RESEARCH METHODOLOGY: QUALITATIVE RESEARCH

to interpret focusing on some research problems:
basic (science) problems
social problems

2018
Qualitative research

Methodological foundations

Ontological
- positivism
- post-positivism

Epistemological
- interpretivism
- constructionism
## Research Purpose
The goal is: theory testing  
theory building  
theory extension  
knowledge creation  
knowledge transfer

<table>
<thead>
<tr>
<th>Research Purpose</th>
<th>Underlying Epistemology</th>
<th>Research Methodologies</th>
</tr>
</thead>
</table>
| Theory building  | Deductive/Inductive      | Generalized ideas → specific observations  
Theory → hypothesis → Observation → Confirmation  
Special theory of Relativity (Einshtein.A)  
Atomic model, liquid helium II (N.Bohr)  
Superconductivity/super fluidity – Landau.L |
| Theory testing   | Inductive/deductive      | Specific observations → generalized ideas  
Observation → Pattern → tentative hypothesis → Theory  
(Liquid helium - super fluidity/superconductivity P.Kapitsa) |
HYPOTHESIS It is a tentative prediction or explanation of two or more variables
A hypothesis is an idea or proposition that can be tested by observations or experiments

Gregor Mendel in 1865:

1. *In the organism there is a pair of factors that controls the appearance of a given characteristic*
2. *The organism inherits these factors from its parents, one from each*

Law – a description of how natural phenomenon will occur under certain circumstances

- *Newton’s Law of Universal Gravitation*
- *The Law of Conservation of Energy*

### TYPES OF SCIENTIFIC MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>A representation designed to show the structure or workings of an object, system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Model</td>
<td>Such as or a model of an atom or a model of a Jet fighter</td>
</tr>
<tr>
<td>Mathematical Model</td>
<td>Constructed from mathematical equations (population growth or climate patterns)</td>
</tr>
<tr>
<td>Conceptual Model</td>
<td>A system of ideas or comparisons that support an idea such as the Big Bang Theory.</td>
</tr>
<tr>
<td>Theory</td>
<td>An explanation that ties together many hypothesis and observations.</td>
</tr>
</tbody>
</table>
Research models:

Iconic models - a mirror image of the target.

Idealized models - a limited set of properties (Philips curve as a relationship between inflation and unemployment)
Analogical models - the hydraulic model of an economic system,
- the billiard ball model of a gas,
- the computer model of the mind liquid drop model of the nucleus.

Models of theory - Euclidean axioms and the theorems derived from these axioms.

Axiom: any two points can be joined by a straight line,

Theorem – the number of primes is infinite.

Simulation - simulation study managing uncertainty in supply chains,
- simulation of a system or model of life, circumstances.
Systems

A system is a set of interacting or interdependent entities, real or abstract, forming an integrated whole.

Core concepts for describing reality in non living and living systems.

- space
- time
- relativity
- life
- consciousness
- complexity
- fields
- energy
- particles
- system
- entropy
- change
- casualty
- structure
- function
- interactions
- diversity
- organization
System

General relativity – Big Bang theory (Georges Lemaitre and)

Expanding Universe theory (Friedmann.A)

Distance between two points is actually expanding over time/on a macro scale where gravity has less of an influence

Geometry of the Universe is determined by the density mass and energy – positive/negative curvature.
General system research:
Cybernetics
Complex adaptive systems
Living systems theory
Organizational theory
Information system theory
Systems engineering
Sociocybernetics (+sociology)
Systems biology
System dynamics
System psychology
Comparison of qualitative & quantitative research

<table>
<thead>
<tr>
<th></th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions</td>
<td>a systematic subjective</td>
<td>a formal, objective, systematic</td>
</tr>
<tr>
<td>Goals</td>
<td>To gain insight; explore the depth</td>
<td>To test cause and effect relations</td>
</tr>
<tr>
<td>Characteristics</td>
<td>• Holistic</td>
<td>• Reductionistic</td>
</tr>
<tr>
<td></td>
<td>• Subjective</td>
<td>• Objective</td>
</tr>
<tr>
<td></td>
<td>• Inductive reasoning</td>
<td>• Logistic, deductive reasoning</td>
</tr>
<tr>
<td></td>
<td>• Develops theory</td>
<td>• Knowing cause &amp; effect, relationships</td>
</tr>
<tr>
<td></td>
<td>• Interpretation</td>
<td>• Tests theory</td>
</tr>
<tr>
<td></td>
<td>• Basic element of analysis: words</td>
<td>• Basic element of analysis: numbers,</td>
</tr>
<tr>
<td></td>
<td>• Uniqueness</td>
<td>statistical analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Generalization</td>
</tr>
</tbody>
</table>
Specific qualitative approaches

