ISM 105/205 MOT I: Homework 2

(Problem Solving, Functional Maps, Strategy)

Reading: Ulrich & Eppinger, “PDD”, Chapters 1-4; class handouts. (Work on the homework problems and do the readings concurrently.)

Homework Problems (due Thursday, October 7):

Before working on the readings and problems develop a plan and time-schedule for producing “high-quality” homework (your product) in an efficient manner and on time.

For each problem proceed in the following structured manner: define the problem; plan the treatment of the problem; execute the plan; draw conclusions.

1. **Disk Drive Industry:** Read the disk drive industry handout. Carefully study the functional maps in Fig 1.3, 1.4, 1.5, and 1.7. For each map answer the following: (1) what is the meaning and significance (value) of the map? (2) how would a disk drive company use this map? and (3) what high-level conclusions can be drawn from the map? Using the appropriate functional map attempt to predict the nominal price that a disk drive manufacturer would charge (in “1982 dollars”) for 1MB of memory in the year 2009? Convert the “1982 dollars” price to an equivalent “2009 dollars” price, and attempt to compare your result against some actual manufacturer’s price.

2. **Intel:** Read the Intel Case Study and then work on the following problems.

   Map and analyze Intel’s industry/market landscape using Porter’s five (six) forces model. Be sure to clearly explain your approach and results. Draw appropriate conclusions.
   
   What are the key relationships between (the players involved in) each “force” of the business landscape? (E.g., how did Intel deal with competitors, etc.)
   
   Provide your own assessment of Intel’s technology strategy from the company’s inception (in 1968) to 1997.
   
   How have Intel’s technology strategy, product market strategy, and developmental goals changed from its inception to 1997? What were the key driving forces that triggered these changes? (This part will require the creation and use of the appropriate functional maps).

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**Project Proposal (due on Tuesday, October 12):**

Complete your project proposal for the technology or product that you plan to develop. Assume that you are in a medium-sized company that is developing several products and technologies to satisfy a given market, e.g., hand-held “personal digital assistants (PDA)” for the “consumer electronics market”. Identify your company’s the technology domain, and provide a **time-phased plan** for how you are going to develop your technology/product during the rest of this quarter.

Then, perform the following tasks (and report the results as “Phase 1 (Preliminary)“):

- Define a set of business goals, a proposed technology strategy, and a proposed marketing strategy, and development goals for the company.
- Perform a preliminary market sizing (revenue map) and market need analysis for your proposed technology/product line.
- Do a preliminary competitive analysis of industry/market landscape for your company’s product/technology: identify competitors, suppliers, buyers, etc. Are you a new entrant? Are you creating a substitute product? Etc.

Please meet with the instructor to discuss your completed project proposal during his office hours (3:30-6:30 PM) on Tuesday, October 12 (10/12).