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Experience Design Research: Choosing the Right Methods for the Job

CHI-Squared Monthly Meeting

April 2, 2003



Agenda

Thanks for joining us! Tonight we'll be covering:

- About Us (briefly)
- Design Research: Defining the Problem
- Methods: Choosing the Right Tools for the Job
- Considerations for the Real World

About Us



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Centralis, a user experience consultancy offering research, design and testing services



The Basic Premise

- Different design problems present different types of questions about customers
- Different research methods yield different types of data about customers
- Success requires carefully *designing the research process itself* to ensure that the methods you choose deliver the answers you need

Types of Research Questions

Design efforts raise widely varied questions about users:

- How do our customers perceive our brand?
- What features do they consider most important?
- How do people actually perform a particular task?
- How can we make it easier for people to use our product?
- What unmet customer needs could we address with new products?

How should we choose a research method in the face of this diversity?

Types of Research Questions

Most research questions fall into to one of the following categories:

- Questions about **attitudes**
- Questions about **behavior**
- Questions about **cognition**
- **Multidimensional** questions

Types of Research Questions

Questions about **attitudes**:

- What factors drive our customers to purchase our products?
- What features do our customers consider most important?
- What new product concepts will generate customer interest?
- How do customers perceive our brand?
- How will customers respond to our new ad?

Types of Research Questions

Questions about **behavior**:

- How do customers actually use our product?
- How can we make it easier for customers to use our product?
- What opportunities are there to better support customer behaviors?

Types of Research Questions

Questions about **cognition**:

- What knowledge do users bring to their interactions with our product?
- Will people see and understand this label, button or graphic?
- How can we maximize customers' comprehension of our communications with them?
- What is our customers' mental model of our domain?

Types of Research Questions

Multidimensional questions:

- What do our customers need from our product?
- What new products will address unmet customer needs and desires?
- What segments exist in our customer base?



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**Designing Your Research to
Match Your Questions**

User experience research methods include traditional and emerging approaches:

Traditional methods:

- Focus Groups
- Surveys
- Interviews

Emerging methods:

- Contextual Inquiry
- Card Sorting
- Usability Testing

Focus groups are well suited for:

- Exploring attitudes toward product concepts or messages
- Brainstorming



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Limitations of Focus Groups:

- Self report data on past and future behavior is limited and unreliable
- Produce typical, generalized accounts rather than specific instances
- Do not allow in-depth investigation
- Cannot study individual cognition
- Groupthink





Methods

| | Attitudinal Questions | Behavioral Questions | Cognitive Questions |
|--------------------|---|----------------------|---------------------|
| Focus Groups |  | | |
| Surveys | | | |
| Interviews | | | |
| Contextual Inquiry | | | |
| Card Sorting | | | |
| Usability Testing | | | |

Surveys are well suited for:

- “Projectible” answers to well-defined questions
- Measuring awareness and attitudes
- Persuading stakeholders who are influenced by quantitative data

8 Now, we have a few questions about your usage of the Internet. How long have you been using the Internet?

- Less than 1 year
- From 1 up to 2 years
- From 2 up to 3 years
- From 3 up to 5 years
- Over 5 years

9 Where do you usually access the Internet?

- Only at home

Surveys are well suited for:

- “Projectible” answers to well-defined questions
- Measuring awareness and attitudes
- Persuading stakeholders who are influenced by quantitative data

Limitations of Surveys:

- Only provide answers to the questions that are asked
- Ill-suited for exploring complex processes
- Do not provide opportunity for discovery
- Assume that respondents interpret questions in the same way

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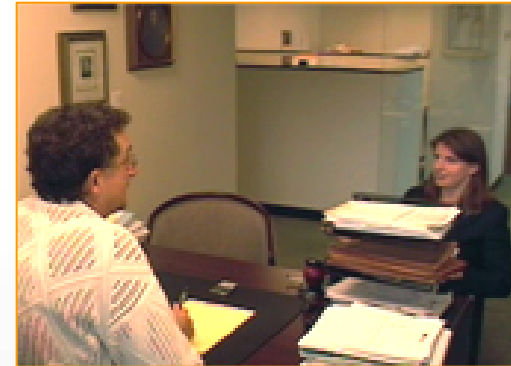


