Design Inquiry and Research

Week 1
James Moustafellos

Assistant Professor, MIS
Fox School of Business

Associate Director
Center for Design + Innovation

Speakman 209f / 215-204-4386
jamescm@temple.edu

Office hours: Tu/Th 11:00-1:00 by appt.
How many of you have an iPhone?
Market share decline:

43% peak in 2010

< 1% in 2014
What went WRONG?
More to think about...
“A PwC Pulse Survey of 246 CEOs in North and South America, Europe, Asia Pacific, and the Middle East reveals that 97% of CEOs see innovation as a top priority for their business.”

From PWC 02-Jul-2013
http://press.pwc.com/global/innovation-a-top-priority-for-business/s/918ccaab-2d82-4889-bc41-9905b3a4b9ec
“...Accenture surveyed 519 companies across more than 12 industry sectors in France, Britain, and the U.S. ... Almost all (93 percent) said the long-term success of their organization’s business strategy depends on their ability to innovate.

Despite the importance they assign to this innovate-or-die business rationale, just 18 percent of CEOs say they’re seeing their investments in innovation pay off. At the same time, 46 percent of the executives surveyed said their company had become more risk averse when considering new breakthrough ideas, the study found.”

From Bloomberg Businessweek:  By Bernhard Warner May 16, 2013
Our goal: SOLVE THIS PROBLEM
What is Business DESIGN?
Design is about actions
4 years ago the term didn’t exist. Now it is everywhere.
"BUSINESS DESIGN is a human-centred approach to creative problem solving. It applies design methods and mindsets to business challenges. It can be effectively used to help **better understand customers, create new experiences and design innovative business strategies and models.**”

- Rotman School of Management

From https://www.rotman.utoronto.ca/FacultyAndResearch/EducationCentres/DesignWorks/AboutBD.aspx
The best of BOTH

BUSINESS + DESIGN
What COLOR is this?
Describe it.

45 / 38 / 36

30% Transparent
Qualitative

Quantitative
YOU NEED BOTH
CRITERIA
THINK different
Think with your mind and hands.
HANDS ON
Get beyond the surface.
GO DEEPER.
Immerse ourselves in the subject
Look at things from multiple sides multiple scales
Learn from people
work different
DRAW + MAKE
draw *transitive verb*

Middle English *drawen, dragen*, from Old English *dragan*; akin to Old Norse *draga* to draw, drag

First Known Use: before 12th century

2: to cause to go in a certain direction

3 a: to bring by inducement or allure: **ATTRACT**

b: to bring in or gather from a specified group or area

c: **BRING ON, PROVOKE**

d: to bring out by way of response: **ELICIT**

5 a: to extract the essence from

b: **EVISCERATE**

From: http://www.merriam-webster.com/dictionary/draw
make transitive verb

Middle English, from Old English *macian*; akin to Old High German *mahhōn* to prepare, make, Greek *magēnai* to be kneaded, Old Church Slavic *mazati* to anoint, smear

First Known Use: before 12th century

1b : to begin or seem to begin (an action) *<made to go>*
2a : to cause to happen to or be experienced by someone *<made trouble for us>*
   b : to cause to exist, occur, or appear : CREATE *<make a disturbance>*
   
3a : to bring into being by forming, shaping, or altering material : FASHION *<make a dress>*
   b : COMPOSE, WRITE *<make verses>*
   c : to lay out and construct *<make a road>*
   
4 : to frame or formulate in the mind *<make plans>*
5 : to put together from components : CONSTITUTE *<houses made of stone>*
6b : to form and hold in the mind *<make no doubt of it>*
7b : to set in order *<make beds>*
9a : to cause to be or become *<made them happy>* *<makes it possible>*

From: http://www.merriam-webster.com/dictionary/make
Draw ideas.
Make change.
For your Fox MBA:

EXPERIENTIAL LEARNING
TEAMWORK
CASE STUDIES
EMC
For your professional life:

Managing uncertainty
Complex problem solving
Organizational/Institutional change
Process Improvement
Product + Service Development
Strategy
Preparation for a Changing World
Are any of you skeptics?
These are companies who **could not see** their world changing

In the last 10 years they **failed**, went through **bankruptcy** or became **insignificant**
Who do **YOU** want to be?
Have you heard of Kleiner Perkins Caufield & Byers?
“I graduated from the GMBA program... and had the opportunity to participate in a few of your design workshops. I found the design workshop process to be a very effective means to generate creative solutions for all types of problems...

