Research Methods
for Business and Social Sciences

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Contents

Sources

Presentations are based on materials from Saunders M., Lewis P., Thonhill A., “Research Methods for Business Students” (2016), as well as other authors listed in the content and personal experiences

Part 1

Formulating and clarifying the research topic

Formulating and clarifying the Research topic

Important steps

- Identifying the attributes of a good research topic
- Generating ideas that help you select a suitable topic
- Turning ideas into clear research questions and objectives
- Writing your research proposal

Attributes of a good research topic (1)

Capability: Is it feasible?

- Are you fascinated by the topic?
- Do you have the necessary research skills?
  - Theoretical background, Academic writing skills
  - Knowledge of English language
  - Relevant tools (e.g. statistical software)
  - Project management
- Can you complete the project in the time available?
- Will the research still be current when you finish?
- Do you have sufficient financial and other resources?
- Will you be able to gain access to data?
  - Sometimes access to data is difficult. Permissions / Regulations / fees

Attributes of a good research topic (2)

Appropriateness: Is it worthwhile?

- Will the examining institute's standards be met?
- Does the topic contain issues with clear links to theory?
  - It may require further study in theory?
- Will the proposed research provide fresh insights into the topic?
- Are the findings likely to be symmetrical (similar value whatever the outcome)?
- Does the research topic match your career goals?
  - See it as an opportunity to advance your career

Attributes of a good research topic (3)

and - (if relevant)

Does the topic relate clearly to an idea you were given -

possibly by your organisation ?

Generating research ideas

Useful Techniques

Rational thinking

Creative thinking

Searching the literature
Articles, reports, books
conference proceedings

Scanning the media
e.g. "most of workers
feel overqualified"

Brainstorming

Relevance Trees

Exploring past thesis
Select 6 you like and 3 you don't like
Write what is appealing or not, Why is good/bad

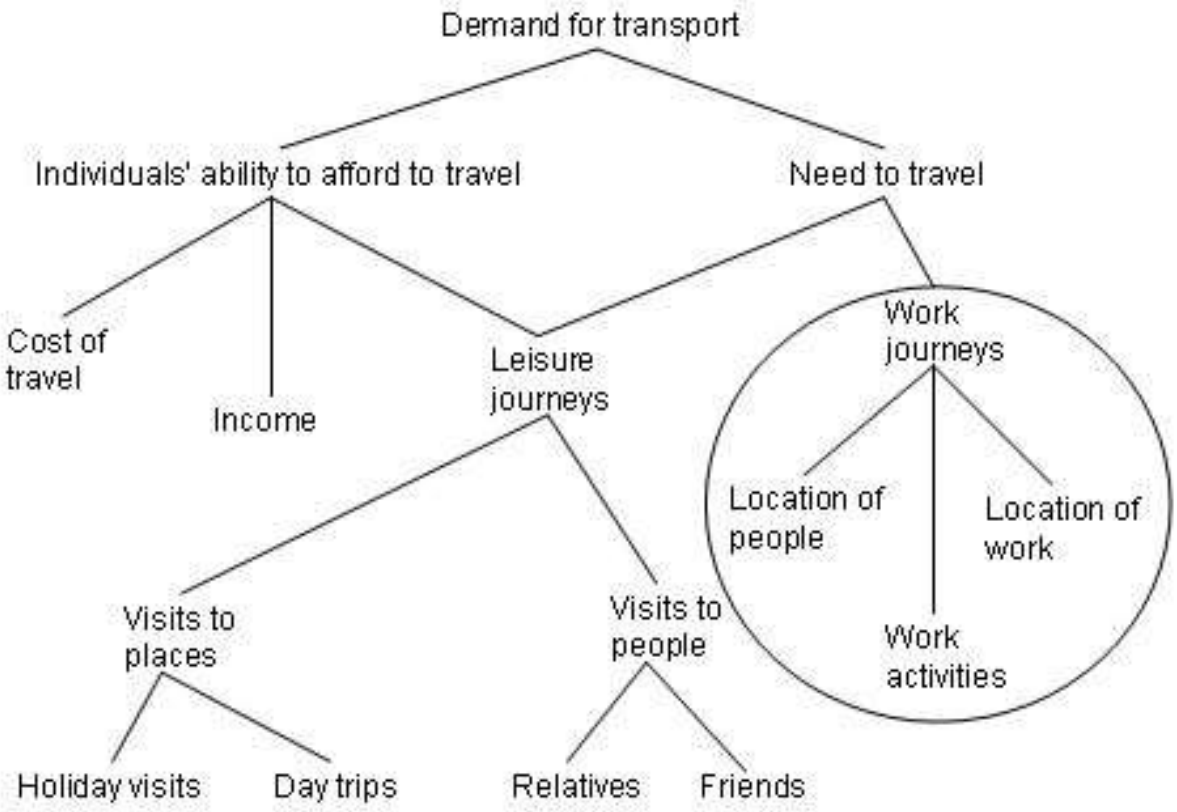
Discussions

Keeping a notebook of ideas

Relevance trees

Example

A relevance tree allows you to map out your initial ideas on a topic, in this case ‘demand for transport’, and think through various sub-topics in order to help you identify a specific area to research.



Refining research ideas

- Using the Delphi Technique
  with people who are involved or interested in research idea
- Conducting a preliminary study
  - Literature
  - Get greater understanding
- Continually testing out your ideas
- Integrating ideas
  - Get a clear direction
  - Can you express your research questions clearly?
- Refining topics given to you by your organisation

Writing research questions

Write research questions that are

- Consistent with expected standards
- Able to produce clear conclusions
- At the right level (not too difficult)
- Not too descriptive
- Use the 'Goldilocks Test'

  Decide if research questions are too big (demand too many sources), too small (insufficient substance), too hot (sensitivities aroused as a result of doing the research), or just right for investigation at this time by this researcher in this setting.

Clough and Nutbrown (2002)

Turning ideas into research projects (1)

Examples of research ideas and their derived focus questions

Research idea	General focus research questions
Advertising and share prices	How does the running of a TV advertising campaign designed to boost the image of a company affect its share price?
Job recruitment via the Internet	How effective is recruiting for new staff via the Internet in comparison with traditional methods?

The use of Internet Banking

?????
?????

Saunders, et al. Business Research Methods

Turning ideas into research projects (2)

Useful techniques

- Start with a general focus question
- Use the 'Russian Doll' principle to reach the essence of the question
- Discuss areas of interest with your tutor

You are interested in doing research on the interaction between Business organizations and Technical Schools

- Think about some research questions that may be appropriate

Turning ideas into research projects (3)

Writing clear research objectives

- Check your examining body's preferences for stated objectives

- Use a general focus question to achieve precise objectives

Saunders *et al*. (2009)

Turning ideas into research projects (3)

Research Questions and Research Objectives

Research Question	Research Objective
Why have organizations introduced team briefing?	To identify organizations' objectives for team briefing schemes
How can the effectiveness of team briefing schemes be measured?	To establish suitable effectiveness criteria for team briefing schemes
How can the effectiveness of team briefing be explained?	To determine the factors associated with the effectiveness criteria for team briefing being met To estimate whether some of those factors are more influential than others

Saunders *et al*. (2009)

Turning ideas into research projects (4)

Include SMART Personal objectives

S pecific	*What precisely you want to achieve*
M easurable	*What measures you use to determine whether you achieved it*
A chievable	*Is it achievable given all constraints*
R ealistic	*Given all other demands upon your time, can you still have time and energy to achieve it*
T imely	*Can you complete the research within the allowed time framework?*

The importance of theory

- Asking for opinions and gathering facts – 'what' questions (descriptive research)
- Using questions that go beyond description and require analysis – 'why' questions

Phillips and Pugh (2005)

In order to:

Explain phenomena

Analyse relationships

Predict outcomes

Compare and generalise

Theory is not *References, Data, Lists of variables, Diagrams, Hypotheses and predictions*

But *a formulation regarding cause and effect relationships*

Theory vs. Intelligence gathering

- In research the importance of theory must be recognized and made explicit.
- The purpose of examining relationships between two or more variables is to explain and predict the relationship

  For example, employee opinion surveys

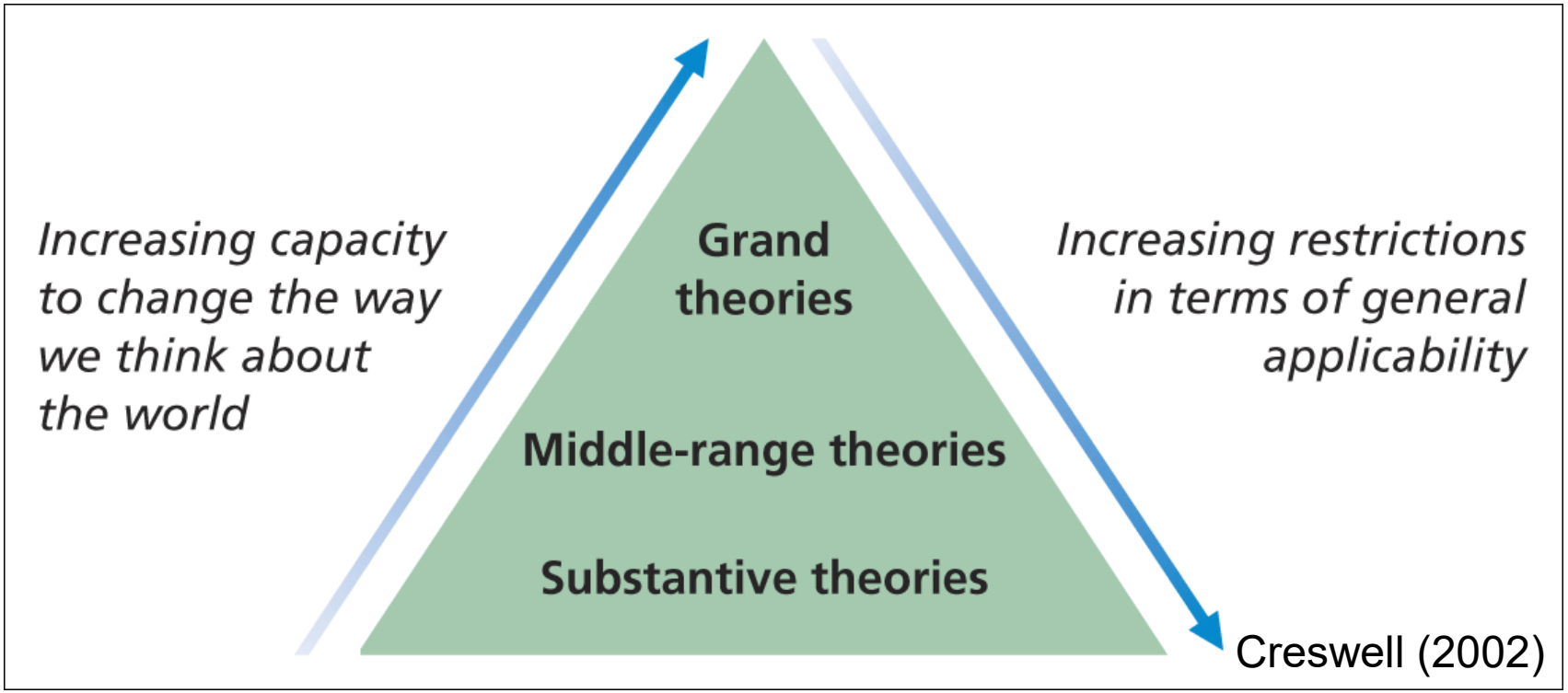
  much research yields ambiguous conclusions because they ask questions which reveal the state of affairs as it is.

