

# Research Design and Methodology

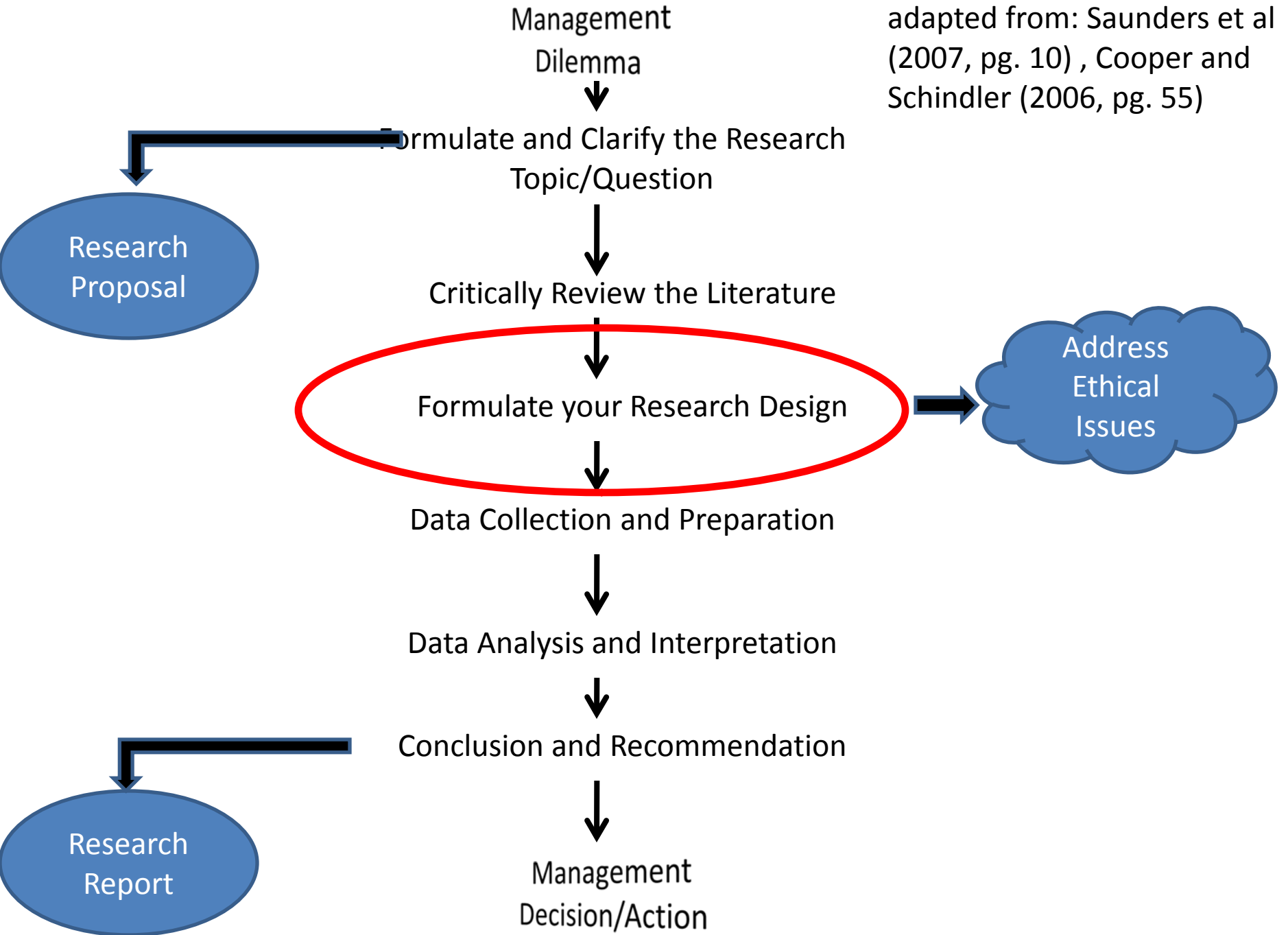
Week 6

# What have we done so far?

- What is Research?
- Clarifying your research
- Literature Review
- Research Paradigm

