

## Why Project management nowadays?

- Economic recessions and other changes in the external factors put lot of pressure on management to improve productivity without increasing the costs.
- Usually management has no control over external factors.
- Therefore, management prefers to look internally rather externally.
- Firstly, they go for cost reduction programs but there is a limit of cutting down the expenses (downsizing, early retirements etc), beyond which productivity starts suffering
- Then they try to make the optimum use of available corporate resources
- The traditional bureaucratic organizational structures cannot respond rapidly to fast changing environments due to long channels of decision making.
- PM is one of those newly developed techniques
- Traditionally, project management was confined to construction and defence related industries; now all proactive companies (pharmaceuticals, banking, hospitals, accounting etc) look towards PM for better use of their resources.

## What is a Project?

1. A project is a series of activities and tasks:

- Having specific objective
- Having defined specifications (scope)
- Having defined start and finish dates
- Having defined life cycle (beginning and an end with number of phases in between)
- Having defined fund limits
- Having set of activities that are essentially unique and non-repetitive for different projects (PIA flights from Islamabad to Karachi )
- That consumes human and non-human resources (may be from different departments and needs coordination)
- Which are multi-functional with a single point of responsibility (Project manager)

2. The term project may be used to define "any endeavour that is temporary in nature with a beginning and an end. The project must create something unique whether it is a product or a service". As the definition implies, not every task can be considered a project.

3. J. Rodney Turner (author of 16 books, editor of "The International journal of Project management" defines project as:

- "... an endeavour in which human, machine, material and financial resources are organized in a novel way to undertake a unique scope of work, of given specification, within constraints of cost and time, so as to deliver beneficial change defined by quantitative and qualitative objectives"

## What is a successful Project?

Successful project is the one which is completed:

- Within the allocated time period
- Within the budgeted cost
- With minimum or mutually agreed upon scope changes
- According to defined performance levels (KPI's)
- According to customer's expectations
- By utilizing the assigned resources effectively and efficiently

### What is Project management?

• Project management defined by PMBOK (Project management body of knowledge) is "the application of knowledge, skills, tools and techniques to carry out project activities in order to meet stakeholder's needs and expectations from a project".

• Project management is the management of project related activities within specified time, cost and performance standards along with good customer relations.

### Stages of project management process

Project management *process* can be divided into five stages:

- Defining
  - What is that project?
  - What are the project objectives?
  - What are the expectations of stakeholders?
  - What are the project deliverables? (what this project will deliver)
  - What are the constraints of a project?
- Planning
  - Plan all project activities
  - Plan the relationships of these activities with each other
  - Plan the duration of these activities
  - Plan the deadlines of these activities
  - Plan the outcomes of specific activities .

- ..Plan requirements (things you need) for completing the project (people, cost and other resources)
- ..Plan risks associated with project
  
- Executing
  - ..Work on project begins
  - ..Assess the resources available for project
  - ..Assign resources for the project.
  
- Monitoring and Control
  - ..Look after the overall progress of project
  - ..Keep comparing the actual parameters with targeted parameters
  - ..Keep making the necessary changes
  
- Closing
  - ..All stake holders analyse the final outcome of the project
  - ..Project team is pulled out from the project

## Project Management Environment

The project environment directly affects the project and its management. Thorough understanding of the project environment is essential for successful project management.

Some key components of project environment are:

- Stakeholders (all interested parties)
  - ..Who have anything at stake in project
  - ..Who are affected by project
  - ..Who are involved in project
  
- Client
- Own company's organization structure
- Market conditions

- Competitors
- New technology
- Rules and regulations
- Politics
- Economic conditions
- Law and order situation

## Project management bodies in the world

- APM: Association of Project Managers (UK)
- PMI: Project Management Institute (USA)
- IPMA: International Project Management Association
- AIPM: Australian Institute of Project Management
- PMAJ: Project Management Association Japan

## **History of Project Management**

History of PM can be traced back to pyramids and Great Wall of China. They were complex structures built with high standards that have stood the test of time, but no documented management techniques are available with us. (In flood days, the work force could not work in their fields and so opted to work on pyramids, the work for which they were probably paid unlike Hollywood movies that they were treated as slaves)

Modern day PM is associated with Henry Gantt's development of bar chart (also called Gantt Charts) and special project management techniques developed in America and Britain in their military and aerospace projects.

Traditionally, PM was considered more of an art but with growing number of PM institutions, associations and bodies of knowledge, its scientific element has also evolved enormously.