<table>
<thead>
<tr>
<th>Phenomenology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
</tr>
<tr>
<td>• to describe experiences as they are lived</td>
</tr>
<tr>
<td>• examines uniqueness of individual's lived situations</td>
</tr>
<tr>
<td><strong>Research question development</strong></td>
</tr>
<tr>
<td>• What is the nature of the human being?</td>
</tr>
<tr>
<td>• How is the diffusion of air freshener influenced</td>
</tr>
<tr>
<td><strong>Method</strong></td>
</tr>
<tr>
<td>• Sampling &amp; data collection</td>
</tr>
<tr>
<td>• Describe the phenomenon</td>
</tr>
<tr>
<td>• Direct observation</td>
</tr>
<tr>
<td>• Audio or videotape</td>
</tr>
<tr>
<td><strong>Data analysis</strong></td>
</tr>
<tr>
<td>• Classify &amp; rank data</td>
</tr>
<tr>
<td>(Big data-mixed approach)</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
</tr>
<tr>
<td>• Data interpretation, from subject's point-of-view</td>
</tr>
<tr>
<td>• Structural explanation of findings is developed</td>
</tr>
</tbody>
</table>
Ethnography

<table>
<thead>
<tr>
<th>Purpose</th>
<th>to describe a culture's characteristics</th>
</tr>
</thead>
</table>
| Method  | Identify culture, variables for study, & review literature  
|         | Data collection - gather data through direct observation & interaction with subjects |
| Analysis | describe characteristics of culture |
| Outcomes | interpretation of culture |
Historical

**Purpose** - describe and examine events of the past to understand the present and anticipate potential future effects

<table>
<thead>
<tr>
<th>Method</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Formulate idea</td>
<td></td>
</tr>
<tr>
<td>• Develop an inventory of sources</td>
<td></td>
</tr>
<tr>
<td>• Clarify validity &amp; reliability of data</td>
<td></td>
</tr>
<tr>
<td>• To organize investigative process</td>
<td></td>
</tr>
<tr>
<td>• Collect data</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• synthesis of all data;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcomes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• presentation - biography, chronology</td>
<td></td>
</tr>
</tbody>
</table>
# Case study

<table>
<thead>
<tr>
<th>Purpose</th>
<th>• describe in-depth the experience of a person, family, community, or institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>• direct observation and interaction with subject</td>
</tr>
<tr>
<td>Analysis</td>
<td>• synthesis of experience</td>
</tr>
<tr>
<td>Outcomes</td>
<td>• in-depth description of the experience</td>
</tr>
</tbody>
</table>

## Data collection

- Interview with audiotape & videotape
- Direct, non-participant observation
- Participant observation

## Bracketing

- Complete absorption in phenomenon
- Keeping an open context
- Analysis and interpretation of data
### Participant observation

<table>
<thead>
<tr>
<th>Natural settings (e.g. hospital, schools)</th>
<th>Advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observer can be covert or overt</td>
<td>Useful when phenomena cannot be replicated in lab</td>
</tr>
<tr>
<td>Observations are not systematic</td>
<td>Insight into chronology of events &amp; development over time</td>
</tr>
<tr>
<td>Researcher engages in variety of activities: participation, documentation, interviewing</td>
<td></td>
</tr>
<tr>
<td>Balance between participation and observation</td>
<td></td>
</tr>
<tr>
<td>Notes of observations: substantive, methodological, analytical</td>
<td></td>
</tr>
</tbody>
</table>

**Disadvantages**

- Reliability and validity
- Outsiders perspective
Interviews
• Unstructured
• Semi-structured
• Structured

Semi-structured Interviews
• Usually face-to-face (but also: telephone/internet)
• Order of questions is flexible
• Relatively non-directive, but not completely

Recording the Interviews: Establishing set of categories/ codes from textual data (questionnaires, interviews)
• Consider reliability and validity
Grounded theory

