

# -Methods of Research and Intervention-



---

## Lecture 1: introduction, methodological considerations

---

From a certain moment, we have an agreement on things we find important but also the methods we use to find out things – Babbe. If there is a sound way of working, people will most likely agree to it. But there are also situations where the rules don't apply.

You learn through experimenting, other people around you and reading books. For everyone the most important style of learning is different. You have to find out for yourself what is the most important style of learning. Goethe: thinking is more interesting than knowing, but less interesting than watching.

Science is about knowing things, but many things we know, we know on a base of agreement. The way two people look at the world may differ at essential points. This is called **ontology**: the way we see the world and how we know what is real. A scientific assertion must have both logical and empirical support. **Epistemology** is the science of knowing, systems of knowledge. **Methodology** is the science of finding out. Science is used to make sense of the world in a specific way.

To reach Agreement Reality: we need watching, thinking and knowing (Goethe). And to reach an agreement on: the way we work as scientists, how we watch, and how we translate our observations into knowledge (**epistemology**)

Science deals with logic and with the real (empirical) world. It is not about metaphysics, belief, moral opinions, or ethical values.

Logic,  $p \Rightarrow q$  (V p. 26)

Human inquiry is needed to have a look at the world, but it can be misled. If we want to explain things we have to be sure that the observations are right. Problems can occur.

- Inaccurate observations: most of the time people see a lot more than there is. We construct a lot more than what is needed. In this way people may have another view on things than what is reality. You have to be aware of what you see and what is behind it. When you are entering a situation that is not familiar for you, you are not as precise with your observations.
- Overgeneralizations (all..are...)
- Selective observations (looking for confirmation and common patterns)
- Illogical reasoning: ("the exception that proves the rule", gambler's fallacy, cf. logical puzzles)
- Also check V, pg 52 about group think

Logic:

If you find one statement, it is not true that it works the other way around.

Law- condition- inference

Authority and Tradition are two related aspects and they both might be helpful or an obstacle for scientific work.

Authority might help to steer your research in the right direction, but also hinder you to develop your own ideas

Tradition is helpful to stand your ground as the public opinion does not agree with your ideas or way of working, but tradition might hinder your work because of promote 'no-go' areas for research

---

## Lecture 2: research design

---

Research Design is actually a strategy or a plan of action regarding how to move from a research question towards answers or conclusions (Vp. 86-87)

Research question⇒Research design⇒Outcomes

Inductive and deductive research: we look at the wheel of science. It shows how science works in a circle. You can use the wheel in different starting points. Observations can be doing interviews, having a survey etc. Empirical generalizations are making a statement in our observations. You can apply them also in other situations. When there is a possibility to form e.g. there can be found another theory. It can also be possible that you are not doing research to find e.g. but to find a solution to a problem.

When you start at a theory for a research project, you go to a hypothesis and then go to observations. You can create another theory. This is the deductive way.

When you start with doing observations and then go to e.g., after this you will find a theory. This is the inductive way. When starting an inductive process, you put aside every other theory. you can put them aside because your question differs so much from other questions. The other theories will not provide the answer to your question. Sometimes you can use already existing data. But in most of the situation you have to start from scratch. It is a complex way of working. Inductive research is getting more important.

Deductive research:

First you form a hypothesis, after this you do the observations. Then you compare them and see if they are comparable. Then you decide if you reject or accept the hypothesis.

Inductive research:

First you do your observations, then you form a pattern. After this you draw a conclusion based on both of them.

Abduction:

Is creating a hypothesis, which you want to test. The hypothesis is not based on theory. The hypothesis should be formulated as sharp as possible. If we can develop more than one hypothesis, we should use 'Ockhams razor' to choose the best option. You start by observations or empirical generalizations.