**what's the next step  
in the research process?**

**The Research Process**  
adapted from: Saunders et al  
(2007, pg. 10) , Cooper and  
Schindler (2006, pg. 55)

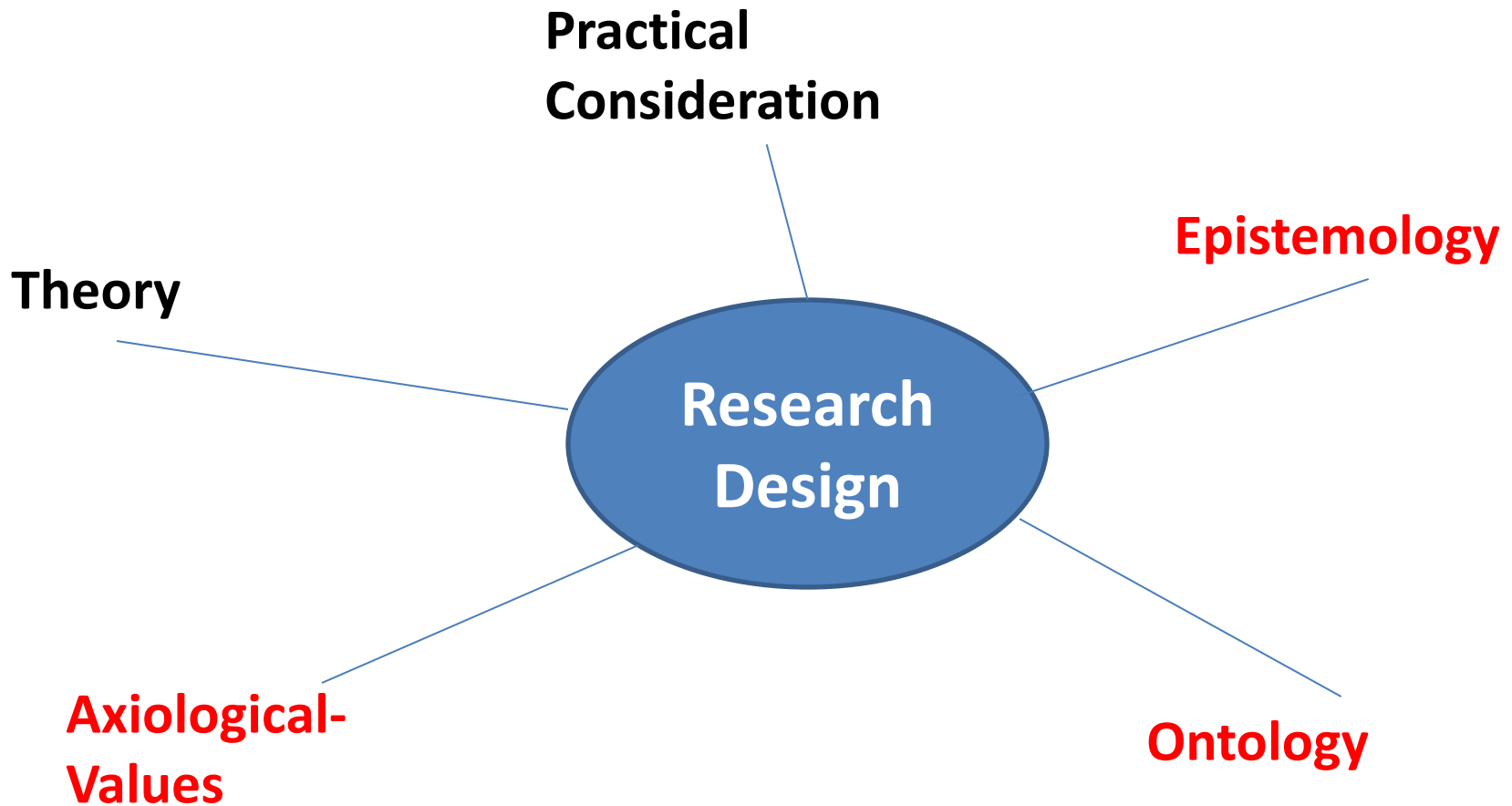


# What is Research Design?

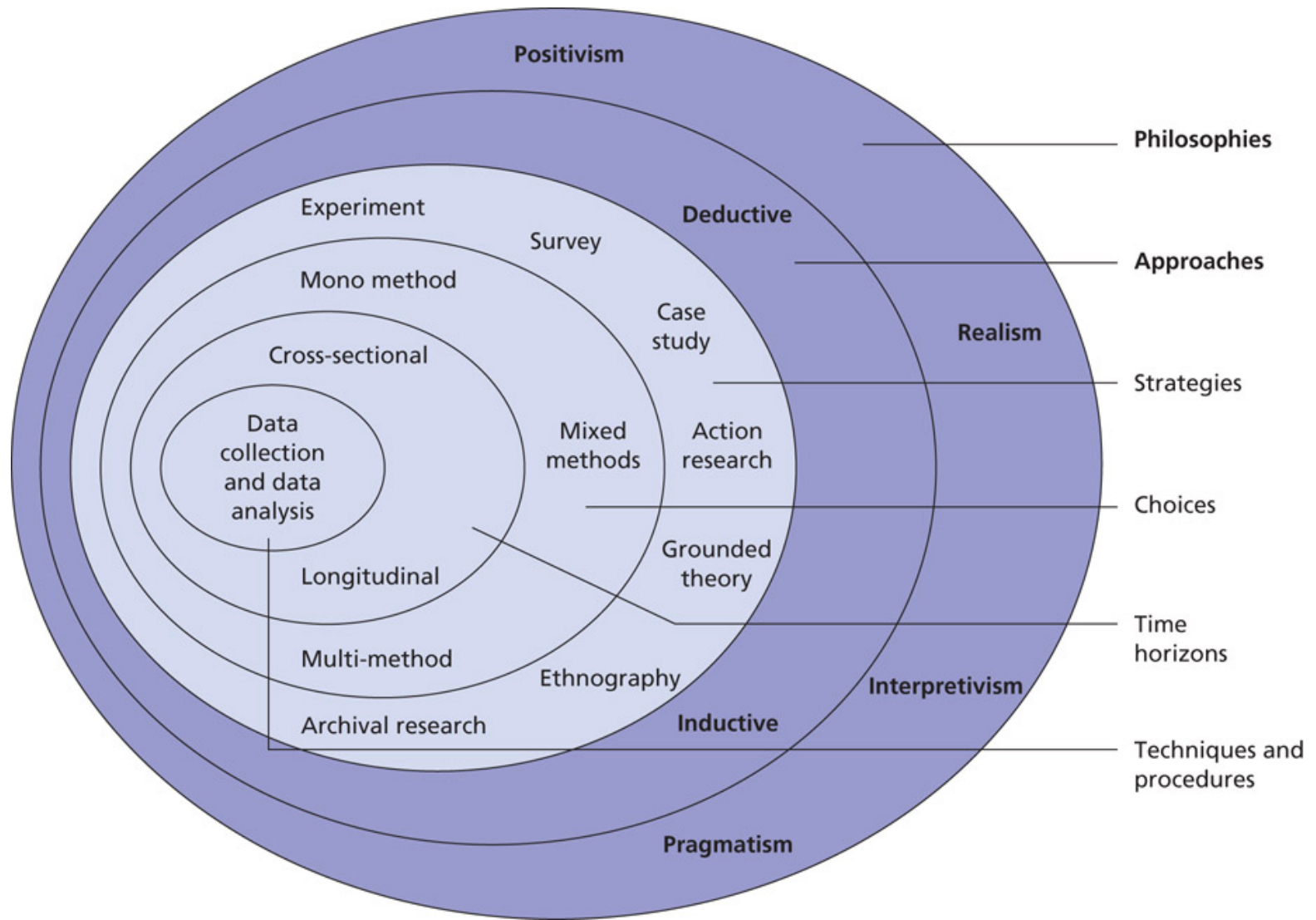
- Research design is the **plan** and the **procedure** for research that span decisions from:
  - Broad assumptions
  - to detailed methods of data collection and analysis
- These decisions must be deliberated by the researcher and based on:
  - the nature of the research problem or issue and
  - The researchers' personal experiences

# Influences on Research Design

Bryman (2008, p.24)



- **Essentially**, the research design answers three key questions:
  1. **What-** are the underlying assumptions,
  2. **How-** you are going to conduct the research, specifically the data collection and analysis and
  3. **Why-** this chosen plan would be best suited for the study. A justification of your choices.



