

TECH 646 Analysis of Research in Industry and Technology

A Core Course

Master of Science in Technology Graduate Program:
Industrial Technology/Manufacturing and IT/ Advanced
Computer Applications Tracks
Purdue University Fort Wayne

Qualitative Research

Lecture note based on the Chapter 7 and supplemental materials from the text book:

Cooper, D.R., & Schindler, P.S., *Business Research Methods* (12th edition), McGraw-Hill/Irwin

Paul I-Hai Lin, Professor
School of Polytechnic
<http://www.etcspfw.edu/~lin>

TECH 646 - Qualitative Research

1

Qualitative Research – Learning Objectives

- How qualitative research methods differ from quantitative methods?
- The controversy surrounding qualitative research.
- The types of decisions that use qualitative methods.
- The variety of qualitative research methods.

TECH 646 - Qualitative Research

2

What is Qualitative Research?

- It includes an “array of **interpretive techniques** which seek to describe, decode, translate, and otherwise come to terms with the **meaning, not the frequency**, of certain more or less natural occurring phenomena in the social world.”
- Aims to **achieve an in-depth understanding of a situation** :” How (process) and why (meaning) things happen as they do?”
- It can be **used in** both the “**data collection**”, and “**data analysis**” **stages** of a research project.

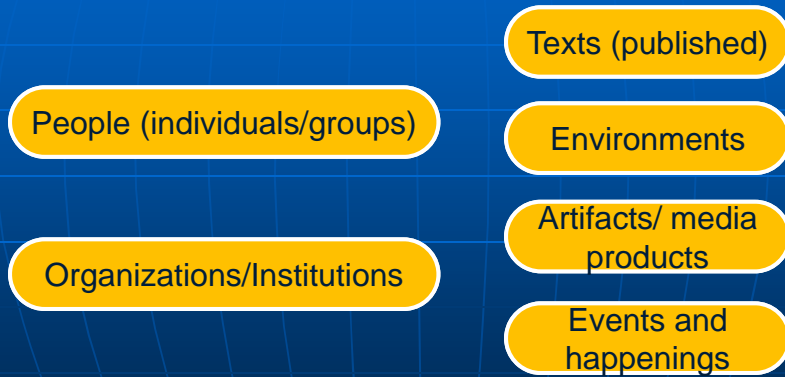
PulsePoint: Research Revelation

- Technorati, <http://technorati.com/>
- Technorati – an Internet search engine for searching blogs, <http://en.wikipedia.org/wiki/Technorati>

175

The thousands of new blogs started each day according to Technorati.

