

Chapter One: Overview of Project Cycle Management

1.1. Defining the Development project

A development project is designed to deliver a specific output aiming to improve the economic and social conditions of a group of people. Examples of the type of objectives of development projects are: reduction in child mortality, improvement in maternal health, or combat HIV/AIDS, malaria and other diseases.

Development Project means a Project which is either (i) under development for which any member of the Consolidated Group is actively pursuing construction of one or more buildings or other improvements or (ii) the subject of a major redevelopment or renovation, involving extensive capital expenditures beyond those normally incurred in connection with the installation of tenant improvements for a new tenant, to upgrade and reposition such Project to meet prevailing market standards and requiring such Project to be vacated during such redevelopment or renovation and, in the case of all such developments, redevelopments or renovations, for which construction is proceeding to completion without undue delay from permit denial, construction delays or otherwise, all pursuant to such member's ordinary course of business, provided that any such Project will no longer be considered a Development Project following a date twelve (12) months after the first date on which a certificate of occupancy has issued or reissued for such Development Project or on which such Development Project may otherwise be lawfully occupied for its intended use.

A development project needs to respond to a series of different stakeholders, each with different needs and priorities, and operate in difficult environments, which increases its complexity and risk. Development projects vary in size and orientation, most share the common goal of helping people and benefiting society. The goal of all development projects is to help improve people's lives through skills training and other livelihood programs. Development organizations prepare and implement development projects and work to strengthen the capabilities of local institutional and promote community self-reliance through sustainable strategies. Funding for projects comes through private and public donations, government assistance, and a variety of other sources. Development projects may consist of a single, transformative project to address a specific problem or a series of projects targeted at addressing several problems.

1.2. Defining the Development project management

Project management is the practice of leading the work of a team to achieve goals and meet success criteria at a specified time. The primary challenge of project management is to achieve all of the project goals within the given constraints. This information is usually described in project documentation, created at the beginning of the development process. The primary constraints are scope, time, quality and budget. The secondary challenge is to optimize the allocation of necessary inputs and apply them to meet pre-defined objectives.

The objective of project management is to produce a complete project which complies with the client's objectives. In many cases the objective of project management is also to shape or reform the client's brief to feasibly address the client's objectives. Once the client's objectives are clearly established they should influence all decisions made by other people involved in the project – for example project managers, designers, contractors and sub-contractors. Ill-defined or too tightly prescribed project management objectives are detrimental to decision making.

A project is a temporary endeavor designed to produce a unique product, service or result with a defined beginning and end (usually time-constrained, and often constrained by funding or staffing) undertaken to meet unique goals and objectives, typically to bring about beneficial change or added value. The temporary nature of projects stands in contrast with business as usual (or operations), which are repetitive, permanent, or semi-permanent functional activities to produce products or services. In practice, the management of such distinct production approaches requires the development of distinct technical skills and management strategies.^[6]

Project management includes developing a project plan, which involves defining and confirming the project goals and objectives, how they will be achieved, identifying tasks and quantifying the resources needed, and determining budgets and timelines for completion. It also includes managing the implementation of the project plan, along with operating regular 'controls' to ensure that there is accurate and objective information on 'performance' relative to the plan, and the mechanisms to implement recovery actions where necessary. Projects often follow major phases or stages (with various titles for these), for example: feasibility, definition, planning, implementation, evaluation and realization.

Examples of Projects

Projects can be large or small and involve one person or thousands of people. They can be done in one day or take years to complete. Examples of projects include the following:

- A young couple hires a firm to design and build them a new house.

- A retail store manager works with employees to display a new clothing line.
- A college campus upgrades its technology infrastructure to provide wireless Internet access.
- A construction company designs and constructs a new office building for a client. A school implements new government standards for tracking student achievement.
- A group of musicians starts a company to help children develop their musical talents.
- A pharmaceutical company launches a new drug.
- A television network develops a system to allow viewers to vote for contestants and provide other feedback on programs.
- The automobile industry develops standards to streamline procurement.
- A government group develops a program to track child immunizations.

1.3.Goals, benefits, nature, features and types of development project

Project Attributes

A project has distinctive attributes that distinguish it from ongoing work or business operations. Projects are temporary in nature. They are not an everyday business process and have definitive start dates and end dates. This characteristic is important because a large part of the project effort is dedicated to ensuring that the project is completed at the appointed time. To do this, schedules are created showing when tasks should begin and end. Projects can last minutes, hours, days, weeks, months, or years.

Projects exist to bring about a product or service that hasn't existed before. In this sense, a project is unique. Unique means that this is new; this has never been done before. Maybe it's been done in a very similar fashion before but never exactly in this way. For example, Ford Motor Company is in the business of designing and assembling cars. Each model that Ford designs and produces can be considered a project. The models differ from each other in their features and are marketed to people with various needs. An SUV serves a different purpose and clientele than a luxury car. The design and marketing of these two models are unique projects. However, the actual assembly of the cars is considered an operation (i.e., a repetitive process that is followed for most makes and models).

In contrast with projects, operations are ongoing and repetitive. They involve work that is continuous without an ending date and with the same processes repeated to produce the same results. The purpose of operations is to keep the organization functioning while the purpose of a

project is to meet its goals and conclude. Therefore, operations are ongoing while projects are unique and temporary.