In my job as a pharmaceutical marketing consultant, we are working on a project in which we want to brainstorm and develop creative pilot programs, and I remembered your process for design workshop from school and thought this would be a good opportunity to apply it....I would love to share this experience with my colleagues and think it will help get us thinking in the right direction.”

MBA graduate
Fox School of Business
course overview
+
syllabus review
Method: **LEARN BY DOING**

1. Do something
2. Analysis + Lessons Learned
3. Reflections on value
Structure:

**Day 1.** Intro + How to approach problem solving and conduct research.

**Day 2.** Research analysis + Understanding contexts and stakeholders

**Challenge Kick-off.** Learning from experts.

**Challenge.** Synthesis and Visualizing Solutions
INDIVIDUAL Preparation:

- Essential research for your team projects

- Reading Summaries
- Fieldwork
- Photos
- Video
INDIVIDUAL Assignments:

- Essential skills [graded A-F]

- Interviews

- System mapping
TEAM Assignment:

- Project Report [graded P/PH]
Grading Breakdown:

- Class preparation and participation 25%
  - Weekly Reading Summaries (3)
  - Fieldwork Process documentation
  - 20 Fieldwork photos
  - 3 Fieldwork Videos

- Individual interviews 25%
- Individual System Mapping 25%
- Team project report 25%
AMBIGUITY requires SUPPORT

Talk/Meet with me. I can help you.
Things can change … important information on the course blog
Let’s BEGIN
team building + collaboration
Tell me about ROLES and the 10 Faces of Innovation

1. What are the key points from the reading?
2. How do these ideas apply to you personally or professionally?
“Innovation is all about people. It is about the roles people can play, the hats they can put on, the personas they can adopt.”

http://www.fastcompany.com/54102/10-faces-innovation

Learning personas:
Anthropologist / Experimenter / Cross-pollinator

Organizing personas:
Hurdler / Collaborator / Director

Building personas:
Experience Architect / Set Designer / Caregiver / Storyteller
ACTION: name cards + introductions

Make a card that stands. Use any materials available. Include your name AND tell us about you. And....
What persona describes you?

Learning personas:
Anthropologist / Experimenter / Cross-pollinator

Organizing personas:
Hurdler / Collaborator / Director

Building personas:
Experience Architect / Set Designer / Caregiver / Storyteller

Or: explorer / analyst / people person / artist / puzzle solver / other...
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Entrepreneur

Architect
I am a BUILDER
Introduction:

table
Introduction:

general
Lesson learned:
name card +
Know your team.
Build on strengths.
Details are important.
Use all available resources
Make tools.
Let’s use our 2nd TOOL.
This is one of the most USEFUL TOOLS.
"I was blown away by the note-taking exercise and how you tapped into instinctual reactions ... and helped our group come together to understand the real needs of the organizations."

Rachael Eisenberg, Participant
Preventive Law / Legal Innovation Workshop
As quoted in the Legal Intelligencer, 24 April 2014

Action: analysis + synthesis
**analysis**: the separating of any material or abstract entity into its constituent elements (opposed to synthesis)

**synthesis**: the combining of the constituent elements of separate material or abstract entities into a single or unified entity (opposed to analysis)

analysis: PULLS IT APART

synthesis: PUTS IT TOGETHER
process overview
TOOLS
1. Tell your story
2. listen for meaning + take notes
2.5. isolate ideas
3. then put them on the wall
4. look for patterns
5. identify key words.
Let’s begin.
keychain stories
Tell stories about all of the things that are attached to your key chain.

