Virtually none	0- 25%	15-60%	50-95%	85-100%
Project managers role	Part-time	Part-time	Full-time	Full-time	Full-time
Project management administrative staff	Part-time	Part-time	Full-time	Full-time	Full-time

b). Organizational Culture: set of shared assumptions, values and behavior that characterize the functioning of an organization. Organizational culture is very powerful and many people believe the problems is not the organizational structure but the culture. Characteristics

1. Member identify: the degree to which the employees identify with the organization and not the job or profession. Identifying with the organization is most ideal
2. Group emphasis: the degree to which work is organized around groups or teams rather then individuals. Emphasizes on group work is best for managing projects
3. People focus: the degree to which the management take into consideration the effect of outcomes on people in the organization. A balance between people and organization needs is required.
4. Unit integration: the degree to which units in the organization are encouraged to coordinate with each other. Strong integration is ideal for project management.
5. Control: the degree to which rules, policies and direct supervision are used to oversee and control employees behavior. Balancing the degree of control is required in project management.
6. Risk tolerance: the degree to which employees are encouraged to be aggressive, innovative and risk seeking. High risk tolerance is ideal in project management
7. Reward criteria: the degree to which rewards, such promotions and salary increase are allocated according to employees performance. Project team works best when rewards are based on performance.
8. Conflict tolerance: the degree to which employees are encouraged to air conflicts and criticism openly.
9. Means-end orientation: the degree to which management focuses on outcomes rather than on techniques and processes used to achieve results.
10. Open-system focus: the degree to which the organization monitors and responds to changes in the external environment.

c). Commitment to technology: the is need for the organization to be value to IT

d). Organizational Standards: most organizations lack standards and guidelines that could help in project management. Guidelines includes using; standard form, templates for common projects documents. Creation of project management office helps to provide guidelines and standards in project management.

2.3. Importance of top management commitments

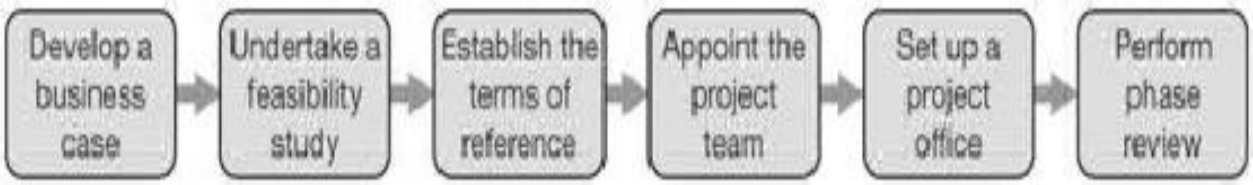
Top management commitments in ICT projects is important to a project manager because;

1. Project managers need adequate resources: to management allocate resources such as money, and human resources and with their commitment, then the project will have the required resources.
2. Project managers require approval for unique project needs in timely manner. With top management commitments, the project manager will be get of project s needs timely
3. Required cooperation from the employees: top management commitment ensures cooperation from functional managers and other employees.
4. Leadership and mentorship: top managers acts as the mentors and leadership skills coaches for the project managers, since most project managers are technical and lack managerial / leadership skills.

2.4. Project Management – Project Initiation

The project initiation involves project identification and selection. Within the initiation phase, the business problem or opportunity is identified, a solution is defined, a project is formed and a project team is appointed to build and deliver the solution to the customer. Initial assumptions and constraints are also documented and the other project related elements (such as deliverables, schedule, etc.) are refined and undergo minor modifications to best fit the business and project needs.

Project initiation phase involves the following activities; Figure 3: shows the activities undertaken during the initiation phase:



Analysis: Project Identification & Selection

Develop a Business case: A Business Case justifies the start-up of a project. The business case includes:

- A detailed description of the problem or opportunity;
- A list of the alternative solutions available as well as their costs and benefits;

- An analysis of the business benefits, costs, risks and issues;
- A description of the preferred/ recommended solution;
- A summarized plan for implementation

The business case is then approved by an identified project sponsor, and the required funding is allocated to proceed with a feasibility study. **Project sponsor:** The initial sponsor was probably the person that helped develop the Business Case and was the person that asked for the money for the project.

Undertake a feasibility study: At any stage during or after the creation of a business case, a formal feasibility study may be commissioned. The purpose of a feasibility study is to assess the likelihood of each alternative solution option achieving the benefits outlined in the business case. The feasibility study will also investigate whether the forecast costs are reasonable, the solution is achievable, the risks are acceptable and the identified issues are avoidable.

