

## TIM 80C: Homework #2

**Due Thursday, 10 August 2017:** Use the structured problem solving approach for each problem—i.e., define the problem; create a plan for solving the problem (what assumptions need to be made, what information is needed, what analyses must be performed); implement your plan, and be sure to draw conclusions at the end of each problem.

1. **Product Conceptual Design (1.5 -2 hours):** Develop 1-2 feasible concepts for *one of the following* products:
  - A combination washer-dryer.
  - A new cell phone which augments conventional cell-phone functionality with new functions (e.g., monitoring vital signs) that are based on customer needs.

(Since versions of these products already exist on the market, you first may want to dissect an existing version of each product using a FAST diagram.)

2. **Market and Competitive Analysis for digital cameras (1.5 -2 hours):** Read the **entire** problem statement before you start work on the solution.

Perform a market and competitive analysis for digital cameras:

- What is the size (revenue in dollars) of the digital camera market?
  - Who are the key players in this space, and what is the market share (%) of each of these players?
  - Describe the business landscape for digital cameras using Porter's five (six) forces framework.
  - Portray the competitive strategy of the (competing) firms using the grid of "strategic target" and "source of competitive advantage".
3. **Go Corporation:** Rapidly skim through Jerry Kaplan, "Start-up". In particular, review the "Author's Note" (Pages 301-2) and the "Chronology of Events" (Pages 303-4) at the end of the book. Briefly explain the customer needs and the resulting product idea that launched the GO Corporation.
  4. **Go Corporation (1-2 hours):** Read Chapters 1-3 of Kaplan, "Startup". For each chapter, **extract** and **write down** 3 key lessons you learned from your reading. Each key lesson must be **supported** with evidence from the text. To the extent possible, attempt to relate these lessons to your own "start-up".
  5. (extra-credit) **Product Dissection practice:**

Dissect any "item" of interest to you which is outside the subject matter of this course, e.g., an organization, the human-body, a game.

**TIM 80C Project Phase I: Proposal and Preliminary Conceptual Design**  
**(Due Tuesday, August 8, 2016)**

**Reading Assignment:** Kaplan, *Startup*, Chapters 1, 2, 3

*Make notes of the key points as you read.*

- Project Tasks:

*Please perform the following tasks, documenting your work as you proceed:*

1. Use your preliminary project proposal to create the final project proposal as follows:
  - Using suitable criteria, narrow down your list of ideas from the preliminary proposal to one (or two) ideas that you will use as a basis for your startup.
  - Develop a time-phased plan for creating the startup (use the dates on the Course Information sheet as a guide).
  - Identify roles and responsibilities of each team member.
2. Perform **preliminary** conceptual design for your product or service as follows:
  - Create a function structure for your product or service.
  - Create a morphological table of alternatives for each sub-function.
  - Use the table to identify 3-5 potential product (or service) design concepts.
3. Write up and turn in (on August 8) a 5-7 page Phase 1 report structured as follows:
  - 2-3 paragraph “Summary” of the report.
  - 3-4 page “Project Proposal” documenting and explaining the tasks performed in Task 1 above. Be sure to end the proposal with relevant conclusions.
  - 2-3 page section on Task 2: “Preliminary Conceptual Design.”
  - “Appendix” showing any additional relevant material/details.
4. Meet with the instructor on Wednesday, 8/9/17, to review and discuss the **results** of Tasks 1 and 2 above, and to receive feedback. Please come to the meeting with (1) your preliminary proposal, and (2) written documentation of Tasks 1 and 2.

**An important note on working in Teams:** An important aspect of this course is gaining experience in working in teams. This experience is designed to actively develop your inter-personal and cognitive skills. Cognitive Skill is not about developing a high IQ, but about the ability to see things from multiple perspectives. Specifically, in the context of the project and the team, it refers to improving your ability to see things from four perspectives:

- **I** (or **ME**, or myself);
- **YOU** (a member of your team);
- **WE** (or **US**, which emerges when YOU and I develop mutual understanding and a shared perspective), and
- **IT** (the objective perspective).

Please develop the capacity to see and act from all four perspectives.