Case Study: A Deeper Dive into the Design

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Agenda

Focus on case study design and components

Clarify the common confusing issues about case study

Provide examples

Answer your questions
Case Study Prominent Methodologists

Robert Yin, *Case Study Research: Design and Methods* (2014)
- Positivism
- Quantitative and qualitative can be combined

- Constructivism and existentialism (nondeterminism)
- Exclusively Qualitative

Sharan Merriam, *Qualitative Research and Case Study Applications in Education* (1988)
- Constructivism
- Exclusively Qualitative
Definition of the Case Study

“An empirical inquiry that investigates a contemporary phenomenon (e.g., a “case”) within its real-life context; when the boundaries between phenomenon and context are not clearly evident” (Yin, 2014, p.16)

“A case study is an in-depth description and analysis of a bounded system” (Merriam, 2015, p.37).

“The “what” is a bounded system (Smith, 1978), a single entity, a unit around which there are boundaries” (Merriam, 2015, p.38)/(Stake, 2005).
Example

A study of how older adults learn to use computers. The case/unit of analysis: learners’ experience. Indefinite number of adult leaders can be selected for this study.

- Not a case study but a qualitative study

One particular program, or classroom of leaners (a bounded system), or one particular learners selected based on success uniqueness, etc.

- A case study
Application of Case Study

The behavior of those involved in the study cannot be manipulated (Yin, 2014)

Data collection in “natural setting” not “derived“ data (Bromley, 1986, p. 23); you want to cover contextual conditions relevant to the phenomenon (Yin, 2014)

• Examples:
  • How and why a high school principal did an exceptionally good job
  • What are the dynamics of a successful negotiation with severe consequences
  • Not responses to just one survey/instrument
  • Incorporate fieldnotes to better understand the situations
Application of Case Study

Conducting program evaluations, Examples:

- U.S. Government Accountability Office (e.g., 1990, 2008)
- Yin (1997, 2009)
Steps in Designing Case Studies: Blueprint (Yin, 2014)

Proposal Method Components

1. Research questions

2. Propositions (the purpose for exploratory case)
   - Select one of the four designs
   - Data collection

3. Defining a “case”/unit of analysis
   - Select one of the four designs
   - Data collection

4. The logic linking the data to the propositions (Data analysis)

5. The criteria for interpreting the findings

The criteria for Judging the quality of research design (Validity & Reliability)

Note: Use theory in design work
1. Research Questions for Case Study

Type of Research Questions relevant to the Case Study

- Explanatory/exploratory/descriptive questions
  - How or why did something happen?
  - E.g.: How do two organizations have a collaborative relationship?
  - E.g.: Why do programmers fail to document their codes?

Not Appropriate Questions

- Cause and effect questions (experimental/quasi-experimental design)
- How often something has happened (survey design)
1. Research Questions for Case Study

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Form of research question</th>
<th>Requires control over behavior</th>
<th>Focuses on contemporary events?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>how, why</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Survey</td>
<td>who, what, where, how many, how much</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Archival Analysis</td>
<td>who, what, where, how many, how much</td>
<td>no</td>
<td>Yes/no</td>
</tr>
<tr>
<td>History</td>
<td>How, why</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Case Study</td>
<td>How, why</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>

(Yin, 2014)
Types of Case Studies (Yin, 2014)

**Descriptive; to describe an intervention or phenomenon at the real-life context**

- Example: How do women with Parkinson cope with their needs in a community? Tolson, Fleming, & Sehartau (2002). Coping with menstruation: Understanding the needs of women with Parkinson's disease, *Journal of advanced Nursing*

**Exploratory; to explore those situations in which the intervention being evaluated has no clear, single set of outcome**


**Explanatory; to explain the presumed causal link in real life intervention that are too complex for the survey or experimental strategies.**

2. Propositions

Increase the likelihood that the researcher place limit on the scope of the study

Increase feasibility of completing the study

Developed based on literature, personal/professional experiences, theories, generalization based on empirical data

Example: Staff is promoted based on their skills in an organization.
The Most Challenging Steps in Designing a Case Study

- Defining a “case”/unit of analysis
- Select one of the four designs
- Data Collection
- Data Analysis
  - Yin (2013)
3. Defining the “case”

The most defining characteristics of case study is delimiting the object of the study: the case (Merriam, 2015)

- The goal is to understand one thing well: a person, a program, a group, or specific policy; examples: one playground, one band.
- Research question must be aligned/define the case/unit of analysis.