A project is completed when its goals and objectives are accomplished. It is these goals that drive the project, and all the planning and implementation efforts undertaken to achieve them. Sometimes projects end when it is determined that the goals and objectives cannot be accomplished or when the product or service of the project is no longer needed and the project is cancelled

As you can see, projects come in all shapes and sizes. The following attributes help to define a project further:

- A project has a unique purpose. Every project should have a well-defined objective. For example, Anne Roberts, the Director of the Project Management Office in the opening case, might sponsor an information technology collaboration project to develop a list and initial analysis of potential information technology projects that might improve operations for the company. The unique purpose of this project would be to create a collaborative report with ideas from people throughout the company. The results would provide the basis for further discussions and projects. As in this example, projects result in a unique product, service, or result.
- A project is temporary. A project has a definite beginning and a definite end. In the information technology collaboration project, Anne might form a team of people to work immediately on the project, and then expect a report and an executive presentation of the results in one month.
- A project is developed using progressive elaboration. Projects are often defined broadly when they begin, and as time passes, the specific details of the project become clearer. Therefore, projects should be developed in increments. A project team should develop initial plans and then update them with more detail based on new information. For example, suppose a few people submitted ideas for the information technology collaboration project, but they did not clearly address how the ideas would support the business strategy of improving operations. The project team might decide to prepare a questionnaire for people to fill in as they submit their ideas to improve the quality of the inputs.
- A project requires resources, often from various areas. Resources include people, hardware, software, and other assets. Many projects cross departmental or other boundaries to achieve

their unique purposes. For the information technology collaboration project, people from information technology, marketing, sales, distribution, and other areas of the company would need to work together to develop ideas. The company might also hire outside consultants to provide input. Once the project team has selected key projects for implementation, they will probably require additional resources. And to meet new project objectives, people from other companies product suppliers and consulting companies may be added. Resources, however, are limited and must be used effectively to meet project and other corporate goals.

- A project should have a primary customer or sponsor. Most projects have many interested parties or stakeholders, but someone must take the primary role of sponsorship. The project sponsor usually provides the direction and funding for the project. In this case, Anne Roberts would be the sponsor for the information technology collaboration project. Once further information technology projects are selected, however, the sponsors for those projects would be senior managers in charge of the main parts of the company affected by the projects. For example, if the vice president of sales initiates a project to 7 Introduction to Project Management improve direct product sales using the Internet, he or she might be the project sponsor.
- A project involves uncertainty. Because every project is unique, it is sometimes difficult to define its objectives clearly, estimate how long it will take to complete, or determine how much it will cost. External factors also cause uncertainty, such as a supplier going out of business or a project team member needing unplanned time off. This uncertainty is one of the main reasons project management is so challenging, especially on projects involving new technologies.

Project Characteristics

When considering whether or not you have a project on your hands, there are some things to keep in mind. First, is it a project or an ongoing operation? Second, if it is a project, who are the stakeholders? And third, what characteristics distinguish this endeavor as a project?

Projects have several characteristics:

- Projects are unique.
- Projects are temporary in nature and have a definite beginning and ending date.

- Projects are completed when the project goals are achieved or it's determined the project is no longer viable.

A successful project is one that meets or exceeds the expectations of the stakeholders.

Consider the following scenario: The vice-president (VP) of marketing approaches you with a fabulous idea. (Obviously it must be "fabulous" because he thought of it.) He wants to set up kiosks in local grocery stores as mini-offices. These offices will offer customers the ability to sign up for car and home insurance services as well as make their bill payments. He believes that the exposure in grocery stores will increase awareness of the company's offerings. He told you that senior management has already cleared the project, and he'll dedicate as many resources to this as he can. He wants the new kiosks in place in 12 selected stores in a major city by the end of the year. Finally, he has assigned you to head up this project.

Your first question should be, "Is it a project?" This may seem elementary, but confusing projects with ongoing operations happens often. Projects are temporary in nature, have definite start and end dates, result in the creation of a unique product or service, and are completed when their goals and objectives have been met and signed off by the stakeholders.

Using these criteria, let's examine the assignment from the VP of marketing to determine if it is a project:

- Is it unique? Yes, because the kiosks don't exist in the local grocery stores. This is a new way of offering the company's services to its customer base. While the service the company is offering isn't new, the way it is presenting its services is.
- Does the product have a limited timeframe? Yes, the start date of this project is today, and the end date is the end of next year. It is a temporary endeavor.
- Is there a way to determine when the project is completed? Yes, the kiosks will be installed and the services will be offered from them. Once all the kiosks are installed and operating, the project will come to a close.
- Is there a way to determine stakeholder satisfaction? Yes, the expectations of the stakeholders will be documented in the form of requirements during the planning processes. These requirements will be compared to the finished product to determine if it meets the expectations of the stakeholder.

