Business Research Process

BUS 230: Business Research and Communication

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1.1 Goals and Learning Objectives

Goals and Learning Objectives

- Goals of this chapter:

  - Learn what research is.
  - Learn why businesses want to do research to inform decisions.
  - Learn about types of research.
  - Learn the steps of the research process.

- Learning objective #1: Develop the ability to define a research problem.

- Learning objective #1(a): Formulate research questions and hypotheses that are measurable, well-defined, address the overall problem, are directly related, and reflect the scope of the problem.

2 Formulating a Research Question

2.1 Business Decision Making

Business Decision Making

- **Business decision making:** process of developing and deciding among alternative ways of,

  - resolving a business problem, or
  - taking advantage of a business opportunity.

- **Business problem:** a situation in which negative consequences are possible.

  - It may not be apparent what the problem is, or even that a problem exists.
  - **symptom:** the effects caused by a problem, serve as observable clues that a problem may exist.

- **Business opportunity:** a situation in which there is a potential for competitive advantage.

Why Research?
   Ambiguous situations:

- Existence of an opportunity or problem may not be obvious.

- Precise nature of the problem or opportunity is not known.

- How to resolve a problem / take advantage of opportunity are not fully clear.

- Symptoms unclear or not all known.

Good research question / project identifies an *opportunity* or *problem*, evidenced by one or more *symptoms*, and investigates *solutions*.

Example: McDonald's Coffee
   McDonald's coffee sales are down. What is this?

1. Problem

2. Opportunity

3. Symptom

4. Alternative

Problems and Solutions: McDonald's Coffee

- Symptom: Coffee sales are down.

- What could be the problem?

- What could be the solution?

- How would you figure this out?

The right business decision *depends on the problem*, not the symptom.

McDonald's McCafe

2.2 Research Objective

Defining the Research Objectives

- *Problem / research question:* a single statement/question describing the objective of the research project.

  - Term "problem" is used more generally, what don't we know, what question are we going to answer?
  - Not about confirmation or justification.

- A single problem / research question will have multiple *research objectives*

  - What are the goals of your research project?
  - What evidence will you look for?
  - What relationships will you investigate?
  - How will you describe nature and scope of the problem?

Well Defined Problems

"A problem well defined is a problem half solved."

"The formulation of a problem is often more essential than its own solution."

– Albert Einstein
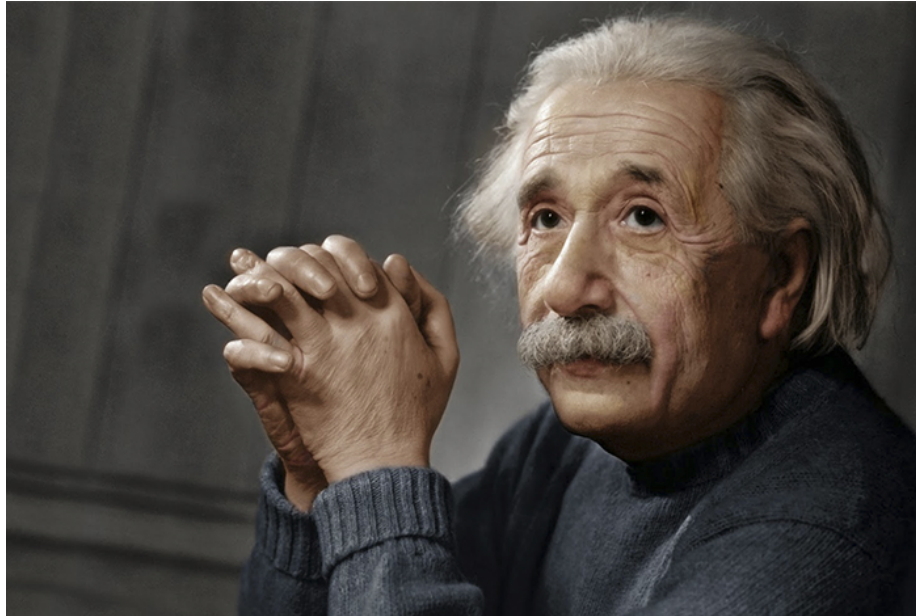
Methods for Finding Problem

- Exploratory research.

- Literature review. Often previous (published) research will motivate new questions.

- Pilot study (practice run): small-scale research project that collects data from individuals similar to those which will be used in a full study.

- Focus group: small group discussion in a loosely structured format, where participants are likely similar to those which would be used in a full study.

3   Types of Research

3.1   Exploratory Research

Types of Business Research

1. **Exploratory research:** identify problems or opportunities, discover alternatives.