Methods

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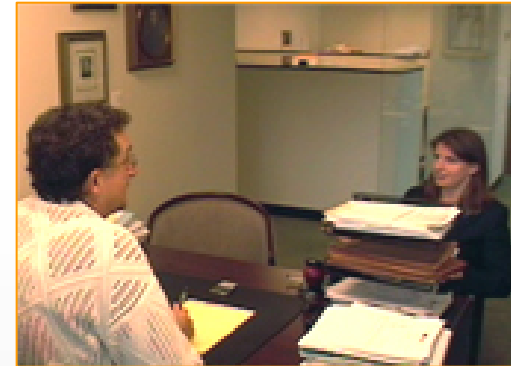
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- Eliciting specific examples of activities and product interactions
- Studying processes that unfold over time
- Exploring unanticipated areas of inquiry



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Limitations of Interviews:

- Rely on self-reported accounts of past and future events
- Provide a single perspective per session
- Not projectible
- Considered less efficient to conduct than focus groups



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Contextual Inquiry is well suited for:

- Exploring complex or poorly understood phenomena
- Directly observing predictable processes of short duration
- Providing memory support for participants
- Analyzing artifacts related to behaviors under study
- Discovering novel behavior and opportunities



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Limitations of Contextual Inquiry:

- Does not enable observation of processes that unfold across time, place and actor
- Limits number of observers, making it more difficult to socialize findings
- Rich dataset requires detailed analysis
- May be difficult to gain access
- Greater potential for experimenter influence
- Requires substantial budget and timeline



Methods

| | Attitudinal Questions | Behavioral Questions | Cognitive Questions |
|-------------------|-----------------------|----------------------|---------------------|
| Focus Groups | ● | | |
| Surveys | ● | ● | |
| Interviews | ● | ● | |
| Usability Testing | ● | ● | ● |
| Card Sorting | | | |

Card Sorting is well suited for:

- Understanding individual mental models of a domain
- Prioritizing content, features and functionality
- Identifying statistically reliable areas of agreement among a small sample of participants
- Providing guidance for organizing information



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Limitations of Card Sorting:

- Does not directly address other areas of inquiry



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- Providing direct observation of users' interaction with an interface
- Revealing the extent to which an interface supports users' goals
- Offering specific guidance for improving an existing or prototype design



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Limitations of Usability Testing:

- Inquiry is limited to the scope of the interface and tasks tested
- Cannot directly address fit with users' overall process
- Relies on self-report to understand larger context
- May require a more complex test set-up

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| | ● | | ● |



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Considerations for the Real World

In the real world...

- Research plans are impacted by time, budget, logistical and political pressures
- Method selection may be driven more by familiarity than suitability
- Often, corporations hire research consultants:
 - After they've defined the problem
 - After they've decided on a methodology
- To be effective, we need to think creatively about how to design research in this context



Designing a research plan

1. What are the research questions?
2. What method(s) are appropriate?
3. What are the client's ultimate constraints?
 - Time, budget, observers, method of choice
4. Can the best method meet those constraints?
5. Can methods be combined to yield better data?

Example 1

Client's design issue: How do we integrate a new, fundamentally different product line into our current web site?

(How do we increase customer awareness of our new offering?)

Client's request:

Conduct focus groups to:

- Gauge reactions to a series of home page mock-ups that integrate the new offering in different ways
- Help prioritize content for the new section

Example 1

1. Types of questions: Attitudinal and Cognitive
 - How will our current customers react to our new product line?
 - How should it be integrated with our current offering?
 - What will customers think about our proposed design?
2. Best methods: Focus Groups, Card Sorting
 - Focus groups well-suited to gauging reaction to mockups, less suited to assessing content preferences
3. Solution: **Combine focus groups and card sorting** to address clients' questions
 - Employ focus group setting
 - Use groups to gather reactions to visuals
 - Integrate card sort to assess content priorities



Example 2

Client's design issue: Customers and prospects are complaining that they can't understand our products and services based on our website. Call center costs are high. Existing knowledge about customer needs is low.

Client's request: Conduct usability testing on the products section of our website to determine how to improve it.

Example 2

1. Types of questions: Multi-dimensional
 - Where is our website falling short in describing our products and services?
 - What information are prospective customers looking for?
 - How do prospective customers approach buying the types of products we sell?
2. Best methods: Interviews, Usability Testing
3. Solution: **Combine field interviews with usability testing** to address clients' questions
 - Develop a detailed understanding of the purchase process, including stages, players, decision criteria and information needs
 - Conduct usability testing to assess current offering and identify opportunities for improvement



Conclusion

- Design challenges present different types of questions about customers' attitudes, behavior and/or cognition
- Each research method is well-suited for answering certain questions, and poorly suited for answering others
- Understanding the strengths and limitations of each method enables you to design the most effective research initiative for your needs



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Thank you!

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