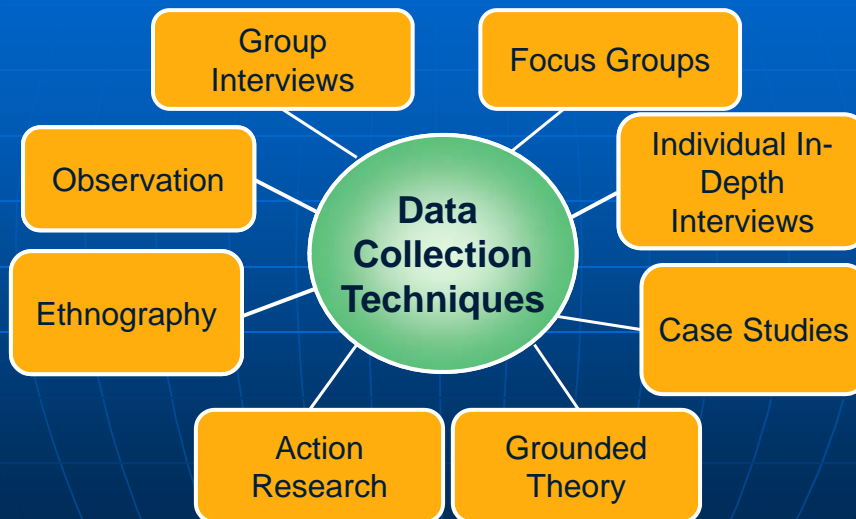
Data Sources for Qualitative Research



TECH 646 - Qualitative Research

5

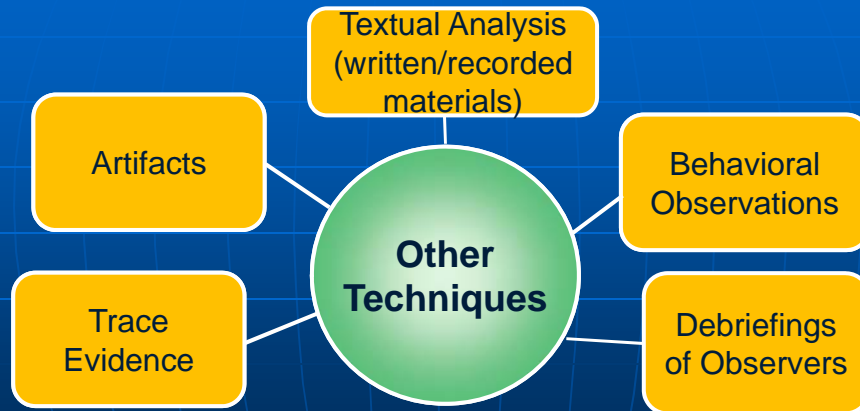
Data Collection Techniques for Quantitative Research



TECH 646 - Qualitative Research

6

Data/Content Analysis Techniques for Quantitative Research



TECH 646 - Qualitative Research

7

Qualitative Research in Business & Industry

- Job Analysis
- Advertising Concept Development
- Productivity Enhancement
- New Product Development
- Benefits Management
- Retail Design
- Process Understanding
- Union Representation
- Market Segmentation
- Sales Analysis

TECH 646 - Qualitative Research

8

Exhibit 7-1 Some Appropriate Uses for Qualitative Research (Industry/Technology)

■ Job Analysis

- Does the current assignment of tasks generate the most productivity?
- Does the advancement through different job levels incorporate the necessary training to foster the strongest performance

■ Productivity Enhancement

- What actions could we take to boost worker productivity without generating worker discontent?

Exhibit 7-1 Some Appropriate Uses for Qualitative Research (Industry/Technology)

■ New Product Development

- What would our **current market** think of a proposed product idea?
- We need **a product**, but what should they be to take advantage of our existing customer perceived strengths?
- Which products will create the **greatest synergy** with our existing products in terms of ROI and distribution partner growth?

Exhibit 7-1 Some Appropriate Uses for Qualitative Research (Industry/Technology)

■ Process Understanding

- What steps are involved in cleaning a wood floor?
How is our product perceived or involved in this process?

■ Sales Analysis

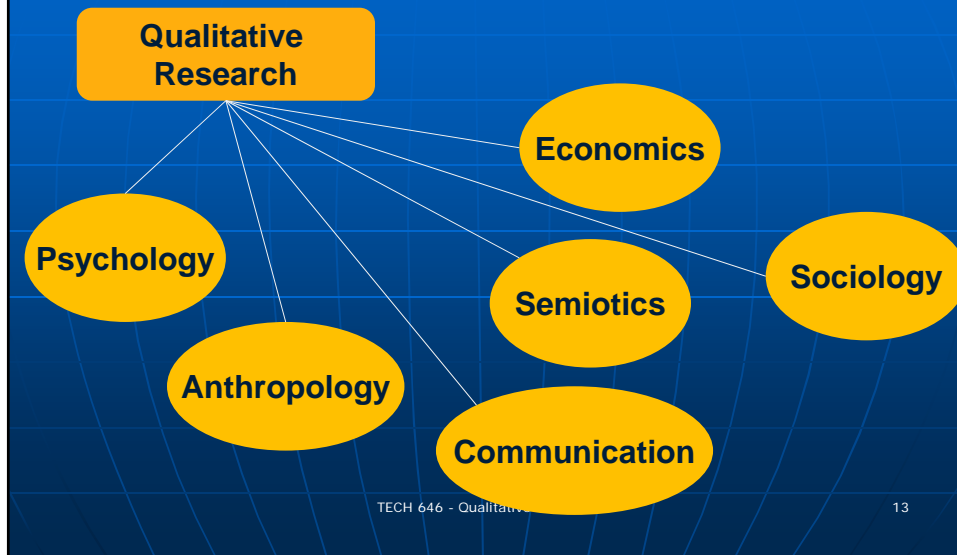
- Why have once-loyal customers stopped buying our service?

