

DETERMINING CUSTOMER NEEDS

As practiced in ME4054

(Ref: Chap. 4, Ulrich & Eppinger text)

Some ways to determine needs...

- **My advisor said, “Do it this way”**
- **Marketing said, “Here are the specs”**
- **Team member Sam said, “Gosh, I would buy one!”**

Another way to determine needs...

- Determine *who* the customers are
- Determine *what* information should be gathered from customers
- Determine *how* that information should be gathered

And then, *translate* that information into product requirements and engineering specifications

Gathering customer information

- **Depth interviews**
- **Surveys**
- **“On the job” observations**
- **Focus groups**

Gather and report raw data, no interpretations....yet!

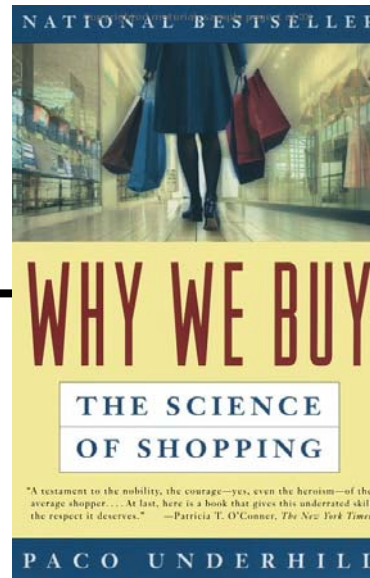
Depth interviews

- **Great for getting lots of info quickly**
- **Can go into the “why”**
- **Have an interview script...clear with team and with advisor**
- **Take notes...of everything, not just what you want to hear...record direct quotes**
- **Can be hard to schedule**
- **Be mindful of people’s time**
- **Do over telephone or in person**

Surveys

- **Hard to create a good questionnaire**
- **Keep it short**
- **Minimize essay questions (interview instead)**
- **Need large N for quantitative data**
- **Screen respondents...you want the right sample**
- **Mail surveys...time scale wrong for ME4054**
- **Web surveys...only if you direct people to it**

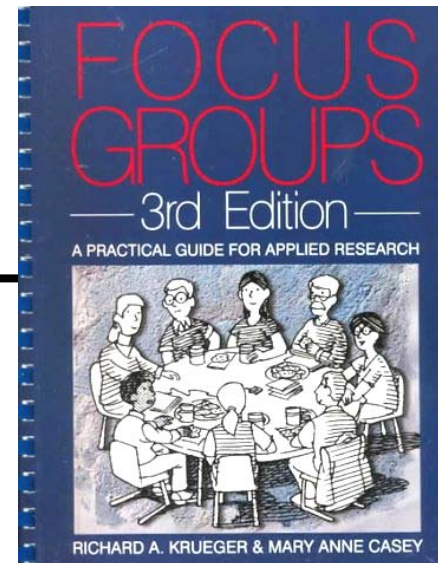
Observations



- **GREAT method!**
- **Be a “fly on the wall”**
- **Observe environment where design will be used**
- **Take notes**
- **Best way to understand the user**
- **Important for *engineers* to observe...and not simply rely on what others say**

Focus groups

- **Generates group discussion**
- **Can resolve conflicting views**
- **More than just getting people together**
- **Needs a skilled moderator**
- **Sometimes done in special facility with 1-way mirror and design team watching**
- **Requires planning, scheduling**
- **Logistics challenging for 4054 project**



What to do with the information...

- **Collect information as raw data, do not interpret as you take notes**
- **See text for some great methods to organize and translate raw data into info you can use to design your product**
- **Always check info against your common sense**

Are you done?

- After you have a concept, or a prototype, get reaction from customer(s)
- Bring the prototype or drawing

**Gathering info from customer is a
*continuous process***

The bottom line...

It makes no sense to create a design that nobody other than the design team wants!