

Overview of the field

INF5220/9220

January 24th, 2017

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PHILOSOPHICAL ASSUMPTIONS

- Positivist research
- Interpretive research
- Critical research

Other distinctions

- Descriptions/analysis vs. design research

3 PARADIGMS WITHIN THE IS-FIELD

Positivist Research

- Reality is objectively given
- Reality can be described by measurable properties independent of the observer and his instruments
- Theory testing
- Variables: emphasis on quantitative data
- Controlled setting
- Statistical tools are an essential element



3 PARADIGMS WITHIN THE IS-FIELD

Positivist Research Example



(Nora Raaum master thesis 2012 «Hvor ser brukeren?»,
eye tracker Tobii T60XL

3 PARADIGMS WITHIN THE IS-FIELD

Interpretive Research

- The aim is to understand phenomena through the meanings people assign to them.
- Access to meaning is through social constructions
- Focuses on the full complexity of human sense-making as a situation emerges. Not predefined dependent and independent variables.
- Interpretive methods of research in IS are "aimed at producing an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context" (Walsham 1993, p.4-5).



3 PARADIGMS WITHIN THE IS-FIELD

Critical Research

- Social reality is historically constituted and it is produced and reproduced by people
- People's ability to change social and economic circumstances is constrained by various forms of social, cultural and political domination
- Focuses the oppositions, conflicts and contradictions in contemporary society, and seeks to be *emancipatory* (i.e. help eliminate the causes of alienation and domination)

(Myers living version + Klein & Myers 1999)

- Within IS, the Scandinavian approach (participatory design) is an example of critical research.



3 PARADIGMS WITHIN THE IS-FIELD

Critical Research Example



No
easy
corre-
spondence

Kapittel 6. Alminnelig inntekt - fradrag

Fellesregel

§ 6-1.Hov
(1) Det utvider
(2) D

§ 6-2.Tap
(1) Det gis fradrag som følger av kar
(2) Det gis også utfylling og gje
(3) Skatthyter som nevnt i fastsettels omfattet av trc
Endret ved lov

§ 6-3.Undersku
(1) Når fradrag inntektskilder.
(2) Fradrag fra fradraget gi

Utdrags fra en fast skrivelse 2013

Overikt over alle postene i sebrangheisen

Skatteskrivelse

Person

From: "The winners are those who have used the old paper form"
On Citizens and automated public services (Verne, 2015)

METHODOLOGIES

While paradigms are philosophical assumptions about the world, methodologies are strategies of inquiry.

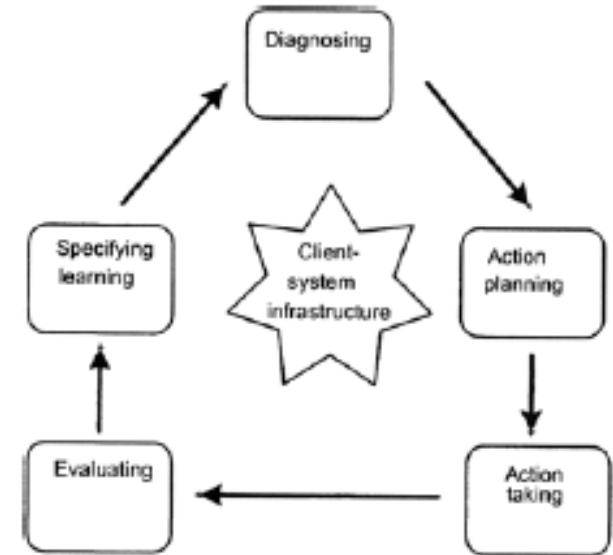
4 methodologies discussed in this course:

- Action research
- Case study
- Ethnography
- Grounded theory

Action Research

- Collaboration with a group of people experiencing a problem
- Researchers help to find what the problem is and implement possible solutions
- An iterative cycle:
 - diagnosing a problem, action planning, action taking, implementing, and evaluating outcomes.
 - Evaluation may lead to a new diagnosis, cycle is repeated.
- Contribution to practical concerns in parallel with theory building
- Vision: researchers have a vision on how the reality should be – not value free
- Action research can be both positivist, interpretive, and critical