[2 min per person. USE ALL THE TIME YOU ARE GIVEN]
SYNTHESIS

Post all of the notes on the wall. Move them around to form meaningful categories.

:15 cluster
Identify key words.
Building on your key words, construct the sentence:
“A key chain is ...”
Lesson learned: collaboration
Do the math.
It’s better if you work together.
This is what collaboration looks like
Lesson learned: immerse yourself in the situation
work in the world
not in your head
Go out. Experience the situation. Be the person.
Talk to people. Listen.

Hear what they have to say.
Ethnographic research

“Data collection methods are meant to capture the "social meanings and ordinary activities" of people (informants) in "naturally occurring settings" ...

The goal is to collect data in such a way that the researcher does not impose any of their own bias on the data.

Multiple methods of data collection may be employed to facilitate a relationship that allows for a more personal and in-depth portrait of the informants and their community. These can include participant observation, field notes, interviews, and surveys...

Secondary research and document analysis are also employed to provide insight into the research topic.”

— from wikipedia
PEOPLE matter.
...you will need to understand the viewpoints of a full range of people... that you can avoid the trap of designing for yourself
"We lost sight of the products from the consumer’s point of view"

Kazuhiro Tsuga, President
Panasonic Corporation
Lesson learned:
From ordinary to extraordinary
How do we find the extraordinary
5 QUESTIONS
Questions lead to ANSWERS
DESIGN INQUIRY / 5 questions to answer:

1. **what** inspired you (good or bad)
2. **who** are the affected stakeholders
3. what are their **unmet needs** + why are they important
4. what is your **solution**
5. **what resources** do you need to create and sustain your solution
DESIGN INQUIRY / 5 questions to answer:

1. **what** inspired you (good or bad)
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Your PROJECT
MASS TRANSIT, CAR CULTURE & THE QUALITY OF URBAN LIFE: ENVISIONING A SMARTER BUS SYSTEM
Philadelphia developed around its dense, colonial street grid, which laid the perfect foundation for walkable, transit-oriented communities. This is one reason why Philadelphia is one of the top 5 cities in the country with commuters walking, biking, or using transit. **And yet even with accessible transit, the 20th century ideal of car ownership persists.** In addition, new forms of technology-enabled services are expanding opportunities for individuals to drive. From Zipcar to Uber, a convenient ride is only a few keystrokes away.
The **American Public Transportation Association** estimates that the average Philadelphia household can save close to $12,000 per year by eliminating one car and riding transit. These savings would help bolster struggling families, businesses, and communities across the city. The environmental dividend would also be significant – riding [SEPTA](https://www.septa.org) reduces greenhouse gas emissions and improves air quality.
Focusing specifically on the bus system and its shelters, how can we change our transit system to reduce our dependence on cars and achieve the economic, social, and environmental dividends from a less auto-centric future?

Proposals can either look at transit systems internationally for inspiration to implement locally or look locally for inspiration with the goal of implementing globally.

Outcomes can include proposals that are:
- Technology enabled
- Spatial and Environmental
- Behavioral and cultural
ESSENTIAL QUESTIONS

Why do people drive?

Why don’t people drive?

Why do people ride the bus?

Why don’t people ride the bus?
Fieldwork + Ethnographic research
For NEXT CLASS
Your research assignment
ASSIGNMENT PART 1: RESEARCH

You will conduct ethnographic research related to your project.

1. Go out and visit / observe / experience the bus system and bus shelters. RIDE THE BUS.

2. You must take at least 20 different pictures of a situation relevant to your project domain of interest. Photos should present a range of perspectives from general overview images to very specific details and situational context.