# The Research 'Onion'

Saunders et al (2006)

# Some clarifications on terms

- Some say Research **Paradigm** (Lincoln & Guba 2000) Philosophy (Saunders et al 2007) or even Worldview (Creswell 2009)
- Some use the term Research **Methodology** or Research Strategy
- Some say Research **Methods** or Technique or Procedure



# Key terms-definition

- **Research Paradigm**-describes a cluster of beliefs and dictates what should be studied, how research should be done and how the results should be interpreted. Bryman (2008, p.696)
- **Research Methodology**- to emphasize an overall approach to the research process e.g. Survey or Action Research
- **Research Method**- used to outline a specific research technique or procedure for collecting and analyzing data e.g. Questionnaire or Focus Group

# Purpose of Research Methodology

- This is where you outline the **primary data** and **secondary data** needed for your research
- It is the **core research element** of your project not the literature review
- That is, how you get your data and process it to answer your research question
- This means specifying :
  - what data you need,
  - where or who you will get the data from (your sample frame and sample)

PRIMARY DATA

DATA PROCESSING  
TRANSFORMATION

Interpretation

- Practical details on how you will collect the data, deciding what statistical or other processes you can use on the data
- Deciding how to present the raw and processed data and
- Finally checking that the collected data makes sense with what you intend to do
- In summary think of your research design as a kind of function or transformation that takes your primary data and turns it into your desired project outcome , i.e. the answer to your RQ and objectives

# What does it mean?

- So your Research Methodology will specify the **strategy** that you will apply:
  - in collecting the primary data
  - Transforming that data i.e. processing
  - Presenting and interpreting the results
- The Research Methodology you specify will have a tremendous effect on your research outcome
- One can understand why, if you collect the wrong data, using the wrong method then you will get the wrong result.
- Thus you will not be able to provide any relevant or workable answer for your Research Question
- You must also remember that the Research Paradigm you select underpins the Methodology chosen

# Formulating a Scheme for Answering your Research Question

- The scheme must arise out of the base problem and its cause
- This scheme will provide an **Idea for action**
- Try to think through whether your basic idea for action is about trying to:
  - explore and evaluate,
  - describe and evaluate,
  - understand and evaluate

# Simple Example

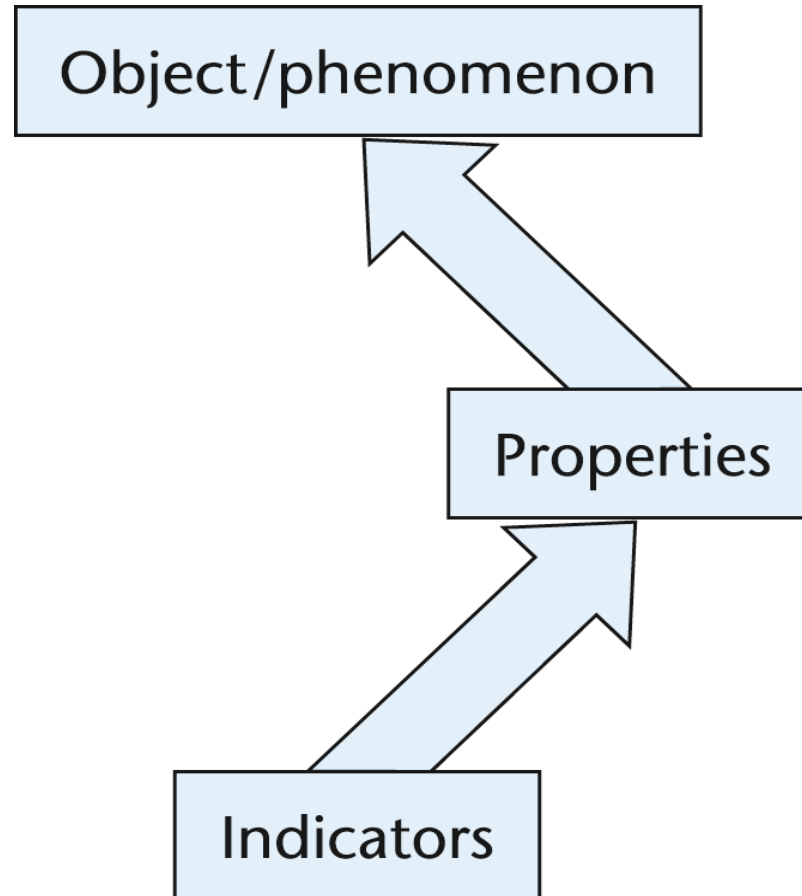
## Scenario:

- Suppose that we were trying to evaluate the website design effectiveness
- What is needed is an idea of HOW to look for the results of the effective website design
- So the first step is to get an idea for action

# Idea settled on:

- So we can look metrics of web usability such as :
  - **Readability**
  - **navigability**
  - **Accessibility**
  - **Website speed etc**
- It might be worthwhile to evaluate a number of websites
- This is the basic idea
- In practice you might try several ideas before you are happy with one
- If you accept the idea you can NOW ask what data is needed
- Without the idea for action it would be just guessing what the data might be required

# Getting your Idea for Action





# Time Horizon for your Research

- Saunders et al (2009) articulates that time taken to research the phenomena is independent of which research methodology you have chosen or choice of research technique/method
- There are two possible options:
  - Cross Sectional Studies
  - Longitudinal Studies

# Cross Sectional Studies

- These are designed to obtain information on variables in different context, but at the same time
- Normally, different organizations or groups of people are selected and a study conducted to ascertain how factors differ
- So it means, collecting data on more than one case at a single point of time. Bryman (2007, p.44)
- For example, if you are investigating labour turnover
- You will need to select a sample of work groups where you know that labour turnover is different
- You can then conduct statistical test to find out whether there is any correlation between variables

- Cross sectional studies are conducted when there are constraints of time or resources
- The data is collected once, over a short period of time before it is analyzed and interpreted
- Thus cross sectional studies take a **snapshot** of an on going situation

# Longitudinal Studies

- It is a study over time, of a variable or group of subjects
- The aim is to research the dynamics of the problem
- This is done by investigating the same situation or people several time or continuously, over the period in which the problem runs its course
- Repeated observations are taken with the view to revealing the relative stability of the phenomena

- This will allow the researcher to examine change processes
- Therefore, it would be likely to suggest probable explanations from an examination of the process of change and pattern which emerge

# Surveys Methodology

- Typically indicated when the research question starts with 'who', 'what', 'where', 'how' many' and 'how much
- It is therefore used for exploratory and descriptive research
- This strategy provides a **quantitative** or numeric description of trends, attitudes or opinions
- This leads to general inferences about a population from a **sample** of the population

- The results will be very dependant on having a big enough and unbiased representative sample
- You will have to use statistical techniques to demonstrate the likelihood that the sample would be characteristic of the population
- You will have to specify the characteristics of the population and the sampling procedure and calculate the sample size
- This is important because you would be making a set of generalized statements from your findings

- You will have to name the survey instruments used to collect data
- Critical to this strategy is the use of statistical processes to analyze the data collected
- Usually you can make use of readily available software tools such as SPSS or even MS Excel
- Indicative of a survey, is that the data you collect and analyze will be independent i.e. you have done it, not others



- Surveys can be done using Cross Sectional or Longitudinal studies
  - i.e. data collected at one point or
  - Data collected over time
- Data collection protocol or techniques can be wide ranging
  - Questionnaires
  - Interviews
  - Observations
  - Structured Record Reviews

# Action Research

- Typically indicated as useful when the research question starts with 'how'
- It is an approach which assumes the social world is constantly changing and the researcher and the research itself are part of this change
- It is usual to conduct action research within a single organization

- The research is concerned about the resolution of a business issue
- There is a desire by the researcher to explain something and use that explanation to improve practice
- That is, bringing about change in a partly controlled environment (your organization or workplace)
- This requires the researcher to partner, collaborate and get involved with the client organization or practitioners

- Therefore, the researcher is part of the organization where the research and change process is taking place
- **Be careful some action research may not be very far from a consultancy project or journalism**
- We do not want journalism at this level!
- Stay away from political issues, social issues that you can just write 2000 words on, to solve a trivial problem

