



Chapter 1

INTRODUCTION

Project Management & Integration

" A project is a problem scheduled to be solved"

- Dr. J.M. Juran

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Preview

- **Project?**

A plan or proposal or an undertaking or a movement forward

- **What is Project Management (PM)?**

1. A project is a job that has to get done.
2. It has an identifiable end-point.
3. A set of interrelated activities.
4. Involving a group of people working together on one-time task for a period of 1-18 months.

- **Example: Designing new car**

A group of people collaborates on design, building, testing and modification. Once the new car goes into production, the projects **END**. The responsibility for producing the car is given to an ongoing department/business units

- **Example: The construction project of UTeM's Kampus Induk**

Goals is to enable our University to accommodate students' capacity of 10,000 at the same time, safe & conducive for learning

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Example: In oil palm R&D project

Goals is to create oil palm trees that are more productive, better resistance to the diseases & climates & able to produce higher quality palm oil.

The GOOD... The rewards of managing a project are as varied and exciting as the kinds of projects and the types of people.

The BAD... The personal rewards may vary from project manager to other project manager but the downside is almost the same .

The REAL... Project Management is complex and challenging, creative and tedious, a process with unlimited potential and yet predictable patterns.

- **Projects goals often include constraints of:**

1. Time of completion (Schedule)
2. Budgeted cost
3. Quality

- PM's function is to monitor the project effectively to avoid overrun & maintained under the 3 main factors (time, cost & quality.)

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Project Management VS Process Management.



Management Aspect	Process Management	Project Management
Activities	Repetitive	Unique
Even Scheduling	Ongoing	Long duration
Functional Responsibility	Functional	Cross functional Ex: HR-R&D-Finance
Interdependence	Low	High
Risk	Limited	High
Return	Marginal Factor of return save resource = save cost = more profits	Wide ranging Factor of return low wastage + fast completion + fully utilize resource (man power) + obey contracts terms & conditions = profits
Example	Manufacturing of Coca Cola	Construction of KLIA



4 Phases of a Project

1. Conception / Planning

Involved decisions & commitments-ideas for new project. Project purposes & its design– clear documented (propose new product)

2. Definition/ Development / Build-up

Design & specified parameters embrace in project plan. Set up direction towards customer specification

3. Execution / Realization / Implementation

Turn development into reality. Reporting & inform project progress, expenditure, costs & foreseen adverse events.

4. Close out / Termination / Phase-out

Involves analysis of the outcome/result of the project. Analysis project reports which include success of method used & performance of team members.

Note: Each phase has its own set of **objectives, activities, tools and skills**. The project manager needs to recognize those objectives, prepare for the activities and use each set of tools and skills as needed



Set Project Objectives

When defining an objective, think **SMART**

- **Specific**
- **Measurable**
- **Action-Oriented**
- **Realistic**
- **Time-limited**

E.g: Over the next 4 months, the health-care benefits task force of the HR department will come up with a new benefits plan. Its SMART objectives are:

1. To survey <action-oriented> at least six <measurable> providers that meet the department's minimum threshold criteria quality.

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2. Recommend <action-oriented> at the June <time-limited> board of directors' meeting, the three <specific> that offer the best and broadest coverage at a cost that is at least 10% <realistic> less than the company's current per-employee contribution

Keep in mind: Aspects of the project as you set objectives:

Quality - Identify quality standards relevant to the project and determine how to measure and satisfy them.

Organization - Identify project roles, assignments, and relationships and make sure you have the right people assigned to the project

Communication - Determine what information each stakeholders (anyone who has vested interest in the outcome/people who will judge the success or failure of the project) needs and how to deliver it

Risk - Determine the risks likely to affect the project & evaluate possible responses.



Project Parameters

Cost of the project-By type

Understanding should be established between the sponsor (owner, customer, client) & the executioner (project management team) about the estimated financial resources of the project.

Payment terms play an important role in the project management:

1. every fix duration-2 months once or
2. upon completion of certain stages

A. Fixed cost projects

E.g.: Houses project

These projects are commissioned for a fixed price.

If project manager can deliver these performance levels with lesser cost, then there is a profit.