3. Take at least 3 video clips of 3 minutes each.
A PORTRAIT is defined as:
1: a picture
2: a sculptured figure
3: a graphic portrayal in words

Synonyms for PORTRAIT are:
definition, delineation, depiction, picture, description, portraiture, portrayal, rendering, sketch, vignette

Related Words are:
account, anecdote, chronicle, narrative, report, story, tale, yarn; demonstration, exemplification, illustration; clarification, elucidation, explanation, explication, exposition

From: http://www.merriam-webster.com/dictionary/portrait
This is a photo of two students @ a track meet last year, they have since graduated, but were known as players in the second hand market.

Phones like this often caused adults and college aged students to purchase phones in the second hand market.

These are two of the students who took photos of themselves at school on stolen phones, then sold them and got caught.

This is Sewanhaka High School, home of the secondary market I looked into.

This is Manor Deli, home of the second hand cell phone market from Elmont, NY.

A prime source for goods at the high school. In my conversations I found out that last year a series of break ins with a crow bar happened at a different high school in the same district.
Internet searches for "technology" and "technology definition" reveal a market with a wide degree of variability.

In an attempt to focus the research, I used yourdictionary.com's definition.

Example: Customer review ratings vs. qualitative commentary do not always follow the same trend. Dale Pulliam's headline comment is "Excellent Privacy" yet he gave a 2 star review. Meanwhile, James Man's headline of "Still needs a lot of improvements!" came with a 3 star review.

Example: LinkedIn and other social networks enabled me to make contact with folks willing to be interviewed and inform the primary research (dig deeper than secondary resources may allow).
ASSIGNMENT PART 2: INTERVIEWS

You must interview at least 3 people who represent stakeholders for your project.
You want to learn as much as you can about them and their personal relationship to the project domain of interest.

Write a 1-2 page (full page minimum) personal portrait telling their “story”. Provide details and insights into their personalities, choices, preferences, and personal intellectual and emotion drivers. This is a story – not a Q+A summary.

The interview assignments are opportunities to understand the relationship between PEOPLE and SITUATIONS. Your goal is to understand what people want and need. Successful interview assignments usually involve multiple interviews and several pages of transcribed conversation that are summarized and distilled into a meaningful narrative.

If your interview is very brief or cut short – I strongly suggest doing another until you have sufficient material.
Let’s dissect an example
“Joseph
Joseph (name has been changed) is 22 years old, and has been homeless since leaving his foster home at 19. He occasionally stays at St. Columba’s, a shelter in West Philadelphia, and spends a lot of his time at the Youth Health Empowerment Project in Center City, a drop in center for young adults. He sings in Suburban Station to make some money to supplement his disability and food stamps. Joseph has schizophrenia, major depression, and epilepsy. He finds it very challenging to interact with his peers due to his diagnoses, homelessness, and lack of education....”
“Joseph has difficulty connecting with his friends and social workers because he changes his phone number frequently. He has several phones, and uses them until he runs out of text messages, and then begins using another one. One of them is a free government issued phone, and several others are inexpensive pay-as-you-go plans. He also loses phones frequently. His belongings are often stolen in the shelter, and he loses his things often when sleeping on the street. His seizures and resulting confusion and memory loss also contribute to his frequently lost phones....”
“Phones can be expensive, and it can be difficult to replace them so frequently. Joseph continues to replace them though, because it is important for him to maintain his social network. He can find inexpensive used phones from “guys I know”, especially in and around Suburban Station. Joseph says that sometimes “I have stuff people want. So we do a trade.”, and states that he stole a phone “only once. But it was a good one and the guy locked me out.” He states “last week my social worker tried to call me, but the voice mail was in Spanish. So she knew it wasn’t legit. I heard it for that....”
“Cell phones are a status symbol, even in the homeless community. More expensive phones can represent the level of skill required to obtain it, but Joseph says that the most important thing is having a way to keep in touch with his supports. "I don’t have a home, you know? I don’t have much. But I have people. If I can’t talk to them, then what do I have?"
ONE PAGE. A LOT OF INFORMATION.
Any questions – contact me

jamescm@temple.edu
Quickly clean up:

place all tools in your bins and return them to the stack.

return all other materials to supply tables