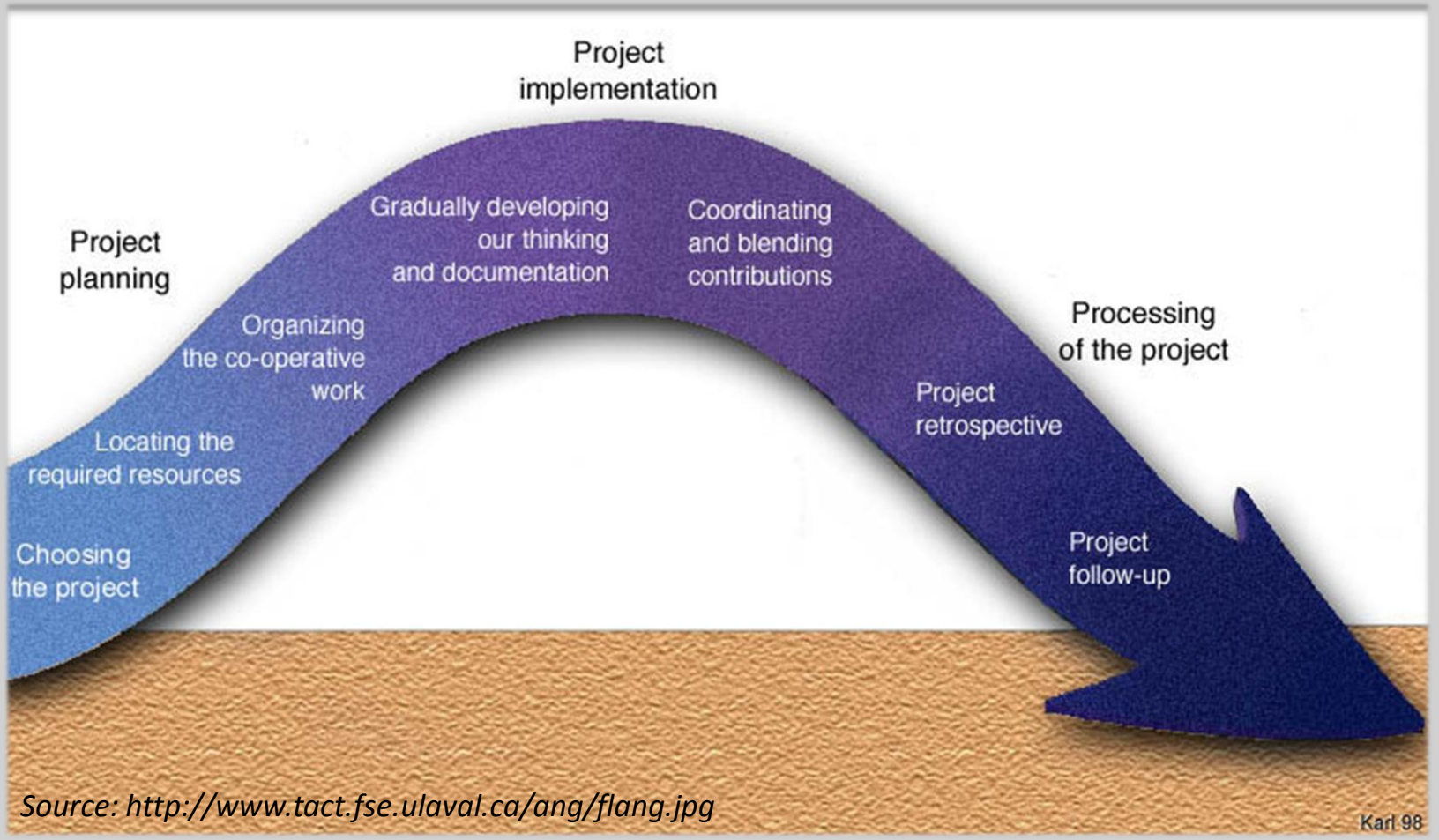
Project Planning & Its Types

Introduction

- The key to a successful project is in the planning.
- Planning is the first thing that is done when one undertakes a project.
- Often project planning is ignore to rush in for the work.
- The value of project planning is
  - saving money.
  - saving time.
  - quality output.
- Note: If you fail to plan, you plan to fail.



Source: http://www.tact.fse.ulaval.ca/ang/flang.jpg

Fig: Project Planning

Essential Elements For Project Planning

- Aim of project
  - What do we want to produce?
- Outputs
  - What do we actually need to get there?
- Quality criteria
  - What is the quality of the output?
  - We need the completed output to be of certain quality and we need to define what that quality is (we define it using the SMART principle: Specific, Measurable, Achievable, Realistic, Timely).

