

# OMSE 510 Software Estimating

## Discussion II (week 4): Software Estimating Influence Factors

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The purpose of this discussion is to apply what you have learned about software estimating influence factors by:

1. Characterizing one of your current or past projects and posting this description by Thursday midnight PST\*
2. Stimulating critical thinking by rebutting two (2) of your fellow students' posts by Sunday evening - 6pm PST\*
3. Responding to the rebuttals of your fellow students by Sunday midnight PST (Monday noon PST at the latest)\*  
(a single rebuttal to the students in your group is preferable)

\* Students in more easterly time zones should take note that these times are Pacific Standard Time (PST)

During this exercise, keep in mind that the purpose of considering influence factors is to apply them to adjust "raw estimates" – you will learn more about this during weeks 4 and 5.

Here are the key instructions and "rules of the game" for this assignment:

- a) Before you start, make sure you have thoroughly read Steve McConnell's chapters and the posted key points for week 3, as well as the Toth PNSQC 2009 (posted in Bb). Please also read posted materials for week 4 which will provide other valuable foundation information for this discussion.
- b) The class will again be divided up - but this time into smaller groups of 3-4 persons. This will allow each of you to rebut two (2) members of your group (or possibly more if you are so inclined and have time). Please note, that every student in your group must be rebutted at least once and it would be preferable to balance the rebuttals to the extent possible. This can be achieved by adopting a simple rule like: "rebut any person in your group with the lowest number of currently posted rebuttals". There is a small probability for collisions and/or drop outs. I suggest that if you see a primary post that you would like to rebut, post up a message something like this in the subject field: "Reservation: Hi Michal, I plan to respond to your post shortly, Maria".
- c) If you do not have a past or current project to describe for step a), you may use all or part of the Columbia project description from Discussion I for this assignment. This will require that you make reasonable assumptions based on your own experience.
- d) With respect to current and past projects, please make sure not to divulge any details that you believe are proprietary. Feel free to "change names to protect the innocent (or the guilty)" as the case may be. You are free to innovate provided your "inventions" are reasonable, feasible, and relevant to your professional area of interest.

Here are your objectives and instructions which align with steps (1-3) above:

1. Characterize your project as follows (see example below):
  - i. In 3-4 short sentences, describe the general objectives and scope of your project.
  - ii. In a list, characterize your project by selecting at least 10 influence factors and tabulate them in a form similar to McConnell's Table 5-5 using instead headings "FACTOR ... INFLUENCE-RATING ... RATIONALE".
  - iii. Rather than using numbers as McConnell has done, rate each of your project's influence factors using VL, L, N, H, VH and EH as used in Table 5-4.
  - iv. The rationale that you use should be short descriptions explaining to the reader why you chose your rating for each factor.
  - v. Note, that you are free to characterize your project with factors that were not included in Steve McConnell's list.
2. Rebut two members of your group with exploratory questions. This is a very important part of this exercise conducted in the spirit of technical reviews. Your goal is to help your group members clarify the factors, rationale and ratings they came up with through probing questions and feedback to their primary posts. You may be able to tease out other factors that could be useful in influencing your colleague's downstream estimating and planning effort (suggestions for improvements are encouraged). And you will learn a few things that will help you improve your own primary post.
3. Once your group members have rebutted all of the other members of your group, update your influence factors to reflect their suggestions and reinforce your rationale accordingly.

Sample Entry in your list should look something like this ....

FACTOR            RATING    ... RATIONALE

Product Complexity: VH ... product must compute numerous complex computations in real time and ... etc.

Process Maturity: H ... conducted a self assessment of our company rating ourselves at CMM L2 because ... etc.  
etc.

Select from the following 25 influence factors that cover most factors we discussed in class – you are free to add others.

#### PRODUCT FACTORS

Product Complexity:

Uncertainty of Requirements:

Extent of Documentation Required:

Database Size:

Development for Reuse:

Criticalities (Reliability, Availability, Security, and/or Safety):

#### PERSONNEL FACTORS

Reqs Analyst Capability:

Programmer Capability:

Management Capability:

Application/Domain/Business Area Experience:

Analyst Experience:

Dev. Env. Experience (w. Languages & Tools):

Management Experience:

#### COMPUTING ENVIRONMENT FACTORS

Execution Time Constraints:

Storage Constraints:

Platform Volatility:

Dev. Env. Capability (SW tools):

#### PROJECT MANAGEMENT FACTORS

Personnel Continuity (Turnover):

Requirements Volatility:

Schedule Pressure/Time-to-Market:

Multi-Site Development:

Process Maturity:

Precedentedness:

Architecture and Risk Resolution:

Team Cohesion:

#### OTHER FACTORS

[add factors specific to your project here – but double-check they don't fall under one of the factors above]