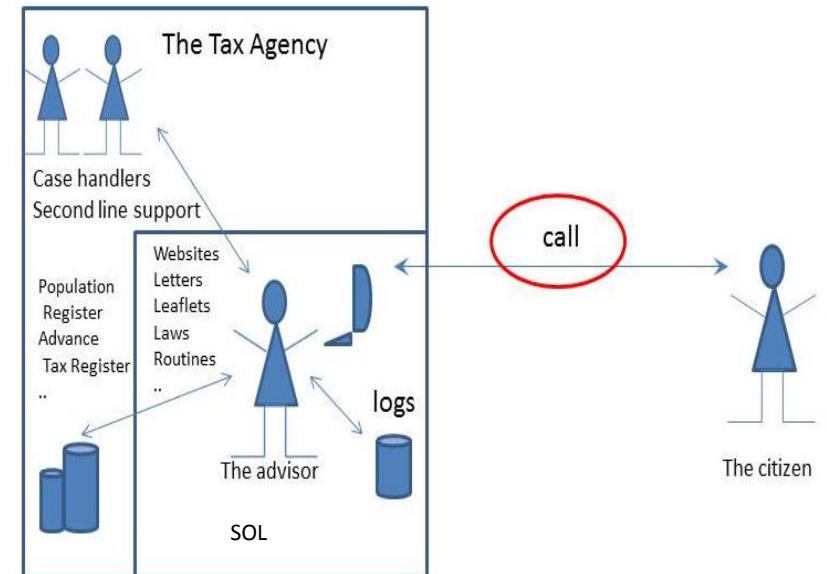
(Myers living version)



Susman 1983 in Baskerville et al. 2002

Case Study

- Case studies involve in-depth examination of a single instance, event or example: a case.
- A case study is an empirical inquiry that:
 - investigates a contemporary instance or event within its real-life context
 - can be positivist, interpretive, or critical

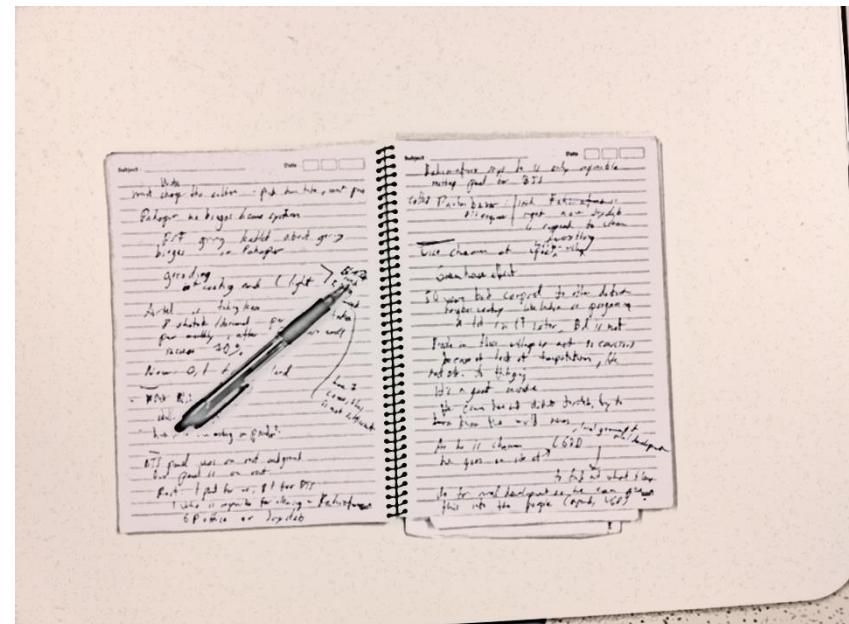


- IS research:
the study of information systems in organisations (not just technical issues)
- Basic methods:
interview, observation, document analysis

Verne 2015

Ethnography

- Social and cultural anthropology
- Explicit interest in understanding social practices and interactions in diverse communities as they unfold in everyday life.
- It seeks descriptions of what people do rather than what they say they do
- Ethnographers immerse themselves in the world / lives of the people they study
- Understanding the informants' point of view
- Basic methods: participant observation, interview
- Field notes are essential in ethnography



Grounded Theory

- "Grounded theory is a methodology that seeks to construct theory about issues of importance in peoples' lives" (Mills et al. 2006: 26).
- Will not impose an external structure on the data by taking pre-defined concepts as point of departure
- Enter the field with as few pre-determined ideas about what to find there as possible
 - Avoid hypotheses
 - Sensitivity to the data, but not tabula rasa
- Developed by the sociologists Glaser and Strauss

Techniques of grounded theory:

- Special emphasis on continuous interplay between data collection and analysis
- Asking questions aimed at exploring properties, connections, similarities and dissimilarities.
- Developing gradually more abstract ideas from the data

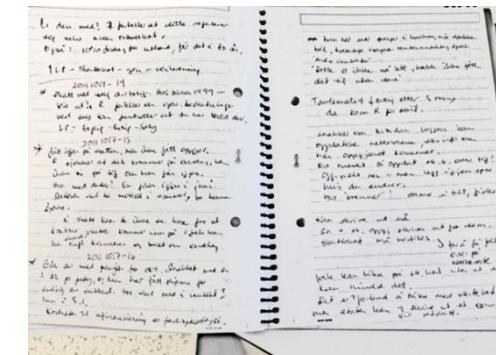
The screenshot shows a software application window with a toolbar at the top. The main area has two panes. On the left is a 'Nodes' panel with icons for 'Nodes', 'Relationships', and 'Node Matrices'. Below this is a navigation bar with tabs: 'Sources' (selected), 'Nodes' (highlighted in yellow), 'Classifications', and 'Collections'. On the right is a table titled 'Nodes' with columns 'Name', 'Sources', and 'References'. The table lists various concepts with their respective counts.