  What they do not ask is questions which help those who use the research results to draw meaningful conclusions as to why the state of affairs is it is

- Radio with no knobs

Threefold typology of theories

Grand, middle range and substantive theories



- A clear theoretical position is developed prior to collection of data (deductive approach) – not always the case
- Developing theory after the data have been collected (inductive approach)

Writing your research proposal

Purposes of the research proposal

- To organise your ideas
- To convince your audience
- To contract with your client (your tutor)
- To meet ethical requirements

Content of your research proposal (1)

- Title - likely to change during the process
- Background - context within the literature
- Research questions and objectives - what you seek to achieve

Content of your research proposal (2)

- **Method -** can be in two parts: research design and data collection
- **Timescale and Resources -** (finance, data access, equipment)
- **References -** include key literature sources

Evaluating research proposals

- How the components of the proposal fit together
- Viability of the proposal
- Absence of preconceived ideas

Discussion

1. What is your proposed research topic?
2. Which of the attributes of those discussed, does your topic possess?
3. What research questions are suggested by your research topic?
4. What research objectives are suggested by your research topic?
5. To what literature does your research topic relate?
6. What are the key dependent and independent variables in your proposed study?
7. What relationship between the dependent and independent variables do you think (or expect) you will find?

Summary: The best research topics

- Formulate and clarify the topic
- Meet the requirements of the examining body
- Use a variety of techniques when generating research ideas
- Are focused on clear questions based on relevant literature
- Are theory dependent
- Have a proposal containing organised ideas

Tell the reader:

- What will be done and why
- How it will be achieved

Part 2

Critically reviewing the literature

Reasons for reviewing the literature

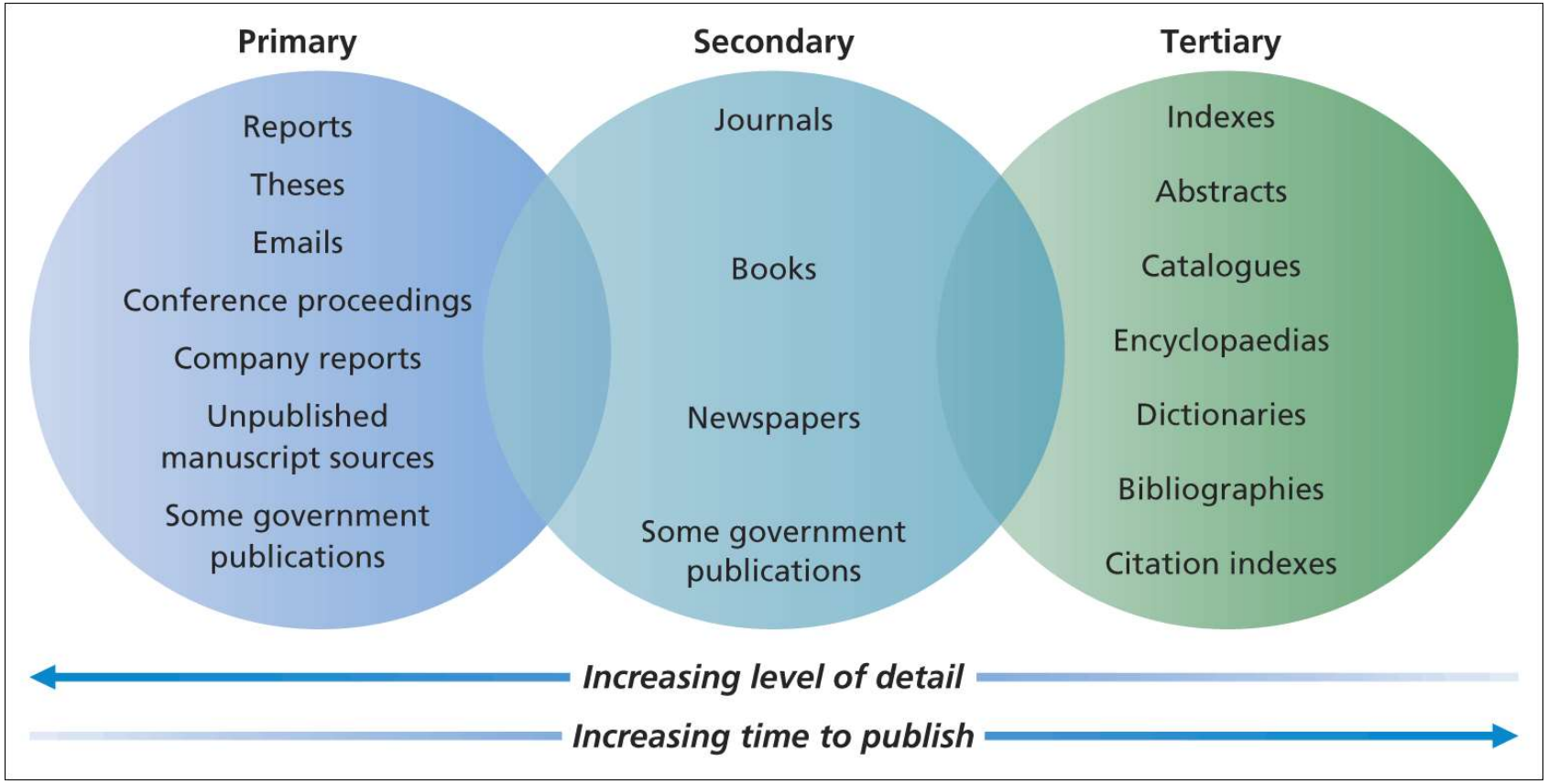
- To conduct a ‘preliminary’ search of existing material
- To organise valuable ideas and findings
- To identify other research that may be in progress
- To generate research ideas
- To develop a critical perspective

Categories of Literature Sources

- Primary (published and unpublished)
  - *Reports, thesis, conference proceedings, company reports, government publications*, etc. (Grey literature)
- Secondary
  - Journals, books, newspapers, some government publications
- Tertiary (help locating primary and secondary)
  - Search tools (indexes, abstracts, catalogues, citation indices, etc.)

Literature sources available

Literature sources available

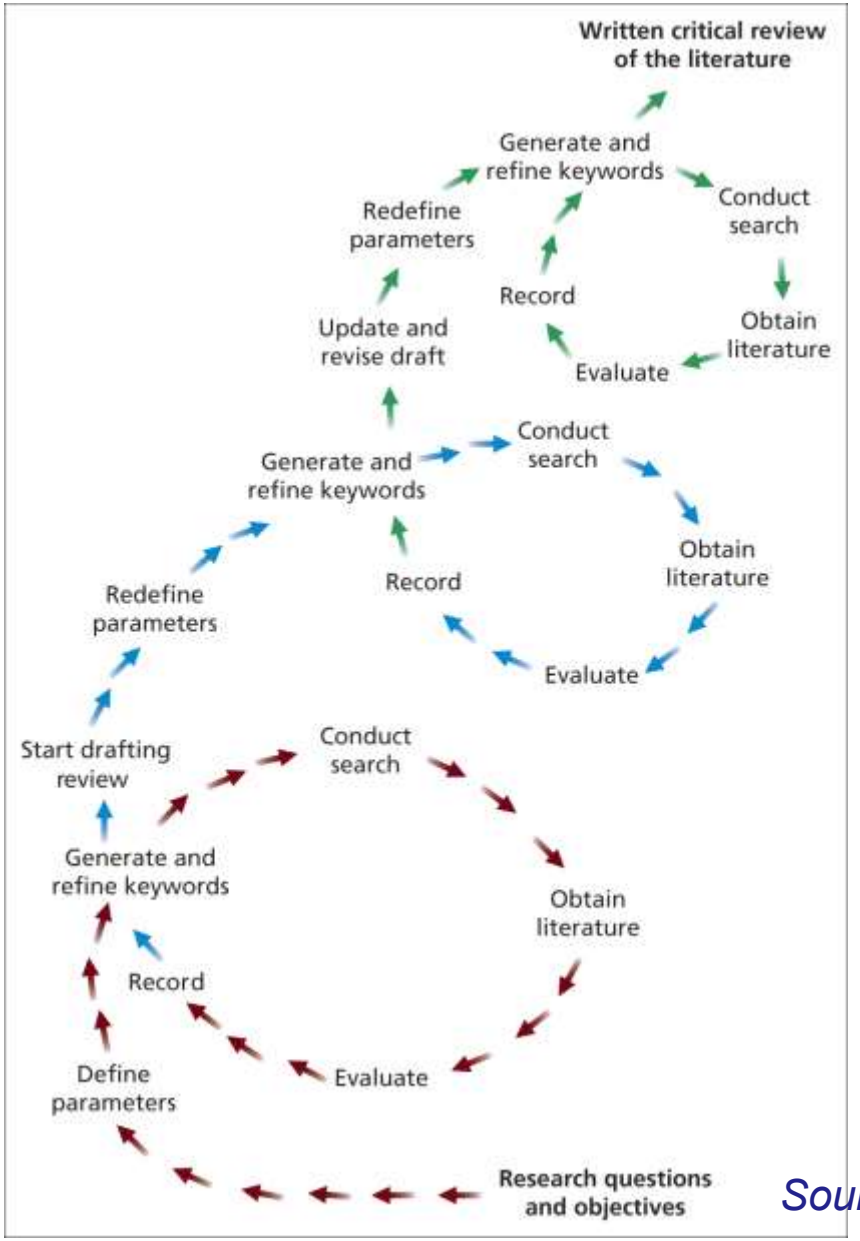


Saunders *et al*. (2009)

Planning your literature search strategy

- Define a research strategy (discuss it with your supervisor)
- Parameters
  - Language, Subject area, Business sector, Geographical area, Publication period, Literature type
- Key words and search items
  - Basic terms that describe research questions.
    - Will help searching tertiary literature
  - Discussion, initial readings, brainstorming, relevance trees

The literature review process



Source: Saunders et al. (2003)

The Critical Review (1)

Distinguish between Approaches used

Inductive -

Explores the data to develop theories which are then tested against the literature

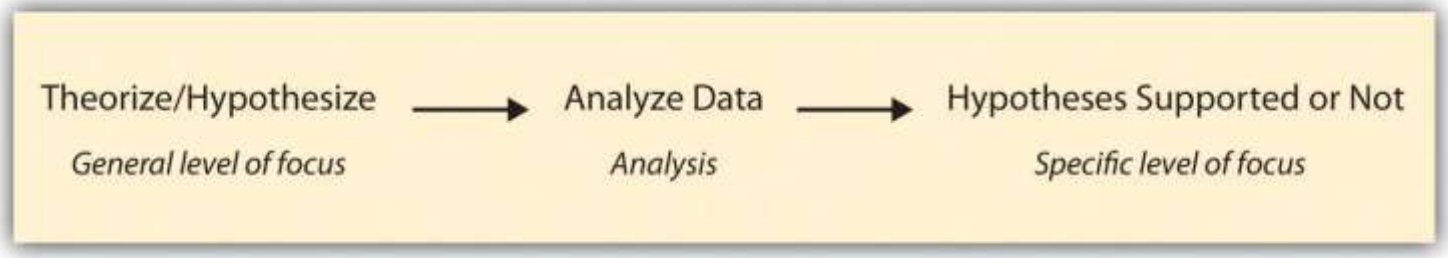
Impossible to collect every single piece of literature before starting data collection.
Review most relevant and significant research
New findings, new theories will emerge

The Critical Review (1)

Distinguish between Approaches used

Deductive -

Develops a conceptual framework from the literature which is then tested using the data



Develop a theoretical and conceptual framework, which you subsequently test using data

The Critical Review (2)

Key purposes

- To further refine research questions and objectives
- Highlight research possibilities that have been overlooked by other researchers
- To discover recommendations for further research
- To avoid repeating work already undertaken
- Gaining insight into aspects of research questions and objectives that considered newsworthy
  - Current opinions in newspapers, professional and trade journals.
- To provide insights into strategies and techniques appropriate to your research objectives

Based on Gall *et al*. (2006)

Adopting a critical perspective (1)

Skills for effective reading

- Previewing *looking around the text before reading to establish its purpose and how it may help in your literature review*
- Annotating *conducting a dialog with yourself, the author and the issues and ideas at stake*
  Replace highlighter with pencil / mark up margins with words(ideas, notes, reminders) that connect to your research objectives / Develop your own symbol system / Get in the habit of hearing yourself asking questions https://guides.library.harvard.edu/sixreadinghabits
- Summarising *stating in your own words*
- Comparing and contrasting *how your thinking has been altered, how it has affected your response to issues and themes of research*

Adopting a critical perspective (2)

What is critical reading?

