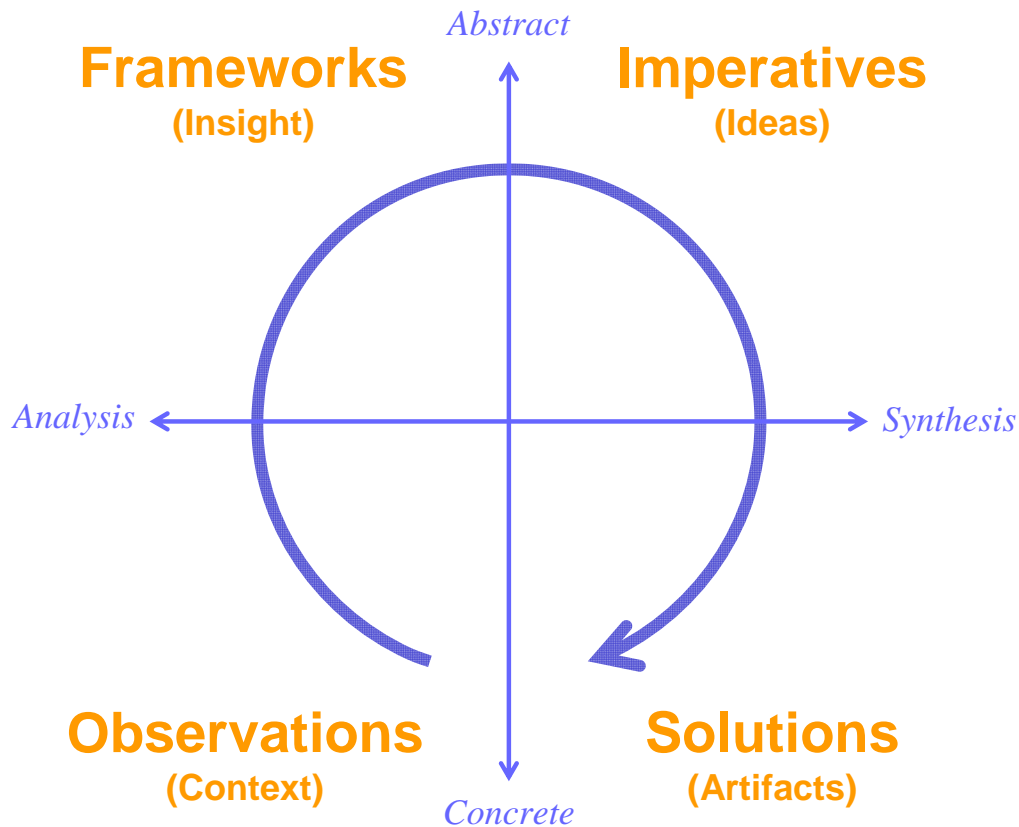


Journal
Leading Innovation Strategy and Process in Firms

Preston Smalley
Dec 2007

Design Process:

Most fundamental to this course for me was the design process and methodology that we learned. At a high level this involved four major activities illustrated below:



This approach is my favorite as it articulates the early (hard) phases well. It at a high level is not unlike other methods for design thinking that I'm familiar with for example:

- **IDEO:** 1. Inspiration, 2. Ideation, 3. Implementation
- **Frog:** 1. Discover, 2. Design, 3. Deliver
- **Wikipedia (Design Thinking):** 1. Define, 2. Research, 3. Ideate, 4. Prototype, 5. Choose, 6. Implement, 7. Learn
- **eBay Experience Design Approach:** 1. Understand, 2. Conceive, 3. Design, 4. Develop

Observing your customer

This stage of directly observing potential customers (ethnographic research) is often overlooked by companies. Only thru this activity are un-met user needs uncovered and identified. Some techniques I found useful at this stage includes:

- **Observing outliers** – In this way, thru extreme examples the whole picture is told.
- **Identifying workarounds** – This illustrated how existing products don't fully meet needs.
- **Direct observation** – Avoid relying solely on focus groups or surveys. These methods focus too heavily on what customers say which doesn't always match their actions.
- **Look for use, usability and meaning** – don't miss the third (e.g. corn grinder)
- **Methods for recording:** AEIOU, Mind-maps, and Day in the Life of, Process Maps

Key Figure (How to Mind-map):




Framing the Insights

Once the raw observations are collected the tendency for many is to jump right to solutions—don't do this! Instead we should frame the observations into key insights about our customer. Some techniques we learned here included:

- Laddering up and down the needs structure (see figure below)
- Build typologies by choosing characteristics of an experience and developing continuums
- Watch out for the upper-right quadrant in 2x2 for opportunities.

