Project Planning/Management

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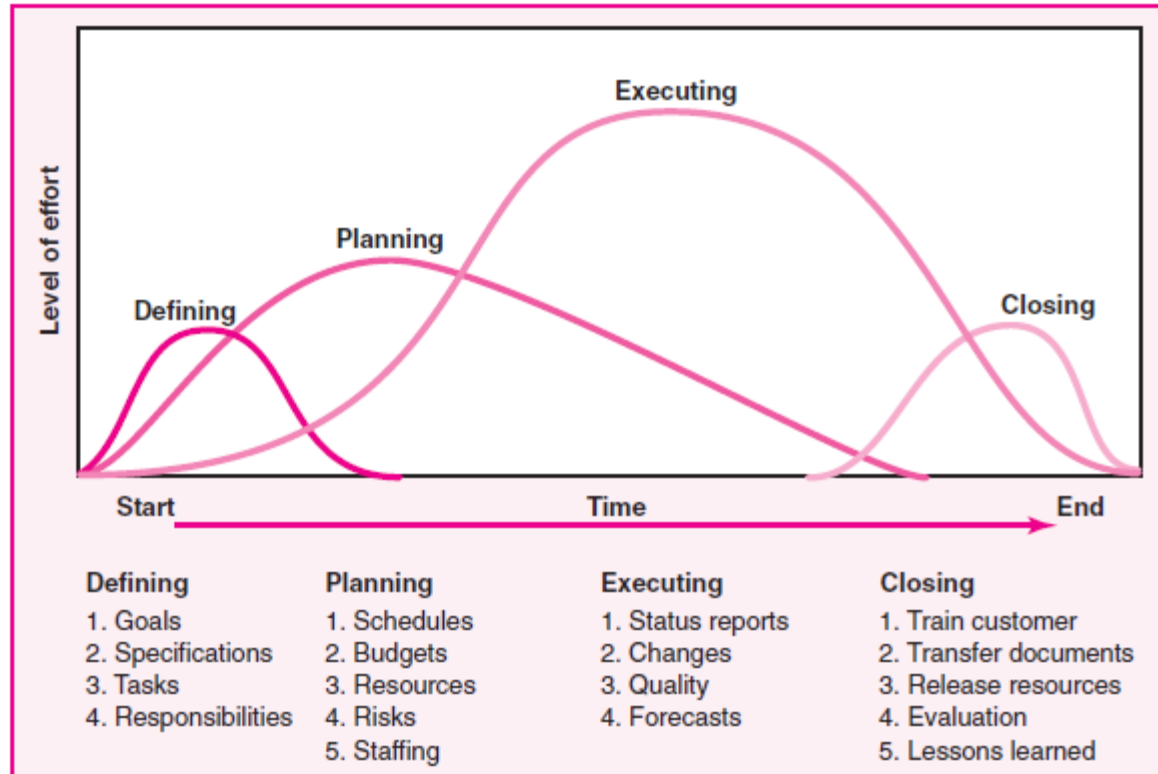
Overview

- Project Planning
- Effective Meetings

Project lifecycle

FIGURE 1.1
Project Life Cycle

Project Planning

1. Define the Project Goals and Scope
2. Breakdown project into smaller tasks
3. Set Project Milestones
4. Develop Schedule
5. Define Tactical Communication (meetings)
6. Identify Risks
7. Planning

Define the Project Goals and Scope

- State the problem or Goal (what are you trying to achieve?)
  - Write a clear, concise statement summarizing your view of the problem for which you are designing a solution
- Identify your customers/stakeholders
- Determine customer requirements, both needs and expectations.
  - Good requirements should be achievable, verifiable, unambiguous, complete and consistent
  - These may also be looked at as project deliverables
- Identify cost, schedule and performance constraints.

Breakdown project into smaller tasks

- **Identify smaller tasks** that need to be completed to accomplish overall project goals/deliverables
- **Identify the key deliverables** that are needed to accomplish the task
- **Set a schedule for each task (micro-schedule if needed)**
  - When will it start?
  - When will it finish?
  - Any key milestones or checkpoints?
  - Identify the output of each task.
- **Identify the resources for each task**
  - Who will work on it?
  - What is the budget for this task? *(may not apply for Eng Design)*
- **Identify Long-lead items**
  - One of the most critical items in project planning – what are the things we need that simply need a lot of time to acquire/build/ship, ect.
    - E.g. Team A has 10months to build piece of equipment. It only takes 2months to assemble, however, the supplier for one of the components for the equipment needs 7months to manufacture the component? That component is a long-lead item that needs to be ordered ASAP.

Set Project Milestones

- Need to identify the key project milestones that can be used for:
  - Reflection: How has the project gone so far? Where can we improve?
  - Assessment: Is the project still in line with the goal? Has the risk for completing the project changed?
  - Communication: Report out current status and next steps to stakeholders outside the working group
  - Positive motivation: Look how far we made it!
- Typically associated w/ a significant deliverable or project achievement.
- Often used as a "gate" – e.g. If we can meet X performance by X date then the project will live on.