- Capacity to **evaluate** what you read
- Capacity to **relate** what you read to other information

Critical questions in reading

- Why am I reading this?
  Stick to the purpose of reading and not get side-tracked too much by the author's agenda
- What is the author trying to do in writing this?
  Helps in deciding how valuable the writing maybe for your purposes
- What is the writer saying that is relevant to what I want to find out?
- How convincing is this?
  Is the argument based on a conclusion which is justified by evidence
- What use can I make of this reading?

Wallace and Wray (2006)

Content of the critical review

You will need to

- Include key academic theories within your area of research
- Demonstrate current knowledge of the area
- Use clear referencing for the reader to find the original cited publications
- Acknowledge the research of others

Is your literature review critical?

Evaluating the content

- Have you ensured that the literature covered relates clearly to your research questions & objectives
- Have you covered the most relevant and significant theories and recognized experts in the area?
- Have you covered the most relevant and significant literature or at least a representative sample?
- Have you included up-to-date literature?
- Have you referenced all the literature used in the appropriate format?

Saunders *et al*. (2009)

Is your literature review critical? (1)

Evaluating whether the review is critical

- Have you shown that research questions are related to review?
- Have you assessed strengths and weakness of previous research?
- Have you been objective in your discussion and assessment of previous research?
- Have you included references that is counter to your opinion?
- Have you made reasoned judgement about the value and relevance of other research

Saunders *et al*. (2009)

Is your literature review critical? (2)

Evaluating whether the review is critical

- Have you justify clearly your own ideas?
- Have you highlighted those areas where your research is needed to provide fresh ideas?
  - Inconsistencies in current knowledge and understanding
  - Omissions or bias in published research
  - Research findings need to be further tested
  - Evidence is lacking, inconclusive, contradictory or limited
- Have you justified your arguments by referencing correctly published research

Saunders *et al*. (2009)

The key to a critical literature review

- Demonstrate that you have read, understood and evaluated your material
- Link the different ideas to form a cohesive and coherent argument
- Make clear connections to your research objectives and the subsequent empirical material

Structure of the literature review

Three common structures

- A single chapter
- A series of chapters
- Throughout the report

Caution

- Avoid to produce a list of uncritical listing of previous research
- Need to contrast different author's ideas and form your own opinion and conclusions
- Start drafting early. Can update and revise as you reading more

Evaluating the structure of literature review

- Does your literature review have a **clear title** which describes the focus of your research rather than just saying “literature review”?
- Have you explained precisely how you searched the literature and the **criteria used to select those studies** included?
- Does your review start a **general level before narrowing down**?
- Is your literature review **organized thematically** around the areas contained in the research being reviewed, rather than the researchers?
- Are your **arguments coherent and cohesive** - do your ideas link in a way that will be logical to reader?
- Have you **used sub-headings** within the literature review?
- Does the way you have structured your literature **review draw your reader’s attention** to those issues which are going to be the focus of your research
- Does your literature review **lead your reader into subsequent sections** of your thesis

Recording the literature

Make notes for each item you read

- Bibliographic details
  - According to referencing style required
  - Enable anyone to access the information
- Brief summary of content
- Supplementary information
  - Quotation / Source / Tertiary resource used / Comments / Date for internet sources) / Filename

Sharp *et al*. *(2002)*

Tools for literature management

To access, organize, read, cite and share scholarly research

- *EndNote*
- *RefWorks*
- *Papers*
- *Mind Map software*
- *Unpaywall (Firefox plugin)*
- *Zotero (Android app, desktop program, or Firefox plugin)*

Evaluating the literature

- How do I know what I am reading is relevant?
- How do I know when I have read enough?
- Define the scope of your review
  - For some questions the is no so much closely related literature – review more broadly
- Assess relevance and value
  - How recent? / Are any references to this item? / research question-objectives close to yours / Item supports or contradict your argument *(either way include it)*
  - Biased / methodological omissions / Sufficient precision / guidance for future research
- Assess sufficiency
  - When further searches do not provide new references

Plagiarism

Four common forms

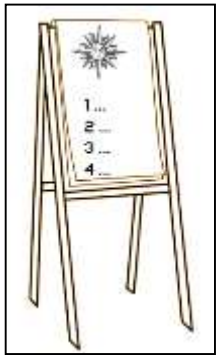
- Stealing material from another source
- Submitting material written by another
- Copying material without quotation marks
- Paraphrasing material without documentation

Adapted from Park (2003), cited in Easterby-Smith *et al*. (2008)

Key words – Relevant literature

Brainstorming on the following research questions

Finding key words, literature…



- How effective is profit related pay as a motivator?
- How do opportunities available to a first-time house buyer through interpersonal discussion influence the process of selecting a financial institution for the purposes applying for a house purchase loan?
- To what extent go new methods of direct selling of financial services pose a threat to existing providers?

Summary: Part 2

The critical literature review

- Sets the research in context
- Leads the reader into later sections of the report
- Begins at a general level and narrows to specific topics

A literature search requires

- Three main categories of sources
- Clearly defined research questions and objectives
- Defined parameters
- Use of techniques – (brainstorming and relevance trees)

Part 3

Formulating the research design

Understanding your research philosophy

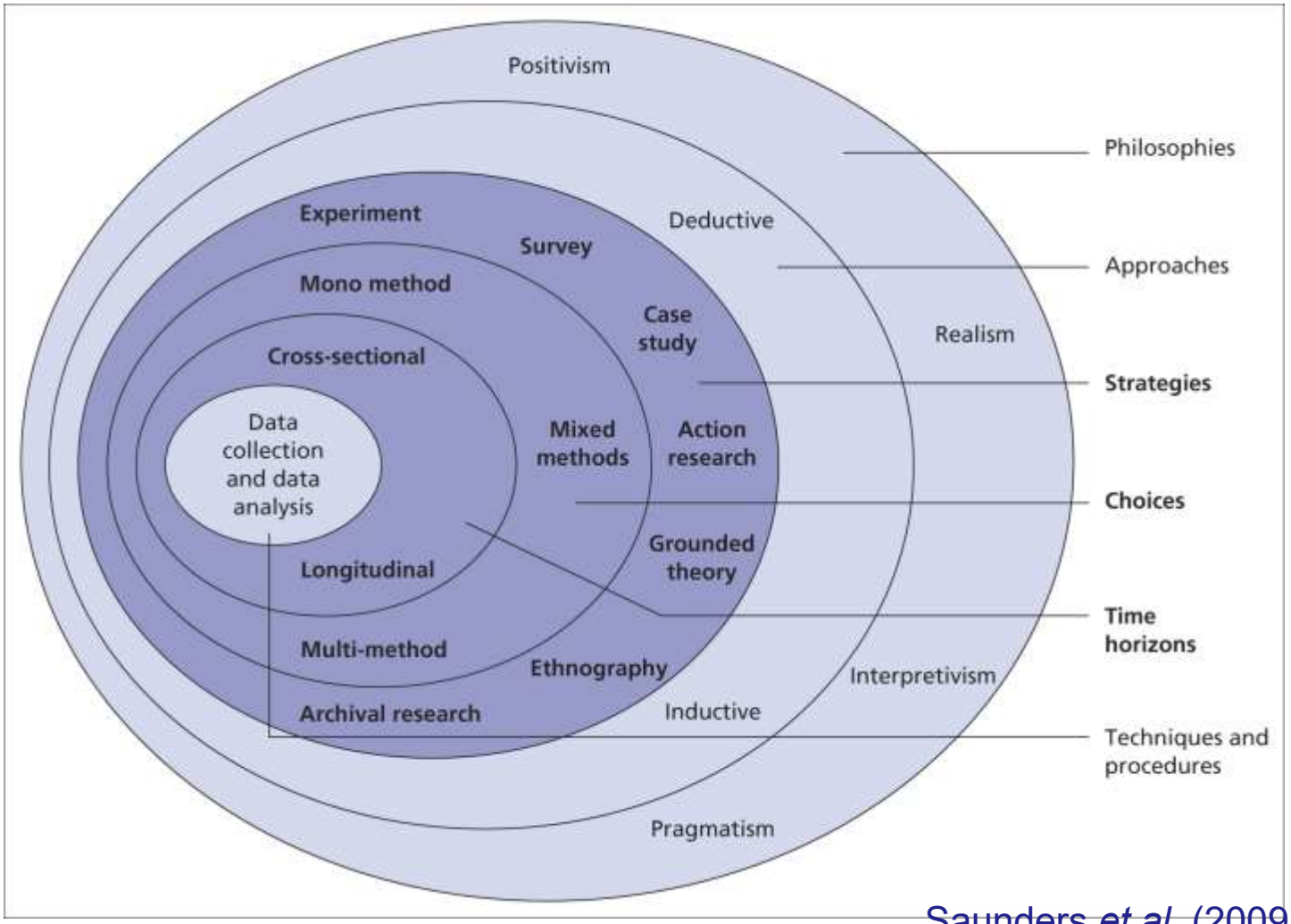
'Research philosophy is an over-arching term relating to the development of knowledge and the nature of that knowledge'

- This is what exactly what you are doing when embarking on doctoral studies.
  Perhaps not as dramatic as the theory of Human Motivation

Adapted from Saunders *et al*, (2009)

Research Philosophy, Design and Tactics

The research onion



Saunders *et al*, (2009)

Research philosophies (1)

Positivism

- Working with an observable social reality and the product of such research can be law-like generalizations

Example

Theoretical proposition: Increased costs may negate the productivity gains from home working

Specific Hypotheses:

i. Increased costs for computer hardware, software will negate productivity gains from home working

ii. Home workers will require additional support from on-site employees (e.g. technicians) which will negate productivity gains from home working

iii. Work displaced to other employees and increased supervisory requirements will negate productivity gains from home working

iv. Reduced face to face access by home workers to colleagues will result in lost opportunities to increase efficiency which will negate productivity gains from home working

Research philosophies (2)

Realism

- Relies on the idea of independence of reality from the human mind. This philosophy is based on the assumption of a scientific approach to the development of knowledge
- Direct realism, (also known as naive realism)
  - "what you see is what you get". Portrays the world through personal human senses. In business context, the world operates at one level: the individual, the group, the organization (observed directly)
- Critical realism
  - According to critical realism, sensations and images of the real world can be deceptive and they usually do not portray the real world. In business context critical realism will look into interaction of three levels (what we don't observe directly)

Research philosophies (3)

Interpetivism

- Rich insights into a complex world are lost if such complexity is reduced entirely into law-like generalization
- It is necessary for the researcher to understand differences between humans as social actors
  - Actors play a part and interpret it in way that could be their own or the director's
  - The researcher has to adopt an empathetic attitude
  - Could be highly appropriate in the case of business and management research, especially in areas like organizational behaviour, marketing, human resource management. Business situations are complex and unique most times.