- Economic feasibility: -Under taking a Cost-benefit analysis on the proposed alternative solutions. At this point, an organization may evaluate an alternative in terms of whether funds and resources exist to support the project. For example, although you may be in a market for a new car, the reality of your limited income rules out the fancy sports car. Conducting an economic feasibility should serve as a reality check for each option or alternative.
- Technical feasibility Technical feasibility focuses on the existing technical infrastructure needed to support the IT solution. Will the current infrastructure support the alternative? Will new technology be needed? Will it be available? Does the current IT staff have the skills and experience to support the proposed solution? If outsourcing, does the vendor or company have the skills and experience to develop and implement the application?
- Organizational feasibility-Organizational feasibility considers the impact on the organization. It focuses mainly on how people within the organization will adapt to this planned organizational change. How will people and the way they do their jobs be impacted? Will they accept this change willingly? Will business be disrupted while the proposed solution
- is implemented?

The outcome of the Feasibility Study is a confirmed solution for implementation.
Feasibility study involves

- Researching the business problem or opportunity
- Documenting the business requirements for a solution
- Identifying all of the alternative solutions available
- Reviewing each solution to determine its feasibility
- Listing any risks and issues with each solution
- Choosing a preferred solution for implementation
- Documenting the results in a feasibility report

Establish the terms of reference: After the business case and feasibility study have been approved, a new project is formed. At this point, terms of reference are created. The project terms of reference is also called the **Project Charter or Project definition Report**. The project charter document formally recognizes the existence of a project and provides direction on the project's objectives and management. It authorizes the project manager to use organizational resources to complete the project.

Project Definition or Project Charter
A statement of the scope, objectives and participants in a project. It provides a preliminary delineation of roles and responsibilities, outlines the project objectives, identifies the main stakeholders, and defines the authority of the project manager. It serves as a reference of authority for the future of the project.

Contents of the project charter/Terms of reference includes

- Business case
- Project vision, scope, boundary and objectives
- Complete scope of the project

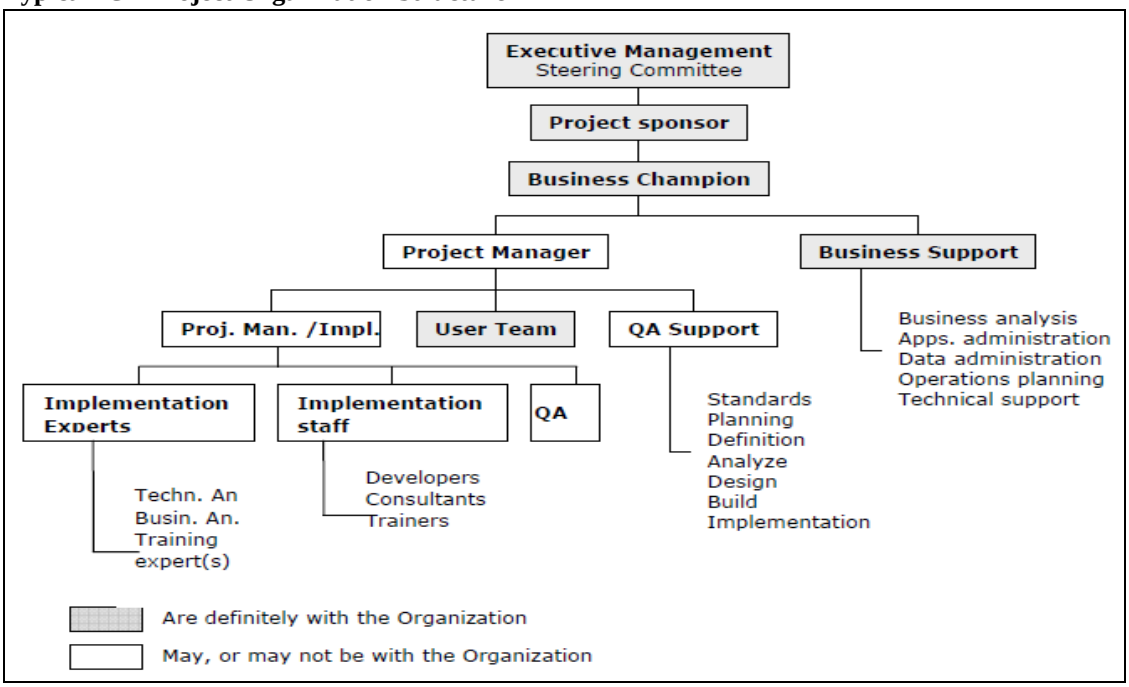
- List all of the critical project deliverables
- Project customers and project stakeholders roles and responsibilities for the new project
- Stakeholders key roles and responsibilities
- Organizational structure for the project
- Overall Project implementation/Milestone plan and timeline – Schedule estimate
- Project Costs and resources needed
- List any risks, issues planning assumptions and constraints are also identified
- Project Critical Success Factors. Critical success factors are outcomes that must be achieved in order for the project to be considered a success. They should correlate with the Project Objectives

The charter answers the basic question, *"What are we trying to do?"*

Appoint the project team: A project manager is first assigned/ appointed: the project manager is the person to lead the project into the more detailed planning process, and then manage the project the rest of the way. The project manager works with the Project Sponsor to identify the necessary resources and Project Team members needed to further develop the key project parameters – Cost, Scope, Schedule, and Quality (CSSQ). The project manager creates a detailed job description for each role and responsibilities in the project team, and recruits people into each role based on their relevant skills and experience.