Fundamental Design Steps

1. Formulate a problem statement: research objective and research question(s)

- a. V 5.2 & 5.3
  - b. Research objective (=Knowledge problem +Action problem)
    - i. Formulated as a goal not as a question
    - ii. What the research will produce and why
  - c. Research question
    - i. Direct translation of the knowledge problem into a question
    - ii. Be specific and attainable
    - iii. Empirical
2. Purpose of research: explore, describe, explain
    - a. Explanation is more complex than description and description is more complex than exploration.
    - b. Descriptive studies answer questions of what, where, when and how. Explanatory studies answer questions of why.
  3. The dimension 'Time'.
    - a. V pg 111
    - b. One of the design steps is to distinguish static from dynamic. When a influences b, it is static, but when there is a situation where there are more important variables and combinations of variables, then we are talking about a dynamic situation.
  4. Determine time dimension: cross-sectional vs longitudinal
  5. Conceptual model
    - a. Visualizes the relation between two or more important concepts in your research and shows the direction of the influence
    - b. A hypothesis is about the relation between two or more variables. It is a tentative, yet testable, statement, which predicts what you can expect to find in your empirical data.
  6. Define a unite of analysis (and unit of observation/measurement)
  7. Choose a strategy
    - a. Qualitative vs Quantitative

The research field is very big, the research topic is way smaller and the research question is even more small.

With research, we develop knowledge and after this we forget a lot and also a part is outdated. With existing knowledge, it provides us to do new research and find new knowledge. This process of forgetting, outdateding and finding new research continues. Effort, methodology and creativity is needed to start researching. Research design is not a linear process! Especially not in the beginning, you start with an idea, you discuss it, you look at existing theories, you compare it. Sometimes you go one step forward and two steps back. Until the moment of making observations there is always the possibility of a recurring discussion or the insight that more theoretical preparation is necessary. Science is a slow process.

We find go from interests to ideas to theories and back again. You should keep thinking about what you find the most interesting. There are four important steps after this, they are all connecting. Conceptualization, operationalization, choice of research methods and population and sampling. For the moment, we assume that we can handle them consecutive. But it is not necessary.

Conceptualization is a tough concept to understand. This is our experience. It is no more and no less than showing how you think the dependent and the independent variable are influencing one another. We are interested in how things are related. It is showing in a graph or diagram how things work.

*Example: we are going to talk about commitment and performance. It is about the relationship between an employee and his work. It is important to understand how commitment is related to performance. There is a connection between commitment and performance. This is because when you are interested in your work, you are in most questions more committed. But the question is where the commitment lies. Most of the time it is the department close to you and not the whole organization. Individual commitment leads to individual performance, this leads to acknowledgement of the performance by the management by means of a bonus. When there is acknowledgement of the performance the individual commitment will be even bigger. And so, it continues. This model works best for profit-organizations.*

*But for non-profit organizations we find that the acknowledgement of the performance doesn't lead to a bonus or more individual commitment, but it leads to more motivation of the employee. This leads to a bigger individual commitment. And so, it continues.*

*The influence of acknowledgement doesn't keep on influencing commitment. At a certain point, more acknowledgement will not lead to more commitment but to a maximum point.*

*We must also realize that not every person is the same in every sector. People in non-profit organizations and in organizations differ. There are gradations in commitment, we can differ affective, continuance and normative commitment.*

The pillars of pleasure management:

- Confirmation and appreciation
- Openness
- Balance between work and private situation
- Chances and opportunities
- Degrees of freedom
- Inspiring environment to work
- Moments to celebrate
- Wages and evaluation.

Operationalization helps us to translate concepts and theoretical notions into words that can be measured.

Affective commitment deals with personal characteristics and work experience. Continuance commitment deals with personal characteristics, alternatives and investments. Normative commitment deals with personal characteristics, socialization experiences and organizational investments.

After all the preparations, it is time for processing your data, doing your observations, doing analysis and doing applications. You should always be aware of the difference between the unit of analysis (what your research is about) and the unit of observation (where do you gather your data). The processing of data and doing observations is the most important step. In the analysis, all things come together. In this step, you must make a translation of all your data

into clear results. And then you have to translate that in a conclusion and recommendations. Finally, you lay down all your findings in the research report.

---

### *Lecture 3: conceptualization, operationalization, validity and reliability*

---

Conceptualization is the refinement and specification of abstract concepts in observable relationships, between two variables (independent and dependent). Operationalization is the development of specific research procedures, this will lead to empirical observations representing those concepts in the real world.

Conceptual models:

- Important concepts of the research
- A number of hypotheses about the reality

Afterward we look at the literature and then we work out our own idea about what we want to find out, the independent variable and the dependent variable and their relationship.

We can formulate our ideas in words and a conceptual model can explain it better. The clearer your conceptual model is, the easier it is to determine the unit of analysis. A conceptual model visualizes the relation between two or more important concepts/variables in your research and shows in which way the influence goes.