Key figure (illustrates how solutions that meet common needs yields new businesses):

| Needs | Needs Characterization | Means of Learning about Need | Solutions | Solution Characterization |
|-------------|---|--|-------------------------------|---|
| Common | Cultural Need shared by everyone | Generally implicit found through eliciting stories | New brands/ new businesses | Making things better |
| Context | Situational Need driving consumer action | Often found by watching and listening in many places | New product families |  |
| Activity | Directed Need fixing a problem or replacing what is missing | Found through observation of customer executing activity | New products | |
| Interaction | Specific product Need satisfying usability requirements | More explicit or stated needs that can be found through interviews | New product features | Making better things |

This stage takes practice to get good at. I've seen teams at eBay both succeed and fail at this stage and it usually hinges on the importance the team places on getting it right. Also the workspace the team has can play a critical role in the success at this stage as framing is nearly impossible if folks are working asynchronously at their desks (vs. collaborating in a single physical room).

Developing Imperatives

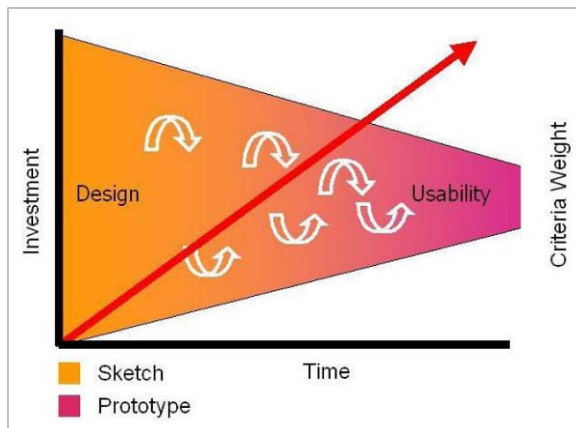
Perhaps the hardest phase of all is how your frameworks are translated into imperatives for which you can begin developing solutions.

Creating Solutions

In creating solutions, something that I do on a day to day basis, I'll keep in mind:

- **Importance of sketching** – It's critical that rough ideas look rough. Otherwise people will focus on the details and miss the big idea. Maintaining low fidelity also enables more rapid iteration and improvements to the prototype.
- **Prototyping as a risk reduction technique** – As the fidelity of your solution increases so does your investment in it. Maximize each stage before proceeding and remember that a prototype is still far cheaper than a fully developed and shipped solution.

Key figures (Bill Buxton: Sketching User Experiences 2005):



Benefits of Design Thinking

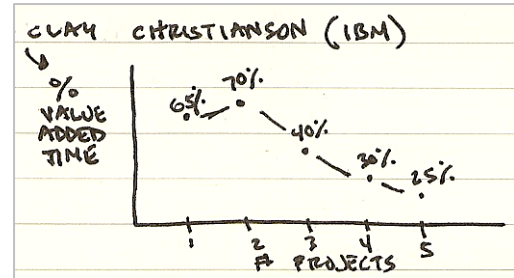
Examples of how companies benefit from design thinking:

- Companies that focus on design, yield stock performance over a 10 year time period which was nearly 3 times better than NASDAQ, S&P500, or Dow.¹
- Reduced risk. By prototyping ideas early and iterating on them, you reduce the risk associated with multi-year investments that end up failing.
- Many successful examples (see last section of paper) in business employed this thinking.

¹ BusinessWeek Design Index for 2005.

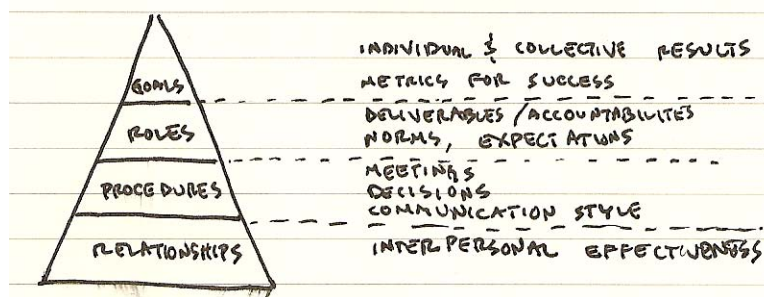
Team Dynamics

Jane Creech discussed with us how to manage high performance teams. I found this to be one of the most interesting and rewarding topics of the class. Jane cited a finding of Clay Christensen made at IBM regarding the productivity of people based upon the number of projects they carry (see sketch at right). This jumped out at me because there are a number of times at my company when people work on 3 or more projects and I always was suspicious that they may not be fully productive then. Jane also outlined that when new groups are formed they go thru what Tuckman calls:

