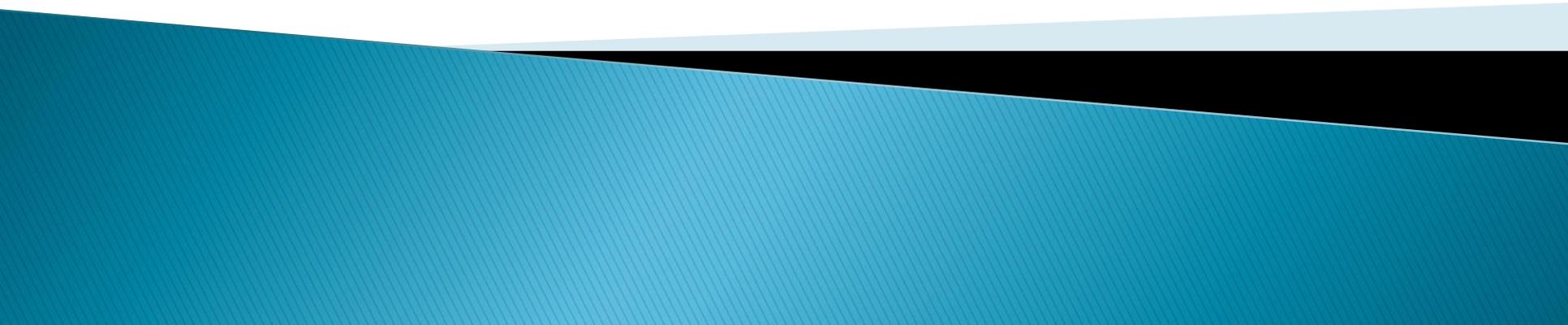


Unit 16: Research for Strategic Managers

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Learning Objectives

- ▶ At the end of this session, Learners should:
 3. Conduct a research on techniques used to interpret data in a research proposal how to conduct a literature review:–
 - 3.1 Evaluate techniques for use with quantitative data in a research proposal.
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What a Paradigm?

- ▶ Kuhn (1970) in Greener & Martelli (2015) describes paradigm as a cluster of beliefs, which guide researchers to decide what should be studied and how results should be interpreted.
 - Functionalist – problem-solving and rational approach to organizations
 - Interpretive – organizations only understood through perception of people about those organizations
 - Radical humanist – organizations are social arrangements and research is about changing them
 - Radical structuralist – organizations are a product of structural power relations, where conflict is inherent)

Paradigm

- ▶ A functionalist takes a classic survey approach to issues, which are thought to have objective reality. A climate research of employees would for example, using questionnaire with both quantitative and qualitative questions to gain descriptive responses about that reality.
- ▶ An interpretive uses a qualitative research method such as a discourse analysis, unstructured interviews to investigate perceptions and constructions of reality by actors in organization.
- ▶ A radical human paradigm would suggest again a qualitative method but looks not necessarily at the perception of social actors in the organization but seeks to probe a deeper level of values and social definitions, which underpin the organization.
- ▶ A radical structuralist paradigm may suggest a historical analysis of power in the organization, by developing case studies or seeking to symbolize transactions between actors in the organization, for example an analysis of employee relations over time.

Quantitative Research

- ▶ **Quantitative research** is the systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques (Given, 2008). The objective of quantitative research is to develop and employ mathematical models, theories and/or hypotheses pertaining to phenomena.
- ▶ The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships.

