

SE 2011

Introduction to Project Management

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What is a Project?

A one-off activity aimed at producing a specific, unique outcome.

Typically

- ▶ has not been done before (by the initiating organisation)
- ▶ outcome is different from outcomes previously/regularly produced
- ▶ process for conducting the activity is uncertain, not well-known and repeatable
- ▶ conducted by an ad-hoc team with diverse skills
- ▶ within a set time-frame and resource limit
- ▶ team disbands at project completion

Project or not?

- ▶ Commuting to university
- ▶ The work done by a bank teller
- ▶ Call centre operations
- ▶ A real estate agent showing a house to a client
- ▶ A real estate agency selling a house
- ▶ Applying for a government grant
- ▶ A group assignment at university
- ▶ Preparing a policy report for the government
- ▶ Developing a new software application for a company
- ▶ Building an apartment block
- ▶ Bringing democracy to Afghanistan
- ▶ Developing the new generation fighter jet
- ▶ Sending a human to Mars and back

What is “Project Management”?

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- ▶ the art of managing projects !!!

What is “Project Management”?

- ▶ the art of managing projects !!!
- ▶ a profession, with a professional body,
Project Management Institute
<http://www.pmi.org>

PMI Process Groups

Initiating	authorization, kicking off
Planning	refining objectives, task decomposition, scheduling
Executing	doing the job, coordinating
Controlling	monitoring progress, adjusting
Closing	client acceptance

Tuckman's group development model

Tuckman, Bruce (1965). "Developmental sequence in small groups". Psychological Bulletin 63 (6): 38499

forming	getting to know each other
storming	resolving how to work together, roles, "jockeying for position"
norming	setting and accepting the rules for interaction
performing	getting the job done
adjourning	disbanding, celebrating the end
(mourning)	

PMI Knowledge Areas

- ▶ Integration Management
- ▶ Scope Management
- ▶ Time Management
- ▶ Cost Management
- ▶ Human Resources Management
- ▶ Communication Management
- ▶ Risk Management
- ▶ Procurement Management

Role of a project manager

- ▶ planner
- ▶ organizer
- ▶ communications point
- ▶ quartermaster (resource controller)
- ▶ facilitator
- ▶ persuader
- ▶ problem-solver
- ▶ umbrella (shield the project from organisational politics)
- ▶ coach (motivator)
- ▶ bulldog (cracking the whip)
- ▶ librarian
- ▶ salesman (of project to outside world)

Project Manager Tools (A list of lists)

- ▶ project charter
- ▶ project definition document - purpose, objectives, success criteria, scope
- ▶ requirements document
- ▶ project schedule
- ▶ status reports
- ▶ milestone chart
- ▶ organisation charter
- ▶ responsibility matrix
- ▶ communication plan
- ▶ quality management plan
- ▶ staffing management plan (large projects)
- ▶ risk response plan
- ▶ project plan
- ▶ deliverable summary

Does your group need a project manager/leader?

Group structure/roles are up to you, but . . .

we will introduce PM ideas and ask for a lightweight application of them in your project, as an exercise in learning PM.

Project management is **work**, there are

- ▶ documents to be prepared
- ▶ monitoring to be done
- ▶ corrective actions to be initiated when things go off track

Someone needs to do this work! (Could be a “first among equals” or “servant-leader”.)

Project definition document

Goals should be SMART

- ▶ Specific,
- ▶ Measurable,
- ▶ Achievable/Agreed-to,
- ▶ Rewarding/Realistic,
- ▶ Time-based

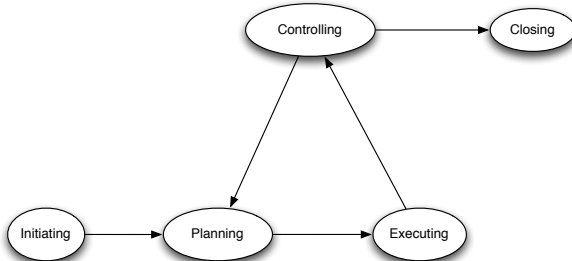
Project definition document

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-
- ▶ Improve the running of Sydney trains
 - ▶ (SMART) Increase the on-time rate of Sydney trains to 95% by 2020.

Project Plan

A document that describes how the project will be *executed* and *controlled*.



Project Planning Issues

- ▶ tasks: what needs to be done
- ▶ acceptance criteria: what determines when a task has been done satisfactorily?
- ▶ work estimate: what time/effort is involved in each task?
- ▶ scheduling: When will each task be undertaken
- ▶ roles and responsibilities: who performs each task?
- ▶ resource needs: what do we need to do the job?
- ▶ resource acquisition: where will the resources come from, how will we get them?

More Project Planning Issues

- ▶ project control: how do we track progress/performance and make adjustments
- ▶ change management: how will we make changes to the plan?
- ▶ information: where/how is project information stored?
- ▶ issues: how are issues/problems tracked/handled
- ▶ quality: how is quality of deliverables measured?
- ▶ communications: how is information shared in the team
- ▶ staff performance: how is this measured/managed
- ▶ risk: what could go wrong?
- ▶ risk response: how do we respond to things going wrong?

Work breakdown structure

Serving a customer in no-names spaghetti restaurant:

- ▶ obtain customer order
 - ▶ deliver menu
 - ▶ record order
 - ▶ deliver order to the kitchen
- ▶ cook the dish
 - ▶ make the sauce
 - ▶ boil spaghetti
 - ▶ put sauce on spaghetti
- ▶ deliver dish
 - ▶ take dish to customer
 - ▶ offer cracked pepper
 - ▶ offer grated cheese
- ▶ handle payment
 - ▶ deliver cheque
 - ▶ receive cash
 - ▶ return change
 - ▶ collect tip

Running Exercise

We are going to pretend that your group is the team that founded Google (way back in the early days of the world wide web). You have just invented a brilliant new idea to help people search for information on the web. It involves:

- ▶ constructing a graph out of links between web pages
- ▶ assigning probabilities to jumps between pages based on this graph
- ▶ using a clever algorithm to compute the probability that a long random walk on the graph will be at a given node
- ▶ using these probabilities to order the pages returned by a user's query

An investor has just given you \$1M to develop a demonstration of the idea within 6 months.

Running Exercise

Develop a work-breakdown structure for your Google project.

(Keep notes: You will be asked to present the cumulative results of this exercise to your mentor at the first meeting.)

(Hint: the project in this course *may* have some similarities to this exercise, and you will be asked to apply project planning in that project.)