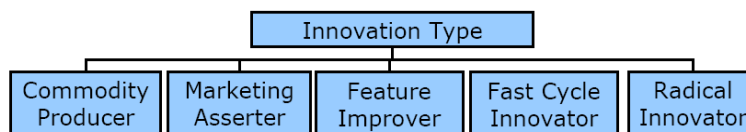


Forming → Norming → Storming → Performing

Alignment at the forming stage and also creating compatible relationships among the team (e.g. MBTI). Finally, I also understood that the type of innovation desired (commodity vs. radical) would also require very different types of people and you should ensure you've got the right group with the right goals (see below).



Key Figure (types of innovation):

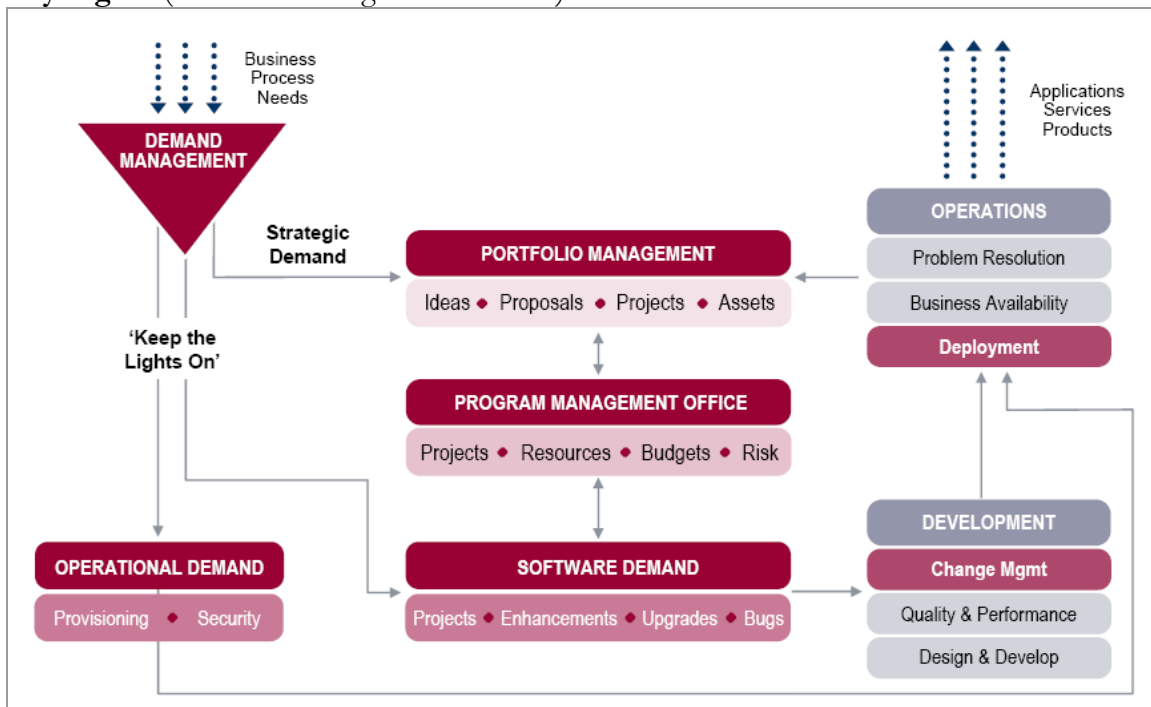


Product Planning Process

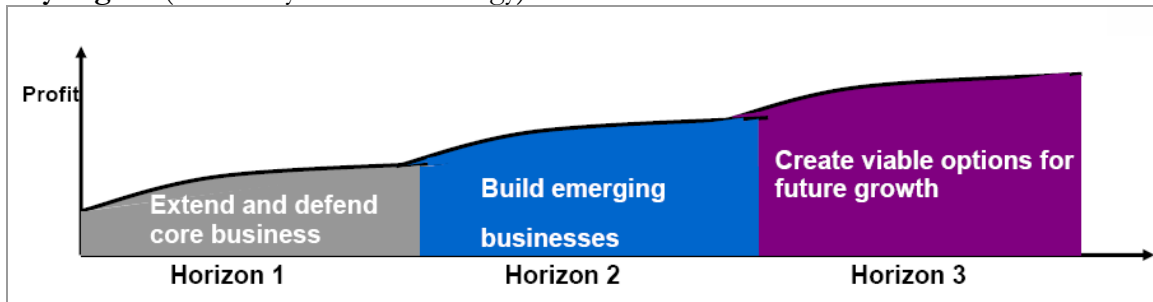
As we learned about how to manage an innovation pipeline a few things became very clear to me. I understood the importance of a well understood process for managing innovation as otherwise the resources of the firm will be fragmented and frustrated. Also it is critical to place the right investments within your core business vs. future growth or you'll suffer the fate of HP's hard drive division with Kittyhawk.

As I reflected on my own companies approach to this, I realize that at the macro level we're taking a good approach to investments (core vs. adjacent markets vs. new seeds). However at the micro level we could use more rigor in ensuring each project fits well into that overall strategic approach. In particular the McKinsey Horizon strategy really resonated with me.

Key Figure (Portfolio Management Process):



Key Figure (McKinsey Horizon Strategy):



Key Figure (2x2 of Portfolio Management)



Innovation in a Web 2.0 world:

As someone working in Internet industry, I found Scott Hirsch’s talk incredibly fascinating. His perspective on how innovators must create cultures that are transparent, full of multiple points of view, and constantly changing really resonated with me. It also fit well with IDEO’s perspective on the subject as well as Buxton’s approach to sketching.

Key slides from Scott Hirsch’s talk which he shared with me that really resonated:

Abandoning the waterfall for the washing machine

Web2.0 Innovators are ... and create cultures that ... to manage