Research philosophies (4)

Pragmatism

- Thinking about solving problems in a practical and sensible way, rather than by having fixed ideas and theories (*oxford dictionary*)

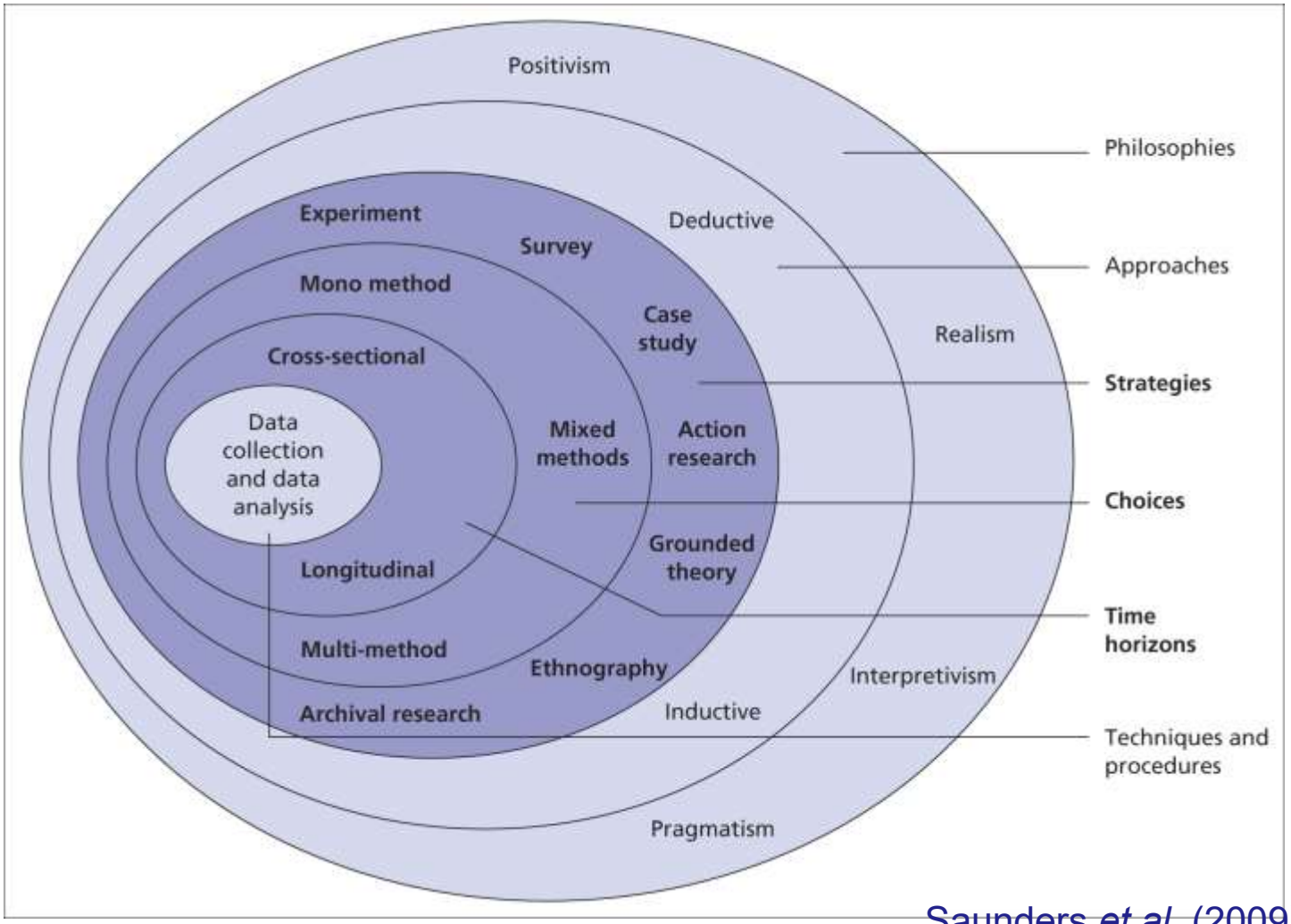
  *The word **pragmatism is derived from** the Greek pragma ("action," or "affair"). The Greek historian Polybius (died 118 bc) called his writings "**pragmatic**," meaning thereby that they **were** intended to be instructive and useful to his readers.*

- The most important determinant of the epistemology, ontology, and axiology you adopt is the research question

  ***John Dewey** was a leading proponent of the American school of thought known as **pragmatism**, a view that rejected the dualistic epistemology and metaphysics of modern philosophy in favor of a naturalistic approach that viewed knowledge as arising from an active adaptation of the human organism to its environment.*

Research Philosophy, Design and Tactics

The research onion



Saunders *et al*, (2009)

Research Approaches (1)

Induction

Building theory by –

- Understanding the way humans build their world
- Permitting alternative explanations of what's going on
- Being concerned with the context of events
- Using more qualitative data
- Using a variety of data collection methods

Inductive Research Approach (2)

When there is little to no existing literature on a topic, it is common to perform inductive research because there is no theory to test. The inductive approach consists of three stages:

1. **Observation**
   - A low-cost airline flight is delayed
   - Dogs A and B have fleas
   - Elephants depend on water to exist
2. **Observe a pattern**
   - Another 20 flights from low-cost airlines are delayed
   - All observed dogs have fleas
   - All observed animals depend on water to exist
3. **Develop a theory**
   - Low cost airlines always have delays
   - All dogs have fleas
   - All biological life depends on water to exist

Limitations: A conclusion drawn on the basis of an inductive method can never be proven, but it can be invalidated.

Research Approaches (3)

Deduction

5 sequential stages of testing theory

i. Deducing a hypothesis
ii. Expressing the hypothesis operationally
iii. Testing the operational hypothesis
iv. Examining the specific outcome of the enquiry
v. Modifying the theory (if necessary)

Adapted from Robson (2002)

Research Approaches (4)

Characteristics of Deduction

- Explaining causal relationships between variables
- Establishing controls for testing hypotheses
- Independence of the researcher
- Concepts operationalised for quantative measurement
- Generalisation

Deductive Research Approach (5)

In deductive research, you always start with a theory. Reasoning deductively means testing these theories. If there is no theory yet, you cannot conduct deductive research.

1. **Start with an existing theory**
   - Low cost airlines always have delays
   - All dogs have fleas
   - All biological life depends on water to exist
2. **Formulate a hypothesis based on existing theory**
   - If passengers fly with a low cost airline, then they will always experience delays
   - All pet dogs in my apartment building have fleas
   - All land mammals depend on water to exist
3. **Collect data to test the hypothesis**
   - Collect flight data of low-cost airlines
   - Test all dogs in the building for fleas
   - Study all land mammal species to see if they depend on water
4. **Analyse the results: does the data reject or support the hypothesis?**
   - 5 out of 100 flights of low-cost airlines are not delayed = reject hypothesis
   - 10 out of 20 dogs didn't have fleas = reject hypothesis
   - All land mammal species depend on water = support hypothesis

Limitations: Conclusion of deductive reasoning can only be true if all the premises set in inductive study are true

Choosing your research approach

The right choice of approach helps you to

- Make a more informed decision about the research design
- Think about which strategies will work for your research topic
- Adapt your design to cater for any constraints

Adapted from Easterby-Smith *et al*. (2008)

Combining research approaches

Things worth considering

- The nature of the research topic
- The time available
- The extent of risk
- The research audience

Deductive and Inductive research

Major differences between these approaches

Deduction emphasises	Induction emphasises
• scientific principles • moving from theory to data • the need to explain causal relationships between variables • the collection of quantitative data • the application of controls to ensure validity of data • the operationalisation of concepts to ensure clarity of definition • a highly structured approach • researcher independence of what is being researched • the necessity to select samples of sufficient size in order to generalise conclusions	• gaining an understanding of the meanings humans attach to events • a close understanding of the research context • the collection of qualitative data • a more flexible structure to permit changes of research emphasis as the research progresses • a realisation that the researcher is part of the research process • less concern with the need to generalise

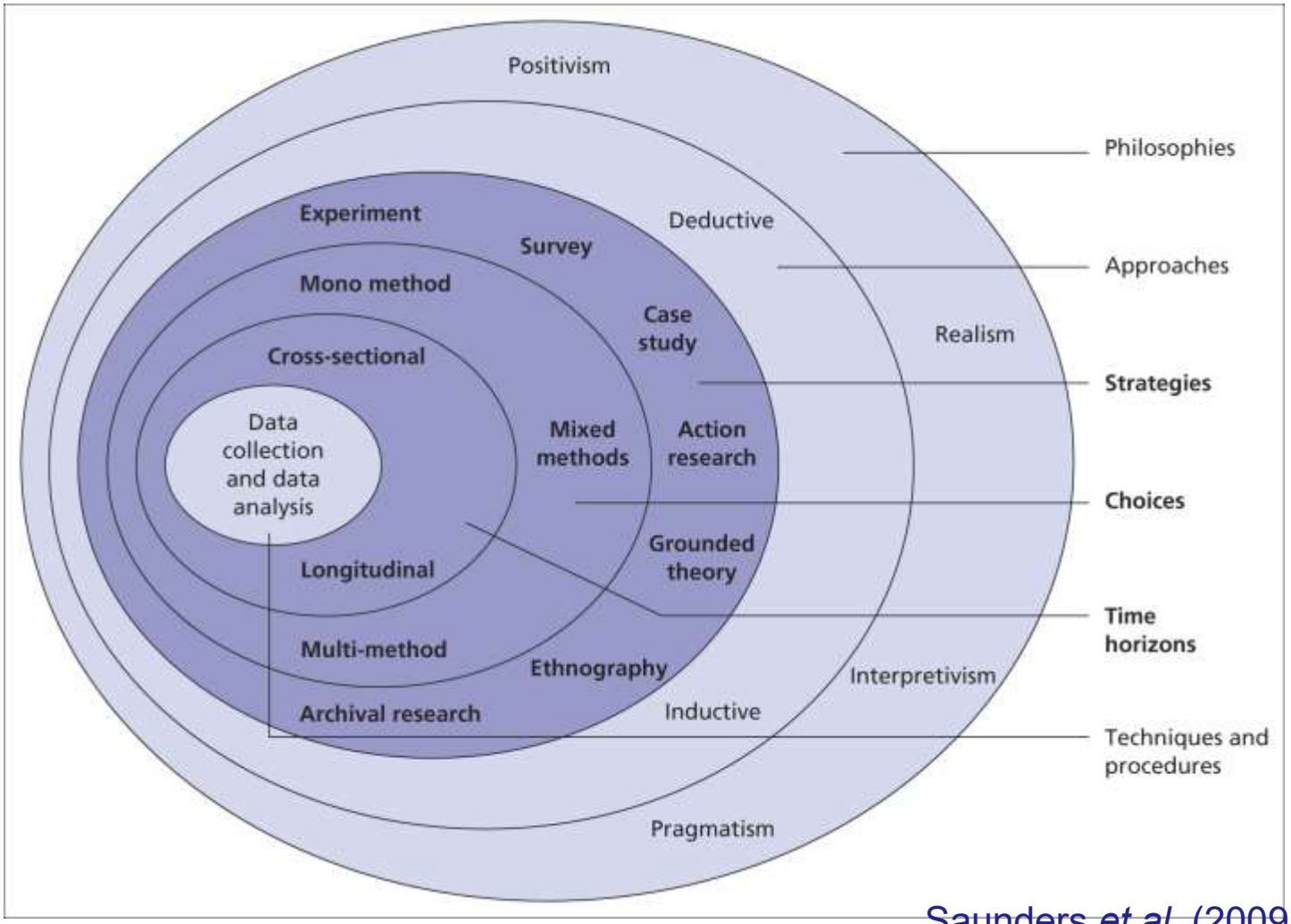
Saunders *et al*, (2009)