You have to see the how it works in your own situation. And then in the end we show the relationships and value the relationships  $A \rightarrow B (+)$

Their might be a blind spot in your work, this is why you have to evaluate your work with others.

*Customer loyalty: if there is loyalty it will take longer for people to change for a supplier. Loyalty means the inclination of a customer to go back to the same organization for a new purchase. The most important concepts for influencing loyalty is the service level of the organization. A lack of loyalty can be a problem for an organization because the popularity will go away. It is not as severe for every organizations. The service level  $\rightarrow$  loyalty (+)*

*Behind the service level there is an idea or a concept. So, the service concept  $\rightarrow$  the service level  $\rightarrow$  the loyalty (+&+)*

*The blind spot is in the service concept because we can write down anything we want to but we have to think about how people within our organization have to behave to reach the goals of the service concept if we want it to work.*

The is all about external service strategy and internal service strategy.

Operationalize: we are breaking down a concept in dimensions, indicators and items.

Indicators for design of work system:

- Clearly discerned tasks
- Responsibilities, necessary to accomplish the task?
- Qualifications necessary to accomplish the task
- Tools to accomplish the task
- Appointments about cooperation if necessary

Definitions: we first need a theoretical definition for our important concepts. A nominal (stipulative) definition is a replacement when no good theoretical definition is at hand. An operational definition specifies precisely how a concept will be measured. Achieving maximum clarity about what a concept means in the context of a given study. Some rules:



clear and simple, no nested definition, no circular argument, exhaustive and exclusive, no negative definition, short so no enumeration.

Validity: do I measure what I intend to measure and you have to see if there is an absence of systematic error. There are different types of validity: face, predictive, construct and content.

Reliability: if repeated observations all give the same results, there can be an absence of a random error.

There is a principal dilemma between validity and reliability. Validity is very important if we want to use our findings in the right way. Reliability is not the same as accuracy. In qualitative research you choose validity above reliability.

Levels of measurement:

Level of Measurement	Arithmetic Operations	Example
Nominal	$=, \neq$	The income of two persons differ Key word: different
Ordinal	$> <$	One person earns more than the other Key word: more or less
Interval	$+ -$	One person earns exactly this amount more than the other Key word: exact
Ratio	$\div \times$	One person earns twice as much as the other Key word: exact and comparative

commonalities: both scales and indexes are ordinal measures of variable. They are also composite measures, they are based on more than one data item.

Index: a type of composite measure that summarizes and rank-orders several times: the Dow Jones.

Scale: a type of composite measure that is composed of several items that have a logical or empirical structure among them.

- Likert scaling: a type of composite measure, designed to improve the levels of measurement in social research through the use of standardized response categories to determine the relative intensity of different items; strongly disagree, disagree, neutral, agree strongly agree.
- Semantic differential: a questionnaire format in which the respondent is asked to rate something in terms of two, opposite adjectives; nice and not nice.

Measuring is about giving a scale value to every unit in our collection.

Scales are generally superior to indexes, because scales take into consideration the intensity with which different items reflect the variable being measured.

Indexes need an explanation about how it is measured.

---

*Lecture 4: quantitative empirical research, causal analysis*

---

Quantitative Analysis-the numerical representation and manipulation of observation for the purpose of describing and explaining the phenomena that those observations reflect  
The quantification of data is a numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect.

- Age: age 1=1, age 2=2, etc.
- Sex: male =1, female =2. (What about transgender?)
- Political affiliation; democrat = 1, republican =2, etc. (sometimes not sufficient)
- Region of country; west =1, north =2, etc (sometimes not sufficient for country)

With univariate analysis, a single variable is analysed for the purpose of description. For example, gender is used to give an overview of the number of men and women in a sample.

Frequency distributions are a description of the number of times the attribute of a variable was observed in a sample.

The mode is the score with the highest frequency of occurring in the sample.

The median is the scored in the middle of all the observations.

The mean is the total of the scores divided by the number of observations.

The dispersion is the distribution of values around some central value like an average.

The standard deviation is the measure of dispersion around the mean.

- When there is a high standard deviation, the values are spread out, so the curve is flatter.
- When there is a low standard deviation, the values are clustered, so the curve is peaking.