Exhibit 7-1 Some Appropriate Uses for Qualitative Research (Industry/Technology)

■ Market Segmentation

- Why does one demographic or lifestyle group use our product more than another?
- Who are our customers and how do they use our product to support their lifestyle?
- What is the influence of culture on product choice?

The Roots of Qualitative Research



Qualitative Research - Controversy

- Too subjective and susceptible to human errors
- Bias in data collection and interpretation
- May provide an unstable foundation for expensive and critical business/industry decisions
- **Fundamental weaknesses:** the results cannot be generalized

Qualitative vs. Quantitative Research

■ Quantitative Research

- “Precise count” of some behavior, knowledge, opinion, or attitude
- Survey – the dominant method
- No bias to the result: a researcher maintain a distance from the research

■ Qualitative Research

- Interpretive research
- Seeks to develop understanding through detailed description
- Builds theory but rarely tests it

TECH 646 - Qualitative Research

15

Qualitative vs. Quantitative Research

■ Focus on Research

Qualitative

- Understanding
- Interpretation

Quantitative

- Description
- Explanation

■ Research Involvement

Qualitative

- High
- Participation-based

Quantitative

- Limited
- Controlled

TECH 646 - Qualitative Research

16

Qualitative vs. Quantitative Research

■ Research Design

Qualitative

- Longitudinal
- Multi-method

Quantitative

- Cross-sectional or longitudinal
- Single method

■ Sample Design and Size

Qualitative

- Non-probability
- Purposive
- Small sample

Quantitative

- Probability
- Large sample

TECH 646 - Qualitative Research

17

Qualitative vs. Quantitative Research

■ Feedback Turnaround time

Qualitative

- Shorter turnaround possible
- Insight development ongoing

Quantitative

- May be time consuming
- Insight development follows data entry



TECH 646 - Qualitative Research

18

Qualitative vs. Quantitative Research

■ Data Types and Preparation



Why?

Because he thinks plaid is slimming. Because the chain makes him feel young again. Because he believes the world needs more purple. You might not understand this guy. But you will.

Contact the Harris Interactive Qualitative Research Practice at 877.919.4765. We'll explore him together.

To learn more, check out our free Online Demo at www.harrisinteractive.com/qual

HarrisInteractive
MARKET RESEARCH
The Harris Poll™ PEOPLE

18779194765 www.harrisinteractive.com Tel 877.919.4765
©2005 Harris Interactive Inc. All rights reserved. 000000000 000 00000000 000

