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
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)

Practical Consideration

Theory

Axiological-Values

Epistemology

Ontology

Research Design
• **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’

Some clarifications on terms

• Some say Research **Paradigm** (Lincoln & Guba 2000) **Philosophy** (Saunder 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).
• 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 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

Object/phenomenon

Properties

Indicators
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 ongoing 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