These two definitions were selected because they are fairly representative of most commonly accepted definitions of the term 'project.' More organizational specific definitions can also be

found. While examining various definitions, several commonalities begin to emerge; three characteristics that are commonly accepted as the defining features of projects: Temporary Unique Creating Output Temporary – The temporary nature of a project indicates that a project has a definite beginning and a definite end. The beginning is marked by the start of the project and the end is reached when the project's objectives have been achieved or when the project is terminated for some other reason. 'Temporary' is also one of the characteristics distinguishing a project from normal operations. Temporary does not necessarily mean that the duration of a project is short. It only refers to the engagement of a project, and not to the product, service, or resulting deliverable. The temporary aspect of a project can be conceptualized by thinking of a building construction project. The construction of a building takes a specific amount of time. However, the building will continue to be in place much longer after the construction project has ended. Unique – Every project is unique and different. This is another aspect that differentiates a project from normal operations. Repetitive elements may be present in project deliverables and activities, but there is always something different about those elements or the way in which they are combined. Once again, a building construction project can serve as a conceptual example. A specific structure may be designed by people who have designed other buildings, constructed by people who have built other buildings, and made from the same materials as other buildings. Yet, an individual building project brings those elements together in a unique way; A particular building of a specific design for an exact purpose using selected materials all combine to create a unique construction project. Creating Output – Every project creates some type of product, service, or end result. These outputs are called deliverables and they are the reason projects exist and take place. Project output can be both tangible and intangible. An example of tangible project output is the building resulting from a construction project. Examples of intangible projects include new services or events. Projects have other features as well. They can be large or small, involving a single person or multiple organizations. Projects can also be undertaken at all different organizational levels.

1.4. Programs vs. projects: how do they differ?

What is a project?

A project refers to a specific, singular endeavour to deliver a tangible output.

A project manager is therefore responsible for ensuring a project delivers on its intended output in line with a defined time frame and budget.

What is a program/programme?

A program refers to multiple projects which are managed and delivered as a single package.

A program manager is therefore tasked with overseeing all the projects comprising the program – to ensure it achieves its outcomes.

How projects and programs differ

- **Structure:**

- The components of a project are specific and exact.
- The scope and goals of a project are well-defined – while programs are typically less clear-cut.
- Because a program covers multiple projects – a program team tends to be larger as it also incorporates the project managers and their project team members.

- **Effort:**

- A project represents a single, focused endeavour.
- A program is a collection of projects – together all the projects form a connected package of work. The different projects complement each other to assist the program in achieving its overall objectives. It's likely the different projects within a program will overlap – the program manager will therefore assess these overlaps and work with the relevant project managers to ensure the program's smooth progression.

- **Length:**

- While some projects take several years – the typical project will not take very long to complete.
- Programs often take a very long time to complete as they intend to deliver more. It's therefore common for programs to be organised into phases or tranches.
- A particularly long project may also be organised into multiple phases – but this is less common.

- **Benefits:**

- Projects focus on achieving tangible outputs, i.e. what you gain upon completing the project.
- Programs focus on outcomes – which are often not tangible. The benefits provided by a program depend on the collective benefits of its projects. Examples of a program outcome include a cultural or political change within an organization – or a change in the way in which an organization operates.

How are Project and Program Managers different?

- **Project Managers** need to focus on the deliverables of their project which must be achieved within certain cost and time constraints.
- **Program Managers** must be comfortable in being less hands-on and they need to have a vision of the benefits the program will achieve. The best thing for the organisation running program and projects is that everyone understands the different pressures faced by their colleagues.

So if you are a project manager it's well worth finding out more about program management and similarly program managers benefit from understanding the challenges that project managers face.

Chapter Two: Project Cycle

2.1. The concept of project life cycle

A project life cycle is the sequence of phases that a project goes through from its initiation to its closure. The number and sequence of the cycle are determined by the management and various other factors like needs of the organization involved in the project, the nature of the project, and its area of application. The phases have a definite start, end, and control point and are constrained by time. The project lifecycle can be defined and modified as per the needs and aspects of the organization. Even though every project has a definite start and end, the particular objectives, deliverables, and activities vary widely. The lifecycle provides the basic foundation of the actions that has to be performed in the project, irrespective of the specific work involved.

Project life cycles can range from predictive or plan-driven approaches to adaptive or change-driven approaches. In a predictive life cycle, the specifics are defined at the start of the project, and any alterations to scope are carefully addressed. In an adaptive life cycle, the product is

developed over multiple iterations, and detailed scope is defined for iteration only as the iteration begins.

The Project Life Cycle Another way of illustrating the unique nature of project work is in terms of the project life cycle. Some project managers find it useful to use the project life cycle as the cornerstone for managing projects. The life cycle recognizes that projects have a limited life span and that there are predictable changes in level of effort and focus over the life of the project. There are a number of different life-cycle models in project management literature. Many are unique to a specific industry or type of project. For example, a new software development project may consist of five phases: definition, design, code, integration/test, and maintenance.

The project life cycle typically passes sequentially through four stages: defining, planning, executing, and delivering. The starting point begins the moment the project is given the go-ahead. Project effort starts slowly, builds to a peak, and then declines to delivery of the project to the customer. 1. Defining stage: Specifications of the project are defined; project objectives are established; teams are formed; major responsibilities are assigned. 2. Planning stage: The level of effort increases, and plans are developed to determine what the project will entail, when it will be scheduled, whom it will benefit, what quality level should be maintained, and what the budget will be

2.2.Stage one project cycle: project programming (Fundamental principles of project programming)

Project programming is beneficial to any project type. Whether you are planning to construct a new building, implement bicycle facilities, reconfigure what you have, or need someone to help determine which to do, Architectural Project Programming is the collaborative process necessary to define not only the contents or parts of a potential project, but the relationships, impact on work flow, budget, and time.

The purpose of programming, also known as pre-design, is to:

- Finalize the project objectives.
- Determine the building and user requirements.
- Establish a total building area.
- Set the scope of work.

