ST3004: Research Methods

Data Collection
The Research Onion

Source: © Mark Saunders, Philip Lewis and Adrian Thornhill 2008

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Sources of Data

Secondary Data
- Information gathered from sources already existing
- Examples: Company records or archives, government publications, industry analyses offered by the media, websites

Primary Data
- Information obtained first hand by the researcher on the variables of interest
- Only to be done if secondary data is not available or not adequate
- Examples: Interviews, surveys, focus groups, panels
Secondary Data - Advantages

- Easily accessible, relatively inexpensive, and quickly obtained.

- Useful to:
  1. Identify the problem
  2. Better define the problem
  3. Develop an approach to the problem
  4. Formulate an appropriate research design
  5. Answer research questions and test hypotheses
  6. Interpret primary data with more insight
Secondary Data - Disadvantages

Data originally collected for other purpose so:

- Many not be sufficiently relevant/accurate
- Secondary data may be out of date
- The accuracy/ methods may be unreliable
Secondary Data Sources

- Economic and Social Research Institute (ersi.ie)
- Global Market Information Database (gmid.euromonitor.com)
- Central Statistics Office (cso.is)
- Enterprise Ireland (enterprise-ireland.com)
**Secondary data**

- **Documentary**
  - **Written materials**
  - **Non-written materials**

- **Multiple source**
  - **Area based**
  - **Time series based**

- **Survey**
  - **Censuses**
  - **Continuous and regular surveys**
  - **Ad hoc surveys**

**Examples:**
- Organisations' databases such as personnel or production. Organisations' communications such as emails, letters, memos. Organisations' websites. Reports and minutes of committees. Journals. Newspapers. Diaries. Interview transcripts.
- Media accounts including television and radio. Voice recordings. Video recordings.
- Examples: Governments’ surveys. Organisations’ surveys. Academics’ surveys.
General Rule

- Start with Secondary data

- Examination of available secondary data is a prerequisite to the collection of primary data

- Proceed to primary data only when the Secondary data sources have been exhausted or yield marginal returns
Criteria for Evaluating Secondary data

✔ Does the data set contain the information you require to answer your research question(s) and meet your objectives?

✔ Do the measures used match those you require?

✔ Does the data set cover the population that is the subject of your research?

✔ Does the data set cover the geographical area that is the subject of your research?

✔ Can data about the population that is the subject of your research be separated from unwanted data?

✔ Are the data for the right time period or sufficiently up to date?

✔ Are data available for all the variables you require to answer your research question(s) and meet your objectives?
Primary Data Sources

- Observation
- Interviews
- Experiment
- Focus Groups
- Surveys
Observation

- Observational techniques are methods by which an individual or individuals gather firsthand data on programs, processes, or behaviours being studied.

- Observation allows the researcher to learn about issues the participants may be unaware of or that they are unwilling or unable to discuss candidly in an interview or focus group.
Observation

- **Structured**
  - Recording *prespecified* behavioural patterns of people, objects and events in a systematic manner.
  - Quantitative in nature
  - Different types
    - Personal observation
      (e.g., mystery shopper, behavioral observation)
    - Electronic observation
      (e.g., scanner data, people meter, eye tracking)

- **Participant**
  - Researcher becomes member of group/organisation
  - Qualitative in nature
  - Useful in business normally in conjunction with other methods
Use observation when...

- The behaviour or object you are studying occurs in a public or accessible location.

- Observation will produce more accurate findings than simply asking people.

- Observation is often done in conjunction with a normal survey by the interviewer noting attributes.
Observation - Advantages

- Advantages:
  - Provide direct information about behaviour of individuals and groups
  - Permit researcher to enter into and understand situation/context
  - Provide good opportunities for identifying unanticipated outcomes
  - Exist in natural, unstructured, and flexible setting
Observation - Disadvantages

- Expensive and time consuming
- Need well-qualified, highly trained observers; may need to be content experts
- May affect behaviour of participants
- Selective perception of observer may distort data
- Behaviour or set of behaviours observed may be atypical
Interviews

- Begins with the assumption that the participants’ perspectives are meaningful, knowable, and can be made explicit, and that their perspectives affect the success of the project.