A population sample is a part of the population to represent the whole population, there is the issue of generalization. But this is left to the side.

With sampling there are different steps:

- You need to select the unit of observation
- You need to define the target population
- You need to list all the units in the reduced target population
- You need to decide on the number of elements in the sample
- You need to have a selection procedure (probability and non-probability sampling)

Probability sampling is when samples are selected in accordance with probability theory:

This is used for large-scale surveys. When all members of society were identical there would be no need for careful sampling procedures, but this is not the case. A sample of individuals from a population must contain the same variations that exist in the population.

- Simple random samplings: the units of the population have a number; a random set of numbers is generated, and these people are included in the sample
- Systematic sampling: for example, the 50<sup>th</sup> unit in the list is selected into the sample. And all people that have the number 50 in their number are selected.
- Stratified sampling: a sample is drawn from a homogenous subset of a population. Variables that are available & those you want to represent accurately.

There is a bias to sampling; the selected are not representative of the larger population. This is when not all members of the total population have an equal chance of being selected in the sample.



The sampling error is the degree of error that is expected of a given sample design. A sample with a low sample error is preferred. The lower the sample error, the higher the costs of sampling because this takes more precision.

The confidence level is the probability that a population parameter lies within a given confidence interval. The confidence interval is the range of values within which a population parameter is estimated to lie.

Non-response is a problem because it reduces the representativeness of the sample and there can be external validity problems. This cannot be eliminated by oversampling. The choice of people not to participate is not a random process but it is systematic. The not responding people are people with a negative attitude toward the research. With multistage you compare the results of two waves; early and late respondents.

With perfect probability samples, the outcomes are in a similar trend. With less-than-perfect probability sample there is not a trend between two samples.

Sometimes rounding can be a problem, this is why it is important to keep digits behind the point.

With bivariate analysis, two variables are simultaneously analysed for the purpose of determining the empirical relationship between them.

$X \rightarrow Y$  means that a shift in  $x$  can induce a shift in  $y$ .  $x$  is the independent variable and  $y$  is the dependent variable. A cause leads to an effect.

- There needs to be a correlation; an empirical relationship between two variables.
- There needs to be a time order; the cause needs to occur before the effect in time.
- The effect must be nonspurious; the effect cannot be explained by a third variable.

When you test a causal hypothesis to see if there is empirical evidence for a causal relationship you start with column percentages that need to be calculated. The difference between the column percentage need to be calculated. You need to compare your result with the hypothesis. Afterwards you write it down in the formulation of the prediction (d%).

With multivariate analysis, several variables are analysed to establish a simultaneous relationship.

The elaboration model

- Zero-order relationship: the original relationship between two variables with no test variables to be controlled for.
- A test variable is a variable that is held constant in an attempt to clarify the relationship between two variables
- A partial relationship is the relationship between two variables when examined by a third variable.

<u>Model</u>	<u>Type</u>
$X \longrightarrow Y$	Direct Effect (Zero-order relationship)
$X \longrightarrow Z \longrightarrow Y$	Indirect Effect of Z (Interpretation; mediator effect)
$X \longleftarrow Z \longrightarrow Y$	Spurious Effect (Explanation)
$X \longrightarrow \begin{matrix} Z \\ \downarrow \end{matrix} \longrightarrow Y$	Interaction Effect (Specification; moderator effect)

Ex post facto hypothesis is a hypothesis that is created after the data that confirms the hypothesis is already collected. This is a meaningless construct because it cannot be disconfirmed.

---

*Lecture 5: qualitative empirical research*

---

There are two important paradigms next to realism (positivism) and critical theory: phenomenology (about interpretation of facts) and constructionism (there is no reality: all what people do is construct their own reality).

Phenomenology-

1. Not about facts but rather the interpretation of facts
2. In many situations people have an idea about reality without knowing the precise facts
3. Not the absolute truth but the interpretation of the truth in many situations

Constructionism; Post Modernism-

1. People often don't understand one another because of their different construction of realities
2. Power and language are often important
3. Important for researches because it can help a group build a shared reality

Qualitative research has a few key terms: meanings and patterns, holism, understanding, few research units, selective sampling, open questions, explorative approach, triangulation, iterative-parallel.

Quantitative research has a few key terms: relations between variables, analytical reduction, counting, measuring and explaining, many research units, random sampling, closed research questions, theory testing.