Develop Schedule

- Assemble the timelines/schedules (or key dates from micro-schedule) of smaller tasks and key milestones to develop "master" schedule.
  - Typically use a Gantt chart for this schedule or detailed spreadsheet
- Often there is a need to apply some "logic" to the schedule
  - e.g. In order to complete Subtask 4 we will need to first complete Subtask 2.
- Compare to project schedule constraint identified in Problem Definition phase.
  - If different adjust by adjusting scope, requesting push-out, or adjusting resources.
- Performance against schedule should be routinely monitored as a means to keep the program on track and make changes as needed.
  - Should never be late for a deadline without knowing well in advance you were going to be late.
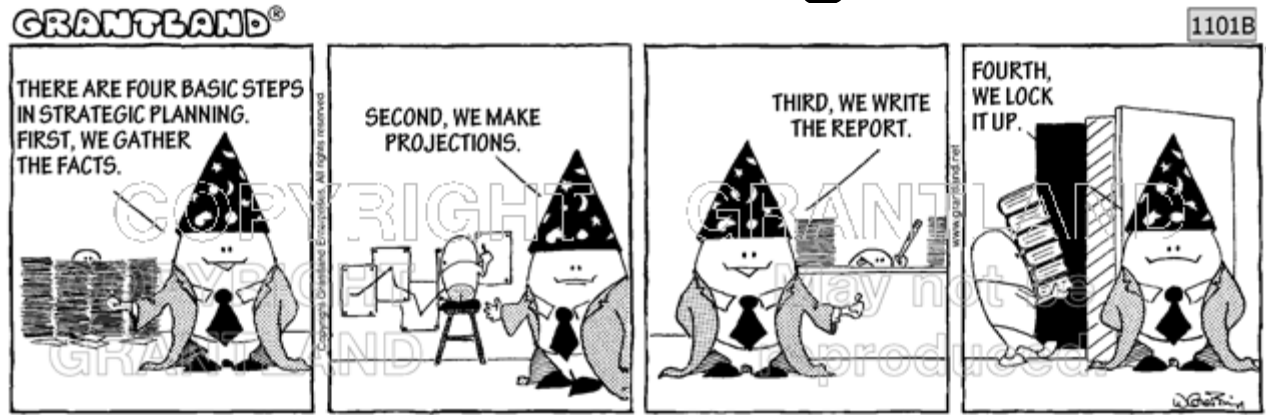
Define Tactical Communication (meetings)

- **How will the group communicate with one another?**
  - Define Standard Methods of Communication
    - Email (do we have an email distribution?)
    - Meetings (when, where, ect)
    - Website? Phone?
  - Routine Meetings:
    - Set routine meeting times
    - Agree on attendance policy (who are required attendees?)
  - Impromptu Meetings:
    - Ensure good communication for these meetings
- **How will the group communicate w/ other stakeholders?**
  - Final Report, ect
  - Outside Meetings?
- **Make sure to hold <u>effective meetings</u> (see subsequent slides)**
- **Define how decisions will be made.**
- **Define a method for tracking action items/deliverables ("AR tracker").**
  - Ensure that key tasks are being executed on time.

Identify Risks

- This is a thought experiment: Why might we fail? How can we avoid that pitfall?
- It is important to identify the specific risks for a project and possible mitigation paths:
  - E.g. If there is a risk a certain material supplier might not be able to provide what is needed for the project, it is a good idea to have another option in mind.
- There are many different types of risks:
  - Schedule risks
  - Technical Risks
  - Budget Risks

Planning

http://www.grantland.net/plan.htm

"Plans are nothing, Planning is everything" Dwight D. Eisenhower

- Planning is an iterative process and the plan is never perfect.

- Be tolerant to change: Changes will occur so it is important to incorporate those changes as part of your ongoing planning exercise.

Keys to Holding a Successful Meeting

• Meetings are essential to any team effort, be it designing a rocket system, or launching a new cosmetic product

• Done properly, meetings can quickly disseminate information, solve problems, create consensus, and get everyone "on the same page"

• Done improperly, meetings can bog down, cause dissention, delay, and sometimes cripple a project.

• Every meeting must have a specific purpose – before arranging a meeting one need to think precisely about what it is that needs to be accomplished.

Keys to Holding a Successful Meeting

Typical Meeting Purposes
- **Brainstorming new ideas**
- **Developing an idea or plan**
- **Having a progress update**
- **Technical interchange**
- **Considering options and making a collective decision**
- **Selling something to a potential buyer**
- **Building a relationship with somebody**

There may be a mixture of objectives and desired outcomes for a particular meeting; however, primary objectives should be kept clearly in mind and those should prioritized above others.

Keys to Holding a Successful Meeting

1. **Attendees:** Invite the right people. Make sure these people attend. Decision makers?

2. **Objective:** Start with a clear objective for the meeting. Particularly with routine meetings, it's tempting to hold the meeting because it's "checking a box", but what are you really trying to accomplish? People don't actually bond very much in unproductive meetings that lack clear objectives.

3. **Agenda:** Set up a written agenda in advance. As you build the agenda, do your best to assess how long it will take to address each topic. As a guideline, assume that if the goal is to make a decision, it will take four times longer than if the goal is to simply provide a status report.

Keys to Holding a Successful Meeting

4. **Minutes:** Formally track problem-solving and decision-making discussions. Appoint someone to take notes at the beginning of the meeting. Formally archive meeting notes in a data base with access to participating team members.

5. **Formal Tracking Tools:**
   - *a. Action Items – Requests for Action (RFA)*
     - *Who is assigned action?*
     - *When is action due?*
     - *Who are action's "customers"*
   - *b. Information Items – Requests for Information (RFI)*
     - *Who provided the information and verification?*
     - *When is action due?*
     - *Who needs the information*

Keys to Holding a Successful Meeting

6. **Action Items:** Log and Track RFAs RFIs .. Don't let people "off the hook" require that action forms be formally CLOSED.

7. **Next Meeting**: End each meeting with a "consensus" check. Is everyone clear on assigned actions, and due dates. FORMALLY set a tentative time and date for a follow-up meeting, and who needs to be in attendance at this meeting. Log that follow up meeting time.