| | | | |
|--------------------------------|---|--------------------------------------|---|
| Flexible | → | embrace many points of view | Uncertainty Openness Leadership Management Hiring Strategy Competition Marketing Biz Development Product Development |
| Persuasive | → | have fluid concept of idea ownership | |
| Collaborative | → | embrace transparency | |
| Humble | → | share success & accept failure | |
| Passionate | → | value inspiration and production | |
| Facilitative | → | are open to many viewpoints/options | |
| Persistent (but not defensive) | → | Commit to direction, not solutions | |

Great examples

One of the big takeaways from this course for me was a number of fresh anecdotes I could share with colleagues on the importance of design. Here are some of the most memorable.

Nintendo Wii

Background: Sony Playstation and Microsoft XBOX were aggressively pursuing best-in-class graphics and technologies for their platforms and targeting existing gamers—leaving Nintendo with a losing Game Cube business.

Observations: Few people over 25 played video games. Many continue to seek ways to interact and spent time with their friends/family at home and also desire to be less sedentary.

Imperative: Create a less expensive game platform that allowed people of all ages to play together in a more physically active way.



Acela Train

Background: Amtrak wanted IDEO to improve the design of its new commuter trains.

Observations: The riding of the train was just a small part of the whole process of deciding to take the train, planning the trip, etc. Riding was step 8.

Imperative: “It’s not the time it takes you to get somewhere, it’s all about how you use your time.”



Pull-Up Diapers

Background: P&G’s Huggies line ended at age 2 and was looking to expand it’s market.

Observations: Parents wanted children to get out of diapers but did not want to go thru the hassle (and mess) of potty training. Kids wanted to feel grown-up.

Imperative: Develop a training diaper which kids could feel proud to wear: “I’m a big kid now!”