An overview of research strategies

	Research type		
	Qualitative	Quantitative	
	Research Method		
<i>Properties</i>	<b>Case-study</b>	<b>Survey</b>	<b>Experiment</b>
<b>Number of observation units</b>	Small	Large	Limited
<b>Variables to be studied</b>	Many	Limited	Few
<b>Environment</b>	Natural	“Lab”	Natural / Lab
<b>Observation methods / data collection methods</b>	(Open) interviews Observation Content analysis	Questionnaire	Questionnaire Observation
<b>Measurement # / duration</b>	One moment - Longer period	One moment	Many moments
<b>Unit of analysis</b>	Participant – Group – Organization	Respondent	Participant/Group

A questionnaire is a document containing questions and other types of items to obtain information appropriate for analysis.

- Open ended questions are questions for which the respondent is asked to provide their own answers
- Closed ended questions are questions for which the respondent should select an answer from a list provided by the researcher.

There are guidelines to asking questions:

1. Select appropriate question forms.
2. Make items clear.
3. Avoid double-barreled questions.
4. Respondents must be competent to answer.
5. Respondents must be willing to answer.
6. Questions should be relevant.
7. Avoid negative items, in particular double negations.

8. Avoid biased items and terms (risk of suggestion).
9. For questions that refer to the past, it would be wise to indicate the time period.
10. Causal relationships should be avoided.

There are a few conditions to research

1. Closeness to the research object:
  - Natural setting
  - As little disturbance as possible
  - Participant-observer
2. Interpretive nature: Purpose is to find out the meaning people give to “reality” in order to understand their actions.
  - Observers bias: possible solution is triangulation and multiple observers
  - Participants bias: no real solutions.
3. Holistic: To get the full picture. Study the object in its totality rather than identify characteristics and relations amongst them
4. Triangulation: multiple data sources and methods. If all information from different sources point in the same direction your confidence in your conclusions increase
5. Explaining patterns vs. deductive-nomological in quantitative research
6. When case study (versus experiment and survey of quantitative research)? You want to know how something is precisely or why it is so.
  - Researcher has no or little control over the research situation (either not possible or researcher does not want to isolate it from its natural context) REALIZE EXTERNAL VALIDITY
  - Rarity of the studied phenomenon.
7. Interviewer attitudes and skills:
  - Respect
  - Neutral
  - Reflective listening
  - Being able to give summary
  - Clear formulation of question

The wheel of science works in the following way, there is inductive and deductive research. With induction you go from observations to empirical generalizations to theories. With deductions you go from theories to hypotheses to observations.

Within the inductive way of working: grounded theory, sensitizing concept.

Sensitizing concepts- offer ways of seeing, organizing and understanding experience. They are embedded in our disciplinary emphases and perspectival proclivities. Provides starting points for building analysis, not ending points for evading it.

While coding you name and categorize data.

The aim of coding is to recognize, develop, and relate to the concepts that are the building blocks of the theory. There are 3 steps to coding: open, axial and selective coding. There is a continuous comparison with other data.

- With open coding (what you start with) there are some questions that need to be asked about the data, the codes should reflect the meaning of the part you are coding.

- Axial coding is used to reorganize the open codes by making connections between the categories. There are also questions about the material to link them. The axial codes are an abstraction of the open codes, Thematic concepts. They distinguish important from non-important.
- Selective coding is used to identify the core concepts in the material and relate them to other concepts. The end product should be the explanations, a conceptual model and a typology to classify the variation in the phenomenon, Patterns.

There are different kinds of codes you can use to summarize research. Descriptive coding uses open coding and provides a description of part of the research material. Thematic codes relate to broader concepts. The pattern coding is coding for patterns in the data: it is used to indicate the links and relationships between the various concepts involved.

Inductive line: developing sensitizing concepts → prepare data collection → collect data → start coding → develop new theory.

Deductive line: find relevant existing theory → develop dimensions and indicators and translate them in interview topics, observation schemes etc. (operationalization of concepts) → collect data → translate data in answers for research questions → test or refine theories, solve practical problems/develop rec. for the existing problem.

Most of the time is the research method a case study. A case study is an empirical inquiry that investigates a phenomenon within its context when boundaries between phenomenon and context are not clear and in which multiple sources of evidence are used.