Name	Sources	References
agriculture	4	8
audit culture	9	19
BERC	5	7
biogas discussions	3	5
branding	2	3
caste	1	1
CIC	3	6
Circuit breaker	14	41
college	2	4
communication	7	29
contract	1	2
CSR	2	2
demography and local government	3	5
development	3	14
early phase	1	1
economy	2	3
electricity outage	3	14
e-mails	2	3

METHODS

While paradigms are philosophical assumptions about the world and methodologies are strategies for gaining knowledge about it, methods are techniques for generating data.

- Observation: passive and participant (naturally occurring settings)
- Document analysis: e.g., screen dumps, newspapers, letters, agreements, brochures
- Interviews: structured, semi-structured , open-ended (not naturally occurring settings)
- Video and audio-tapes can be studied over and over and be transcribed
- Note taking: Describe what you observe/encounter/hear/smell/engage in.
Remember: date, time, place, persons present (roles, occupation, affiliation).



Researcher's reflexivity

Do we see the same regardless of who we are and where we come from?

- **Positivist paradigm:** We will see the same if we use proper methods for data collection and analysis.
- **Interpretive and critical paradigms:** Knowledge about how people make sense of and experience the world can only be accessed through representations (e.g., language).
- Your **previous experiences** will influence how you interpret what you encounter.
- How you **appear to the informants** will influence how they relate to you as a researcher.

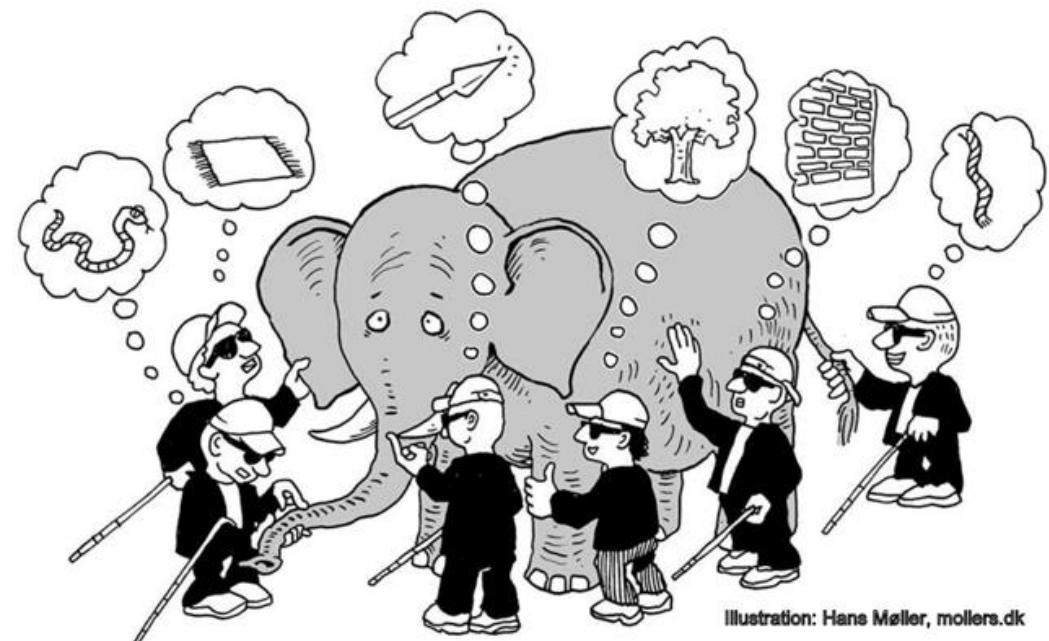


Illustration: Hans Møller, mollers.dk

Conducting field work + analyzing field material

- What are people doing? What are they trying to accomplish?
- How, exactly, do they do this? What specific means and/or strategies do they use?
- How do members talk about, characterize, and understand what is going on?
- Which assumptions are they making?
- What do I see going on here? What did I learn from these notes?

