

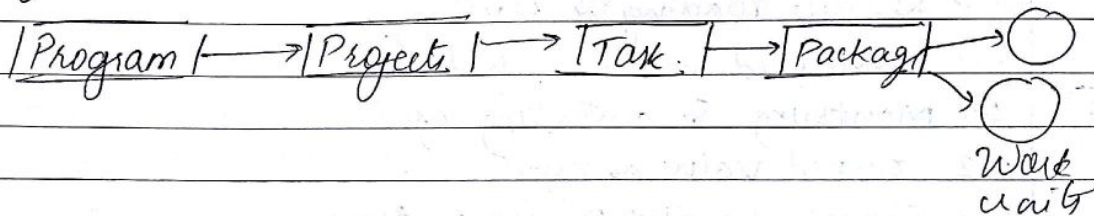
* What is a project?

→ A temporary endeavor undertaken to create a unique product, service or result.

→ Big programs are divided into set of projects. These projects are divided into task, which in turn are split into packages, that are composed of work units.

→ The project is usually one time activity, with well defined set of scope: of desired end results.

→ Each subtask of a project requires careful coordination & control of timing, precedence, cost & scope.



* Characteristics of Projects

1) Importance:

- The project should be Imp enough to set up an organizational unit.
- The symptoms of lack of Imp include, failing to monitor the progress, failing to see its resource needs, assigning the project to someone who is already overworked.

2) Scope:

- The project should complete in given time & scope.

3) Interdependent:

- projects interact with other projects simultaneously

4) Uniqueness:

- No two projects are same.

5) Resources

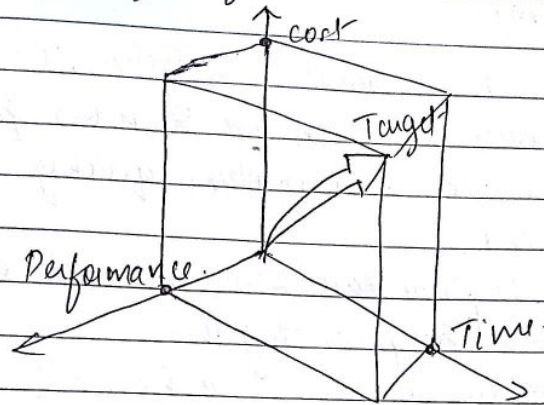
- Projects either have their own resources, or share them

6) Conflict

- projects compete with functional dept for resources & team members.

- The project manager must be able to resolve the issue.

* Triple Constraints of Project



1) The budget is the allowable cost of the project

2) The schedule is the time period over which work is to be done, dates of specific tasks, etc.

3) Performance / Scope: the project deliverables, final results, technological specifications, quality, etc.

4) The goal is commitment to deliver something, by certain date, for a certain cost.

5) Any change made in any of the axis, it will have effects on the other 2 axis, when making changes, the other axis must adjust.

6) If you want something to be delivered (fast) fast (time), you have to pay more (cost). If you're trying to save some money (cost), you can do this by choosing a simpler version of the system (scope).

7) Triple Constraints is useful in conversation with the client, when determining the scope of a project & handling the change requests along the way.