Qualitative

- Verbal or pictorial
- Reduced to verbal codes

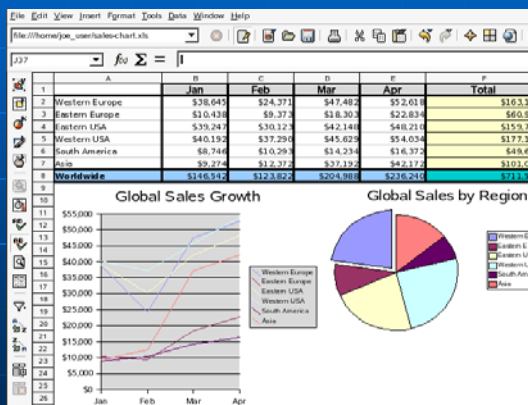
Quantitative

- Verbal descriptions
- Reduced to numeric codes

19

Qualitative vs. Quantitative Research

■ Data Analysis



Qualitative

- Non-quantitative
- Judgment mixed with fact
- Emphasis on themes

Quantitative

- Computerized analysis
- Facts distinguished
- Emphasis on counts

TECH 646 - Qualitative R

Qualitative vs. Quantitative Research

■ Sample Design and Size

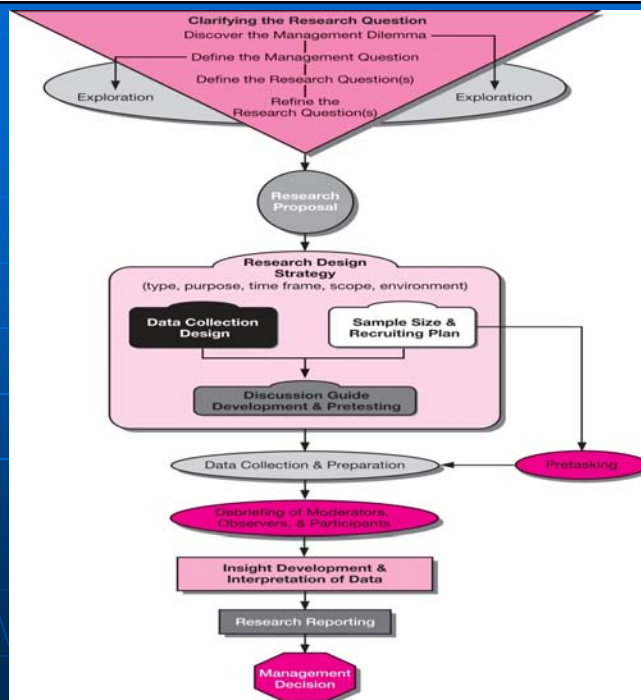
Qualitative

- Non-probability
- Purposive
- Small sample

Quantitative

- Probability
- Large sample

Exhibit 7-3 The Process of Qualitative Research



Pre-tasking Activities (Home Interior Design Example)