Quantitative Research

- ▶ Quantitative research is generally made using scientific methods, which can include:
 - The generation of models, theories and hypotheses
 - The development of instruments and methods for measurement
 - Experimental control and manipulation of variables
 - Collection of empirical data
 - Modeling and analysis of data
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Quantitative Data

- ▶ According to Bobbie (2004) **Quantitative data** have the advantage that numbers have over words as measure of some quality. On the other hand they have the disadvantage that numbers have, including a potential loss in richness of meaning.
 - ▶ It is any data that is in numerical form such as statistics, percentages, etc.
 - ▶ The researcher analyzes the data with the help of statistics. The researcher is hoping the numbers will yield an unbiased result that can be generalized to some larger population
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Quantitative Data Collection

- ▶ Uwec.edu (2015) states that **Quantitative data collection methods**, rely on random sampling and structured data collection instruments that fit diverse experiences into predetermined response categories. They produce results that are easy to summarize, compare, and generalize.
- ▶ Quantitative research is concerned with testing hypotheses derived from theory and/or being able to estimate the size of a phenomenon of interest. Depending on the research question, participants may be randomly assigned to different treatments. If this is not feasible, the researcher may collect data on participant and situational characteristics in order to statistically control for their influence on the dependent, or outcome, variable. If the intent is to generalize from the research participants to a larger population, the researcher will employ probability sampling to select participants.

Quantitative Data

- ❖ Typical quantitative data gathering strategies include:
 - Experiments/clinical trials.
 - Observing and recording well-defined events (e.g., counting the number of patients waiting in emergency at specified times of the day).
 - Obtaining relevant data from management information systems.
 - Administering surveys with closed-ended questions (e.g., face-to face and telephone interviews, questionnaires etc).

Refer to (http://www.achrn.org/quantitative_methods.htm)

Quantitative Strategies

- ▶ **Interviews:** in Quantitative research (survey research), interviews are more structured than in Qualitative research. In a structured interview, the researcher asks a standard set of questions and nothing more. (Leedy and Ormrod, 2001) Refer to: (<http://www.stat.ncsu.edu/info/srms/survpamphlet.html>).
- ▶ **Face -to -face interviews:** have a distinct advantage of enabling the researcher to establish rapport with potential participants and therefore gain their cooperation. These interviews yield highest response rates in survey research. They also allow the researcher to clarify ambiguous answers and when appropriate, seek follow-up information. Disadvantages include impractical when large samples are involved, time consuming and expensive (Leedy and Ormrod, 2001).
- ▶ **Telephone interviews:** are less time consuming and less expensive and the researcher has ready access to anyone on the planet who has a telephone. Disadvantages are that the response rate is not as high as the face-to-face interview but considerably higher than the mailed questionnaire. The sample may be biased to the extent that people without phones are part of the population about whom the researcher wants to draw inferences.

Quantitative Strategies cont

- ▶ **Computer Assisted Personal Interviewing (CAPI):** is a form of personal interviewing, but instead of completing a questionnaire, the interviewer brings along a laptop or hand-held computer to enter the information directly into the database. This method saves time involved in processing the data, as well as saving the interviewer from carrying around hundreds of questionnaires. However, this type of data collection method can be expensive to set up and requires that interviewers have computer and typing skills.
- ▶ **Questionnaires:**
 - **Paper-pencil-questionnaires:** can be sent to a large number of people and saves the researcher time and money. People are more truthful while responding to the questionnaires regarding controversial issues in particular due to the fact that their responses are anonymous. But they also have drawbacks. Majority of the people who receive questionnaires don't return them and those who do might not be representative of the originally selected sample (Leedy and Ormrod, 2001).
 - **Web based questionnaires:** A new and inevitably growing methodology is the use of Internet based research. This would mean receiving an e-mail on which you would click on an address that would take you to a secure web-site to fill in a questionnaire. This type of research is often quicker and less detailed. Some disadvantages of this method include the exclusion of people who do not have a computer or are unable to access a computer. Also the validity of such surveys are in question as people might be in a hurry to complete it and so might not give accurate responses. Refer to (<http://www.statcan.ca/english/edu/power/ch2/methods/methods.htm>).

