

TIM 80C Lecture #5 (4/18/17)

(1) Review Product Design

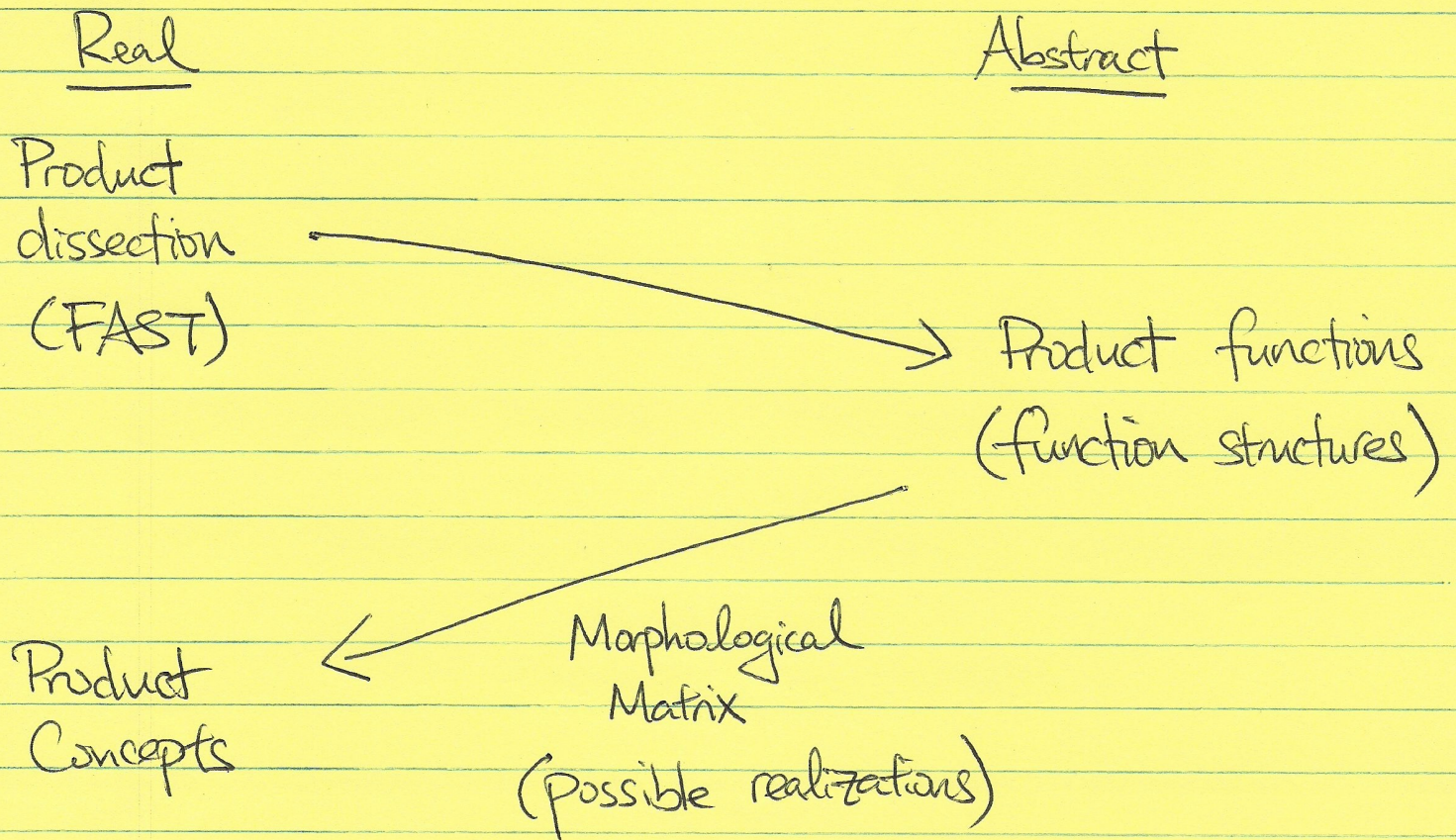
- from dissection to function structure
to product concept

(2) Product Strategy & Prototyping

(3) Organizing a start-up: roles & responsibilities

(4) Typical timelines for startups

① Review of Product Design



References

German Design (function & form)

Engineering Design, Pahl & Beitz

Japanese Design (Quality)

Quality Engineering using Robust Design, Phadke

American Design (Usability)

The Design of Everyday Things, Don Norman

② Product Strategy

Product Strategy has 2 key components:

- (1) A design concept for the product
 - functions
 - form (how functions are realized)
 - description of how the product will work
(Step 7 of Design Process)

- (2) A plan for how the startup will develop the design concept into a working product.

Resources : people (skillsets), equipment, facilities, other

Source of Resources : where will the startup obtain the resources? In-house? Outsource?

Schedule : when resources are needed?

- prototype
- production

Prototype (α, β)

Design Concept



Prototype

- Communicates the main features & benefits of the product
- helps stakeholders envision what the product will do
- identifies & clarifies upcoming technical challenges

α version

- have key features & be interactive
- be used to identify & solve key technical challenges

β version

- more polished than α
- can be used by stakeholders & customers to demonstrate the value of the solution; gather data (performance, cost, user reaction); set expectations



Production

③ Organizing a Startup

Roles (Titles)	Responsibilities
Chief Executive Officer (CEO)	<ul style="list-style-type: none">- leads & manages people,- sets business goals,- gets the funding
Chief Technical Officer (CTO)	<ul style="list-style-type: none">- develops & implements the product strategy
VP of Product Dev	<ul style="list-style-type: none">- leads the development of the product concept, prototyping & user testing
VP of Manufacturing	<ul style="list-style-type: none">- leads the production of the product<ul style="list-style-type: none">• coordinating with suppliers,• quality control• supply chain management

Roles

Responsibilities

VP of marketing
and sales

- Develops & implements the market & business (competitive) strategy

Chief Financial
Officer (CFO)

- Performs cash-flow analysis
- Creates a financial strategy (budget)

Other

Legal, Human Resources
(often outsourced)

④ Typical Timelines

(1) TIM 80C "economy"
(10 weeks)

- creating the business plan
 - conceptual design
 - market strategy
 - financial strategy

(2) Actual economy
(1-2 years)

- execute the business plan
- getting funding
- building sales