TIM 80C Lecture #5 (4/14/15)

Agenda

1) Review Product Design (Lecture 4)

2) Product Strategy

3) Roles and Responsibilities / Organization of a Start-Up

4) Project Phase I

5) Vision and Mission Statement

6) Work on Project Phase I (time permitting)
1. Review of Product Design

<table>
<thead>
<tr>
<th>Real</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>Product Dissection (FAST)</td>
<td>Product Functions (Function Structure)</td>
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<tr>
<td>Realizations (Morphological Matrix)</td>
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</tbody>
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References

- German Design (Function/Form) Engineering Design, Pahl and Beitz
- Japanese Design (Quality) Quality Engineering using Robust Design, Phadke
- American Design (Usability) The Design of Everyday Thing, Norman
2) Product Strategy

A product strategy contains two key components:

1) A conceptual design concept for the product
   - Functions
   - Form (realizations)
   - Description of how the product will work

2) A plan for how the start-up will develop the design concept into a working product

Resources: What people (skillsets), equipment, facilities, etc. are necessary for development

Source: Where will the start-up obtain the resources?
   - In-house
   - Out-source

Schedule: When will the start-up need the resources?
   - Prototyping (α, β)
   - Production
3) Organization of a Start-up

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<tr>
<th>Roles</th>
<th>Responsibilities</th>
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<tr>
<td><strong>Chief Executive Officer (CEO)</strong></td>
<td>- Lead and manage people</td>
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<td>- Set business goals with the executive team</td>
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<td>- Get funding</td>
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<td><strong>Product / Technology Team</strong></td>
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<tr>
<td><strong>Chief Technology Officer (CTO)</strong></td>
<td>develop and implement the product strategy</td>
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<td>VP of Product Development</td>
<td>lead the development of the product concept (prototyping, user testing, etc.)</td>
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<td>VP of Manufacturing</td>
<td>lead the manufacturing and production of the product (coordinating with suppliers, quality control, supply chain management)</td>
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<td>Roles</td>
<td>Responsibilities</td>
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<td>VP of Marketing and Sales</td>
<td>Develop and execute the market and business (Competitive) Strategy</td>
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<td>Chief Financial Officer (CFO)</td>
<td>Perform the Cash-flow analysis and Create a Financial Strategy (budget)</td>
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<td>Other</td>
<td>Legal, HR, etc (generally outsourced)</td>
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4) Project Phase 1

Time-Phased Plan: There are two different timelines.

1) **TIM 80C Timeline:** Creating the business plan
   - Conceptual design
   - Market Strategy
   - Financial Strategy

2) **Start-up Timeline:** Executing the business plan
   - Prototyping
   - Getting Funding
   - Sales

For Phase I you are creating a time-phased plan for TIM 80C (1). See the syllabus for high-level deliverables and due dates for Phases I-IV.

Roles and Responsibilities: Assign primary roles and responsibilities to each group member, using the organization of a Start-up as a reference.
Start-ups are cross-functional.
Everyone works on everything.
6. Vision and Mission Statements

Question: What is the purpose of the Vision and Mission Statements of a company (start-up)?

Examples:

1) Microsoft (~ 1986 when the company was a start-up)

Vision: A computer in every home and at every desktop

Mission: Every one of this computers will run on a Microsoft operating system

2) Google (~ 1995)

Vision: All of the world's information is available to everyone at all times

Mission: To organize the world's information and create software tools to make the information accessible
Definitions

Vision Statement: A broad statement that describes the company's future vision of the world.

Example: A robot in every home in 10-15 years.

Mission Statement: A focused statement of how (products/service) the company will contribute to realizing the vision.

Example: We will provide the computer vision system for the home robot.
Answer: The Vision and Mission Statements define the purpose for the company's existence (Mission) and the target for where the company is headed in the future (Vision).
- Products and Services
- Markets (customers)
- Company Culture

Mission Statement: Generally public (e.g., Company website)
Vision Statement: Not always public

Example: Facebook

Mission Statement: Provide software tools for people to stay connected with friends and family

Vision Statement: ?
Example: Cisco

**Vision Statement:**

Public (External): Changing the way we work, live, play, and learn

Internal: Everything is connected to the internet and be controlled from anywhere

**Internet of Things (IoT/IOE)**

**Mission Statement:** Cisco will provide the network infrastructure (rovers, switches, etc) for the IOE.

The Vision and Mission Statement of a company are not static. They (must) change over time.