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Limitation:

Project manager may resist any changes (innovation) because this will increase the project cost. For long duration project, this is a bad practice.

B. Cost plus projects

E.g.: Military project, special government sponsored project.

Sponsor often pays = cost + certain margin for project executioner.

In this project, there is no incentive for project manager to cut the waste. Such savings do not add to the project bottom line & generate profit.

Advantage: Project executioner willing to make certain changes (innovation) as long as the sponsor is willing to pay for the additional cost.

Disadvantage: Financial not proper controlled. Wastage.

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Completion time of the project

On time completion is crucial. Only with the completed project, the sponsor can utilise the project to generate revenue or for beneficial usage.

Sponsors fear the time overruns. As a way to prevent this from happening, sponsors will offer a bonus for early completion project & a penalty for delayed project.

- **Performance of the completed project**

At the completion, the project should perform the way it was expected & targeted.

For a long duration project, it is usually to specify intermediate checkpoints. This is a stage by checkpoint stage. Through this way, the sponsor can estimate the project is progressing at the right pace.

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The Project Planning Process

- Project need careful planning to avoid overrun in cost, time & quality.
- Project planning begins with a project proposal & ends with a complete handing over to its sponsor.
- Planning involves identifying what a project is expected to accomplish & what kind of resources are needed to do so.

5 Stages of Project Planning:

Stage 1: Search Stage

Proactively Searching Project Opportunities

Project planner must anticipate the customer, market, environment, political, social, economy current & future requirements (PEST Influence)

Project management's company should proactively pre-empt the new demand for new project before their competitors do the same.



Stage 2: Conception Stage

Preparing a project proposal

Write a project proposal of get Request for Proposal (RFP) or tender. Some proposal need to be prepared in a standard format.

A comprehensive project proposal include:

1. Brief description of the organizations
2. History, past record
3. Achievement & capability
4. Available resources (manpower, time, financial, machineries, materials, expertise, technical specialties).
5. Specifies the expected performance levels
6. Cost for the completion of the project.

Normal practice: let lawyers to review the project proposal before the submission to verify all legal issues are in order & no laws of the nations involved are violated.

Certain standard clauses are added to state what is being promised & what is not.

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Stage 3: Birth Stage Project Presentation

Corporate practices: project proposal must be presented to a board of decision makers (sponsor or the top management of the project management team.)

Presentation: Both oral presentation and written.

During the presentation, decision maker can ask questions on aspect that not clear or get further clarification for information.

Presentation can show the enthusiasm in the project team in commissioning the future project.

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Stage 4: Growth Stage

Implementing & Monitoring Project

After the project proposal & presentation hits the decision maker (sponsor), the project contract is awarded. A careful plan plus contingency plan must be implemented immediately.

The project contract will stated with:

1. Clear definition the scope of work
2. Guaranteed performance expected by the sponsor.
3. Start time & end time.

Main **challenge** in project planning is breaking down the entire complex project into discrete pieces or activities (more manageable).

Project pieces then assigned to different agencies, parties, experts (inside or outside of the company). This helps to draw on the best expertise available for each piece of activities.

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The concept is to integrate the puzzle like project & then these pieces mesh together seamlessly.

To maintain an order in the complex distribution of work, command & control hierarchy must be developed. This will clearly identified the authority for incurring instruction, expenses & responsibilities.

Stage 5: Maturity Stage

Project Handover, Test Runs, & Guarantees

Upon handover, project team should demonstrate a satisfactory completion of the project (housing) or the performance at pre-specified level (plant, machineries).

After that, project team will get fully final paid. More important is to mark a clear transfer of responsibility. Either the team will still provide guarantees for certain durations, maintenance or repair with certain durations or responsibility for damages or safety to the owner of the project.

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In internal evaluation, project team:

1. Review the lessons learned from this project
2. Identify areas which are worked well, which are not.
3. Highlighted obstacles or problems that encountered.
4. Find gaps in skills or information encountered.
5. Make suggestion & recommendation.

This internal evaluation able to provide a platform to improve for the next projects so that the future team can be alerted with.

