# Case Study Research. Design and Methods

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Summary

## General characteristics

- When to use case study method?
  1) The type of research question: typically to answer questions like "how" or "why"
  2) Extent of control over behavioural events: when investigator has a little/no possibility to control the events
  3) General circumstances of the phenomenon to be studied: contemporary phenomenon in a real-life context

- Case study is an empirical inquiry, in which:
  -**Focus** is on a contemporary phenomenon within its real-life context & boundaries between phenomenon and its context are not clearly evident
    ➔ Suitable for studying complex social phenomena
  -**Procedural characteristics** in the situation include: Many variables of interest; multiple sources of evidence; theoretical propositions to guide the collection and analysis of data
  -**Types of case studies** might be: explanatory; exploratory; descriptive
  -**Designs** can be single- or multiple-case studies
  -**Used methods** can be qualitative, quantitative, or both

- Typical criticisms towards case studies & correcting answers:
  -Lack of systematic handling of data -> Systematic reporting of all evidence
  -No basis for scientific generalization -> Purpose is to generalize to theoretical propositions, not to population as in statistical research
  -Take too long, end up with unreadable documents -> Time limits & writing formula depend on the choices of investigators

## Case study research design

- Central components of a case study design & their functions:
  1) A study's questions – "how", "why"
  2) Study's (theoretical) propositions – pointing attention, limiting scope, suggesting possible links between phenomena
  3) Study's units of analysis – main units must be at the same level as the study questions & typically comparable to those previously studied
  4) Logic linking the data to the propositions – matching pieces of information to rival patterns that can be derived from the propositions
  5) Criteria for interpreting the findings – iteration between propositions and data, matching sufficiently contrasting rival patterns to data; there is no precise way of setting the criteria

Research design links the data to be collected and conclusions to be drawn to the initial questions of the study – it provides a conceptual framework & an action plan for getting from questions to set of conclusions.

- **Preliminary theory & blueprint of the study**: having solved the five steps mentioned above leads to the formation of a loose theory & a blueprint related to the topic of study
  -**Initial theory & understanding of what is being studied is necessary before any field contacts**; the complete research design embodies a "theory" of what is being studied

- **Deciding between explanatory, exploratory and descriptive designs:**
  -Depends on the richness of the rival propositions in theories related to the topic of the study; richest theories allow explanatory designs
  -> Search for theoretical propositions that can be elaborated to cover study questions, propositions, units of analysis, data-proposition links & criteria of interpretation
  -> Reviewing literature, discussing with investigators, asking challenging questions, thinking what is to be learned from the study
  -> Being aware of the range of theories & selecting the required level (individual, organization, societal)
  -> Construction of the design / conceptual framework takes time & can be difficult, but is a crucial step for the success of the study

- **Selection of the cases**:
  -Cases should be selected in the same way as the topic of an experiment is selected
  -> Developed preliminary theory is used as a template with which to compare the characteristics & empirical findings from the case(s)
  -> Selected cases should reflect characteristics & problems identified in the underlying theoretical propositions / conceptual framework

- **The level of generalization of the study results** = appropriately developed preliminary theory / study design
  -Mode of generalization = theory-related **analytic generalization**, not statistical
  -Analytic generalization possible from one or more cases

HOW MANY OF CASES & UNITS OF ANALYSIS?

1) **Case** – represents somehow the interesting topic of the study empirically (e.g. the role of *the United States* in the world economy)
2) **Unit of analysis** – is the actual source of information: individual, organizational document, artifact, for example (e.g. the capital flow between countries, an economic policy)

1) Cases:
   A) **Single cases** – if case seems to represent a critical test to existing theory; rare or unique events -> Important to select case & unit of analysis properly

B) **Multiple cases** – if a "replication logic" is supposed to reveal support for theoretically
   i.   Similar results
   ii.  Contrasting results for predictable reasons
   -> Theoretical framework must identify clearly the conditions, when a particular phenomenon is likely to be found (i.) and when it is not likely (ii.)
   -> Theoretical framework is the vehicle for generalizing to new cases; if empirical cases do not work as predicted, modifications must be made to the theory
   -> Number of case replications depends upon the certainty wanted to achieve & richness of the underlying theoretical propositions

2) Units of analysis:
   A) **Holistic designs** – include a single unit of analysis; if aim is to study the global nature of the phenomenon; when no logical sub-units can be pointed -> danger of abstractness
   B) **Embedded designs** – include multiple units of analysis; study may include main & smaller units on different levels -> looking for consistent patterns of evidence across units, but within a case