Journal: Leading Innovation Strategy And Process In Firms

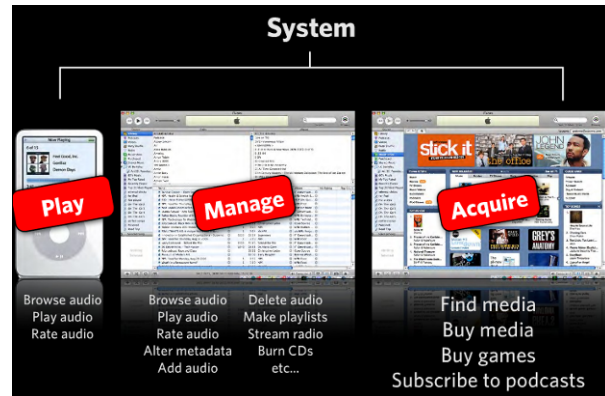
Preston Smalley

Apple iPod

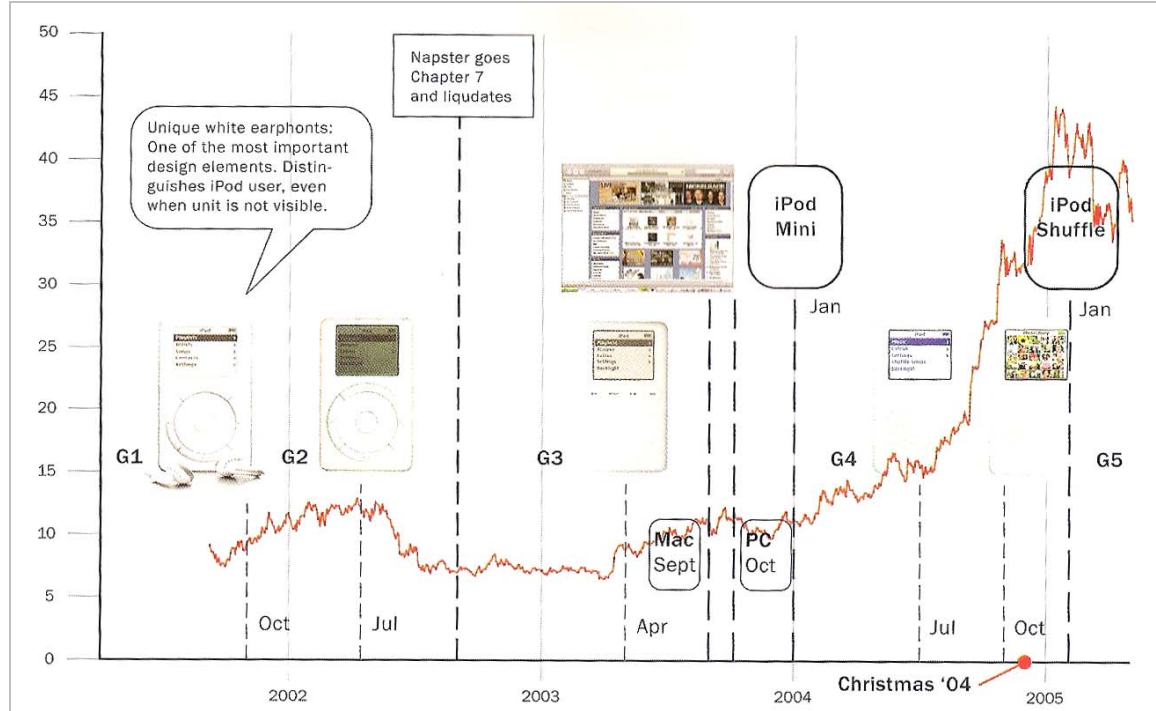
Background: Portable MP3 players were not effectively penetrating the market and legal changes made acquisition of music difficult.

Observations: Customers cobbled together a mish-mash of products which were poorly integrated.

Imperative: Deliver a music system that made it easy to discover, buy, and listen to music anywhere (legally).



Fallacy of iPod's "Instant Success" (Bill Buxton: Sketching User Experiences 2005)



Kittyhawk hard drive by HP

Background: HP's struggling hard drive division bet it's future on skipping a generation of hard drives and focused on developing a 1.3 inch microdrive.

Approach: Focused too early on a solution, missed alternative ways of solving the user needs (e.g. flash memory), pinned P&L forecast on R&D.

Outcome: Product failed and division folded up.



Final Thoughts

In summary I found this course to be valuable to me in two very important ways. First it supported existing notions I had about the important role “design thinking” can play within the enterprise and how critical it is to manage the process of innovation effectively. Second I learned a number of new techniques for various stages with the design process, many new examples to share, and new data to back up why this is the best approach to business. I see design as a critical part of my career going forward even as I evolve out of pure design management (my role today) into general management. I know now that this background could form the secret to my success.

Thanks!

Preston Smalley

Director, Interaction Design at eBay