Introduction to Case Study and Field Research

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Case study

A case study comprises collection and presentation of detailed information about a particular group, practice or situation frequently including the involved stakeholders themselves.

In design and planning, a case study might include in-depth studies of a product or service and its functionality, material characteristics, usability etc.

It might also comprise a detailed investigation of a particular practice, problem or situation.
Case Study Method

ANALYSING

– SEARCHING - Written records and artifacts (literature review).
– WATCHING - Observations
– ASKING - Interviews

REPORTING

– Develop a conceptual structure, look for patterns, consistencies, repetitions, and manifestations pertinent to your framework/research question(s).
A case study is **qualitative descriptive research**. Methods to collect data are among others:

- Collection, examinations and analysis of existing records and documents
- Participant and direct observations,
- Interviews and focus groups,
- Protocols,
- Experiments,
- Tests, probes.

**A case study is often iterative:** When interviews etc. are conducted the designer has to revised the former problem identification and collect new material.
Case study excerpt: Sustainable Waste Water Management in Trondheim

The underground sewerage treatment plant in Høvringen is situated about 2-km northwest of the city of Trondheim centre close to the fjord. The main interceptor Høvringen wastewater tunnel runs from south to north beside Nidelva, to take advantage of the continuous, gradual slopes of the river valleys. The landscape is hilly, so the sewers are laid with a rather steep inclination and the wastewater flows fast through them. This causes an enrichment of Oxygen to the wastewater by turbulences, resulting decreased amounts of easily biodegradable organic matter (organic acids) in dissolved form and increased amounts of heavily biodegradable organic matter as biomass (geography and ecology).

The main interceptor is connected with Høvringen plant at the coastline. It has a length of 6,8 km. Two types of sewer systems supply the main interceptor:
- Sanitary sewers, which carry raw sewage from homes and businesses to plant.
- Combined sewers, which carry a combination of raw sewage and storm water runoff.

The sewer pipes are made of concrete. They are laid following street patterns, and access holes with metal covers are provided periodically for inspection and cleaning. Connected to the main interceptor are 83 sub-catchments. The system consists of 50 overflow structures, 22 pumping stations and 11 direct connections to the main sewer. It serves 136,000 p.e. (waste water engineering).

1986 the county governor advocated an extension of Høvringen considering a suspended solids reduction of 85%, the avoidance of sludge sedimentation, excessive plant growth in beach zones and improvements of the poor working conditions (air, temperature, humidity) within the plant. Trondheim commune appealed against this in 1989 to the Ministry of Environment, but the application was confirmed in 1990. 1996 the commune applied for a five years postponement for Høvringen, one year was accepted, and in 1997 the legislation given from EEA, the Ministry of Environment and the Norwegian Pollution Control Authority took place. 1998 another postponement for two years was made. Until today different cleaning strategies have been assessed. (national and international regulations)
## Analysis of Strategies

1. **No change at all**
2. **Coagulation with chemicals**
3. **New technology wastewater system**
Pro and contra of the case study method

Case studies are particularly useful when researchers want to get a detailed contextual view of a situation or of a particular phenomena.

In design they can help to understand the structural factors that might be important for the design development.

On the minus side case studies often involve only a single situation or group and therefore may not be representative to draw general conclusions.

Case studies often rely on descriptive information provided by different people. This leaves room for important details to be left out.

Many researchers rely too heavily on interpretation to guide findings and recommendations. If the researcher becomes part of the research itself and knows the expected results by forehand, this leads to the so-called Pygmalion effect.
Field Research (Study Visit)

Why field research anyway?

• Supplements traditional library research
• Adds authenticity to the research project
• Takes the researcher beyond the classroom
• Requires planning and preparation
• Leads to interesting resources
Conducting field research

1. Know the context
2. Know your roles
3. Establish rapport
4. Find stakeholders and “Informants”
5. Informed consent and ethics
6. Take notes, photograph, conduct census, interview, analyze documents, case histories
7. Observe, interview and/or participate
8. Process results
Stages of Field Research

1. Selecting a Research Problem
2. Formulating a Research Design
3. Collecting the Data
4. Analyzing the Data
5. Interpreting the Data
6. Present the Results
Before you go

1. Financing/Funding
2. Health Precautions
3. Language
4. Personal Affairs
5. Authorization/Permission
6. Research – Group and Topic
In the field: Your roles and challenges

Your primary role is of a researcher, who will be collecting information. Your secondary role might be a practitioner, who uses the findings to improve the situation. These roles are complementary and both might be important for (long-term) relations with the stakeholders. They may also lead to other secondary roles. A possible role could be a mediator between the locals and some development projects in the area, or the unintended role of a narrator on people and the place (Singh, 2013).

There is every possibility that there will be either high expectations or disinterest among the locals (especially in villages) or from groups. One reason for this might be that an academic person is expected to bring expertise and kow-how or on the contrary that they are arrogant and do not understand real life problems.

SINGH, B. 2013. My Society: My Place -Understanding local level urban change in Indrachowk, Kathmandu. Master, NTNU.
Codes of ethics

• **Informed consent**: Involves two dimensions: (1) consent is to be given on a well-informed basis (do subjects really know what they accept to participate in?), (2) subjects must have an idea of what consenting might imply, what are the consequences?

• **Anonymity**: Research participants have rights to remain anonymous – use of ’false names’ for persons and places

• **Avoid doing harm** (questions on sensitive topics, provoke embarrassing behaviours)

• **Confidentiality**: The researcher must guarantee that collected information remains his private possession. Desist from discussing information with colleagues, family friends etc. and perhaps destruction of personally identifying information when used.

• **Respect for privacy**: The protection against intrusion on private property/territories, unauthorized access to personal information, intrusive questions and ’nosing’ behaviours.

Questions for applying CoE

- The hierarchy of consent: Who gives consent? Can stakeholders freely withhold consent without negative consequences?
- Does too much information affect peoples’ behaviour?
- Obtain consent on every occasion?
- Where is the limit between public and private?
- Does one have a right for ‘privacy’ in public places?