Set up a project office: The project office is the physical environment within which the team is based. Although it is usual to have one central project office, it is possible to have a virtual project office with project team members located around the world. A project office environment should include:

Typical ICT Project Organization Structure



2.6. Phase Review

A Project Review is an assessment of the status of a project, at a particular point in time. During this project review, a decision is made as to whether or not the team has met the objectives and is approved to proceed to the next project phase, being the "Planning" phase.

Performing a project management review at the end of each phase is critical to the success of the project, because it allows the Project Sponsor to control the progress of the project and make sure that it passes through each Project Phase smoothly. The phase review document must show whether

- Project is currently delivering to schedule

- Budget allocated was sufficient at this point
- Deliverables have been produced and approved
- Risks have been controlled and mitigated
- Issues were identified and resolved
- Changes were properly managed
- Project is on track

2.7. Project Goals and Objectives

Goals and objectives are statements that describe what the project will accomplish, or the business value the project will achieve.

- *Goals* are high level statements that provide overall context for what the project is trying to achieve, and should align to business goals.
- *Objectives* are lower level statements that describe the specific, tangible products and deliverables that the project will deliver.

The definition of goals and objectives is more of an art than a science, and it can be difficult to define them and align them correctly.

2.7.1. Project Objectives

The project objective consists of the business benefits that an organization expects to achieve as a result of spending time and exerting effort to complete a project.

- Objectives are concrete statements describing what the project is trying to achieve.
- The objective should be written at a lower level, so that it can be evaluated at the conclusion of a project to see whether it was achieved or not.
- Objectives should not be vague.
- A well-worded objective will be Specific, Measurable, Attainable/Achievable, Realistic and Time-bound (SMART).
- Key words such as investigate, develop and analyse should be used in objectives
- It should contain three components expressed in past tense;
    - ✓ A subject
    - ✓ An action
    - ✓ A set of conditions

An example of an objective statement might be to

- "*upgrade the helpdesk telephone system by December 31 to achieve average client wait times of no more than two minutes*".
- *To develop a Web site form my E-commerce project by Dec 2011*
- *To analyse the current system in two weeks time.*

1. Note that the objective is much more concrete and **specific** than the goal statement.
2. The objective is **measurable** in terms of the average client wait times the new phone system is trying to achieve.
3. We must assume that the objective is **achievable** and **realistic**.
4. The objective is **time-bound**, and should be completed by December 31.

2.7.2. Types of Objectives

Project objectives can be divided into three categories:

1. Main objectives (the reasons for doing the project)
2. Additional objectives (the benefits achieved almost as side-effects, not the reasons for doing the project)
3. Non-objectives (the benefits that are not to be expected as a result of the project). Care should be taken to list only such non-objectives that can be reasonably expected by project sponsors or other interested parties, but are not going to be achieved by the project.

Project vision: A project's vision is the desired state or ultimate condition that the project is working to achieve. The project vision is a brief summary of the goals and scope of the project, i.e., what the project will accomplish and what is

its focus. It should give some understanding as to why the project exists and call out guiding principals for the project as they relate to strategic objectives of the organization. A good vision provides guidance both about what a project is, and what it is not. The vision may be qualitative and does not need to be measurable, but it should be traceable to specific project goals that are measurable.

It is typically expressed in a vision statement

2.6. Project Selection Methods

a) Focus on the broad organizational needs: the project must meet three criteria of **need, funding and will**. Projects that focus on the broad organizational needs are likely to succeed.
b) Categorizing information Technology projects: categorization assess whether the project responds to a
   - Problem: undesirable situations that prevents an organization from achieving its goals;
   - Opportunity: chance to improve the organization;
   - Directive: new requirements imposed by the management. Government or some external influence.
   - Other categorization is based on project time schedule and priority (high, medium or low) based on the business environment
c) Performing net present value other financial analysis: NPV – calculating the expected net monetary gain or loss from a project by discounting all expected future cash inflows and outflows to the present point in time. Other financial analysis methods includes; Payback analysis, Return on Investment
d) Using a weighted scoring model. Method used to select a project based on many criteria; such as key business objectives, strong sponsor, strong customer support, low risk, positive NPV etc
e) Implementing a balanced scorecard: a method that converts an organization's value drivers such as customer service, innovation, operational efficiency and financial performance to a series of defined metrics.
   (learn more from http://www.balancescorecard.org)