At this point it is possible to estimate a realistic project cost, to which yearly escalation factors may be added to account for construction or occupancy delays.

Programming involves gathering information from the intended building occupants and user groups through group and individual interviews. The programmer researches current and projected needs in such areas as information and instructional technology, academic teaching methods, privacy and security.

This results in a comprehensive description of the necessary components of the construction project.

All the issues explored in the study phase are re-examined in detail during programming. This is the time to determine the effect on existing facilities or projects-in-planning and the need for corollary projects, such as parking lots or new utilities services. State of Michigan building requirements or restrictions and all life safety, fire, environmental and barrier-free code issues are identified.

2.3.Stage two project cycle: project identification: (Expected outcomes of project identification, major tasks involved in the project identification process, criteria for project identification.

Project Identification is a repeatable process for documenting, validating, ranking and approving candidate projects within an organization. The purpose of project identification is to develop a preliminary proposal for the most appropriate set of interventions and course of action, within specific time and budget frames, to address a specific development goal in a particular region or setting. Investment ideas can arise from many sources and contexts. They can originate from a country's sector plan, programme or strategy, as follow-up of an existing project or from priorities identified in a multi-stakeholder sector or local development dialogue

The process includes defining the problems and issues, then uncovering solutions through collaboration. This comprehensive document typically includes:

- An executive summary
- Communications and media work with residents, clients, constituents, and the community
- Process summary
- Project goals
- Summary of relevant project facts
- Spatial requirements, including square footage

- Stacking and adjacency analysis
- Flow diagrams
- Estimated costs
- Estimated phasing and schedule

Major tasks involved in the project identification process

Due to the changing financial conditions within the total organization, it is necessary to establish a stable process for approving projects for initiation. This process will...

- Validate the business reason for each candidate project.
- Provide the base information for more informed financial commitments to projects.
- Establish a more objective ranking of candidate projects.
- Allow a more effective matching of skilled resources to the right project.
- Avoid over-allocating limited skilled resources.
- Anticipate future human resource quantities and skills.
- Provide a valid basis for staff training.
- Make Project Initiation faster and more efficient.

Because priorities, finances and resources may change at any time, it is critical that this process be well-defined and easy to follow. It is also important that its value is understood and supported by corporate leaders and the business organization.

Criteria for project identification.

This process is intended for proposed projects that...

- Are of significant size and will require a significant amount of time to complete.
- Must be tightly coordinated with other active projects.
- Will use new or emerging technology.
- Will require a new work process.
- Are intended for a new customer or unproven market.
- Will impact numerous departments or organizations.
- Are highly critical to the success of the business.
- Are a known high risk.

2.4.Stage three project cycle: Project Appraisal, Design and planning: (Expected outcomes of project appraisal, major tasks involved in project appraisal, criteria for project appraisal)

Project Appraisal is a consistent process of reviewing a given project and evaluating its content to approve or reject this project, through analyzing the problem or need to be addressed by the project, generating solution options (alternatives) for solving the problem, selecting the most feasible option, conducting a feasibility analysis of that option, creating the solution statement, and identifying all people and organizations concerned with or affected by the project and its expected outcomes. It is an attempt to justify the project through analysis, which is a way to determine project feasibility and cost-effectiveness.

Appraising a project means evaluating the proposed solution against its ability to solve the identified problem or need. Some PM methodologies and guides (e.g. PMBOK) regards the technical and financial project appraisal as a component of the initiation or pre-planning phase. PRINCE2 suggests developing the business case which is a form of project appraisal. The Method 123 (MPMM, which is based on PMI and PRINCE2 standards) also uses the business case for preparing a proposed project for feasibility analysis and assessment.

Project appraisal management is an essential stage of any project, regardless of its nature, type and size. This stage represents the first point of the pre-planning or initiation phase. Without having appraised a project, it is financial and technically unreasonable to proceed with further planning and development. No matter whether you are going to purchase a new car (e.g. my neighbor's project), constructing a building, improving a business process, updating a network system, conducting a marketing campaign, building a garage, or any other initiative, you should make a preliminary assessment and appraisal of your undertaking in order to be sure that that you will do a required and necessary change to your environment.

Features project appraisal

Here are the Key Features of the Appraisal of Project:

- Evaluate the key factor of a project
- Decide to Accept or reject a Project
- It is a tool to check the viability of a Project

Steps in project appraisal process

Here are the key steps this process. Proposal of a Project is assessed with the below steps and aspects.

- Financial and Economic appraisal
- Organizational or Management Appraisal
- Marketing and Commercial Appraisal
- Technical and Legal Appraisal

Project Appraisal Guidelines

Here are the guidelines for Project Appraisal Process:

- Project should assess in terms of its economic, social and financial viability
- Various aspects of a Project should assess before committing a project
- An individual person or a team who are not involved it's the preparation of Project Proposal should assess the Project.

Project Appraisal Techniques and Methods

Here are the key techniques of this process. Proposal of a Project is assessed with the below techniques and methods.

- Technical Feasibility
- Economic and Financial Analysis
- And Marketing and Management Competence

We use various techniques for assessment of the Project Proposal. Let us see each appraisal technique in detailed:

2.5. Project design and planning: Stakeholders analysis ,research, problem analysis, risk analysis, logical frameworks, action planning, preparing an activity Schedule

After the project has been defined and the project team has been appointed, you are ready to enter the second phase in the project management life cycle: the detailed project planning phase.