With qualitative field research, you should prepare for the field:

- Being familiar with the relevant research
- Discuss your findings with other people in the area
- Identify and meet the informants
- Take ethical considerations into account.

You should also collect the data, which can be done in different ways

1. Document study
2. Observations
3. Interviews
4. Focus groups.

### Observations

You can't do observations in the past.

Active role → participative, part of the group.

Going native means that you have an emotional role in the group, you become one of them. (not good)

The line of evidence must be completely clear, you can't leave gaps in an observation.

### Interviews

A way of communication between two people during which an interviewer tries to get information about a situation, relations, or persons by using verbal or non-verbal stimuli.

Unstructured interview, in-depth interview

Open character, it is like a conversation

Semi structured interviews.

Topic list in interview instructions, open question, a lot of interaction

Structured or standardized interview

Closed questions, no interaction, question list, used a lot in survey-research

If there is a silence, people are mostly trying to think about a good answer. It can also get emotional. You can ask open or closed questions

Afterwards you analyse the content: content analysis is the analysis of written material to answer a research question.

Internal validity, you must convince others that with your way of working you have valid solutions of the problem you have been working on.

External validity is only important if you have 3 or more cases, but it always needs to be considered.

Reliability is important when there are repeated measurements, a replication of the study, various methods are used, or several researchers are comparing coding. Almost always low in QRM. Cause: asking probing questions, use ICR to assess interpretations

There are some ethical dimensions of qualitative field work, so things you cannot do:

- recording communication without subjects knowing it
- getting information from people you hate
- seeing need for help but not immediately responding
- not being committed to situations in which the research is done
- being strategic in relations
- taking sides/not taking sides
- paying people for having access to their lives
- using people to get introduced to other people

---

*Lecture 6: practice-oriented research/interventions, system dynamics*

---

In theory oriented research, the knowledge problem is solved and it is implicitly assumed this will help solving the action problem

In practice oriented research, solving the action problem is a major part of the research project.

Many solutions in terms of knowledge are not useable for real life problems. In a non-participative research, we are outsiders. There is a gap between the knowledge domain and action domain. This is not important in this science. The problem can be solved from a distance. In participative research, you are part of the problem and the action domain. The knowledge problem is important. The role and position could be changing. If there is a problem within an organization, the best way to solve it is to be a process consultant. There is only satisfaction when there is no need to intervene again.



First steps of an intervention with causal mapping- Define problem (reference mode), Identify variables (causes and effects), identify and classify relationships between variables (positive/negative), identify feedback loops

The intervention cycle is when a real-life situation is important. The intervention cycle has four stages: diagnosis (problem analysis and diagnosis), design: what possibilities do we have to improve the situation, intervention and evaluation.

The empirical cycle and the intervention cycle are different for many researchers. But they are also linked. Because you have to make a connection with the scientific world to draw a conclusion. You move between the two cycles. Both cycles can influence one another. They offer options to find better solutions. You can use scientific approaches to solve a real-life problem and vice versa.

In real life, it is important to be in the middle of the organizations. This way it is easier to solve a problem. The solution of a problem occurs in parallel with the research process. You have to use interventions, this will lower the time spend. If they don't work you have to come up with new ones. You have to be certain if you can be a facilitator or if you need someone else. Intervention is a means to generate consensus about what the problem is and, sometimes, how to tackle it.

Messy problems can occur. This can be because of a lot of reasons. The problem is complex, there are important intangibles and key uncertainties. There are different kind of complexities: analytical, dynamic and social → interdependencies, existence of feedback and multiple realities. You have got to deal with all these problems. Sometimes there can also appear to be a problem, but it is not.

Feedback is what dynamic theories of models is about. We have only been looking at the influence of x on y, one way relationship. There is in this idea no influence of y on x. but in real-life it is not possible to look at problems in organizations as a one-way relationship. Real life is not a laboratory. It is impossible to study the influences independently and then predict how the system will behave. You should use a feedback system of the whole system to get correct results. The action from x is guiding the feedback reaction.

Look at the mental model and its shortcomings.

A system is a set of interacting or interdependent component parts forming a complex or intricate whole. It is about items, relationships and the system as a whole. Many problems presented give you the idea of a system but in practice it is not. Look at the example of USSR and USA. They have to make their decision within their own abilities. You have to look at the border of the system. If there is a conflict between two departments, are they the only part of it or is there a bigger part involved.