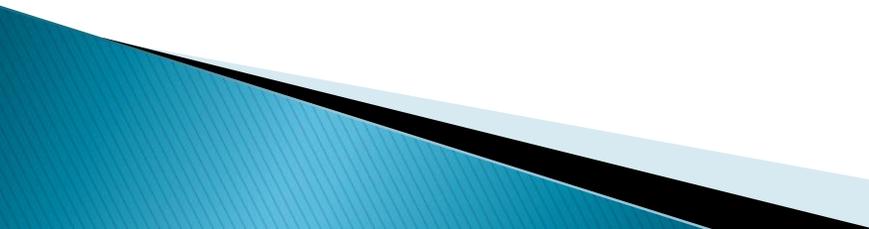
Quantitative Strategies

- ▶ Questionnaires often make use of Checklist and rating scales. These devices help simplify and quantify people's behaviours and attitudes.
 - A **checklist** is a list of behaviours, characteristics, or other entities that the researcher is looking for. Either the researcher or survey participant simply checks whether each item on the list is observed, present or true or vice versa.
 - A **rating scale** is more useful when a behaviour needs to be evaluated on a continuum. They are also known as Likert scales (Leedy and Ormrod, 2001).

Quantification of Data

- ▶ Quantitative analysis is almost always done by computer programmes such as SPSS and MicroCase. For these programme to work their magic, they must be able to read the data you have collected in your research.
- ▶ Some of your data are inherently numerical: age and income. Others areas are easily quantified: forming male and female in “1” and “2”.
- ▶ Some data are more challenging particularly open ended questions. This must be coded before entering for analysis. For example, if you ask someone their occupation, several responses will be received which you would not be able to analyze. Therefore you would need to code based of pre-established coding scheme (professional, managerial, clerical, semi-skilled etc)

Criteria of Measurement Quality

- ▶ In order to the success of your measurement of viabilities, research need to consider the issues of reliability and validity (Bobbie, 2004).
 - ▶ Precision and Accuracy: this is concerned with the fineness of distinctions made between the attributes that compose a variable. The description of a man as “25 years old” is more precise than “in his twenties.” Saying a company’s profit was “20.5 million” is more precise that “about 21 million.”
 - ▶ Precise is not always possible nor require so the researcher must be guided in part by an understanding of what precision is required.
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Reliability

- ▶ That quality of measurement method that suggests that the same data would have been collected each time in repeated observations of the same phenomenon. In a survey we would expect that the question “Did you arrive at work early everyday last week” would have higher reliability than “About how many times were you late last month?”
- ▶ Reliability like precision has some issues as well as the issue of bias can creep in. Say we are studying morale of two groups of employees, we will look for certain things in their behaviour. However, our observation can be coloured by how we feel at the time as well as we can misinterpret what we see. If we were however, to observe the same workers over several days, our conclusion may be different.
- ▶ Another way to measure morale is to check the company’s records to see how many grievances has been filed. If we count up the grievances over and over, we should arrive at the same number. This measure would therefore appear more reliable.

Validity

- ▶ A term describing a measure that accurately reflects the concept it is intended to measure (Bobbie, 2004). For example, your IQ would seem a more valid measure of your intelligence than would the number of hours you spend in the library.
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 - Face validity – the quality of an indicator that makes it seem a reasonable measure of some variable. We may agree about the adequacy of the number of grievances lodged as a measure of morale but we would all agree that the number of grievances lodged has something to do with morale.
 - Criterion-related validity/predictive validity: the degree to which a measure relates to some external criterion. The validity of a driver's test is determined in a sense, by the relationship between the scores people get and their subsequent driving records.
 - What would be the criterion-related validity for these:
 - Is very religious
 - Support equality of men and women

Validity

- ▶ **Construct Validity:** the degree to which a measure relates to other variables as expected within a system of theoretical relationship.
 - ▶ **Content validity:** refers to how much a measure covers the range of meanings included within a concept. For example, a test of mathematical ability could not only test addition but would need to include subtraction, multiplication, division, and so forth.
 - ▶ There is a tension between reliability and validity which forces researchers to make a trade-off between both.
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References

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- ▶ Leedy And Ormrod Practical Research 2001 Greener S. & Martelli J 2015 *Introduction to Business Research Method*, 2nd ed., bookboon.com
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