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Research Methodology

# Case Study



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# What is a Case Study?

- A case study method selects a small geographical area or a very limited number of individuals as **the subjects** of study.
- A process or record of research into the development of a **particular** person, group, or situation over a period of time.
  - E.g. A case study was undertaken over a period of two months through a series of visits to the database lab
- A **particular instance** of something used or analysed in order to illustrate a principle.
  - E.g. A case study of the effects of the new computing facility

# Why case study

- The case study is useful for testing whether scientific theories and models actually work **in the real world**.
- Case studies explore and investigate contemporary real-life phenomenon through detailed contextual analysis of a limited number of events or conditions, and their relationships.
- Case study method enables a researcher to closely examine the data within **a specific context**.
- Through case study methods, a researcher is able to go beyond the quantitative statistical results and understand the behavioural conditions through the actor's perspective.
- By including both quantitative and qualitative data, case study helps explain both the process and outcome of a phenomenon through complete observation, reconstruction and analysis of the cases under investigation (Tellis, 1997)

# Examples

- **Study the automobile industry**
  - A case study about the Honda car company
- **Three Case Studies from Switzerland:  
E-Voting**

By Jan Gerlach and Urs Gasser

## ABSTRACT

Since 1998, the Swiss government has actively pursued the implementation of electronic voting (“e-voting”) in its elections. This case study examines how these systems have worked in the test cantons of Geneva and Zurich. The evidence and analysis in this case study suggest that e-voting might serve as a powerful tool to augment the participation rate, the quality of voting, and aid in the implementation of political rights. This study also evaluates the risks of e-voting, noting that the concerns around integrity often associated with electronic voting have for the most part not materialized in the Swiss case. Questions such as the digital divide in access to networked technologies are also a real concern that should be addressed by the government as it expands the system.

# Six Types of Case Study

1. A group or a community case study,
2. Causal comparative studies,
3. Activity analysis.
4. Content or document analysis,
5. A follow-up study, and
6. Trend studies.

# Community Studies

- An analysis of a group of people living together in a particular geographic location in a corparative way.
- Deals with such elements of the community as location, appearance, prevailing economic activity, climate and natural sources, historical development, how the people live, the social structure, goals and life values, an evaluation of the social institutions within the community that meet the human needs etc.
- **The community serving as the case** under investigation.

E.g. Eskimos

# Causal Comparative Studies

- Finding the answers to the problems through the analysis of causal relationship.
  - What **factors** seem to be associated with certain occurrences, conditions or types of behaviour?
  - The **relative importance** of these factors may be investigated.
- For example, studies of **awareness of mobile security**, the educational background of mobile users could be investigated. What factors were common?

# Activity analysis

- The analysis of the activities or processes that an individual is called upon to perform, both in industry and in various types of social activities.
- For example,
  - analysis of individual users who use iPhone 15
    - Analyse how they use iCloud
  - analysis of individual workers in a PC assembly line
    - Examine how they use a new tool



# Content or Document Analysis

- Content analysis, sometimes known as document analysis. deals with the systematic examination of current records or documents as sources of data.
- This content or document analysis should serve a useful purpose in research, adding important knowledge to a field to study or yielding information that is helpful.
- Three essential types of sources for document analysis
  - Public Records: transcripts, statements of purpose, yearly reports, strategy manuals, ebooks and etc
  - Personal Documents: messages, contracts, articles, social media posts, daily papers et cetera
  - Physical Evidence: flyers, publications, books or printed training materials.

# A Follow-up Study

- A follow-up study investigates individuals after having completed programme, a treatment or a course of study, to know what has been the impact and its programme upon them.
- By examining their status or seeking their opinions, one may get some idea of the adequacy or inadequacy of the research/treatments.
- Three basic components:
  - exposure,
  - time,
  - and outcome

Example: A follow up study was conducted on the patients who had received a new type of therapy aimed at treating depression.

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# Trend Studies

- The trend or predictive study is an interesting application of the descriptive method.
  - What has been happening in the past,
  - What does the present situation reveal on the basis of these data,
  - What will be likely to happen in the future.



# Steps of Case Study

- Step 1: Choice of the research problem
- Step 2: Collection of Data
- Step 3: Identification of Causal Factors
- Step 4: Analysis
- Step 5: Writing up

# Choice of the Research Problem

- Identify a problem of interest
- Suitability for a case study
- Suitability of materials
- Suitable study environment



# Collection of Data

- Interview people. Prepare questions that:
  - will help you understand their opinions
  - are open-ended; that is, they can't be answered just with 'yes' or 'no'.
- Sort through your information. What is relevant and what isn't?
- Does your case study problem need to be modified?
- Do you need more information, or do you need to do more research?

# Identification of Causal Factors

- Break the problem down into its parts.
- Analyse the information in each part.
- Think about what the answers to the problem might be.

# How to Analyze the Results

- Analyzing results for a case study tends to be more **opinion based** than statistical methods.
- The usual idea is to try and collate your data into a manageable form and construct a **narrative** around it.
- Use examples in your narrative while keeping things concise and interesting. It is useful to show some numerical data but remember that you are only trying to **judge trends** and not analyze every last piece of data.
- It is always a good idea to assume that a person reading your research may not **possess a lot of knowledge** of the subject so try to write accordingly.
- Unlike a scientific study which deals with facts, a case study is based on opinion and is very much designed to provoke reasoned debate. There really is no right or wrong answer in a case study.



# Write up your case study

- Introduce the problem.
- Give the background to the case study.
- **Present the information you have discovered**, perhaps under headings.
- Evaluate and analyse the information.
- Summarise your findings in a conclusion, but remember that a case study may not always produce a neat conclusion.

# Limitations of Case Study

1. It is difficult to study objectively.
2. There is difficulty in formulation of hypotheses.
3. The data of information are not collected in a systematic order.
4. The statistical inferences cannot be drawn.
5. It is more time consuming and costly method.
6. It does not contribute to new knowledge and field studied.