There are a few important points. Behavior is a consequence of the system in which you are working, not from the outside. You always have the possibility to interact with people in a positive or negative way. There is a model to study systems' behavior. Intervention with causal mapping starts with defining the problem and identifying the variables; by talking or looking around. You can also use the knowledge in an organization; let people talk about the relationship of the variables. After this you can identify feedback loops.

There can be a positive polarity between variables. If x influences y in a positive way, when x increases, y will also increase.

There can be a negative polarity between variables. If x influences y in a negative way, when x increases, y will decrease.

A positive feedback loop and a negative feedback loop are explained in the PowerPoint. Chapter of Vennix: the figure 12.6 is not a positive feedback loop but a negative feedback loop. Reinforcing loop is the same as a positive loop and the balancing loop is the same as the negative loop.

Within every system there is an inflow and an outflow and a stock in between. The example of a bath. Stocks are important because they cost a lot of money.

When you have a positive feedback loop with no other influences, the effect will rise until eternity. This is called exponential growth. This is not possible in every case. There is always the danger of exploding. This is what you see with the population of the earth.

A negative feedback loop is more or less a balancing feedback loop. It is making a development to a certain level or goal. This can be the knowledge that we need to maintain our system. We don't grow above a certain height. The internet system is balancing our growth. These loops are helping us to balance the system we are working with. This is called goal seeking.

A carrying capacity system that in the beginning grows exponentially and afterwards slowly reaching the equilibrium level. For example, an island that has no birds but two birds are brought here. It is possible for the birds to live here. This will turn into the s shape growth.

***From here on the summary has not been checked yet. This will be done after all lectures have taken place.***

---

### *Lecture 7 part 1: logic inquiry & research design*

---

Central question is: "how to create a research plan and what is the best method of doing so?" (v. pg 275)

Important decisions about research design (ex. Goal and research Q.) and technical design (ex. Research strategy)

Steps in design process

1. Get to know the subject  
Almost always start with a vague idea. Move from a vague idea to a concrete research plan by narrowing down your ideas and topics, familiarizing yourself with topic by reading literature, and sharing ideas with colleagues
2. The research question
3. Analyze the central statements  
Include unit of analysis. What type of statement, meaning (descriptive, static, or singular)

4. Degree of control over the research  
How do we generate true knowledge, empirical-analytical tradition or the interpretative tradition
5. Think about data collection  
Do we need existing data or new data? How to collect data (ex. Survey)? What are the units of observation?
6. Think about data analysis  
You can already make decision about some test based on choices you have already made. Within qualitative research it might be of importance to contact your organizations in time, to avoid problems w/ holidays etc.

---

Lecture 7 part 2: the ethics and politics of empirical research, Q&A session

---

Not covered in 2021, possibly covered again in 2022

Ethics and politics within organizations and research projects. Ethics is mostly on organizational level. Politics can be about governmental level, nationwide level, but also within organizations. The stakeholders within organizations have different political influence. You have to be aware of the level of political influence.

The common points and differences between ethics and politics. They have an influence in how you employ your research within an organization. The standards that need to be met to be allowed the research. For political issues, there is no conduct. Often, there is a board where you have to send your research proposal to, they look at privacy, integrity etc.

The research onion: many of the aspects within the onion have been of interest. Research is not in a situation of itself. The environment influences the possibilities of the research. You need to spend time on writing a part about ethics and politics.

When we talk about ethical issues there are important issues shown in the slide of the PowerPoint. The chapter of Babbie on ethics and politics is concrete and has good examples! Talking about ethics is the same as trustworthiness. It is about if people can trust us when we start to do our research. It is about if we make promises and not violate them. It is about the research domain, how we want to do the research, and about the institution that is responsible for the research. Within universities each year people are fired because they violated ethical codes.

- The first point is voluntarily participation. In whatever form of research there should be no force to participate. It doesn't matter if it is qualitative or quantitative. Normally there is no problem with participating. But it could occur. For example, of the boss and employee dilemma.