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Project Planning Tools

1. Gantt Chart (bar chart)

Lists the various activities to be performed in a particular project that required chronological sequence. The corresponding starting & finishing times are indicated in front of each activity.

- Status of project
- Estimated project duration
- Estimated task duration
- Task sequences

2. Network Path Method

Activity on Arrow - AOA (PERT Diagram)

Activity on Node - AON (Precedence Diagram)

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PLANNING	BUILD-UP	IMPLEMENTATION	PHASE-OUT
<p>* Objectives/Goals:</p> <ul style="list-style-type: none"> - Determine the real problem - Identify stakeholders Define project goals 	<ul style="list-style-type: none"> - Assemble team - Develop overall plan 	<ul style="list-style-type: none"> - Monitor and control process - Report progress 	<ul style="list-style-type: none"> - Bring project to closure - Identify next steps
<p>* Activities:</p> <ul style="list-style-type: none"> - Determine scope, major activities and tasks - Estimate effort & duration - Prepare for tradeoffs 	<ul style="list-style-type: none"> - Develop project schedule - Create Critical Path - Motivate Team - Assign people and resources to tasks - Develop budget - Delegate task as needed - Clarify stakeholders' expectations 	<ul style="list-style-type: none"> - Review approve work-in process - Deliver project milestones - Manage development process - Communicate progress and problems to stakeholders 	<ul style="list-style-type: none"> - Evaluate performance - Close out project - Debrief lessons learned with team - Create follow-up plan - Review results with stakeholders
<p>* Key Skills:</p> <ul style="list-style-type: none"> - Task analysis - Planning - Cost-benefit analysis of options 	<ul style="list-style-type: none"> - Analysis of process - Team building - Delegating - Negotiating - Recruiting and hiring - Communication 	<ul style="list-style-type: none"> - Supervising - Leading and motivating - Communication - Conflict management - Problem solving 	<ul style="list-style-type: none"> - Follow-through - Planning - Communication
<p>* Tools:</p> <ul style="list-style-type: none"> - Work Breakdown Structure (WBS) - Skills inventory 	<ul style="list-style-type: none"> - Scheduling tools (CPM, PERT, GANTT) 	<ul style="list-style-type: none"> - Progress report tools 	<ul style="list-style-type: none"> - Project Evaluation tools



4 BMCS 1: Group Assignment 1

- The building and construction industry encompasses housing, commercial, and infrastructure development. This sector comprises various fields including architecture, civil engineering, mechanical engineering, electrical engineering, quantity surveying, land surveying, building contracting, and landscaping, among others.
 - i. Identify any **ONE** of the building or construction projects within UTeM. Examine the building site signage and profile its components (parties) involved in the project. You are required to briefly explain the functions of each of the party.
 - ii. Also identify the regulatory body that requires this mandatory signage to be erected. Where is the signage located? Why?

Please submit your written work 13 July 2009 during lecture hours

Research



4 BMCT 1: Group Assignment 1

Visit the office Department of Occupational Safety & Health (DOSH), Melaka and research the followings:

I. The laws governing safety and health at the workplace

II. List:

- a. the duties of an occupier of a place of work
- b. the duties of designers, manufacturers and suppliers; to ensure safety and health at site projects (place of employment)

III. What significant impact does the signage "SAFETY FIRST" on people (employees) working on site projects in complying with safety requirements?

IV. Describe the approaches on how Occupational Safety and Health (OSH) issues can be effectively communicated to all levels of employees at the workplace

You are required to support your research by submitting to your lecturer:

Name of Officer Interviewed

Contact No:

E-mail Address

Date of Interview:

Submit your assignment not later than 16 July 2009 in hard copy



4 BEKE 1: Group Assignment 1

Visit the office of Fire Safety Rescue Department , Melaka and research the followings:

- I. The essentials aspects of Fire Safety Management that of High-Rise Building Users
- II. Methods to Enhance Fire Safety of High-Rise Building Users
- III. Terms and conditions governing the issuance of Certificate for Occupancy for a particular building project

You are required to support your research by submitting to your lecturer:

Name of Officer Interviewed

Contact No:

E-mail Address

Date of Interview:

Submit your assignment not later that 16 July 2009 in hard copy

Research



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