A noun, seldom a verb, a functioning (Stake, 2006). Real things to visualize. Examples: not training, managing, giving birth but training modules, managers, labor rooms.
3. Defining the “case”

- Practical considerations
  - Availability, quality, relevance of data

- Substantive considerations
  - Special case: distinctive event/condition such as creation/change of an organization, the discovery of a new way of reducing bullying in schools, or the occurrence of a natural disaster
What if you don’t have a distinctive condition?

Define compelling framework to make your case unique

- Review literature: generate a new knowledge/perspectives about organizations, communities, other social processes and outcome
- Example: An average American city, but the framework highlights a significant development in American history—the transition from an agricultural to an industrial economy and how it occurred in the average American city (Lynd & Lynd, 1957).
3. Defining a unit of analysis

- The major entity that is being studied, the “what” or “who”

- What unit of analysis to use depends on the research questions/design

- Can be the same as “case” in holistic single and multiple case study
  - Example: case study of how was the life history of a person; Unit of analysis or case can be “the individual”

- Different from “case” in embedded single and multiple case study
  - Example: case study of how a group of software immigrants naturalize, Units of analysis: Individuals, development team, organization
Types of Designs for Case Studies

![Diagram of Types of Designs for Case Studies]

SOURCE: COSMOS Corporation.

Retrieved from https://www.sagepub.com/sites/default/files/upm-binaries/41407_1.pdf
Example

How does an organization implement certain staff promotion policies?

Policies in one organization with one unit of analysis, holistic single case study.

Policies in two or more organizations with one unit of analysis, holistic multiple case study.

Policies in one organization with two or more units of analysis, embedded single case study.

Policies in two or more organizations with two or more units of analysis, embedded multiple case study.
Types of Designs for Case Studies

Promotion policies in one organization
[Unit of Analysis: overall Performance]

Promotion policies in one organization
[Unit of Analysis: [employees]]
Why do you need to use multiple case design?

- In what ways might the companion case's findings augment those of the first case?
- Could the data from the second case fill a gap left by the first case or respond better to some obvious shortcoming or criticism of the first case?
- Would the two cases together comprise a stronger case study? Could yet a third case make the findings even more compelling?
- Be mindful of amount of work and feasibility of the study before switching to multiple case study.
3. Case Study Data Collection

A hallmark of a case study is the use of multiple data sources; which also enhanced the credibility (Baxter & Jack, 2008; Merriam 2015; Yin, 2014)

- Potential data sources:
- Documentation, archival records, interviews, observations, artifacts, Surveys

Each data sources is a pieces of “puzzle”;
Converge in the analysis (not separately analyzed)
3. Case Study Data Collection

Data Management

Computer Assisted Qualitative Data Analysis Software, CAQD

- Content searching tools
- Coding tools
- Linking tools
- Mapping or networking tools
- Query tools

Dedoose (https://www.dedoose.com/)

- Web-based; Text, Audio, Video; Coding, Query, Visualisation, Statistical Tools
4 & 5. Case Study Data Analytical Techniques
(Yin, 2014)

Pattern matching (matching the collected data/emerging patterns with the predicted patterns); linking data to propositions

Explanation building (Iterative nature of explanation building); Explanatory studies; putting forth a convincing explanation for some set of events or conditions.

Time-series analysis (detailed and precise tracing of events); more straightforward and applicable to many case studies; organizing events chronologically; provides a logical sequence for explaining how and why

Logic models (specify a complex chain of events over time ); staged in repeated cause-effect relationships
Role of Theory in Case Studies

- Essential to construct a preliminary theory
- Help generalize from case study to theory
- Analytical generalization not statistical generalization (Yin, 2014)
Judging the Quality of Research Designs

Construct validity: Correct operational measure/concepts
- Use the triangulation of multiple sources of evidence, chain of evidence, member checking

Internal validity: Establishing a relationship (only for explanatory)
- Use established analytic techniques such as pattern matching

External validity: Establishing the domain for generalization
- Use theory in single case studies/use replication logic in multiple case studies

Reliability: Repeatability of operations of the case study
- Use case study protocol and databases. (Yin, 2014)
Up Comings

- Ongoing
  - Participate in the asynchronous discussion threads

- March 7, 4-5 pm Arizona Time
  - Next meeting: Content Analysis
References


Questions?
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