- Note: **The flexibility** of case study design is in selecting cases different from those initially identified, **not** in changing the purpose or objectives of the study to suit the cases


## Conducting case studies

- Desired skills of the investigator:
  -Good knowledge of the phenomenon (->collection procedures are not routinized)
  -Sensitivity for novel & unexpected issues in data collection
  -Asking good questions
  -Being a good "listener"
  -Adaptiveness & flexibility

- **A case study protocol** should be essential part of every case study project
  - A protocol contains the instrument for the research, but also the procedures and general rules that shoud be followed using the instrument:
    - Overview of the study project (objectives, issues, readings, literature & research)
    - Field procedures (access to field sites, sources of information)
    - Case study questions posed to INVESTIGATORS; key classifications; suggestions for likely sources of evidence (not the literal questions to be asked)
    - A guide for the case study report
  - Note: Case study protocol should be co-authored by all study investigators

- Important to identify different levels of questions:
  A) Single case -level
    1. Questions asked of specific interviewees

2. Questions asked of the individual case
B) More general levels
1. Findings across multiple cases
2. Findings across an entire study (including reviewed literature)
3. Normative questions about policy recommendations & conclusions

- Sometimes a pilot study may provide useful help

## Collecting the evidence

- Six sources of evidence:
    1) Documents (letters, agendas, progress reports)
    2) Archival records (Service records, organizational charts, budgets etc.)
    3) Interviews (typically open-ended, but also focused, structured & surveys are possible)
    4) Direct observations (formal or casual; useful to have multiple observers)
    5) Participant observation (assuming a role in the situation & getting an inside view of the events)
    6) Physical artefacts

- Three principles of data collection:
    **1) Use multiple sources of evidence**
    -Triangulation = searching converging findings from different sources -> increases construct validity
    **2) Create a case study database**
    -A database separate from the final report to be written, containing
    - Case study notes (clear & available for later use)
    - Case study documents
    - Tabular materials (collected & created)
    - Narratives (initial open-ended answers to the study questions suggested by investigators)
    **3) Maintain a chain of evidence**
    **->** The link between initial study questions and case study procedure should be pointed out in the case study protocol, as also the circumstances of the evidence to be collected
    **->** Putting the data collection to practice on the basis of the protocol
    -> Actual evidence storage in the database for later checks (specific collection circumstances indicated)
    -> Sufficient citing of the case study data base & evidence in the final report and conclusions to be drawn

## Analysing the evidence

Analysis of evidence is one the least developed and most difficult aspects of doing case studies. Most important is to have a general analytic strategy, which helps to choose among different techniques. In absence preliminary techniques – matrixes,

tabulation of frequencies, temporal schemes etc. – can be tried out to get the analysis started.

- ▪ **Two general analytic strategies**:
    1) Relying on **theoretical propositions**: theoretical orientation guiding the analysis; following theoretical propositions that have formed the design of the case study -> helps to focus attention on certain data & to ignore other data
    2) Developing a **case description**: a descriptive framework for organizing the case study; analysis organized on the basis of description of the general characteristics and relations of the phenomenon in question

- ▪ **Analytic techniques** to be used as part of the general strategy:
    1) *Pattern matching* (explanatory / descriptive)
       -Comparing empirically based patterns with predicted one(s)
           a) *Expected outcomes* as a pattern: comparing if the initially predicted results have been found and alternative patterns are absent
           b) *Rival explanations* as patterns: searching if some of the theoretically salient explaining conditions might be articulated in empirical findings; then the presence of certain explanation should exclude the presence of others
           c) *Simpler patterns*: pattern matching is possible also with only few variables, if the derived patterns are predicted to have enough clear differences
    2) *Explanation-building* (mainly explanatory)
       -Analyzing case study data by building an explanation about the case & identifying a set of causal links
       -Explanation is a result of series of iterations:
       Initial theoretical statement -> Comparing findings of an initial case -> revising statement -> Comparing details of the case -> Revising -> Comparing to other additional cases
       -Note: Danger of drifting away from original topic of interest
    3) *Time-series analysis*
       -"How"- and "why"- questions about relationships & changes of events over time
       -Identifying theoretically proposed sequences of an event that are expected to lead to a certain outcome; identification of events must be done before the onset of the investigation
       ->Comparing this trend with the trend of empirical data points -> Comparing with some rival trend to rule alternatives out

- ▪ Analysis should show that:
    It relied on all the relevant evidence; all major rival interpretations are dealt; most significant issue of the study is addressed; prior expert knowledge is brought to the study