The Process of Research Design

- Research choices
- Research strategies
- Time horizons

Research Philosophy, Design and Tactics

The research onion



Saunders *et al*, (2009)

Research Design

The research design needs

- Clear objectives derived from the research question
- To specify sources of data collection
- To consider constraints and ethical issues
- Valid reasons for your choice of design

Good research, like a good building, is attributed to its architect

Robson (2002)

Classification of the research purpose

- **Exploratory research**
  - Finding out “what is happening” seek new insight”
  - Could be time well spend even if it shows that it is not worth pursuing the research
  - Search literature / interviewing “experts” / focus groups
- **Descriptive studies**
  - Get a clear picture of the phenomena
  - It is the means not the end
- **Explanatory studies**
  - Establishing causal relationships

Research Strategies

Experiment

Action research

Grounded theory

Survey

Ethnography

Case study

Archival research

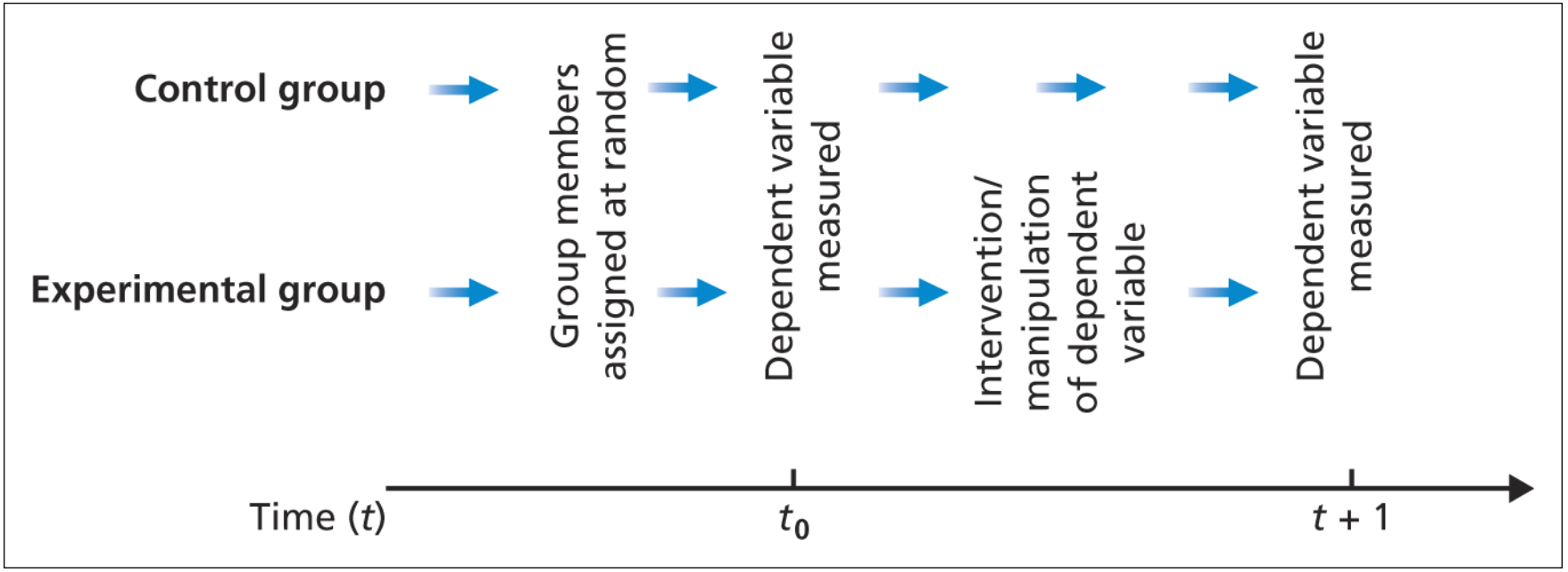
Research Strategies

An experiment will involve

- Definition of a theoretical hypothesis
- Selection of samples from know populations
- Random allocation of samples
  - **Control** and **Experimental** groups
- Introduction of planned intervention
- Measurement on a small number of dependent variables
  - Control of all other variables

Research Strategies

A classic experiment strategy



Saunders et al, (2009)

Research Strategies

Survey: key features

- Popular in business research
- Perceived as authoritative
  - Easy to explain and understand
  - Sometimes could go really badly
- Allows collection of quantitative data
- Data can be analysed quantitatively
- Samples need to be representative
- Gives the researcher independence
- Other forms of survey besides questionnaires
  - Structured observation (organization and methods research)
  - Structured interviews

Research Strategies

Case Study: Key features

- Provides a rich understanding of a real life context
  - Boundaries between phenomenon and context not clear
  - Generate answers related to “why” as well as to “what” and “how” (concerning mostly surveys)
- Uses and triangulates multiple sources of data

Categorised in four ways based on two dimensions:

single case v. multiple case

holistic case v. embedded case

- Reluctance because of “unscientific” feel
- Enable to challenge existing theory source of new research questions

Yin (2003)

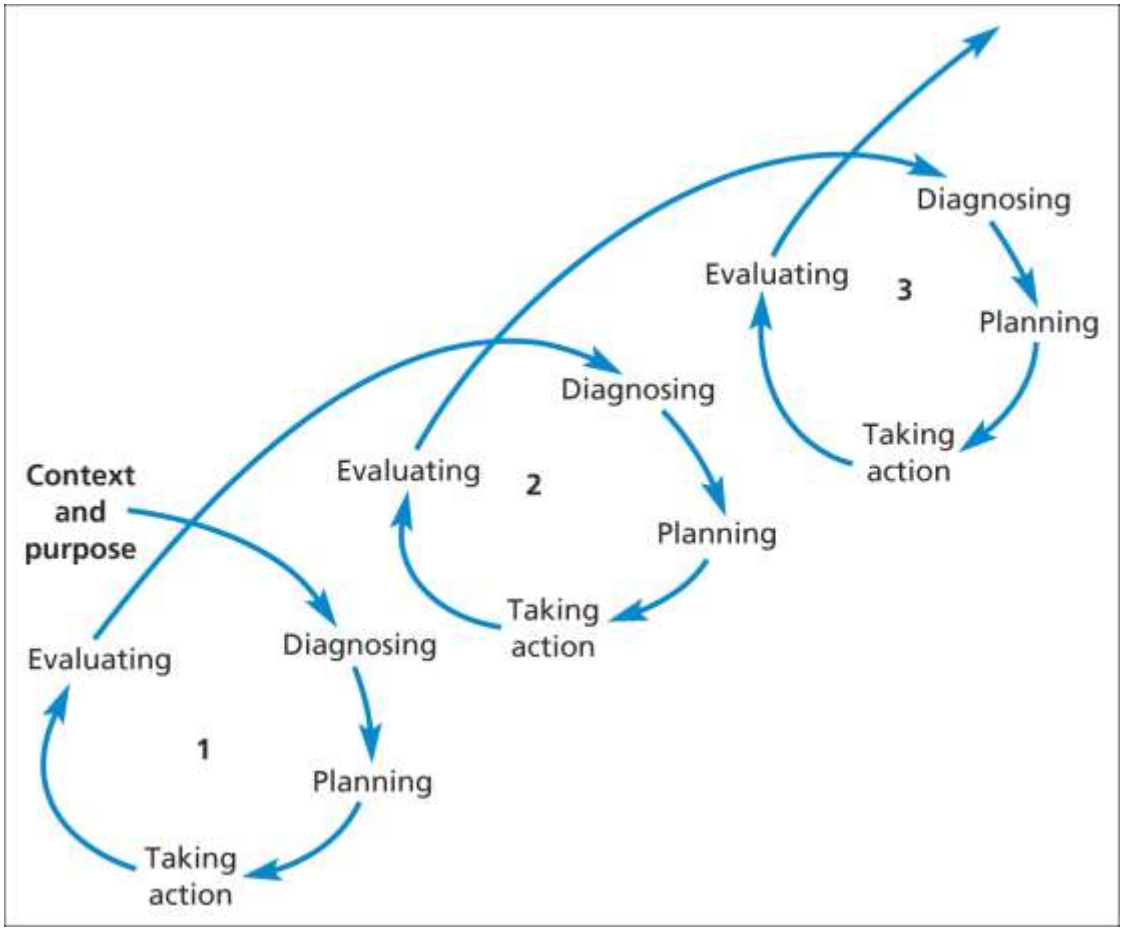
Research Strategies

Action research: Key features

- Research IN action - not ON action
- Involves practitioners in the research
- The researcher becomes part of the organisation
- Promotes change within the organisation
- Answers the “how” question
- Can have two distinct focii (Schein, 1999) –
  the aim of the research and the needs of the sponsor

Research Strategies

The action research spiral



Saunders *et al*, (2009)

Research Strategies

Grounded theory: key features

- Theory is built through induction and deduction
- Helps to predict and explain behaviour
  - e.g. consumer's behaviour, employees satisfaction
- Develops theory from data generated by observations

  - not an excuse to ignore literature or defer until data is collected
  - not a presentation of raw data. Draw conclusion that contain theoretical insight
  - it is not theory testing, content analysis
  - not routine application of formulaic procedures to data
  - not mechanical involving techniques and procedures
  - highly creative
- It is an interpretative process, not a logico-deductive one

Suddaby (2006)

Research Strategies

Grounded theory: An example

Stefan Seidel, Jan Recker (2009)

Important but under-researched IS domain, business process management, is characterized by an abundance of conceptual work with very little thorough theory development.

Use of grounded theory

Illustrative case study shows how grounded theory allowed the development of theories about creative organizational processes, and the influence of creativity requirements on the management of such processes. Based on the experiences gathered, a set of key issues that highlight why and when grounded theory can be particularly suitable for the study of phenomena associated with the business process management domain is suggested.