Project planning is at the heart of the project life cycle, and tells everyone involved where you're going and how you're going to get there. The planning phase is when the project plans are documented, the project deliverables and requirements are defined, and the project schedule is created. It involves creating a set of plans to help guide your team through the implementation and closure phases of the project. The plans created during this phase will help you manage time, cost,

quality, changes, risk, and related issues. They will also help you control staff and external suppliers to ensure that you deliver the project on time, within budget, and within schedule.

The project planning phase is often the most challenging phase for a project manager, as you need to make an educated guess about the staff, resources, and equipment needed to complete your project. You may also need to plan your communications and procurement activities, as well as contract any third-party suppliers. The purpose of the project planning phase is to:

- Establish business requirements
- Establish cost, schedule, list of deliverables, and delivery dates
- Establish resources plans
- Obtain management approval and proceed to the next phase

2.6.Stage four project cycle: Project Financing: (research for project financing ,cultivating donors and writing project proposal, financial management and budgeting planning for projects)

Project Financing is a long-term, zero or limited recourse financing solution that is available to a borrower against the rights, assets, and interests related to the concerned project.

2.7.Stage five project cycle: Project Implementation: (criteria for implementation, expected outcomes of implementation, main periods of implementation, major principles of implementation, challenges in implementation)

Project implementation (or **project** execution) is the phase where visions and plans become reality. This is the logical conclusion, after evaluating, deciding, visioning, planning, applying for funds and finding the financial resources of a **project**. Technical **implementation** is one part of executing a **project**.

2.8.Stage six project cycle: Project Monitoring, Evaluation and Reporting and Closure: (Overview and definition of monitoring, steps of project monitoring, overview and definition of evaluation, evaluation criteria: indicators, managing evaluation process, challenges of monitoring and evaluation in development sector, how to report on monitoring progress and evaluation)

2.9 Project closure: Perform project closure, review project completion

By definition, projects are short term initiatives, having a defined beginning and end, designed to fill a specific purpose. Projects differ from long term operations in that they are temporary by design (although this status does nothing to diminish their value). The **Project Closure Phase** is

the fourth and last phase in the *project life cycle*. In this phase, you will formally close your project and then report its overall level of success to your sponsor. Project Closure involves handing over the deliverables to your customer, passing the documentation to the business, cancelling supplier contracts, releasing staff and equipment, and informing stakeholders of the closure of the project. After the project has been closed, a Post Implementation Review is completed to determine the projects success and identify the lessons learned. As a key part of the project lifecycle, closure practices are designed to fill the following needs:

- To transition project deliverables to their long term operational status.
- To release the project team for other projects or to return to operational positions.
- To complete any remaining obligations and conduct formal practices for project review.
- To recognize the work and efforts of the project team and commitment of the project stakeholders.
- To establish a record of project results to build on for the future.

Chapter Three : Logical Framework Approach

3.1. Introduction to logical framework approach

The **Logical Framework Approach** (LFA) is an analytical process and set of tools used to support project planning and management. According to the World Bank (2000), “the Logical Framework has the power to communicate the essential elements of a complex project clearly and succinctly throughout the project cycle. It is used to develop the overall design of a project, to improve the project implementation monitoring and to strengthen periodic project evaluation” (see also **participatory monitoring and evaluation**). It provides a set of interlocking concepts which are used as part of an iterative process to aid structured and systematic analysis of a project or programme idea (EUROPEAN COMMISSION 2004).

LFA is best started early in activity design, and should be thought as an ‘aid to thinking’. It allows information to be analysed and organised in a structured way, so that important questions can be asked, weaknesses identified and decision makers can make informed decisions based on their improved understanding of the project rationale, its intended objectives and the means by which objectives will be achieved (EUROPEAN COMMISSION 2004). A frequent problem with the application of the logframe approach is that the planning process and the preparation of the matrix are carried out separately from the **project proposal** or the **budget**, resulting in inconsistencies

between the contents of the logframe matrix and the description of the project contained in the narrative of the main documents. Therefore, the application of the LFA should come first, and then provide the needed information for completing the other required documents.

There is a clear distinction between the **Logical Framework Approach** and the Logical Framework Matrix. The first refers to the steps involved in planning and designing the project. These steps include a stakeholder analysis, cause-effect analysis, objectives analysis, and alternatives analysis culminating in the design of the project. The matrix, which summarises the final design of the project, usually comprises 16 frames organised under 4 major headings (SALDANHA and WITTLE 2002).

3.2. Logical Framework Approach (Analytical Process)

(Adapted from AUSAID 2005)

Before starting with the activity design and the construction of the logframe matrix, it is important to undertake a structured analysis of the existing situation. LFA incorporates four main analytical elements to help guide this process:

- **Problem Analysis:** involves identifying what the main problems are and establishing the cause and effect relationships which result in, and flow from, these problems (see also **problem and preference ranking**, or **problem tree analysis** as methods for problem identification).
- **Stakeholder Analysis:** having identified the main problems and the cause and effect relationship between them, it is then important to give further consideration to who these problems actually impact on most, and what the roles and interests of different stakeholders might be in addressing the problems and reaching solutions (see also **stakeholder identification**).
- **Analysis of Objectives:** objective trees should be prepared after the **problem tree** has been completed and an initial stakeholder analysis (learn more about it starting by the **stakeholder identification** factsheet) has been undertaken. This will give an image of an improved situation in the future.
- **Analysis of Strategies:** comparison of different options to address a given situation.