- It is critical that the results of action research have implications beyond the direct subject i.e. your organization
- In other words, the outcome of your research must be capable of being applied to other organizations or perhaps the industry as a whole or even other industries

# Case Studies

- Typically useful when research question starts with 'Why', 'What' and 'How'
- Case studies are commonly used to illustrate or understand a problem or indicate good practice
- Therefore, Case Studies are often used in Explanatory and Exploratory research
- It is an extensive examination of a single instance of a phenomenon of interest

- It focuses on understanding the dynamics present within a single setting, i.e. the context
- Case study research must be constructed to the context in which management behaviour takes place
- For most case studies there is usually be a longitudinal element
  - that is the cases will run over a fixed time period
  - and you will periodically visit each case to collect the data
- Case Study research can produce both quantitative and qualitative data

# Organizing your Case

- **How many cases** – be practical because there are time limits
- **Case Criteria** - add as many criteria as you think necessary to pin down what will constitute a valid context but don't have so many that you will never find a case that fits
- **Sample criteria** – add as many criteria as you need to pin down a particular point from where data can be obtained and the sample size
- **Visit Frequency** - each case must be visited to get the data so work this out by looking at how much total time is available for the study
- **Data collection Protocol** – combination of observation, interview, document analysis. You will have to have a protocol to say when a valid sample size is attained



# How many Cases or Types?

- **Single Case-** in this approach the researcher explores a single unit of analysis, i.e.
  - A company
  - A group of workers
  - An event
  - A process
- Single Case can be:
  - **Unique:** implying that the setting and context are extremely rare and there may no be another chance to study this problem area again
  - **Critical:** implies an important theory that you want to test or a problem you want to solve and a particular case fits that profile

- **Multiple Cases-**

- it means exploring more than one unit of analysis
- these may be desired over single case, in particular when you want to postulate a *theoretical generalization* between different units of analysis

# Main Stages of Case Study Research

- 1. Selecting your Case-** a representative case or a set of cases
- 2. Preliminary Investigations-** the process of becoming familiar with the context, however keep your mind free of any bias
- 3. The Data Stage-** determine how, where and when to collect data. Best to combine methods, known as *Triangulation*

## 4. The Analysis Stage-

- the analysis can be **Holistic** i.e. the entire case or **Embedded** i.e. a specific aspect of the case
- Through data collection a detailed description of the case emerges
- The researcher might focus on a few key issues i.e. **analysis of themes**

# For Multiple Cases:

- Within-case analysis : here you would be building up descriptions whether quantitative or qualitative of one or each case, so that you can identify trends, patterns with the hope of pinning down a theory or phenomena
- Cross-case analysis : here you may wish to identify:
  - **similarities**, which would help to show whether your theory can be generalized or
  - **differences**, which would help to extend or modify any theory.
  - Essentially, both will help you identify some common patterns

# Useful Links

- University of Chicago  
<http://www.norc.org/projects/General+Social+Survey.htm>
- University of Surrey  
<http://sru.soc.surrey.ac.uk/>
- British Panel Household Survey  
<http://www.iser.essex.ac.uk/survey/bhps>
- Social Research Methods  
<http://socialresearchmethods.net/>

# Next Week

- Research Techniques
  - Data collection
    - Questionnaires
    - Interviews
    - Observation
    - Focus Groups
  - Data Analysis
    - Analyzing Quantitative Data
    - Analyzing Qualitative Data

# Bibliography

- Collis. J., Hussey R (2003) Business Research 2<sup>nd</sup> edition, Palgarve Macmillan
- Saunders, M., Lewis, P., Thornhill, A. (2009) Research Methods for Business Students, 5<sup>th</sup> edition, Prentice Hall
- Creswell. J.W., (2009) Research Design, Qualitative, Quantitative and Mixed Method Approaches, 3<sup>rd</sup> Edition, Sage Publications Inc.
- Creswell.J.W., (2007) Qualitative Inquiry & Research Design, Choosing Among Five Approaches, 2<sup>nd</sup> Edition, Sage Publications Inc.
- Cooper, D.R., Schindler, P.S. (2006) Business Research Methods, McGraw-Hill