<table>
<thead>
<tr>
<th>Purpose - theory development</th>
<th>Formulation, testing of propositions to develop a theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method - a comparative process</td>
<td>Data collection - interview, observation, record review, or combination</td>
</tr>
<tr>
<td>Analysis</td>
<td>Theory supported by examples from data</td>
</tr>
<tr>
<td></td>
<td>Concept development</td>
</tr>
<tr>
<td></td>
<td>Concept modification &amp; integration</td>
</tr>
<tr>
<td>‘GLASERIAN’</td>
<td>‘STRAUSSIAN’</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Emerging theory</td>
<td>Forcing the theory, with structured questions</td>
</tr>
<tr>
<td>Development of a conceptual theory</td>
<td>Conceptual description (description of situations)</td>
</tr>
<tr>
<td>Theoretical sensitivity (the ability to perceive variables and relationships) comes from immersion in the data</td>
<td>Theoretical sensitivity comes from methods and tools</td>
</tr>
<tr>
<td>The theory is grounded in the data</td>
<td>The theory is interpreted by an observer</td>
</tr>
<tr>
<td>The credibility of the theory, or verification, is derived from its grounding in the data</td>
<td>The credibility of the theory comes from the rigour of the method</td>
</tr>
<tr>
<td>The researcher is passive</td>
<td>The researcher is active</td>
</tr>
<tr>
<td>Data reveals the theory</td>
<td>Data is structured to reveal the theory</td>
</tr>
<tr>
<td>Coding is less rigorous</td>
<td>Coding is more rigorous and defined by technique. Codes are derived from ‘micro-analysis’</td>
</tr>
<tr>
<td>Two coding phases or types, simple (fracture the data then conceptually group it) and substantive (open or selective, to produce categories and properties)</td>
<td>Three types of coding, open (identifying, naming, categorising and describing phenomena), axial (the process of relating codes to each other) and selective (choosing a core category and relating other categories to that)</td>
</tr>
<tr>
<td>Regarded by some as the only ‘true’ GTM, Google toolbox for mac</td>
<td>Regarded by some as a form of qualitative data analysis (QDA Qualitative data software)</td>
</tr>
</tbody>
</table>
Example from diabetes study
Qualitative market research

- Observations or “Shop-Alongs”
- In-Home Videos
- Lifestyle Immersion and real dialogue
- Online Focus Groups

How to Analyze Qualitative Data: Qualitative data can be classified codified and summarized

<table>
<thead>
<tr>
<th>Variables</th>
<th>13-19 Years</th>
<th>20-25 Years</th>
<th>26-35 Years</th>
</tr>
</thead>
</table>
| General Food Category Likes | • Fast food and ‘handy’ food with friends  
• Desi Food with family | • Fast food (pizza and burgers)  
• Desi food | • Fast food  
• Continental Food  
• Good understanding of why it is called fast food |
| What to eat depends on: | • Mood  
• Budget (some cuisines are considered expensive) | • Money  
• Distance or accessibility | • Mood depends upon whether you are dinning out with friends or with family |
| Which restaurant to order from depends on: | • Budget  
• Food category (mood)  
• Consultation with friends  
• Time taken for delivery  
• Delivery Charges | • Budget  
• Location  
• Consulting with friends | • Mood  
• Quality  
• Time taken for delivery |
Multidisciplinary research: (Ethogenic and psychology research)

Neuro marketing: A qualitative analysis of a manager’s perception

“Freud Psychoanalysis theory 1839 determines that most behavior is controlled by unconscious mind.”
“95% of our behavior is based upon unconscious drivers“

Figure: Unconscious Mind, Emotion And Human Behavior In Decision Making
Writing a research paper and thesis

Qualitative format I

Introduction
• Statement of the problem
• Purposes of the study
• The Grand tour question and sub questions
• Definition of terms
• Significance of the study

Procedure
• Rationale for a qualitative design
• Data collection
• Data reduction /Analysis procedures
• Methods for verification
• Outcome of the study and its relation to theory
• Appendices
Qualitative Format II

- Introduction and General topic
- Statement of the problem
- Significance of the research
- Sample selections
- Research strategies
- Data collection techniques
- Managing and recording data
- Data analysis strategies
- Management plan, timeline, feasibility
- Appendices
Master’s thesis example

Chapter I. Introduction
Chapter II. Theory. Literature review. Organize by idea
Chapter III. Methods. Outline in a few pages.
Chapter IV. Findings.
Chapter V. Discussion.
Chapter VI. Conclusion.

Appendices
Bibliography.
Writing a dissertation (Ph.D)

Chapter 1: Purpose and Significance of the study
Chapter 2: Review of the literature
Chapter 3: Methodology
Chapter 4: Findings
Chapter 5: Discussion
Dissertation Outline

Chapter 1: Introduction
  • Introduction
  • Background of the Problem
  • Statement of the Problem
  • Purpose of the Study
  • Research Questions
  • Significance of the Study
  • Definition of Terms
  • Assumptions, Limitations, and Delimitations
  • Conclusion

Chapter 2: Review of the Literature
  • Introduction
  • Search Description
  • Conceptual or Theoretical Framework
  • Review of Research (organized by variable or themes)
Chapter 3: Methodology (Qualitative)

• Introduction
• Research Design
• Research Questions
• Setting
• Participants
• Data Collection
• Data Analysis
• Conclusion

Chapter 3: Methodology (Quantitative)

• Introduction
• Research Design
• Research Questions and Hypotheses
• Population and Sample
• Instrumentation
• Data Collection
• Data Analysis
• Conclusion
Chapter 3: Methodology (Mixed)
- Introduction
- Research Design
- Research Questions and Hypotheses
- Setting and Sample
- Data Collection
- Data Analysis
- Conclusion