The Logical Framework Matrix (Logframe)

Factsheet Block Body

The results of the stakeholder, problem, objectives and strategy analysis are used as the basis for preparing the Logical Framework Matrix. The Logical Framework Matrix (or more briefly the logframe) consists of a matrix with four columns and four (or more) rows, which summarise the key elements of a project plan and should generally be between 1 and 4 pages in length. However, this will depend on the scale and complexity of the project.

Project Description		Objectively verifiable indicators of achievement	Sources and means of verification	Assumptions
Goal	What is the overall broader impact to which the action will contribute?	What are the key indicators related to the overall goal?	What are the sources of information for these indicators?	What are the external factors necessary to sustain objectives in the long term?
Purpose	What is the immediate development outcome at the end of the project?	Which indicators clearly show that the objective of the action has been achieved?	What are the sources of information that exist or can be collected? What are the methods required to get this information?	Which factors and conditions are necessary to achieve that objective? (external conditions)
Outputs	What are the specifically deliverable results envisaged to achieve the specific objectives?	What are the indicators to measure whether and to what extent the action achieves the expected results?	What are the sources of information for these indicators?	What external conditions must be met to obtain the expected results on schedule?
Activities	What are the key activities to be carried out and in what sequence in order to produce the expected results?	Means:	What are the sources of information about action progress?	What pre-conditions are required before the action starts?
		What are the means required to implement these activities, e. g. personnel, equipment, supplies, etc.	Costs	
			What are the action costs?	

Chapter Four: Management principles in development context

4.1.Role of the project manager

A project manager is a person who has the overall responsibility for the successful initiation, planning, design, execution, monitoring, controlling and closure of a project. Construction, petrochemical, architecture, information technology and many different industries that produce products and services use this job title.

The project manager must have a combination of skills including an ability to ask penetrating questions, detect unstated assumptions and resolve conflicts, as well as more general management skills.

Key among a project manager's duties is the recognition that risk directly impacts the likelihood of success and that this risk must be both formally and informally measured throughout the lifetime of a project.

Risks arise from uncertainty, and the successful project manager is the one who focuses on this as their primary concern. Most of the issues that impact a project result in one way or another from risk. A good project manager can lessen risk significantly, often by adhering to a policy of open communication, ensuring every significant participant has an opportunity to express opinions and concerns.

A project manager is a person who is responsible for making decisions, both large and small. The project manager should make sure they control risk and minimise uncertainty. Every decision the project manager makes must directly benefit their project.

Project managers use project management software, such as Microsoft Project, to organise their tasks and workforce. These software packages allow project managers to produce reports and charts in a few minutes, compared with the several hours it can take if they do it by hand.

Roles and Responsibilities

1. Activity and resource planning

Planning is instrumental for meeting project deadlines, and many projects fail due to poor planning. First and foremost, good project managers define the project's scope and determine available resources. Good project managers know how to realistically set time estimates and evaluate the team or teams' capabilities.

They then create a clear and concise plan to both execute the project and monitor its progress. Projects are naturally unpredictable, so good project managers know how to make adjustments along the way as needed before the project reaches its final stages.

2. Organizing and motivating a project team

Good project managers don't get their teams bogged down with elaborate spreadsheets, long checklists, and whiteboards. Instead, they put their teams front and center. They develop clear, straightforward plans that stimulate their teams to reach their full potential. They cut down on bureaucracy and steer their teams down a clear path to the final goal.

3. Controlling time management

Clients usually judge a project's success or failure on whether it has been delivered on time. Therefore, meeting deadlines is non-negotiable. Good project managers know how to set realistic deadlines, and how to communicate them consistently to their teams.

They know how to effectively do the following:

- Define activity
- Sequence activity
- Estimate the duration of activity
- Develop a schedule
- Maintain a schedule

4. Cost estimating and developing the budget

Good project managers know how to keep a project within its set budget. Even if a project meets a client's expectations and is delivered on time, it will still be a failure if it goes wildly over-budget. Good project managers frequently review the budget and plan ahead to avoid massive budget overruns.

5. Ensuring customer satisfaction

In the end, a project is only a success if the customer is happy. One of the key responsibilities of every project manager is to minimize uncertainty, avoid any unwanted surprises and involve their clients in the project as much as is reasonably possible. Good project managers know how to maintain effective communication and keep the company's clients up-to-date.

6. Analyzing and managing project risk

The bigger the project is, the more likely there are to be hurdles and pitfalls that weren't part of the initial plan. Hiccups are inevitable, but good project managers know how meticulously and almost intuitively, identify and evaluate potential risks before the project begins. They know how to then avoid risks or at least minimize their impact.

7. Monitoring progress

During the initial stages, project managers and their teams have a clear vision and high hopes of producing the desired result. However, the path to the finish line is never without some bumps along the way. When things don't go according to a plan, a project manager needs to monitor and analyze both expenditures and team performance and to always efficiently take corrective measures.

8. Managing reports and necessary documentation

Finally, experienced project managers know how essential final reports and proper documentation are. Good project managers can present comprehensive reports documenting that all project requirements were fulfilled, as well as the projects' history, including what was done, who was involved, and what could be done better in the future.