Contd..

- Resources
  - Includes staff time, particular knowledge or skill sets, money, time.
- Management structure
  - How are we going to manage the work.
- Milestones
  - A defined milestone will help to identify when each section is completed.
- Tolerances
  - How far can we let the project stray from the defined targets before sounding the alarm.

Contd..

- Dependencies
  - Understanding dependencies will help understand the impact of changes in any part of the project.
- Risks
  - What could happen that may affect our ability to deliver the project on time?
  - What can we do to avoid them?
- Scheduling
  - Will be wrong. There is no perfect schedule.
  - Schedule is not engraved on stone. One should expect changes .

Project Planning Process

```
Establish the project constraints
Make initial assessments of the project parameters
Define project milestones and deliverables
while  project has not been completed or cancelled loop
        Draw up project schedule
        Initiate activities according to schedule
        Wait ( for a while )
        Review project progress
        Revise estimates of project parameters
        Update the project schedule
        Re-negotiate project constraints and deliverables
        if  ( problems arise )then
              Initiate technical review and possible revision
        end if
end loop
```

Steps in Planning

- ❑ Specification
- ❑ Project Goals
- ❑ Global Structure
- ❑ Project Breakdown
- ❑ Task Delegation
- ❑ Time Estimation
- ❑ Supporting Plans
- ❑ Setting Controls/Gates

Specification

- A written definition of requirements and deadlines.
- Should be clear, complete and rigorous to eliminate misunderstandings, contradictions, oversight of technical difficulties.

Project goals

- Identify the stakeholders of the project.
- Stakeholder is any body impacted directly or indirectly by the project.
- Establish their needs by interviewing or having consolidated meetings.
- Prioritize stakeholders needs.
- Create a set of goals that can be easily measured (you may use the SMART technique for this)
  - S – specific
  - M – measurable
  - A – achievable
  - R – realistic
  - T – timely

Structure

- Includes tasks that must be accomplished.
- Relationship of each task to the specifications.
- Who will do what?
- When will it be done?

Project Breakdown

- ❑ Break project down into a series of task.
- ❑ Break each task down into subtasks.
- ❑ Continue until all items are doable and understandable.

Task Delegation

- ❑ Assign tasks to specific people (or teams).
- ❑ Order tasks so that they occur in a logical sequence.
- ❑ Match tasks to abilities of the team.
- ❑ Do not over specify.

Time Estimation

- Times are based on previous experience.
- They are always wrong so one must plan accordingly.
- Example

  How long should it take you to climb the statue of Liberty?
  - Estimate the number of steps.
  - Estimate the time per steps.
- Add extra buffer where tasks depend on one another.

Supporting plans

- Human resource plan
  - Identify by name the individuals with a leading role in the project and describe roles and responsibilities.
  - Describe the number and type of people needed to carryout the project.
  - Include SME’s (subject matter experts) and specific trades of the market.
  - Create a single sheet with the above information.
  - The above will help establishing the project budget.

Contd..

- Communications plan
  - Who needs to be informed about the project?
  - How will they receive the information
    - Weekly/monthly progress reports to include performance, status, milestones achieved, work planned for next periods etc.

Contd..

- Risk Management Plan
  - Identify as many risks as possible.
  - Be prepared if something bad happens.
  - Common project risks
    - Time and costs estimates too optimistic.
    - Unexpected budget cuts.
    - Scope changes.
    - Atmospheric events.
    - How to address each risk.

Project Controls

- Indicate progress to the supervisors.
- Allow for quality control checkpoints.

Quality Control

- Must examine critical parameters.

Planning for Unknowns

- Identify risky tasks.
  - Have not been done before.
  - Rely on new equipment.
  - Depend on training of personnel.
- Allow extra margins for risky tasks.

Types Of Project Plan

- Quality plan

  Describes the quality procedures and standards that will be used in a project.
- Validation plan

  Describes the approach, resources and schedule used for system validation.
- Configuration management plan

  Describes the configuration management procedures and structures to be used.
- Maintenance plan

  Predicts the maintenance requirements of the system, maintenance costs and effort required.
- Staff development plan.

  Describes how the skills and experience of the project team members will be developed.

References

1. www.see.ed.ac.uk/~gerard/Management/art8.html
2. http://www.pmipr.org/html/Presentaciones/PMI%20May%202010%20Meeting.pdf
3. http://www.cs.ox.ac.uk/people/michael.wooldridge/teaching/soft-eng/lect05.pdf
4. http://www.tact.fse.ulaval.ca/ang/html/projectg.html#4.2
5. http://www.jisc.ac.uk/fundingopportunities/projectmanagement/planning.aspx

Any Queries ?