Use product in home

Bring visual stimuli

Create a visual collage

Keep diaries

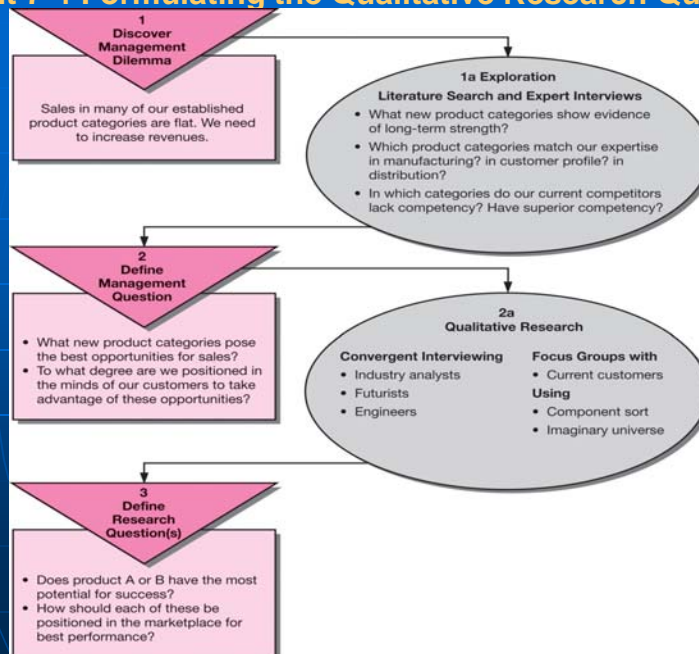
Draw pictures

Construct a story

TECH 646 - Qualitative Research

23

Exhibit 7-4 Formulating the Qualitative Research Question

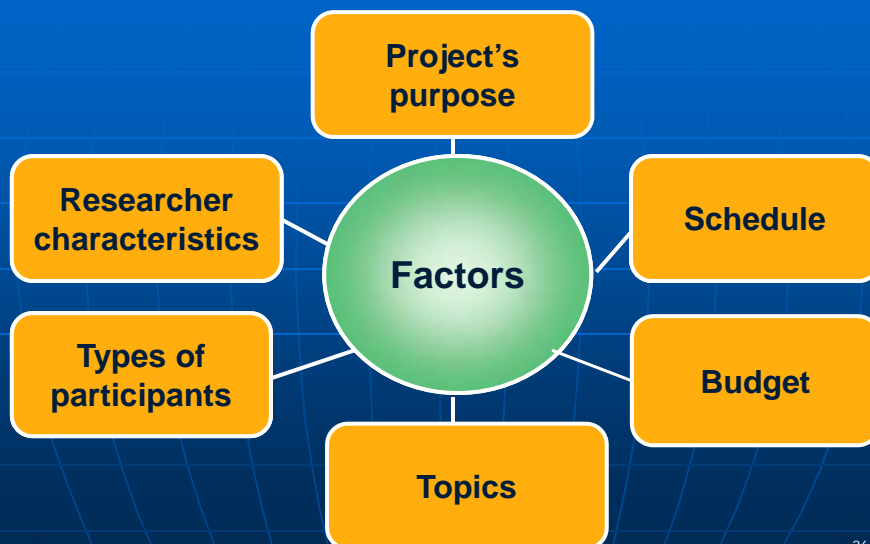


24

Industry & Technology Research Activity & Examples

- **Entry Strategies** - Oracle faces tough competition in move to boost Cloud business, WSJ, by Jay Greene, Sept. 20, 2016
- **Long-Term Vision** - Ford rolls business service unit, Plans Autonomous-Car Services, WSJ, by Christina Rogers, Sept. 15, 2016
- **Technology** - Salesforce joins race for artificial intelligent business software, WSJ, by Rachael King, Sept. 19, 2016
- **Organization Culture**, GE goes into high gear to attract silicon valley talent, by Ted Mann, WSJ, Sept. 21, 2016

Choosing a Qualitative Method



Qualitative Research Methodologies

- **Sampling**
- **Interviews**
 - Interviewer Responsibilities
 - Projective Techniques
- **Individual Depth Interviews**
 - Managing the Individual Depth Interview
- **Group Interviews**
 - Focus Groups
 - Other Venues for Focus Group Interviews
 - Recording, Analyzing, and Reporting Group Interviews

TECH 646 - Qualitative Research

27

Types of Non-Probability Sampling

**Purposive
Sampling**

**Snowball
Sampling**

**Convenience
Sampling**

TECH 646 - Qualitative Research

28

Qualitative Sampling

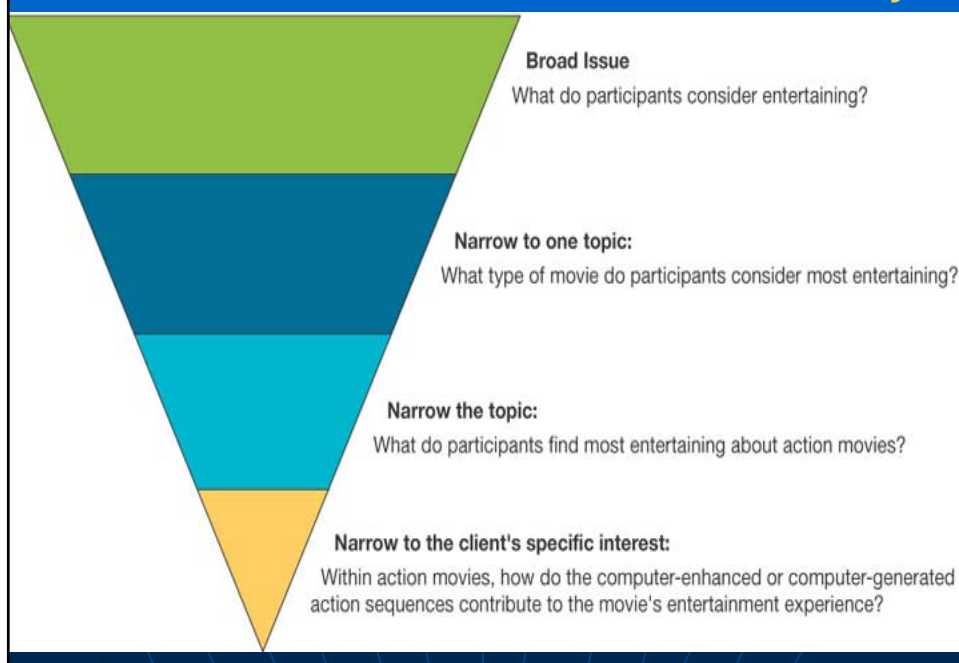
General sampling rule:

- Keep sampling as long as your breadth and depth of knowledge of the issue under study is expanding
- Stop. When no new insights are gained.