   - Purpose is to clarify ambiguous situations.
   - Not intended to provide answers to problems or opportunities.
   - This is only the first step in a business decision process.

2. **Descriptive research:** describes people, organizations, customers, groups, etc. that are relevant to the business decision (more ahead).

3. **Causal research:** answers how will a change in one event in a manager's control change another event of interest (much more ahead).

3.2 Descriptive Research

Descriptive Research

- **Descriptive research:** describes people, organizations, customers, groups, etc. that are relevant to the business decision.

- Usually done after a problem or opportunity is well understood (after exploratory research).

- **Diagnostic analysis:** type of descriptive research that seeks to discover reasons for business outcomes.

  - Typically discovered with well written survey questions.
  - Might get at customers' feeling, beliefs, values, habits, spending habits, etc.

3.3 Causal Research

Causal Research

- **Causal research:** answers how will a change in one event in a manager's control change another event of interest.

- Examples:

  - How will an online training program affect workers' job performance?
  - How will an improvement in quality of a product change customer demand?

- In practice, establishing evidence for causation is *extremely tough*.

3.4 Overview

Examples: Types of Research

- What is the relationship between alcohol consumption and students' academic performance?

- What is the ethnic, racial, and age profiles for viewers of *The Daily Show* on Comedy Central?

- Is there a difference between the amount of cheating between freshman students and senior students?

- What are the UWL College of Business enrollment forecasts for the next year?

- A restaurant distributes a customer satisfaction survey.

3.5 Establishing Causation

Evidence for Causation

- Temporal sequence: cause happens first, then effect

- Concomitant variation: simply means two variables are related
  - *Might* be measured with a correlation coefficient

  - *Might* be measured with a Chi-square test of independence

- Non-spurious relationship: concomitant variation is evidence for causation

  - Can be difficult or impossible to establish

Concomitant Variation

- Spurious relationship: data on two variables are correlated but variables are not directly related to one another.

- Example: ice cream consumption and murder rate are positive related to one another.

- Example: class size and academic performance is related to another. Do you think they are positively related or negatively related?

- Example: alcohol consumption and academic performance??

4 Stages of the Research Process

4.1 Overview

Overview of the Research Process

- Stages of the Research Process:

    1. Defining the research objectives.
    2. Planning a research design.
        - Planning a sample.
        - Collecting the data.
    3. Analyzing the data.
    4. Formulating conclusions.

- Albert Einstein once said, "If we knew what is was we were doing, it wouldn't be called research, would it?"

- Forward Linkage: earlier stages in the research process influence how the later stages are conducted.

- Backward Linkage: later stages in the research process influence what is done in the earlier stages!

4.2 Research Design

Research Design

- **Research Design:** detailed, carefully constructed plan of the methods and procedures for collecting and analyzing data.

- Types of research designs:

    - Collect primary data: Answer who is your population. How will you sample? What are your survey questions?

    - Experiments (like McDonald's). Describe a design that exposes cause and effect.

    - Secondary data: Use existing data. Eg: previous study, economic or financial data.

    - Literature review: piecing together the results from other studies may provide an answer to yours.

Sampling

- Purpose of collecting a sample:
  - Make inferences about the population, based on results from the sample
  - Objective is *not* just to describe the sample

- First ask: who is population?
  - Might be obvious: A population may be UW-L students
  - Might not be obvious: Potential customers of a new product

- Avoid sample selection bias: the act of being part of your sample itself is related to the result
  - Experimental cancer treatment
  - Viterbo awareness

Gathering Data

- Obtrusive methods: gathering data is inconvenient or worse to participant
  - Eg: Filling out a questionnaire, interacting with an interviewer.

- Unobtrusive methods: subjects not disturbed, maybe even unaware
  - Counting vehicles passing a billboard
  - Collecting data on customer purchases
  - Whenever you go online and do anything

- Treating research subjects ethically. Even simple questionnaires may pose risks:
  - Will the information be treated confidentially?
  - Is the researcher in a position of authority over a subject?

4.3   Analyzing Data and Drawing Conclusions

Analyzing Data

- Choosing appropriate statistical analysis.

- Are the assumptions behind the statistical procedures met?

- Will the results of the statistical procedure answer your *research question?*

Drawing Conclusions

- Conclusion section should be more than a short summary of what you did.

- Bring the results of the statistical analysis back to the research question. *Answer the question.*

- Did your analysis fail to fully answer the question, what questions remain.

- Does the discussion of the results motivate a new research question?