The role of the project manager encompasses many activities including:

- Planning and Defining Scope
- Activity Planning and Sequencing
- Resource Planning
- Developing Schedules
- Time Estimating
- Cost Estimating
- Developing a Budget
- Documentation
- Creating Charts and Schedules
- Risk Analysis
- Managing Risks and Issues
- Monitoring and Reporting Progress
- Team Leadership
- Strategic Influencing
- Business Partnering
- Working with Vendors
- Scalability, Interoperability and Portability Analysis
- Controlling Quality
- Benefits Realisation

4.2.Project management areas

The 10 Knowledge Areas that have been defined in project management are:

1. Project Integration Management
2. Project Scope Management
3. Project Schedule Management
4. Project Cost Management
5. Project Quality Management
6. Project Resource Management
7. Project Communications Management
8. Project Risk Management
9. Project Procurement Management
10. Project Stakeholders Management

1. Project Integration Management

The journey of Project Integration starts with the preparation of the Charter which is the primary bible for any project manager and concerned team to investigate the details of the project. Based on which, the Project Management plan is made and given for execution when moving from initiation to planning phase, after which the whole responsibility of execution starts with managing & direction of the project work, preparation of the project knowledge and facts to be presented across to the different stakeholders and monitory agencies. In the Project integration, monitoring and controlling phase has a lot of importance with the monitoring and controlling team looking to make the best of the work completed along with the implementation of any change management if required in the due course of the ongoing project. Finally, the Integration management ends with the closure and handover of the project to the customer with thorough checks and signoffs from concerned teams.

2. Project Scope Management

Defining the project scope is a great step towards making the right inroads into the next development and execution of set goals. The scope here defines collecting the requirements of the project, defining the goals and missions that will complete the project diagram and making the

right work breakdown structure that will help the team to go ahead with the schedule management plan for its implementation in the planning stage. Work Breakdown Structure (WBS) is an important step as the main work related to the project scope is broken down into minute pieces that will aid the team via brainstorming and deeper understanding of the requirements. The Scope Management does not have any role in the Execution phase and in Monitoring and Controlling phase, the scope of the project is validated and monitored if the project has been successfully executed as per the first accepted and drawn scope insights.

3. Project Schedule Management

Time is an important factor for the completion of the project, and it is one of the KPIs that can make the customer come back for consecutive deals with the company and boost the performance and ratings in the industry. Schedule Management starts with planning with the inputs of the Work Breakdown structure, defining the activities that will make the project execution smoother, sequencing the activities in order to help the executor and keep the schedule in order. Estimation of the schedule keeping different factors in mind – like availability of the team and their skills, customer requirement and project charter information; after all the data is taken into consideration, the schedule is developed & published. Maintaining the schedule is a big task and controlling it will provide brownie points in completion of the project as part of the Monitoring & Controlling phase.

4. Project Cost Management

Project Cost is another important factor that will determine the credibility and effectiveness of the company in the execution of the project in the accepted invoice amount. The steps involved in this knowledge area is spread across planning and monitoring & controlling phases; In planning phase – the cost management and disbursement plan is made for each entity with inputs of the Schedule management, cost estimated and finally the budget for each phase is allocated on a project basis. In the Monitoring & Controlling phase, the cost is monitored as the project is executed and controlled in case of overheads beyond the given permissible limits. Overall, a report is generated for assessment and will be used as a precursor for insights and business sense to be captured when performance is being measured from a project perspective.

5. Project Quality Management

Project quality is one of the prominent indicators that determine the deliverables, the cost and schedule are directly proportional to the quality and project scope that is being carried over by the final delivery.

Quality Management comes into play in planning, execution and manage & control phases; proper planning will be the key to a great quality that is maintained across all the phases with inputs from cost management and people behind the project who manage & execute for the customer as per their requirements.

In the monitor & control phase, controlling the quality is the key as the customer expects the best while the project is getting handed over for its destination and application.

6. Project Resource Management

Resources are the backbone of the project in terms of human capabilities and planning your overall work schedule. The tasks under this knowledge category are spread across planning, Executing and Managing & Control Phases. The work starts with planning the resources from the inputs of cost, quality and schedule management keeping in mind the project scope with special focus on the deliverables. Next, the estimation of the resources takes place where the availability of the resources is taken into consideration and activity to be assigned. In the Execution phase, acquisition of the resources for the project along with deployment of the skills to deliver the goals is set as per schedule, managing them to ensure all the tasks are done in time through proper planning. Once the execution is in place, controlling of resources is done to ensure the deliverables are delivered to the destination customer on time.

7. Project Communications Management

Communications with different people involved internally or externally is the lifeline for success or failure of the project. Communication could be synchronous or asynchronous in nature where all team members are present or it can be in the form of Email, Dashboards, etc. This one is spread across planning, execution and managing & controlling phases – managing the communications is the key for good relationship management among the team members, monitoring them is also necessary for regular intervals to ensure ironing of all issues is done in time.

Monitoring can be done via the use of an assertive, active and passive voice that power the

language and way the things are being reported back to the customer regarding status reports and meeting procedures followed to reduce friction between the team members.