Research Strategies

Ethnography: key features

- Aims to describe and explain the social world inhabited by the researcher. An inductive approach
- Takes place over an extended time period. Immerse in the social world being researched.
- Is naturalistic. Researching the phenomenon within the context in which it occurs.
- Involves extended participant observation. Not oversimplifying with questionnaire surveys

Research Strategies

Archival research: key features

- Uses administrative records and documents as the principal sources of data
- Allows research questions focused on the past
- Is constrained by the nature of the records and documents

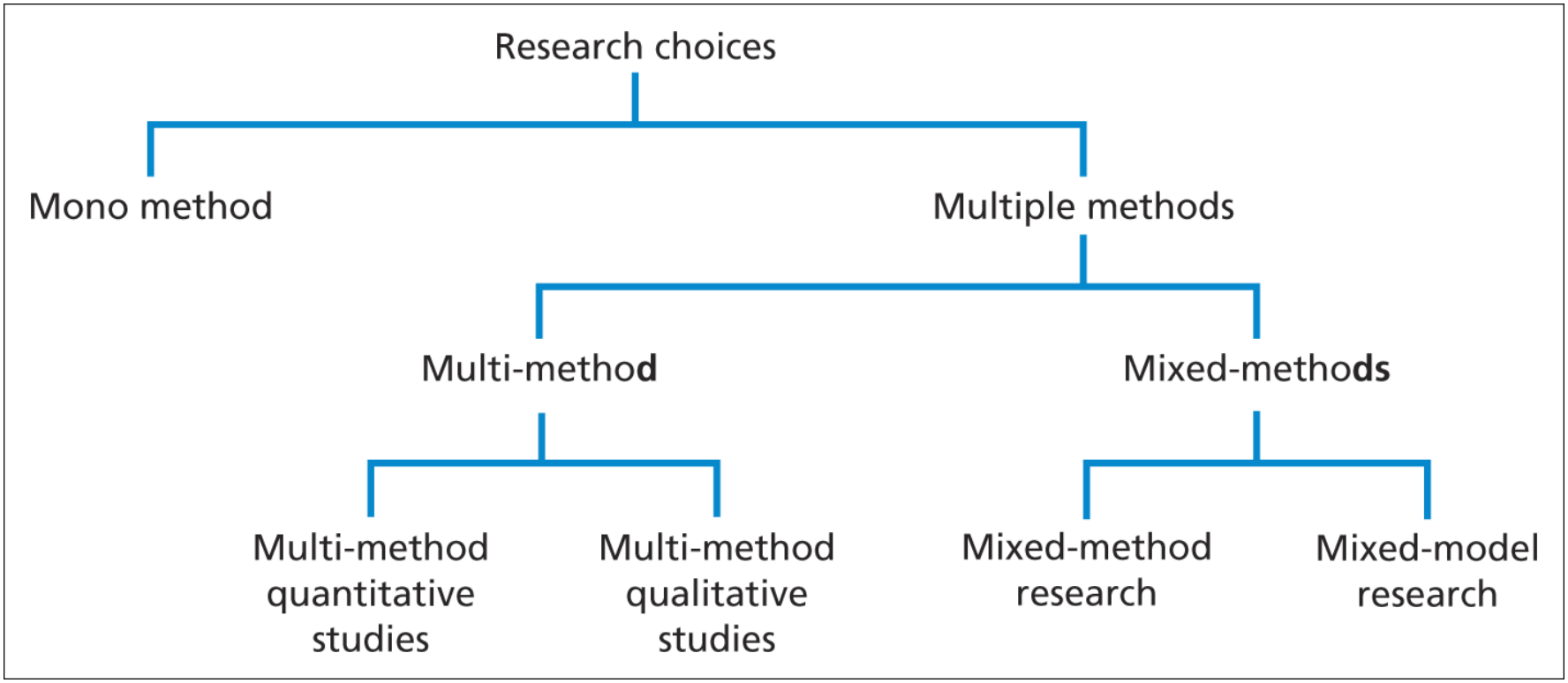
Research Strategies

The role of the practitioner-researcher
Key features

- Research access is more easily available
- The researcher knows the organisation
- Has the disadvantage of familiarity
- The researcher is likely to their own assumptions and preconceptions
- The dual role requires careful negotiation

Multiple research methods

Research choices



Saunders *et al*, (2009)

Multiple research methods

Reasons for using mixed method designs:

- Triangulation
  - Corroborate research findings
- Facilitation
  - Use one method to facilitate application of another method (e.g. interview followed by questionnaire survey)
- Complementarity
  - Different aspects can be fit together (e.g. quantitative and qualitative)
- Generality
  - Independent sources to contextualize study, provide a sense of relative importance
- Aid interpretation
  - Qualitative analysis to help interpret quantitative findings
- Study different aspects
  - Quantitative for macro aspects, qualitative for micro
- Solving a puzzle – alternative methods when deadlock w/ initial

Source: developed from Bryman (2006)

Time Horizons

Select the appropriate time horizon

- Cross-sectional studies
  - Most probably for doctoral projects
- Longitudinal studies
  - Study change over time
  - Mostly economy related data for academic research
  - Other examples: study changes in content and style of TV shows over time

Credibility of research findings

Important considerations

- Reliability
  - Consistent findings
  - Same results in other occasions
  - Same results reached by other observers?
  - Transparency in how findings are derived from raw data
  - Participant errors (questionnaires regarding job satisfaction completed at different days of the week)
  - Participant bias (ensure anonymity)
  - Observe error (questions asked differently)
  - Observer bias

Credibility of research findings

Important considerations

- Validity
  - Timing (recent or expected events)
  - Testing (respondent may think that answers will affect their position)
  - Instrumentation (practices changes during the observation period)
  - “Mortality” (respondents dropping out of study)
  - Maturation (events affect behaviour of respondents)
  - Ambiguities about causal direction (poor performance and negative attitude)

Credibility of research findings

Important considerations

- Generalisability
  - Are results equally applicable to other settings
- Logic leaps and false assumptions
  - Identification of research population
  - Data collection
  - Data interpretation

Research design ethics

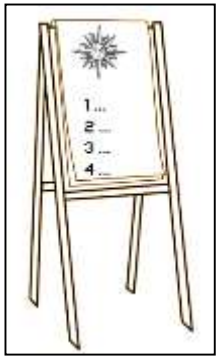
Remember

‘The research design should not subject the research population to embarrassment, harm or other material disadvantage’

Adapted from Saunders *et al*, (2009)

Research strategies and design

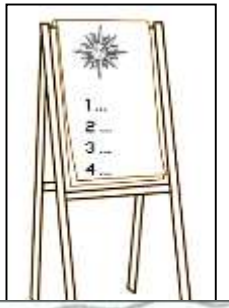
Brainstorming on Research design issues



You are about to embark on a year-long study of customer service training for sales assistants in two supermarket companies. The purpose of the research is to compare the way in which the training develops and its effectiveness. What measures would you need to take in the research design stage to ensure that the results were valid?

Research strategies and design

Brainstorming on Research design issues



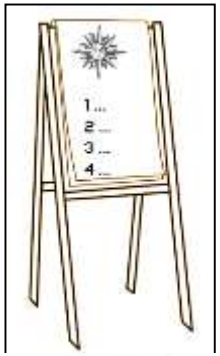
You are working in an organisation that has branches throughout the country. The managing director is mindful of the fact that managers of the branches need to talk over common problems on a regular basis. That is why there have always been monthly meetings. However, she is becoming increasingly concerned that these meetings are not cost-effective. Too many managers see them as an unwelcome intrusion. They feel that their time would be better spent pursuing their principal job objectives. Other managers see it as a 'day off': an opportunity to recharge the batteries.

She has asked you to carry out some research on the cost-effectiveness of the monthly meetings. You have defined the research question you are seeking to answer as 'What are the managers' opinions of the value of their monthly meetings?'

Your principal data collection method will be a questionnaire to all managers who attend the monthly meetings. However, you are keen to triangulate your findings. How might you do this?

Research strategies and design

Brainstorming on Research design issues

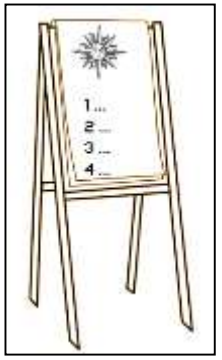


You have started conducting interviews in a university with the university's hourly paid staff (such as porters, gardeners and caterers). The research objective is to establish the extent to which those employees feel a sense of 'belonging' to the university. You have negotiated access to your interviewees through the head of each of the appropriate departments. In each case you have been presented with a list of interviewees.

It soon becomes apparent to you that you are getting a rather rosier picture than you expected. The interviewees are all very positive about their jobs, their managers and the university. This makes you suspicious. Are all the hourly paid staff as positive as this? Are you being given only the employees who can be relied on to tell the 'good news'? Have they been 'got at' by their manager?

Research strategies and design

Brainstorming on Research design issues



You wish to study the reasons why car owners join manufacturer-sponsored owners' clubs. Your chosen research design is to have unstructured discussions with some members of these owners' clubs. You are asked by small group of marketing managers to explain why your chosen research design is as valid as a questionnaire-based survey. What would be your answer?

Summary: Part 3

Research design turns a research question and objectives into a project that considers

Strategies Choices Time horizons

Research projects can be categorised as

Exploratory Descriptive Explanatory

Research projects may be

Cross-sectional Longitudinal

Important considerations

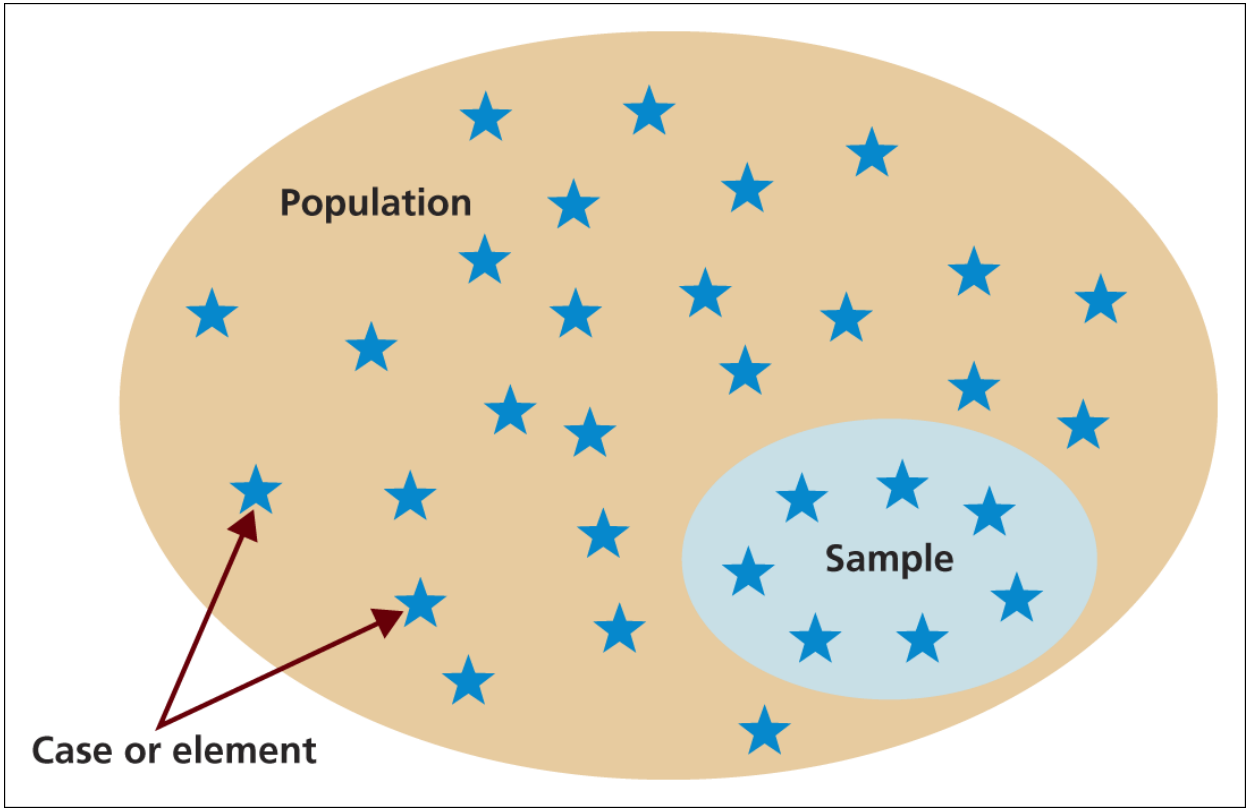
- The main research strategies may combined in the same project
- The opportunities provided by using multiple methods
- The validity and reliability of results
- Access and ethical considerations

Part 4

Selecting Samples

Selecting samples

Population, sample and individual cases



Source: Saunders *et al*. (2009)