Chapter 4: Research Findings
- Introduction
- Findings (organized by Research Questions or Hypotheses)
- Conclusion

Chapter 5: Conclusions, Discussion, and Suggestions for Future Research
- Introduction
- Summary of Findings
- Conclusions (organized by Research Questions or Hypotheses)
- Discussion
- Suggestions for Future Research
- Conclusion
Differences among the Topic, Problem, Purpose, and Questions

**General**

**Topic**
Distance learning

**Research Problem**
Lack of students in distance classes

**Purpose Statement**
To study why students do not attend distance education classes at a community college

**Research Question**
Does the use of Web site technology in the classroom deter students from enrolling in a distance education class?
Terms Relating to Research Problems With Examples

| Team                                      | Example                                                                 
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Side effect of chemotherapy</td>
</tr>
<tr>
<td>Research problem (problem statement)</td>
<td>Nausea and vomiting are common side effects among patients on chemotherapy, and interventions to date have been only moderately successful in reducing these effects. New interventions that can reduce or prevent these side effects need to be identified.</td>
</tr>
<tr>
<td>Statement or purpose</td>
<td>The purpose of the study is to compare the effectiveness of patient-controlled versus nurse-administered antiemetic therapy for controlling nausea and vomiting in patients on chemotherapy.</td>
</tr>
<tr>
<td>Research question</td>
<td>What is the relative effectiveness of patient-controlled antiemetic therapy versus nurse-controlled antiemetic therapy with regard to (1) medication consumption and (2) control of nausea and vomiting in patients on chemotherapy?</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>Subjects receiving antiemetic therapy by a patient-controlled pump will (1) be less nauseous, (2) vomit less, and (3) consume less medication than receiving nurse-administered therapy.</td>
</tr>
<tr>
<td>Research question type</td>
<td>Formulation</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Descriptive research</td>
<td>What are the characteristics of x? Who should perform x? What does x look like?</td>
</tr>
<tr>
<td>Comparative research</td>
<td>What are the differences between x and y? What are the similarities?</td>
</tr>
<tr>
<td>Defining research</td>
<td>What stage of the development is x in? How can x be characterized? What is an example of x?</td>
</tr>
<tr>
<td>Evaluative/normative research</td>
<td>What are the positives or values of x? How well does x work? How appropriate or desirable is x? What are the advantages and disadvantages of x?</td>
</tr>
<tr>
<td>Explanatory/exploratory research</td>
<td>What is x a consequence of? How did that happen? What are the causes?</td>
</tr>
<tr>
<td>Predictive testing</td>
<td>To what extent will x happen? What will cause it to happen? What must actors be prepared for?</td>
</tr>
<tr>
<td>Framing, problem-solving and advisory</td>
<td>How can it be ensured that x happens? How can x be undertaken? What can be done to solve problem x?</td>
</tr>
<tr>
<td>Testing research</td>
<td>What effect does x have on y? Is x more ___ than y?</td>
</tr>
</tbody>
</table>
Research question
How viral marketing affects consumer behavior among university students in Hong Kong?

Research objective 1
To assess the current level of popularity of social media among university students in Hong Kong

Research objective 2
To identify the main factors impacting the efficiency of viral marketing among university students in the UK

Research objective 3
To forecast the implications of social media on consumer behavior among university students in Hong Kong
### SMART research objectives

<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>To study the impacts of management practices on the levels of employee motivation at Coca-Cola US by December 5, 2018</td>
<td></td>
</tr>
<tr>
<td>Analyzing changes in consumer behaviour in catering industry in the 21\textsuperscript{th} century in the UK by March 1, 2019</td>
<td></td>
</tr>
<tr>
<td>Formulating recommendations to Toyota Motor Corporation management on the choice of appropriate strategy to enter Vietnam market by June 9, 2018</td>
<td></td>
</tr>
<tr>
<td>Assessing impact of integration of social media into marketing strategy on the level of brand awareness by March 30, 2017</td>
<td></td>
</tr>
<tr>
<td>Identifying main time-management strategies used by managers of Accenture France by December 1, 2017</td>
<td></td>
</tr>
</tbody>
</table>
Writing a research paper

Abstracts and keywords:

Introduction
  Why is your research important?
  What is known about the topic?
  What are your hypotheses?
  What are your objective?

Materials and Methods

The introduction should have some of the following elements
  a short story, example, statistic single datum, or historical context that introduces the paper topic
  an overview of any issues involved with the subject
  tell what the overall paper will focus on
  briefly outline the main points in the paper

Give strong examples, details, and explanations to support each main points

Address any counterarguments and refuse those arguments

Results

Discussion and Conclusions