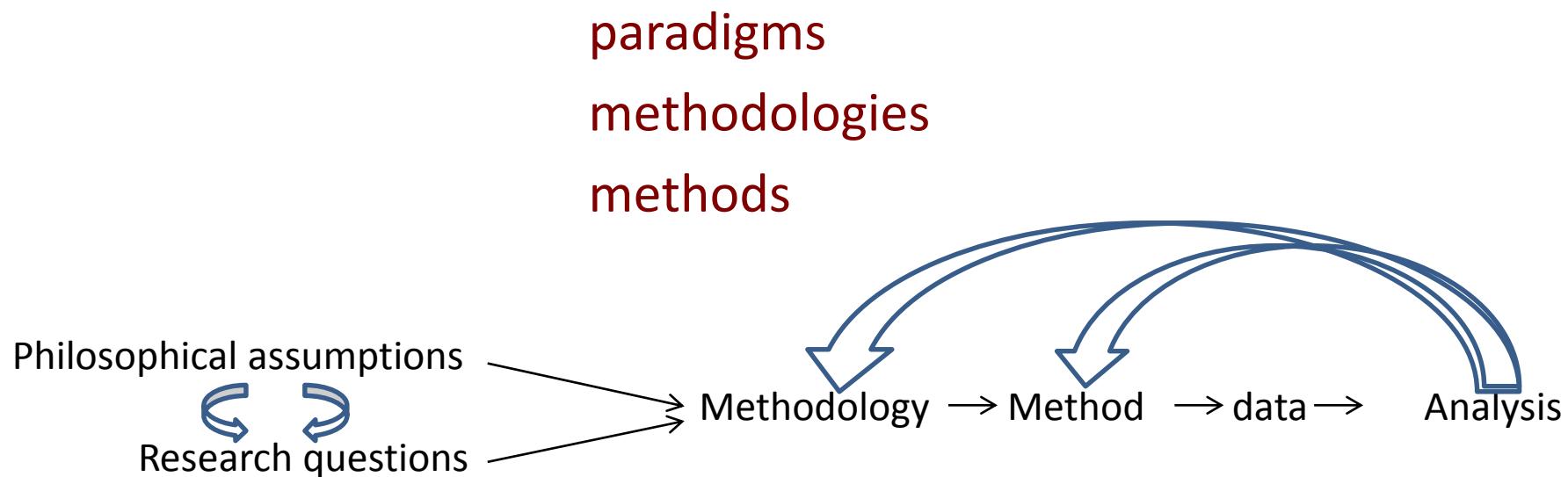
(Emerson et al. 1995:146)

Concepts

- **Paradigm:** a pattern of thinking, a set of philosophical assumptions.
- **Theory:** a set of propositions providing the principles of analysis or explanation.
- **Analysis:** breaking something down into smaller parts to gain understanding of it. Put it together in new ways.
- **Ontology:** theory of reality, existence, being (what is reality, how does something come into being).
- **Epistemology:** theory of knowledge (why do we believe as we do? – how do I know the world?).
- **Methodology:** research strategy, strategy of inquiry (how do we gain knowledge of the world?).
- **Method:** a way of arranging the generation, analysis, and writing up of material.
- **Reflexivity:** the process of reflecting critically on approach, positioning, and relationship between what you encounter in the field how you represent it.
- **Inductive approach:** theory building bottom-up
- **Deductive approach:** theory building top-down (hypothesis testing)

How it connects

Researchers have different philosophical assumptions (**paradigms**) about the world: how we are to understand it, and how we are to study it. This has lead to different strategies of inquiry (**methodologies**) and to different ways of approaching how we gather empirical material and analyze it (**methods**).



Group discussion

- Identify and describe the three paradigms
- Get to know each others' academic background:
 - Do you have a special affiliation with one of the paradigms?
 - Are you particularly comfortable with, or interested in, one of them?

Assignment 1

Passive observation – observation in a public place (submit by Monday January 30th)

The purpose of this assignment is to practice observation and note taking, and to reflect on passive observation as a research method. Go to a public setting and carry out a one-hour observation. Choose a place you think will be fun and interesting, and where information and communication technology of some kind is present (e.g., ticket machines, cell phones, computers, digital artifacts). Observe and record movements, interactions, sights, sounds, spatial arrangements, and anything else that strikes you. Be an observer only; choose a place where you can sit and take notes without bothering anyone. Examples of this sort of place are:

- Library
- Waiting room
- Airport
- Farmer's market
- Gym
- Street corner, park, outdoor gathering place (e.g., Spikersuppa, Aker Brygge)
- Museum
- Train station
- Tram, train, bus
- Café, canteen, fast food restaurant

Assignments schedule

Assignment	Submit	Feedback
Ex 1 Passive observation	Mon Jan 30, 23:39	Thu Feb 2, Fri Feb 3 Make appointments with HC
Ex 2 Interview	Mon Feb 13, 23:39	Thu, Fri
Ex 3 Observation without notes	Mon Feb 27, 23:39	Thu, Fri
Ex 4 Audio-recorded expert interview	Mon March 13, 23:39	Thu, Fri (with GV)
RP 1	Mon March 27, 23:39	Ma 3, Tue 4 April
RP 2	Mon April 24, 23:39	Thu, Fri
RP Final	Friday May 12, 23:39	-