MIS5102: Process Improvement and Innovation

Project Management

Project Planning
What is a project?

Why is the distinction between what a project is and what it is not important?
The Triple Constraint

Describe a scenario where changing one affects the others.
Role of the project manager?

- In writing the spec?
- In managing the triple constraint?
- In navigating the organization?
What is Project Portfolio Management (PPM)?

Five Questions (Pennypacker and Retna)

• Are we investing in the right things?
• Are we optimizing our capacity?
• How well are we executing?
• Can we absorb all the changes?
• Are we realizing the promised benefits?

Are we talking about “singular” or “comparative” evaluations?

What’s the difference?
Two broad approaches

Quantitative

Qualitative

There are pros and cons of each approach...
Quantifying Options Using a Decision Tree

Each project has an associated:

- Cost
- Revenue
- Risk

http://en.wikipedia.org/wiki/Project_portfolio_management
A Closer Look

Expected value of this part of the project portfolio:

\[
\begin{align*}
\text{Opt. 50}\% & : 4,750,000 * 0.5 + 3,800,000 * 0.5 = 4,275,000 \\
\text{Pess. 50}\% & : 3,800,000 * 0.5 + 3,800,000 * 0.5 = 3,800,000 \\
\text{Opt. 50}\% & : 3,900,000 * 0.5 + 2,600,000 * 0.5 = 3,250,000 \\
\text{Pess. 50}\% & : 3,900,000 * 0.5 + 2,600,000 * 0.5 = 3,900,000 \\
\end{align*}
\]

What are the pitfalls of this approach?
A more qualitative approach

Decision Points for PPM (Wikipedia)

- The criteria for filtering and ranking
- Which criteria are most important
- Which project ideas are worth developing
- Which projects should be considered as part of the portfolio
- Which projects to fund

But how do you prioritize?

http://en.wikipedia.org/wiki/Project_portfolio_management
Some of the Big Questions

How can you blend quantitative and qualitative approaches? Should you?

How can a “do nothing” option help?

When doesn’t any of this matter?
Recall our party planning exercise from the beginning of the semester...

What do you do?
When do you do it?
Who does what?
Elements of a Project Plan

What do you do?
When do you do it?
Who does what?

We already have some tools we can use:
- Process decomposition
- Swim lane diagrams
- RACI charts

You may not use these specific tools, but many of the concepts are the same!
Work Breakdown Structure (WBS)

How is this like process decomposition?

How is it different?

What do you learn from this?

WBS Design principles

- 100% rule
- Mutual exclusivity
- Outcomes, not actions
- Level of detail

Why is each principle important in building a useful WBS?

How far should you break down a project?

What is the “problem” with estimation?

http://workbreakdownstructure.com/
Understanding Dependencies

- What are task dependencies?
- Why is it important to understand them?
- How are they used to turn a WBS into a project plan?
Critical Path Analysis using PERT (Program Evaluation and Review Technique)

The work units on the longest path through the diagram are on the critical path.

What does it mean for the task to be on the critical path?
Allocating Work

Assigning people to tasks

Build off of the work breakdown structure

What can a RACI chart tell you about allocation?

What can a Swim Lane Diagram tell you about allocation?
Allocating Work and the Critical Path

How does adding this information help the planning process?
Some more about estimating

• “Few people enjoy estimating complex things that they will be accountable for.”
  (Berkun, Chapter 2.4.3.1)

• What can go wrong with estimation?

What are the implications for project planning?

• For the triple constraint?
• For allocating resources?