Today, rapidly changing technologies, fierce market competitions and globalization have put companies under tremendous pressure to come with best possible management of projects for their survival in 21<sup>st</sup> century business world.

### Project Management Before 1950's

Until 1900, most of the projects were generally managed by designers, engineers and individuals themselves.

Forefathers of project management are [Henry Gantt](#), an American engineer called the father of planning and control techniques; he developed [Gantt charts](#), which is widely used as a project management tool. It was developed in 1917 by him to explain

project planning, scheduling and controlling (The Handbook of Industrial Engineers 1982, p.11 acknowledges the Gantt chart for reducing the time to build cargo ships during World War 1)

[Henri Fayol](#), a French Industrialist is famous for his creation of the five management functions that form the foundation of the body of knowledge associated with project and program management.

- Planning (Forecasting)
- Organizing (Staffing)
- Commanding (Motivation)
- Directing (Co-ordinating)
- Controlling (Monitoring)

### Project Management in 1950's

Austrian Biologist and philosopher, Dr. Ludwig von Bertalanffy (1901-1972) was one of the founders of General Systems Theory.

Total system has its subsystems. (Human body with its subsystems like muscles, circulatory system etc) (House construction, many specialists of their independent fields) Every subsystem has its specialist.

He identified how subsystem specialists could be integrated to get a better understanding of the interrelationships and contributing towards overall knowledge of the operations of systems.

The study of human behaviour can only be accomplished by studying man in totality.

Foundation for the evolution and growth of Project management was laid.

Kenneth Boulding (1910-1993) was born in England, graduated from Oxford University, was the co-founder of General Systems Theory. He did most of his research in America.

In 1956, he identified the communications problem that could occur during systems integration.

Subsystems specialists have their own languages.

For successful integration, all subsystem specialists must speak the same language.

PMBok evolution can be called as an outcome of that philosophy.

The 1950s marked the beginning of the modern project management era. Most of the techniques, we used today in project management were developed in 1950's and 1960's.

### 1960's

Development of PERT (Program evaluation and review technique)

Development of CPM (Critical Path Method)

Concept of a single point of responsibility was introduced. In multi-disciplined projects, one person was made responsible for completing the project.

Development of WBS (Work Breakdown structures)

Development of Project Life Cycle

IPMA was founded in 1967

PMI was formed in 1969

Over-the-fence management was replaced with project management

Over-the-fence management

Each subsystem specialist wears the hat of project manager at his turn.

He would perform his area of work and would throw the ball over the fence with a hope that someone would catch it.

Once the ball was thrown, the previous specialist would wash his hand as the ball was no longer in his court.

If the project failed, the blame was placed on whichever subsystem specialist had the ball at that time.

The problem was that the customer had no single point of contact to seek out required information and precious time was wasted.

For small projects, it was easy but as the projects grew in size and complexity, it became more difficult.

(Especially after, world war 1, during cold war, when government of USA started projects like B 52 bombers, Inter-continental ballistic missiles, they wanted single point of contact instead of risking with over the fence management,)

That single point of contact was the project manager.

### 1970's

Vietnam War, OPEC oil embargo and environmental pressure groups resulted in putting lot of constraints at that time on the on-going and future projects.

PM continued growing into a multi-disciplined profession.

High Technology companies outside defence and construction also started using PM.

Period of refinement for PM

### 1980's

PM techniques that were developed in 1960,s, refined in 1970's were integrated in 1980's as accepted practices.

Triangle of time, cost and quality was introduced in projects, where a change in one parameter could affect the other. (If time increases, cost also increases)

Emphasis and focus of PM tools and techniques was beginning to shift from the implementation phase (where majority of expenses were incurred) to initiation

phase, where, stake holder's needs were analysed, feasibility studies were conducted and risks were assessed.

Better forecasting techniques were developed to improve forecasting the cost of projects that would require 10 to 15 years to complete, because past precedence indicated 200 to 300% cost over runs. And entire blame was shifted to those who implemented them but the actual problem was the wrong estimation.

Instead of ad hoc collection of tools and techniques, first PMBOK was introduced in 1987.

### 1990's and 2000's

Fierce competition forced organizations to adopt for leaner, meaner and more flexible organizational structures with better PM techniques.

Small project teams were introduced, who quickly responded to innovation, new ideas and market competition.

The concept of Project office was introduced not only for managing the projects but to promote and develop the project management culture within the organization.

The introduction of PC created an explosion and proliferation of PM softwares.

Total quality management (TQM) emerged as a comprehensive PM technique to introduce the concept of quality throughout the project life cycle.