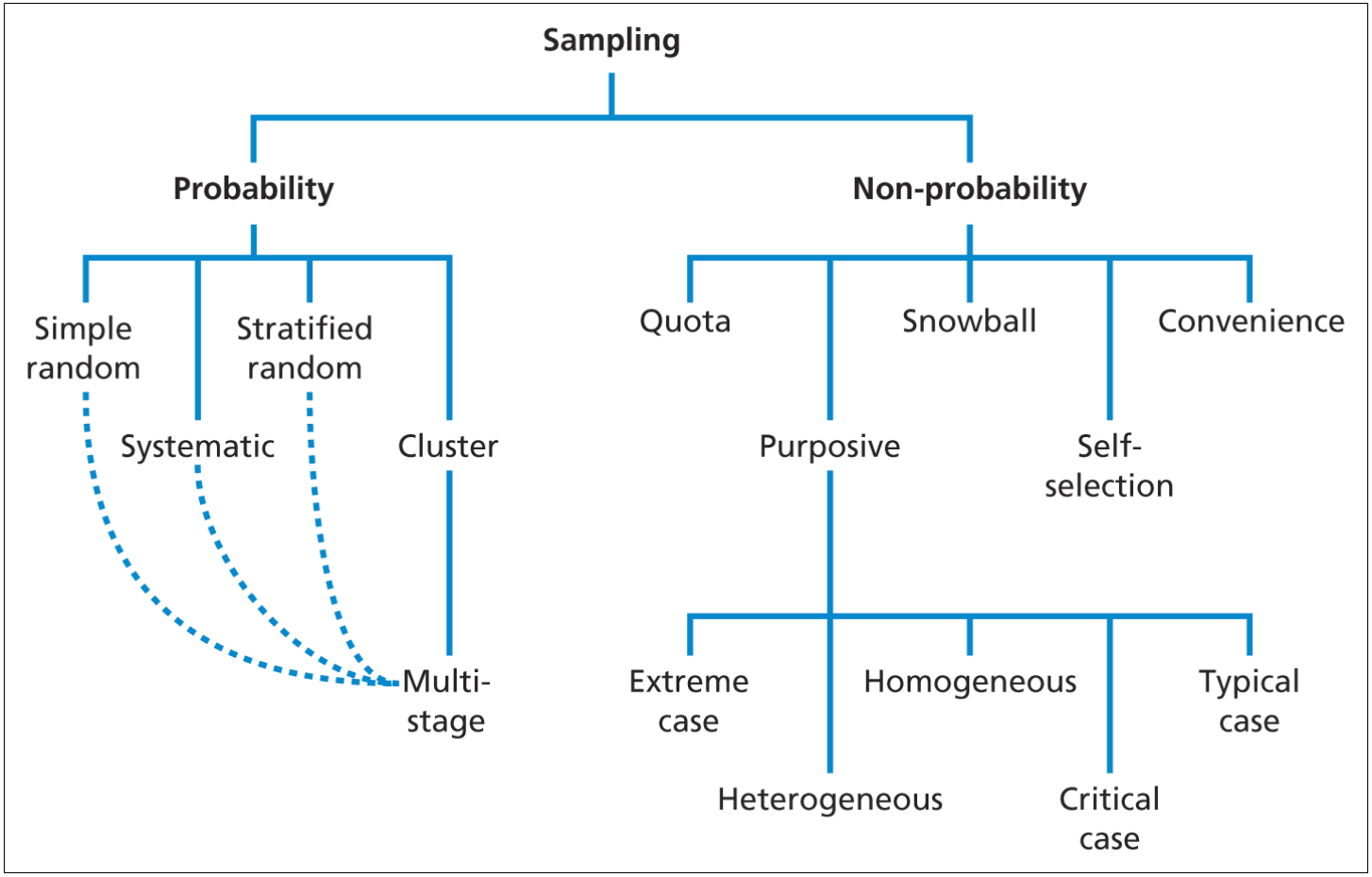
The need to sample

Sampling- a valid alternative to a census when

- A survey of the entire population is impracticable
- Budget constraints restrict data collection
- Time constraints restrict data collection
- Results from data collection are needed quickly

Overview of sampling techniques

Sampling techniques



Source: Saunders *et al*. (2009)

Probability sampling

The four stage process

1. Identify sampling frame from research objectives
2. Decide on a suitable sample size
3. Select the appropriate technique and the sample
4. Check that the sample is representative

Identifying a suitable sampling frame

Key points to consider

- Problems of using existing databases
  - Incomplete (businesses listed in chamber of commerce dbase)
  - Inaccurate information (not updated continuously
- Extent of possible generalisation from the sample
  - Can conclusion be generalized
- Validity and reliability
- Avoidance of bias
  - The case of landline telephone directory
  - Data bases provided commercially by various companies may lead to biased samples (e.g. if they contain internet users)

Identifying a suitable sampling frame

Example

Research topic:

The effect of internationalization in SMEs performance

Objectives:

Explore the effects of internationalization, an entrepreneurial strategy employed by small and medium-sized enterprises (SMEs), on firm performance. Relate the extent of foreign direct investment (FDI), exporting activity, and use of alliances, to the corporate performance of internationalizing SMEs.

Identify sampling frame

Identifying a suitable sampling frame

Check list

- Are cases listed in sampling frame relevant to your research topic. Will help in answering research questions
- How recently sampling frame compiled
- Does sampling frame include all cases
- Does the sampling frame contain correct information
- Does the sampling frame exclude irrelevant cases
- Can you establish and control haw sample is selected (published data bases)

Sample size

Choice of sample size is influenced by

- Confidence needed in the data (represent the population)
  - (usually 95%, sometimes 99%)
- Margin of error that can be tolerated in estimates
- Types of analyses to be undertaken
  - Grouping based on qualitative variables, number of variables, etc.
- Size of the sample population and distribution

	Margin of error		
Population	5%	3%	1%
50	44	48	50
100	79	91	99
200	132	168	196
1000	278	516	906
10000	370	964	4899
100000	383	1056	9513

The importance of response rate

Key considerations

- Non- respondents and analysis of refusals
  - *Total response rate = total responses / (sample size - ineligible)*
- Obtaining a representative sample
  - *Who are the non respondents*
- Calculating the active response rate
  - *Active response rate = total responses / (sample size - ineligible - unreachable)*
- Estimating response rate and sample size
  - *Include estimate in adjusting sample size*

Selecting a sampling technique

Five main techniques used for a probability sample

- Simple random
  - Assign random numbers (easy if sample is stored in a database)
  - Select N largest or N smallest random numbered cases (it makes no difference)
- Systematic
  - Compute sampling fraction (sample size / population size). If sampling fraction is 0.05, pick one randomly and select every 20th case
- Stratified random (Modification of random sampling)
  - Division of population in strata based on stratification variable. Apply simple random or systematic random selection in each strata
- Cluster
  - Similar to stratified. Division of population in natural clusters. Sampling frame is the list of clusters. Select clusters randomly
- Multi-stage

Checking that sample is representative

- Compare data you collected in the sample with data from another source for the population
  - E.g. compare on the age and socioeconomic characteristics with country or regional population as recorded in the last census
  - For a sample of employees compare for industry type, salary level, etc. depending on the research questions
- Could use statistical test (e.g. Kolmogorov) to test statistical significance
- For longitudinal studies compare samples at different points in time

Non- probability sampling (1)

Key considerations

- Deciding on a suitable sample size
- Selecting the appropriate technique

Non- probability sampling (2)

Sampling techniques

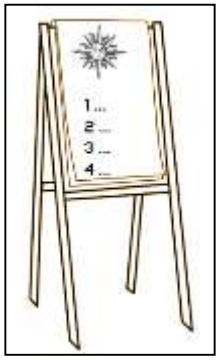
- Quota sampling (larger populations –sampling frame not possible)
  - Similar to stratified. A certain quota from each group.
- Purposive sampling
  - Use judgement to select cases that will best enable answering your questions (small sampling frames)
  - Grounded theory research
  - Extreme case sampling
  - Heterogeneous / maximum variation sampling
  - Critical case sampling (if happens there, will happen everywhere)
  - Typical case sampling (illustrative profile)

Non- probability sampling (2)

Sampling techniques

- Snowball sampling
  - Difficult to identify population. Contact 1-2 members. Ask them to identify other cases and so on.
- Self-selection sampling
  - Publicize need for cases. Individuals identify their desire to participate
- Convenience sampling
  - Select those cases that are easier to obtain for your sample.

Sampling Techniques

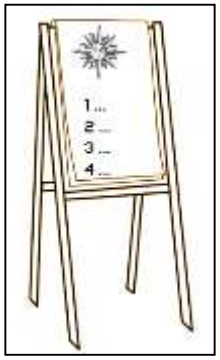


You need to undertake a face-to-face interview survey of managing directors of small to medium-sized organisations. From the data you collect you need to be able to generalise about the attitude of such managing directors to recent changes in government policy towards these firms. Your generalisations need to be accurate to within plus or minus 5 per cent. Unfortunately, you have limited resources to pay for interviewers, travelling and other associated costs.

a How many managing directors will you need to interview?

b You have been given the choice between cluster and multi-stage sampling. Which technique would you choose for this research? You should give reasons for your choice.

Sampling Techniques



For each of the following research questions it has not been possible for you to obtain a sampling frame. Suggest the most suitable non-probability sampling technique to obtain the necessary data, giving reasons for your choice.

a What support do people sleeping rough believe they require from social services?

b Which television advertisements do people remember watching last weekend?

c How do employers' opinions vary regarding the impact of European Union legislation on employee recruitment?

d How are manufacturing companies planning to respond to the introduction of road tolls?

e Would users of the squash club be prepared to pay a 10 per cent increase in subscriptions to help fund two extra courts (answer needed by tomorrow morning!)?

Summary: Part 4

- Choice of sampling techniques depends upon the research question(s) and their objectives
- Factors affecting sample size include:
  - confidence needed in the findings
  - accuracy required
  - likely categories for analysis
- Probability sampling requires a sampling frame and can be more time consuming
- When a sampling frame is not possible, non- probability sampling is used
- Many research projects use a combination of sampling techniques

