

Research Problem

BUS 230: Business Research and Communication

Goals and Learning Objectives

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- Goals of this chapter:
 - Learn how variables are used to answer a research question.
 - Learn the fundamental characteristics of a research proposal.
- Learning objective: LO1: Develop the ability to define a research problem. Formulate research questions and hypotheses that are measurable, well-defined, address the overall problem, are directly related, and reflect the scope of the problem.

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Variables in the Research

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- **Unit of analysis:** that which defines a single observation from your population, from which you can draw measures of one or more variables.
- **Variable:** A measure of a very specific attribute from an observation in your population. The value this attribute takes should differ among at least some of the observations in your sample and population.
- **Continuous variable:** A variable whose measurement is taken on a scale without breaks, and which any fractional measure is allowed.
- **Categorical variable:** A variable whose value defines membership of one of two or more groups.

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Examples

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- Research question: “What impact does living on campus have on academic performance?”
 - Unit of analysis: single UW-L college student.
 - Continuous variable: GPA (Scale 0.0-4.0)
 - Categorical variables: housing situation (on or off), gender, college (CLS, CBA, SAL)
- Research question: “What impact does state revenue have on public education expenditures?”
 - Unit of analysis: A single U.S. state.
 - Continuous variables: Tax revenue, public education expenditure (each measured in dollars)
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Dependent and Independent Variables

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- **Dependent variable:** variable that depends on, is explained by, or can be predicted by other variables.
- **Independent variables, aka explanatory variables:** one or more variables that explain or influence a dependent variable.
- Example: “What impact does living on campus have on academic performance?”
 - Dependent variable: Cumulative GPA
 - Explanatory variables: housing situation, parent's income, gender.
- Example: “What impact does state revenue have on public education expenditures?”
 - Dependent variable: Public education expenditures
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Research Proposal

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- **Research proposal:** written statement of what the research project will entail.
 - Often written to gain permission, or ask for funding, to conduct the research.
 - This is *not* just an introduction of your research paper.
 - With any research project, the research proposal should be short.
- Parts of a Research Proposal
 - Short introduction: background of the situation, describe what is known and unknown about the topic, and why more research is required.
 - Purpose of the research.
 - Research design.
 - Outcomes.

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- Should immediately include the these statement / research question.
- Go into more detail about what questions will be answered.
 - Are you going to investigate the significance of multiple causes towards some effect?
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- This likely resembles the methodology section of the final research project.
- Includes:
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- What will be learned from this research project?
 - Be specific. Do not be overly optimistic about a general result.
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