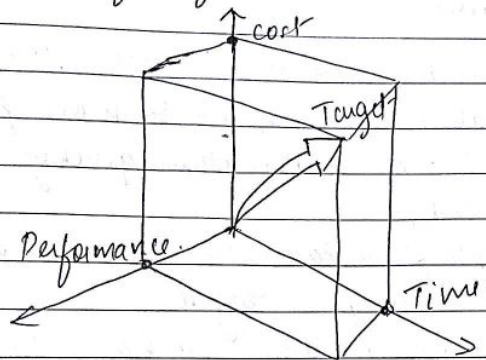


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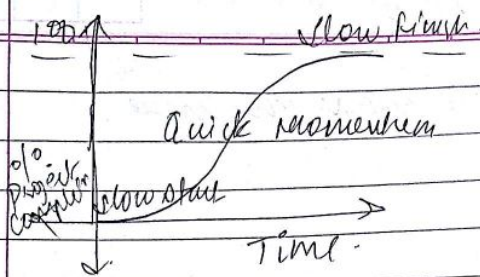
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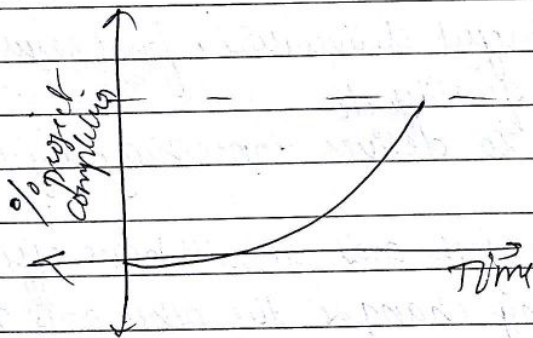
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* Lifecycle of Project

Page No.:



- The project is born & manager is selected, the project team & initial resources are assembled & work program is organized.
- The work gets under way & momentum quickly builds. It continues till it reaches the end.
- But completing the final task seems to take a lot of time because we must combine all the parts together.
- Eg: Projects like building house, a house building project starts slowly because of lots of discussion like when to build a home? what are the resources & costs? How much time is required?



- This lifecycle often exists for projects in which the project is composed of several subprojects.
- Eg: The cake baking process.
- As the project nears completion, additional inputs result in successively larger increments of progress.

* Project selection

→ The process of evaluating proposed projects & then choosing to implement some set of them so that objectives of parent organization are achieved

→ It consists of following criteria

1. Realism:

The model should reflect the reality of the firm's decision

2. Capability

The model should be capable of handling: both internal time periods, internal & external situations, etc.

3. Flexibility:

It should be easy to modify the model

4. Ease of use:

5. Cost:

Low cost-

6. Easy computerization:

* Project selection models

1. Numeric

2. Non-Numeric

→ Models do not make decision.

→ All models, are only partial representation of the reality.

* Non-Numeric

1. Sacred Cow:

→ CEO or other senior manager suggests a potential product/service to their customers.

→ The creation of a project

→ The project is "sacred". i.e. it will be maintained until successfully concluded or until the boss personally terminates it

2) Operating necessity

- Evaluate the potential projects
- Is the system worth saving at the estimating cost of project? If "yes" then project the continue the project

3) Competitive Necessity:

- Update the product when necessary

4) Product Line Extension

- The project should be able to fill the gaps, strengthen weak links or extend new in a desirable direction.

5) Comparative Benefit model

- Select the projects that will benefit the firm.
- Mostly done by senior management
- For this, we will order the projects the Q-sort way

* Numeric

1) Payback Period

- It is the initial fixed investment in the project divided by the estimated annual net cash inflows from the project.
- The ratio of this is the no of yrs req. for the project to repay its investment

2) Discounted Cash Flow (NPV)

- It determines the net present value of all cash flows by discounting them by required rate of return (cutoff rate)

$$NPV(\text{project}) = A_0 + \sum_{t=1}^n \frac{F_t}{(1+K)^t}$$

F_t → the net cash flow in period t

K → required rate of return

A_0 → initial cash investment

3) Internal Rate of Return

- If we set cash inflows & cash outflows, the internal rate of return is the discount rate that equals the present value of the two sets of flows.

$$-A_0 + A_1/(1+k) + A_2/(1+k)^2 + \dots + A_n/(1+k)^n = R_1/(1+k) + R_2/(1+k)^2 + \dots$$

$A_t \rightarrow$ cash outflow, $R_t \rightarrow$ cash inflow.

4) Profitability Index

- It is the net present value of all future expected cash flows divided by initial cash investment.

$$\frac{NPV}{\text{cas}}$$

- greater than 1 \Rightarrow accepted

* Risk Consideration in Project Selection.

(Refer Saecm Doc)

- i) Risk management Planning
- ii) Risk Identification
- 3) Qualitative Risk Analysis
- 4) Quantitative " "
- 5) Risk Response Planning
- 6) Risk Monitoring & Control.