Exhibit 7-5 Individual vs Group Interviews

	Individual Interview	Group Interview
Research Objective	<ul style="list-style-type: none"> ➤ Explore life of individual in depth ➤ Create case histories through repeated interviews over time ➤ Test a survey 	<ul style="list-style-type: none"> ➤ Orient the researcher to a field of inquiry and the language of the field ➤ Explore a range of attitudes, opinions, and behaviors ➤ Observe a process of consensus and disagreement
Topic Concerns	<ul style="list-style-type: none"> ➤ Detailed individual experiences, choices, biographies ➤ Sensitive issues that might provoke anxiety 	<ul style="list-style-type: none"> ➤ Issues of public interest or common concern ➤ Issues where little is known or of a hypothetical nature
Participants	<ul style="list-style-type: none"> ➤ Time-pressed participants or those difficult to recruit (e.g., elite or high-status participants) ➤ Participants with sufficient language skills (e.g., those older than seven) ➤ Participants whose distinctions would inhibit participation 	<ul style="list-style-type: none"> ➤ Participants whose backgrounds are similar or not so dissimilar as to generate conflict or discomfort ➤ Participants who can articulate their ideas ➤ Participants who offer a range of positions on issues

Exhibit 7-6 The Interview Question Hierarchy



Interviewer Responsibilities

- Recommends topics and questions
- Controls interview
- Plans location and facilities
- Proposes criteria for drawing sample
- Writes screener
- Recruits participants
- Develops pre-tasking activities
- Prepares research tools
- Supervises transcription
- Helps analyze data
- Draws insights
- Writes report

Elements of a Recruitment Screener (Exhibit 7-7)

- Heading
- Screening requirements
- Identity information
- Introduction
- Security questions
- Demographic questions
- Product/Brand Usage/Purchase Questions
- Lifestyle questions
- Attitudinal and knowledge questions
- Articulation and creative questions
- Offer/ Termination

Interview Formats

Unstructured Interview

- No specific questions or order of topics to be discussed
- Customized interview to each participant

Semi-structured Interview

- A few standard questions
- Allow deviation

Structured Interview

- Interview guide: detailed with specific question order, and the way questions are to be asked.
- Permit more direct comparability of responses and Maintain interviewer neutrality.

