

UNIT 6: BUSINESS DECISION MAKING

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WEEK TWO
LECTURER: N. QUARRIE

Learning Outcome One (1)

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- Be able to use a variety of sources for the collection of data, both primary and secondary.

Objective

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- By the end of this lesson you should be able to:
- 1.2 present the survey methodology and sampling frame used



Overview

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- Last week's session focused on how to create a plan for the collection of primary and secondary data for a given business problem. This week we want to go a step further by looking at how to put the survey methodology and sampling frame that you will use together.
- We will be discussing topics such as the types of sampling methods and the contents of a survey methodology.

Surveys

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- Survey (n): Information gathered by asking a range of individuals the same questions related to their characteristics, attributes, how they live, or their opinions
- Survey (v): The process of collecting such information
- A good survey has the potential to reach a large number of respondents; generate standardized, quantifiable, empirical data - as well as some qualitative data; and offers confidentiality / anonymity

Basic Survey Types

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- Surveys can be:
- **Descriptive:** These surveys pretty much do what they say - they describe. The goal is to get a snapshot - of your 'respondents'
- **Explanatory:** These surveys go beyond description (although they do gather descriptive data) and attempt to establish why things might be the way they are

Basic Survey Types

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- Surveys can also involve populations or samples of populations:
- **Census:** This is a survey that does not rely on a sample. A census surveys every single person in a defined or target population
- **Cross-sectional surveys:** This type of survey uses a sample or cross-section of respondents selected to represent a target population

Basic Survey Types

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- Surveys can capture a moment or map trends:
- Trend surveys: A trend survey asks similar groups of respondents, or the same cross-section, the same questions at two or more points in time.
- Panel study: A panel study involves asking the same (not similar) sample of respondents the same questions at two or more points in time

Conducting a Survey

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- Conducting a survey capable of generating credible data requires:
 - thorough planning
 - meticulous instrument construction
 - comprehensive piloting
 - reflexive redevelopment
 - deliberate execution
 - and appropriate analysis

Survey Methodology

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- Now, before doing any form of research it is important to document a methodology.
- There are a few key things that must be discussed in a survey:
 - Types of data that will be collected;
 - The methods that will be used to collect data
 - The sampling size and sample frame
 - All types of data, as well as, the methods and sample size that will be used should be justified.

Types of data that will be collected

- This section of your survey methodology should include a discussion about primary and secondary data that you will be collected.
- Discuss the advantages and disadvantages of using the type of data identified.
- For example, you may say that you will be collected primary data to find out the factors that causes teenage pregnancy among teenagers in Beverly Hills because the data provided online would not be very specific to Beverly Hills

Types of data that will be collected

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- Disadvantages of primary data

1. Time is not always available to:

Designing collection instrument?

Selecting population or sample?

Pretesting/piloting the instrument to work out sources of bias?

Administration of the instrument?

Entry/collation of data?

2. Researcher error eg sampling bias

What other disadvantages can you think of? As well as the disadvantages of secondary data? Lets discuss

The methods that will be used to collect data

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- This is where you would discuss if you will be using questionnaires, interviews, observation etc.
- Must justify why you choose the methods you chose, as well as, why it is the appropriate/best method.

The methods that will be used to collect data

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- Methods popularly used to collect primary data:
 - Focus groups
 - Questionnaires
 - Interviews
- Methods popularly used to collect secondary data:
 - Internet
 - Books
 - Etc

The methods that will be used to collect data

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- If questionnaire is one of the instruments that you will be using then you must mention who you will be issuing the questionnaires to, when you will be issuing them, as well as, the number of questionnaires to be issued.
- Interviews: Must mention who will be interviewed- including the job position of the interviewee, if applicable, when the interview will be conducted and the specific information that you will interview the person about.
- What do you think we would do in the case of observation?

The sample size

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- What is a sample? This is a subset of the target population.
- The important question is “what sample size should be used? To select the sample size a formula is used to do the calculations.
- Please see following slide

Example: Sample Size

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A study is to be performed to determine a certain parameter in a community. From a previous study a sd of 46 was obtained.

If a sample error of up to 4 is to be accepted. How many subjects should be included in this study at 99% level of confidence?

Source of example: Pitt.edu, (2015)

Example: Sample Size

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$$n = \frac{Z^2 \sigma^2}{D^2}$$

$$n = \frac{2.58^2 \times 46^2}{4^2} = 880.3 \sim 881$$

Sample Frame

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- “A sampling frame is a complete list of all the members of the population that we wish to study.
- To give an example, if we wish to study the underlying factors that cause patients to be admitted into hospital following an acute asthmatic attack in a given area (your population), then you would need to know the names of all the people in that area who have been admitted into hospital for this reason.
- From a list of these names, you can then randomly select an appropriate number as representatives of the population (your sample) whom you can invite to take part in the research.”
researchproposalsforhealthprofessionals.com

Review Questions

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- 1. Discuss two basic types of surveys
- 2. How is the sample size for a research determined?
- 3. What exactly is a sampling frame? Why is it relevant to the research process?
- 4. Imagine that you need information on teenage pregnancy in Papine, create a survey methodology, discuss the sample frame and sample size to be used.

References/Additional Reading List

1. Burton, L. (2007). *Survey Research: Choice of Instrument, Sample*. 1st ed. [ebook] Baltimore: The Johns Hopkins University and Lynda Burton. Available at: http://ocw.jhsph.edu/courses/hsre/pdfs/hsre_lect11_burton.pdf [Accessed 7 Jan. 2016].
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References/Additional Reading List

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6. Vickers, P. and Offredy, M. (n.d.). *Developing a Healthcare Research Proposal: An Interactive Student Guide*. [online] [Researchproposalsforhealthprofessionals.com](http://www.researchproposalsforhealthprofessionals.com). Available at: <http://www.researchproposalsforhealthprofessionals.com/> [Accessed 7 Jan. 2016].