- Can be
  - **structured interviews**, in which a carefully worded questionnaire is administered, or
  - **in depth interviews**, in which the interviewer does not follow a rigid form.
Use Interviews when...

- interpersonal contact is important

- opportunities for followup of interesting comments are desired.

- the situation involves complex subject matter, detailed information, high-status respondents, or highly sensitive subject matter.
Interviews – Advantages

- Advantages:
  - Usually yield richest data, details, new insights
  - Permit face-to-face contact with respondents
  - Provide opportunity to explore topics in depth
  - Allow interviewer to experience the affective as well as cognitive aspects of responses
  - Allow interviewer to explain or help clarify questions, increasing the likelihood of useful responses
  - Allow interviewer to be flexible in administering interview to particular individuals or in particular circumstances
Interviews - Disadvantages

Disadvantages:

- Expensive and time-consuming
- Need well-qualified, highly trained interviewers
- Interviewee may distort information through recall error, selective perceptions, desire to please interviewer
- Flexibility can result in inconsistencies across interviews
- Volume of information very large; may be difficult to transcribe and reduce data
Focus Groups

- Focus groups are a gathering of 8 to 12 people who share some characteristics relevant to the evaluation.

- Focus groups combine elements of both interviewing and participant observation.

- The hallmark of focus groups is the explicit use of the group interaction to generate data and insights that would be unlikely to emerge otherwise.
Use Focus Groups when...

- interaction of respondents may stimulate a richer response or new and valuable thought.

- subject matter is not so sensitive that respondents will temper responses or withhold information.

- the topic is such that most respondents can say all that is relevant or all that they know in less than 10 minutes.

- an acceptable number of target respondents can be assembled in one location.
Focus Groups – Advantages

- **Advantages:**
  - Useful to obtain detailed information about personal and group feelings, perceptions and opinions
  - Can save time and money compared to individual interviews
  - Can provide a broader range of information
  - They offer the opportunity to seek clarification
  - They provide useful material eg quotes for public relations publication and presentations
Focus Groups – Disadvantages

- Disadvantages:
  - there can be disagreements and irrelevant discussion which distract from the main focus
  - they can be hard to control and manage
  - they can be too tricky to analyse
  - it can be difficult to encourage a range of people to participate
  - some participants may find a focus group situation intimidating or off-putting; participants may feel under pressure to agree with the dominant view
  - as they are self-selecting, they may not be representative of non-users.
Surveys

- Surveys are a very popular form of data collection, especially when gathering information from large groups, where standardization is important.

- Surveys can be constructed in many ways, but they always consist of two components: questions and responses.

- Responses can be
  - *open ended*, i.e., allow respondents to answer in a free flowing narrative form, or
  - *close-ended*, in which respondents are asked to select from a range of predetermined answers.
Use Surveys when...

- information is to be collected from a large number of people or when answers are needed to a clearly defined set of questions.

- you need to obtain information on a wide range of topics when indepth probing of responses is not necessary,
Surveys - Advantages and Disadvantages

- **Advantages:**
  - Good for gathering descriptive data
  - Can cover a wide range of topics
  - Are relatively inexpensive to use
  - Can be analysed using a variety of existing software

- **Disadvantages:**
  - Self-report may lead to biased reporting
  - Data may provide a general picture but lack depth
  - May not provide adequate information on context
Experiment

- Data collection method in which one or more independent variables are manipulated in order to measure their effect on a dependent variable, while controlling for external variables in order to test a hypothesis.

- E.g. pharmaceutical research - administer the new drug to one group of subjects, and not to the other, while monitoring them both.

- Cause and effect relationship is established by
  - Manipulation of independent variable
  - Controlling for outside factors
Use experiments if you want to...