- The second point is no harm to the participant. This is the Hippocratic oath; this is a promise that includes to abstain from doing harm.
- The third point is confidentiality, this is a personal thing. Some people care about if the information they give you is used anonymously. Other people don't. You receive individual comments, but it is not necessary to mention everybody's name. The importance you be to find a mean in the answers. You secure the anonymity but still you can formulate the most important points. The most important problem is that there is a research because something is going wrong. Researchers need to write it down with respect to all the participants. Also, there is anonymity; sometimes the quotes seem to be anonym, but it could be very clear when there is only one certain person who can be linked to the case. A problem with confidentiality can be that people want to tell you things, but they only want to tell it to you when you can assure them that you will not use the information. This is called zero-information. There is no use for this information. There are a few degrees of confidentiality; the information could be used for background information.
- The fourth point is deception. You can be cheating on the people in your research group. you can tell A to act in a certain way towards B because you want to study B's behavior, meanwhile you want to study A's behavior. The question is if this is ethical.

The Milgram experiment can explain this. People were instructed to operate as teachers. But whenever the pupil made a mistake, the pupil would get an electric shock. The goal of the experiment regarding to the teachers was if the teaching was influenced by the shock. People want to do things to please a researcher and also because they think they pleased a researcher. What happened in the concentration camps happened as well in experimental situations. 2/3 of the teachers in the experiments gave shocks that were so high that they would kill people in real life. The teachers did not know the shocks were high. If this is ethical it should be not of harm to the participants and there is a common goal.

The Stanford Prison Experiment, this was shown in the no harm to participants slide. It is the same as the discussion of if it is ethical to use animals to test the medicine in the pharmaceutical industry. The sample consists of students and at random students were chosen to be prisoner or guards. The goal was to look at what would develop in the prison in a period of two weeks. The experiment went out of control within 5 days. The men in charge wrote a book about the experiment. It was after we learned about the prison in Iraq. There were many similarities. The most important thing they learned was that people want to please other people. Within such a situation like the prison, people start to behave in a certain way. For example, the prisoners that started to behave like prisoners. It also worked for the guards. Only few people are strong to resist the experiment. In this case only one. Also, within organizations this could be a problem.

- The fifth point is analysis and reporting.
- The sixth point is institutional review boards. The seventh point is professional codes of ethics.

---

*Extra notes from the working groups*

---

An authority is someone who is higher in anarchy, and you believe them just because they are a type of person. This can hinder human inquiry because you just assume it is true.

Idiographic: all the reasons that might cause one thing, and after it all makes sense why it happened.

Nomothetic: you are searching for one particular cause for one thing.

Deductive: from a theory, you go to hypothesis, then you go to an observation.

Inductive: from an observation, you go to empirical generalization, then you go to theory

A paradigm is the way you look at things.

A good hypothesis needs a good connection between the two variables.

Structural Functionalism: everything has a role in the society; social entity, function or social system.

Symbolic interactionism: it is more focused on individual, it is about how these individuals interact with the point of common understanding; individual, interaction, common understanding, language.

Social Darwinism: survival of the fittest regarding the social life, it is about dominance. If there are different groups in the society there will be dominance. You want to dominate the others.

Ethnomethodology: methodology of people. We experiment continuously in our social life. There will be some expectations and if the expectations are not what you expect, you will behave another way in the next experience.

Conflict paradigm: it is about conflicts, it is similar to social Darwinism. There are different interests, but you want your interest to be the best. And be dominant.; conflict

Feminine paradigm: if it is about females this will be the paradigm.

A concept is a specific word that refers to something: family etc.

An attribute is part of a bigger thing

An axiom is a fundamental statement that is taken to be true.

There needs to be an observation to provide an explanation.

### Disclaimer

ESV Nijmegen spant zich in om de inhoud van dit materiaal zo vaak mogelijk te actualiseren en/of aan te vullen. Ondanks deze zorg en aandacht is het mogelijk dat inhoud onvolledig en/of onjuist is. Het aangeboden materiaal is het hulpmiddel bij het studeren naast de literatuur die opgegeven is door de docent. De aangeboden materialen worden aangeboden zonder enige vorm van garantie of aanspraak op juistheid.

Alle rechten van intellectuele eigendom betreffende deze materialen liggen bij ESV Nijmegen. Kopiëren, verspreiden en elk ander gebruik van deze materialen is niet toegestaan zonder schriftelijke toestemming van ESV Nijmegen, behoudens en slechts voor zover anders bepaald in regelingen van dwingend recht, tenzij bij specifieke materialen anders aangegeven is.