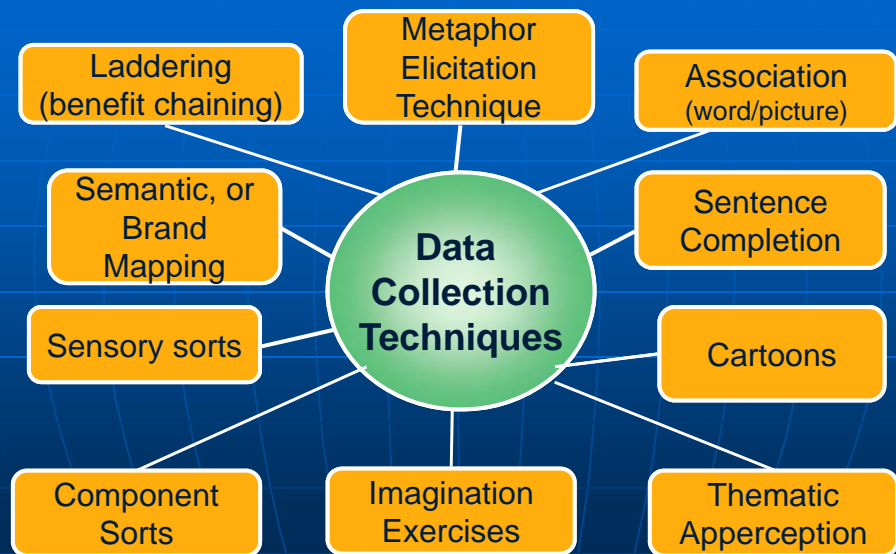
Requirements for Unstructured Interview



TECH 646 - Qualitative Research

35

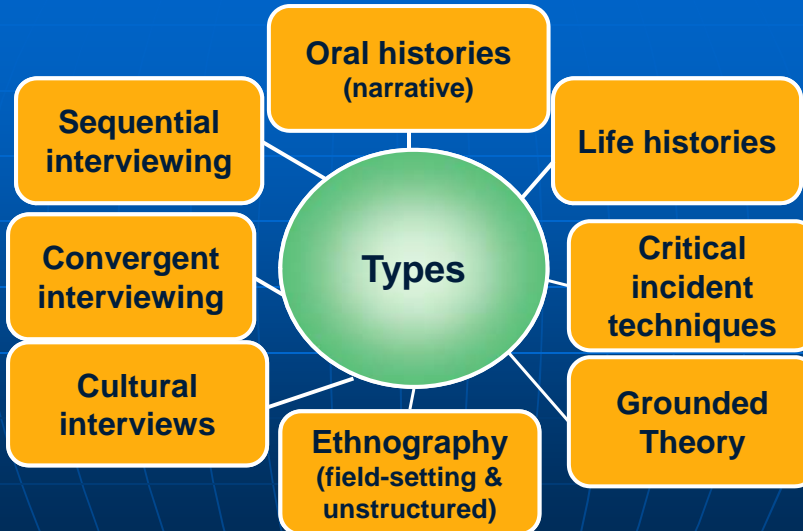
Projective Techniques



TECH 646 - Qualitative Research

36

Exhibit 7-8 Types of Research Using Individual Depth Interviews (IDIs)



TECH 646 - Qualitative Research

37

Projective Techniques – page 150, Picprofile

Anderson Analytics uses a cast of characters during interviewing.

Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display.



>picprofile

When Anderson Analytics wanted to help its research participants delve into their deepest thoughts on a research topic, they used projective techniques that employed a colorful cast of characters. Participants choose one from the cast that most closely represents them or another they are trying to describe. They then attributed attitudes, feelings, emotions, and perceptions to the character. "The added bonus of the characters is that some of the characters elicit similar responses [across research projects], so we have some idea on benchmarking," shared Anderson Analytics managing partner Tom Anderson. "For instance the heavier male character with the guitar is often thought of as an outsider, 'poser' wanting desperately to fit in, generally not well liked." www.andersonanalytics.com

www.andersonanalytics.com

TECH 646 - Qualitative Research

38

Group Interviews – Group Sizes

- Mini-Groups (two to six people)
 - Dyads (two people group)
 - Triads (three people group)
- Small Groups (Focus Group – 6 to 10 people)
- Super-groups (up to 20 people)

Determining the Number of Groups

Scope

Number of distinct segments

Desired number of ideas

Desired level of detail

Level of distinction

Homogeneity

IBM's High-Touch Strategy is Research Driven (Less Tech, More Touch)

- Samuel Palmisano, IBM President and CEO, 2000 to 2012
- Research program => results in a very aggressive reorganization
 - IBM formed teams called Four in a Box: the sales executive, a service representative, a person from software unit, one from research lab
 - Think outside the box, to help customers to solve their pesky problems.
 - To make the company: Executive-level consulting firm, rather than a Technology service company
 - Customer Interviews => Reorganization into 12 Industry Groups: Banking, Insurance, Automobiles, Utilities, Consumer packaged goods, Telecommunications, Life sciences, etc