- You want to clearly determine cause and effect
- You need to try to eliminate placebo effects
Experiments - Advantages

- A high level of control - The control over the irrelevant variables is higher as compared to other research types or methods.
- Easy Determination of Cause and Effect Relationship (clear-cut conclusions)
- Due to the control set up by experimenter and the strict conditions experiments can be repeated and results can be checked again
Experiments - Disadvantages

- Often just not possible to control outside events
- Creates artificial situations
- Subject to human error
- The degree to which results can be generalized all over situations and real world applications is limited.
- Ethics!
Ethics (a very important aside)

- **Research ethics** relates to questions about how we formulate and clarify our research topic, design our research and gain access, collect data, process and store our data, analyse data and write up our research findings in a moral and responsible way.

- This means that you will have to ensure that the way you design your research is **both** methodologically sound and morally defensible to **all** those who are involved.
Does the end justify the means?

- Within business and management research, there are two dominant philosophical standpoints: **deontology** and **teleology**.

- The **deontological view** argues that the ends served by the research can never justify the use of research which is unethical.

- Consequently, if you adopted this view you would never use, for example, deception to obtain your research data, even if deception was necessary to ensure the data were valid and reliable.
Does the end justify the means?

- In contrast, the **teleological view** argues that the ends served by your research justify the means.

- Consequently, the benefits of your research findings would be weighed against the costs of acting unethically.

- This approach has an added complication as you also need to consider whether the benefits of the research are morally just.
General ethical considerations:

- privacy of possible and actual participants;
- voluntary nature of participation and the right to withdraw partially or completely from the process at any time;
- consent and possible deception of participants;
- maintenance of the confidentiality of data provided by individuals or identifiable participants and their anonymity;
- reactions of participants to the way in which you collect data, including embarrassment, stress, discomfort, pain and harm;
- effects on participants of the way in which you use, analyse and report your data, in particular the avoidance of embarrassment, stress, discomfort, pain and harm;
- behaviour and objectivity of you as researcher.
Ethical Dilemma 1 - Written consent?

- A study was being carried out with a community sample of adults. As part of the informed consent process, the researchers had an information sheet and a consent form, with tick boxes, which potential participants were asked to sign before the research proceeded.

- On one occasion, the researcher went through the information sheet with a potential participant, who confirmed that he would like to proceed with the research. The researcher then asked the participant to sign the consent form. At this point, the participant revealed that he could not read, and said that he really wanted to take part in the research, but did not want to sign a form that he could not read. He asked if he could be interviewed without signing the form.

- What did the researcher do?
Ethical Dilemma 2 – Ensuring Understanding

- An inexperienced researcher was carrying out a study that involved doing developmental tests with children in schools. By prior arrangement, she would visit the family home, and would seek consent to arrange to visit the child at school.

- On one occasion, the researcher visited a family for whom English was an additional language. Both parents and their children were at home, and their English was limited, but the researcher judged they had understood, and consented. They signed consent for the school visit, and made the researcher very welcome – even insisting that she stayed for lunch.

- A week later, as arranged, the researcher visited the school to see the child. On arrival, the head teacher explained that the child’s older sister had said her parents were very worried about the visit – they didn’t know who the researcher was, and that a neighbour (who spoke the family’s language) had read the information leaflet and told the parents that the researcher was probably a social worker. It was clear that they hadn’t understood when they consented to the school visit.

- What did the researcher do?
Ethics

- You should always think carefully about the access and ethical issues implied by your research design.

- The research design should not subject those you are researching (the research population) to embarrassment, harm or any other material disadvantage.

- The school has a formal Research Ethics Committee to deal which oversees this issue:
  [https://www.scss.tcd.ie/Local/research_unit/ethics/](https://www.scss.tcd.ie/Local/research_unit/ethics/)
Ethics Approval requirements

- **Research Proposal**
  - **Title** of project
  - **Purpose** of project including *academic rationale*
  - Brief description of **methods** and measurements to be used
  - **Participants** - recruitment methods, number, age, gender, exclusion/inclusion criteria, including statistical justification for numbers of participants
  - **Debriefing** arrangements
  - A clear concise statement of the *ethical considerations* raised by the project and how you intend to deal with them
  - Cite any *relevant legislation* relevant to the project with the method of compliance e.g. Data Protection Act etc.
Ethics Approval requirements

- Intended questionnaire/survey/interview protocol/screen shots/representative materials (as appropriate)

- Participants consent form

- Participants information sheet