8. Project Risk Management

It is a process to identify the potential risks that will affect your project, analyze them to see how it is going to make an impact for the pace of implementing the project over the planned schedule. Risk Management tenure runs over Planning, Executing, Monitoring & Controlling phases that are majorly part of the project before the closure. In the planning stage, Risk Management runs in with risk management plan preparation, identifying the potential risks and branding them positive or negative based on its impact, analysis & assessment of them through qualitative and quantitative angles, work on the responses for the identified risks. In the Execution stage, the risks are overseen, and action is taken to mitigate the same..., based on the response and monitoring them to see if the insights can be applied for a similar project next time.

9. Project Procurement Management

Procurement refers to the vendor's management and here it is purely referred to the supplies that will be affecting the deliverables of the project. This area is run across the planning phase with planning for the procurement of the supplies from vendors in the allocated budget and quality assured as it will be affecting the deliverables for the customer. In the Executing phase, the procurements are done and executed for the deliverables and checked for its quality control in the Managing & Controlling phase. This is an area referring to both internal and external factors and vendors who will be part of the project and ensure good quality deliverable with procurement order from qualified organizations.

10. Project Stakeholder Management

One of the most important areas which occupy a great extent of responsibility from initiating to managing & controlling phases. Project Stakeholder Management starts with the identification of possible stakeholders to be part of the project and they are classified as internal and external, the people nominated to be represented in the project can be from the customer side and executor side. In the planning phase, planning the rights of the stakeholders and their roles are set up as per their engagement. In Executing phase, stakeholder engagement is managed, and any issues are ironed out with regular communication channel. In Managing & Controlling phase, controlling the engagement before the sign off is done and ensuring the smooth acceptance of the deliverables.

Knowledgeable areas in project management is a big aspect and it forms the nucleus of the total management plan spread over 5 phases and 10 areas with 49 processes that define the complete life cycle of the project. Covering the aspects of Integration, Scope, Schedule, Cost, Quality, Resources, Risk, Procurement and Stakeholder engagement – this covers all the matrix of work and ensures the end to end completion of the project from initiation to closure. Covering the axis from internal to external vendors, people, and contractors who will be part of the project, knowledgeable areas help you gain insights that will take your organization to upper heights and build competent teams for handling multiple projects with multitasking.

This brings us to the end of this ‘Knowledge areas of Project Mangement’ blog. I have tried my best to keep the concepts crisp and clear. Hope it helped you in understanding Project Management and various other concepts surrounding it.

Chapter Five: Investment and Decision-making Tools

5.1. Performing economic analysis

What is economic analysis? Definition and examples

Economic analysis involves assessing or examining topics or issues from an economist's perspective. Economic analysis is the study of economic systems. It may also be a study of a production process or an industry. The analysis aims to determine how effectively the economy or something within it is operating. For example, an economic analysis of a company focuses mainly on how much profit it is making

5.2. Difference between finance and economic analysis

The differences between Financial and Economic Analysis Financial and Economic analyses have different perspectives or points of view: Financial analysis involves examining the activities and resource flows of the main entities (Stakeholders) or groups of entities separately. Economic analysis involves examining the impact on society (the economy) as a whole. The two forms of analysis do not therefore provide the same information, but complement each other. Economic analysis usually takes the perspective of the Nation, but can also take the perspective of a region or a sector, if the programme focuses on one of these. • Financial Analysis calculates the incentives for the main stakeholders, checks the solvency and longer-term sustainability of the project, and helps to design possible cost recovery mechanisms. It prepares the ground for an Economic Analysis, when the cash flows of the stakeholders are consolidated into a single cash flow. • Economic Analysis also provides valuable information on the contribution of the project in the international context as well as domestic effects in the economy. Through Shadow Pricing, it makes it possible to compare the project (a) to the supposedly clearly identified objectives of the macro economic policy of the country under analysis (b) to the possible objective of competitiveness (or international viability) in the international price system for goods and services (mainly by calculating costs and benefits in equivalent international prices, rather than in often-distorted local prices and comparing them to similar projects in other countries / regions) - and so to assess its "competitiveness". Through the Effects method⁸ it can estimate (quantify) the impact of a project on: (a) economic growth – value added (b) government budget (funds) - taxes and transfers (c) foreign exchange resources - forex spent and earned (d) income distribution - wages and salaries... • One should always perform a Financial Analysis before proceeding to an Economic Analysis. It is useful

to compare the results of the economic (notably shadow pricing) and financial analyses, as it may reveal that some benefits are transferred between certain stakeholders. To do so, one needs to track any positive or negative externality for the Nation (or region or world) that may not have been taken into account in the financial analysis. The method used to move from the financial prices to the economic prices and costs has to be well explained and justified with regard to the political macro-economic policy objectives of the country under analysis. • Before conducting such Economic analyses, one should reflect on which issues are crucial for the success of the project. For example, if a country is just emerging from a civil war, with low foreign currency reserves and budget resources, an analysis of the Effects may be useful to select the project that will use the least of these resources. • Before asking for an economic analysis, especially for the application of the effects method, one should first try to determine what data is available as well as how much time and funding such an analysis would require. It may be possible to use sector analyses carried out earlier, for example during programming, if they are recent enough. Other international institutions may also have performed such analyses.

- 5.3 Economic analysis and project planning
- 5.4 The concept of compounding and discounting rate
- 5.5 Measures of project worth
- 5.6 Non-discounted measures of project worth: Pay back period, simple or annual rate of return
- 5.7 Discounted measures of project worth: Net present value (NPV), Benefit-cost ratio (B/C Ratio), Internal Rate of Return (IRR)