TECH 646 - Qualitative Research

41

Recent IBM CEOs and Leaderships

- Samuel Palmisano, IBM President and CEO, 2000 to 2012
- Big Blue's Big Bet: Less Tech, More Touch, Steve Lohr, Jan. 25, 2004, <http://www.nytimes.com/2004/01/25/business/big-blue-s-big-bet-less-tech-more-touch.html>
- How IBM's Sam Palmisano Redefined the Global Corporation, Bill George, Jan. 18, 2012, <https://hbr.org/2012/01/how-ibms-sam-palmisano-redefin.html>
- Sam Palmisano's Transformation of IBM, by Joseph L. Bower, Jan. 20, 2012, <https://hbr.org/2012/01/sam-palmisanos-transformation.html>
- IBM CEO Sam Palmisano to step down (to be replaced by Ginni Romelty on Jan. 1, 2012), David Golman, CNN MoneyTech, Oct. 25, 2011, http://money.cnn.com/2011/10/25/technology/ibm_ceo_palmisano_steps_down/index.htm

TECH 646 - Qualitative Research

42

Problems within Focus Groups > SanpShot

Participant Behaviors

- Dominators
- Cynics
- Hostiles
- Intoxicates
- Proselytizers
- Blatherers
- Jokers
- Followers
- Co-Moderators



TECH 646 - Qualitative Research

43

Group Interview Modes

Location: FocusVision Worldwide, Inc., Stamford CT
Date: 7/11/2005
Client: Client Demonstration
Topic: VideoMarker Demo

Click the VideoMark button to create a new mark.

VideoMark!

Click to play

Who Marked [All Marks]

Always forget to bring coupons 00:04:
New safety cap design 00:03:
Generic brand is better value 00:02:33
Close-up on easel 00:01:27

Clip: vmarkdemo 01:27

Technical Support Review/Email/Export Clips Help ver. 1.0.0

Face-to-Face, using VideoMaker

Telephone

Online

Videoconference


44

Picprofile, page 162, Where do great product ideas come from?

Hallmark example:

- From a very consumer-focused research
- Qualitative and quantitative research
- www.hallmark.com

Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display



> picprofile

Where do great new product ideas come from? If you're Hallmark, they come from a very consumer-focused research effort. Monica Alderson, product management director for consumer solutions shares that Hallmark is always looking for new ways to fulfill its brand promise: helping people remain emotionally connected. Qualitative and quantitative research is designed to reveal connection dilemmas. One such dilemma was grandparents indicating "help me be there even when I can't be there." As part of its new consumer-insights organization structure, each month 50 Hallmark senior managers listen to research insights and product proposals that are based on these insights. This was the starting point for recordable storybooks, a collection of books not only read for grandchildren, but books read by parents for children, and even books read by children to their military parents serving abroad. www.hallmark.com

Combined Qualitative Methodologies

■ Case Study

- **Objective**
 - Obtain multiple perspectives of a single organization, situation, events, or process at a point in time or over a period of time
- **Research problem:** "How and why problem", resulting in a descriptive or explanatory study
- **Data Collection:** Individual interviews + (sometimes) Group interviews + Record analysis + Observation
- **Information Source:** Company brochures, Annual reports, Sales receipts, Newspapers, Magazine articles, Direct observations

TECH 646 - Qualitative Research

46

Combined Qualitative Methodologies

■ Action Research

- Objective
 - Designed to address complex, practical problems about which little is known – thus no known heuristics exist.
- The Process
 - Scenario – studied
 - A corrective action is determined, planned, and implemented
 - The results of the action: observed and recorded
 - The action is assessed as effective or not
 - Repeat until a desired outcome is reached

TECH 646 - Qualitative Research

47

Triangulation: Merging Qualitative and Quantitative Methodologies

Conduct studies simultaneously

Ongoing qualitative with multiple waves of quantitative

Perform series: Qualitative, Quantitative, Qualitative

Quantitative precedes Qualitative

Lexus SC340 Development Case,

http://highered.mheducation.com/sites/0073373702/student_view0/video_cases.html

- Watch Case Study video of Business Research Methods, 11/e, Online Learning Center, http://highered.mcgraw-hill.com/sites/0073373702/information_center_view0/
- Company URL: www.cummins.com

TECH 646 - Qualitative Research

48

SUMMARY