All choices depend on the ability to gain access to cases

Part 5

Using secondary data

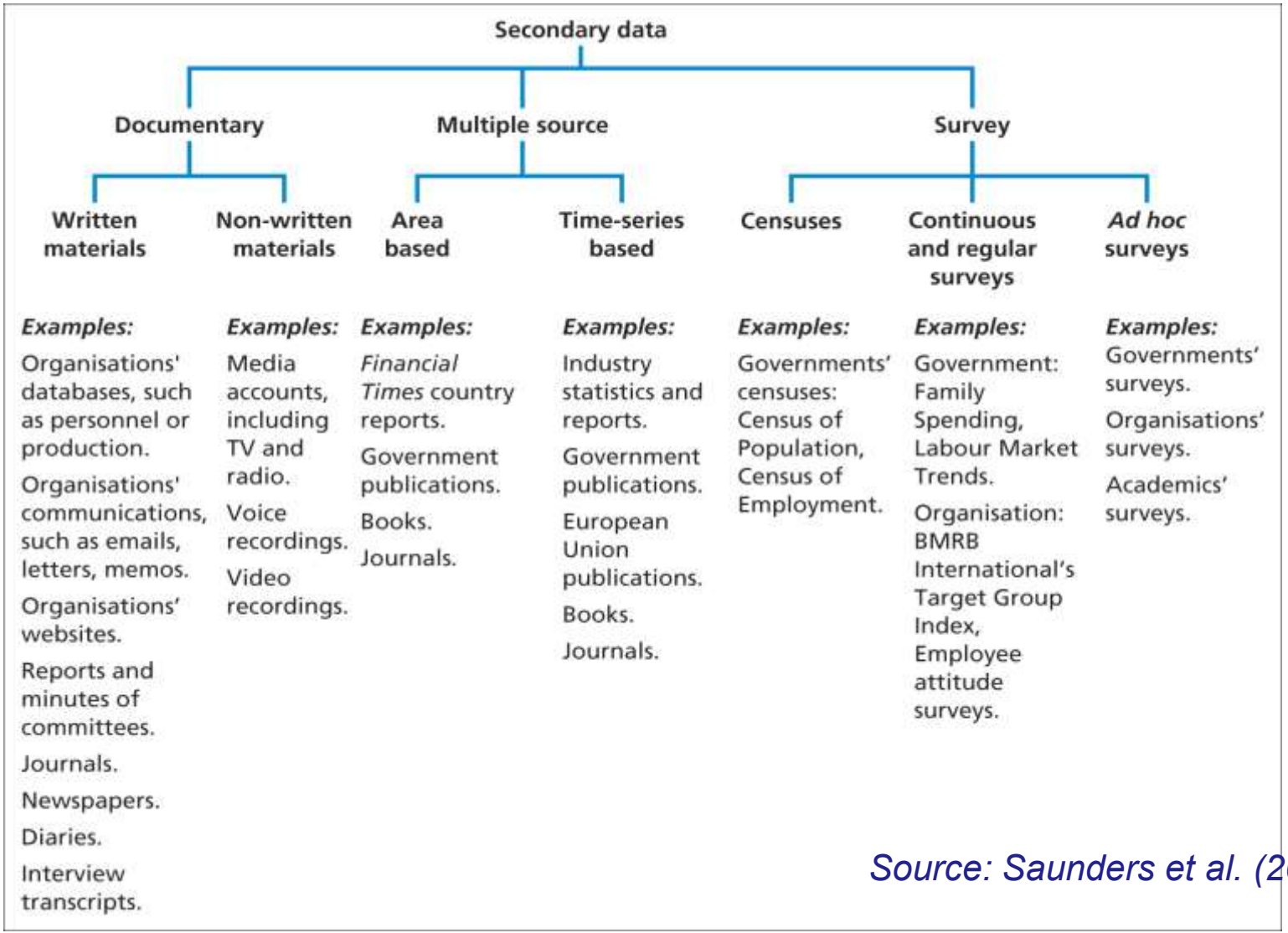
Using secondary data for research (1)

Types of secondary data

- Documentary – written and non-written
- Surveys – subtypes include:
  censuses, regular and ad hoc

Using secondary data for research (2)

Types of secondary data



Source: Saunders et al. (2006)

Using secondary data for research (3)

Multiple – source secondary data

- Documentary , survey, or an amalgam of both
- Times series for longitudinal studies
- Cohort studies
- Area-based data sets

Locating secondary data

Finding the data - a two stage process

1. Establishing that the required secondary data is available

2. Locating the precise data required

Availability of secondary data (1)

Sources

- References in publications (books, journal articles)
- Within organisations (unpublished sources)
- Tertiary literature –
  (indexes and catalogues in archives or online)

Availability of secondary data (2)

Finding secondary data

- References in published guides (Table 8.1)
- Data held by organisations
- Data on the Internet (Table 8.2)

Evaluating secondary data (1)

Advantages

- Fewer resource requirements
  - Higher quality, Get data quickly, more time for analysis
- Unobtrusive
  - Higher quality, Get data quickly, reliable, inconspicuous
- Longitudinal studies may be feasible
  - Published periodically
- Provision of comparative and contextual data
  - Used as basis for comparisons with data you selected, place your data in more general context, triangulate findings
- Unforeseen discoveries may occur
  - Link between cancer and smoking was established through analysis of medical records that were not collected for this purpose
- Generally permanent and available

Evaluating secondary data (2)

Disadvantages

- Purpose of data collection may not match the research needs
  - May not be totally appropriate for your research. Research questions will be answered partially
- Access may be difficult or costly
  - Some not available electronically, others are not available free
- Aggregations and definitions may be unsuitable
  - Most of the data are aggregated at a level not suitable for the research
- No real control over data quality
  - Most of higher quality but still data sources must be evaluated
- Initial purpose may affect data presentation
  - Especially in reports. Authors select and emphasize parts of the data

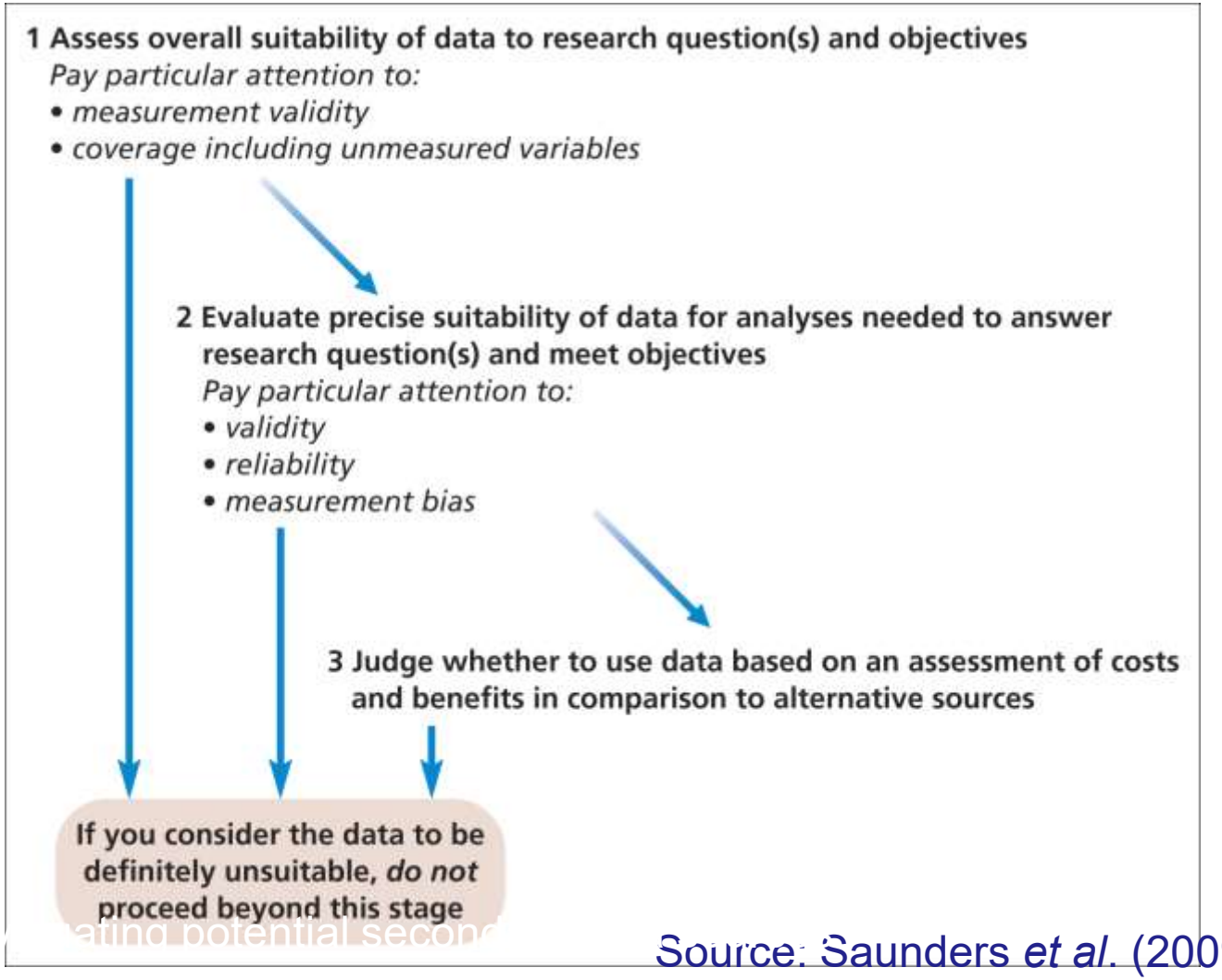
Evaluating secondary data (3)

Ensure that data sources

- Enable the research question(s) to be answered
- Enable research objectives to be met
- Have greater benefits than their associated costs
- Allow access for research

Evaluating secondary data (3)

Evaluating potential secondary data sources



Source: Saunders *et al*. (2009)

Suitability of secondary data (1)

Overall suitability: points to consider

- Precise suitability, including reliability and validity
  - assessment of collection methods
  - clear explanation of collection techniques
- Measurement validity
  - Is it clear what the numbers represent
    e.g. Sales ? (orders, value, volume
  - *Check how other researchers coped with the same data*
- Measurement bias and deliberate distortion
  - Mostly in non-numerical data
  - Reports, minutes

Suitability of secondary data (2)

Overall suitability: points to consider

- Coverage and unmeasured variables
  - ensure exclusion of unwanted data
  - ensure sufficient data remain for analysis

- Costs and benefits

Evaluating your secondary data sources

Overall suitability Checklist

- Does the data set contain the information you require to answer your research questions and meet your objectives
- Do the measures used match those you require
- Is the data set proxy for the data you really need
- Does the dataset cover the population that is the subject of your research
- Does the dataset cover the geographical area that is the subject of your research
- Can data about the population that is the subject of your research separated from unwanted data
- Are the data for the same period or sufficiently up to date
- Are data available for the variables you require to answer your research questions and meet your purpose

Evaluating your secondary data sources

Precise suitability Checklist (1)

- How reliable is the data you are thinking of using?
- Is it clear, what the source of the data is? How credible is it?
- Do the credentials (author, institution or organization sponsoring the data) suggests it is likely to be reliable?
- Do the data have an associated copyright statement?
- Do associated published documents exist?
- Does the source contain contact details for any further information about the data?
- Is the method clearly described? If sampling used, what were the associated sampling errors and response rates?

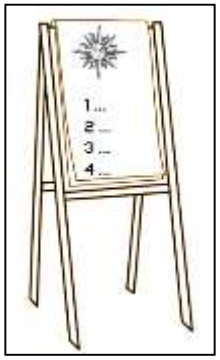
Evaluating your secondary data sources

Precise suitability Checklist (2)

- Who was responsible for collecting for recording/
- Is a copy of the questionnaire or interview checklist included?
- Is it clear how data was analysed and compiled?
- Are data likely to contain measurement bias?
- What was the original purpose for which the data was collected?
- Who was the target audience and what was its relationship to the data collector or compiler?

Saunders *et al*. (2009)

Using secondary data

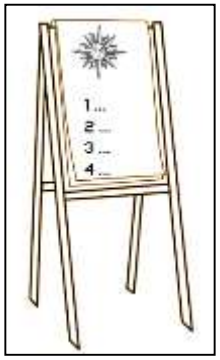


- Research question

  "How would UK's import and export trade be affected by possible Brexit"

- List arguments to convince someone of the suitability of secondary data

Using secondary data



- Suggest possible secondary data

I. "to what extend do organization' employee-relocation policies meet the needs of employees"

II. How have consumer-spending patterns have changed in the last 10 years

Summary: Part 5

- Secondary data consists of three main types - documentary, survey and multiple sources
- The data can be used in a variety of ways
- Secondary data may be less current and collected for a purpose that does not match your research question(s)
- Secondary data needs to be located and its availability established
- Data sources should be assessed for suitability, measurement validity and coverage
- Evaluation of secondary data should include reliability and any measurement bias
- Costs and benefits of using secondary data should be evaluated and compared with alternative sources
- Although secondary data may contain some bias, it can help to answer your research question