

Project Assignment

1. Objective

The project assignment will allow you to directly apply one or more of the advanced methods such as CPM/PERT, DSM or System Dynamics (SD) to a system/product development situation at your company. Alternatively, you may want to analyze in-depth the reasons for failure or success of a past or ongoing complex system/product development project. The objective of the project is for you to leverage the theory presented in class in a practical setting and to improve the way projects are managed in your organization. It is also a vehicle to learn from the project management experiences of your peers.

2. Topics

The intent of the class term project is to allow you to explore one particular aspect of SPM in depth in the context of your organization or a general industrial setting. **There is relatively large freedom in the selection of topic, choice of research method and team composition.** Some categories of acceptable topics are given below.

This list is not meant to be comprehensive. We are open to other types of projects, provided that there is a clear link to the SPM class objective and content.

As a guideline, your project will generally fall into one of the following categories:

2.1 DSM Project: Create and analyze a DSM model of a product development project of your choosing. You must identify a project to study, collect the data, conduct the analysis, and suggest ways that the process can be improved based on your findings.

2.2 SD Project: Identify the dynamics and drivers of a real or hypothetical project. Build a system dynamics model of the project including causal loop diagrams and governing equations. Quantitatively simulate the evolution of the project and explore “what-if” scenarios. This SD model has to be different from the one used in homeworks.

2.3 Survey of Methods and Tools: Conduct a survey of professed and actually

used methods and tools (software) in system project management in your organization. Compare advantages and disadvantages of these methods and distill lessons learned.

2.4 Success and Failure of a Past Project: Analyze in-depth the preparation, planning and execution of a large-scale past (or ongoing) development project. Study historical data and conduct stakeholder interviews. Assess the degree of project success or failure against the original project objectives and identify key success factors.

3. Administration

3.1 Logistics

- The project is expected to require approximately 20 hours of cumulative work per person, distributed over the entire semester.
- Since you will learn about project management techniques, we hope that you will apply these to your own project. **Don't procrastinate until the day before a deadline.**
- This project assignment will be handed out after the first class.
- Teams must be formed by the second week and be indicated on the project proposal. The nominal team size is six students. Exceptions can be granted by the instructor.

3.2 Project Proposal

- **A one-page project proposal (pdf) is due on the sixth week: 10/6**
- Avoid doing a project that would be competition sensitive or company proprietary
- It is better to be somewhat narrow and well focused than too broad
- The proposal should be carefully written and contain the following information:
 - Names and contact information of the team** (maximum 4 per team) (who)
 - Project Title** (under which category does the project fall, see Section 2)
 - Project Sponsor** (identify a company individual who will sponsor you)
 - Project Objective** (what do you want to accomplish)
 - Motivation** (why do you think this is a worthwhile class project)
 - Research Approach** (how will you go about gathering and analyzing data)
 - Work Breakdown Structure** (what tasks and who will do them)
 - Risk Management** (what is your backup plan if you can't get the data?)

3.3 Project Presentation

- **Final project presentations are given on 11/3.**
- The final project deliverable is the set of annotated viewgraphs used during the final presentation, **no written report is required**. Use the “Notes” section in PowerPoint.
- The final presentations will be 15-20 minutes + 5 minutes of Q&A per team
- Project grades are based on the quality of the proposal, mid-term update, in-class presentation and on the insights presented to the class.