# Quantitative Research Proposal

In a research proposal, you summarize the components of your research and tell your audience concisely about the study you are planning: what you are going to do, how you are going to do it, and why it matters. A research proposal should contain the following sections and subsections:

- Abstract
- Description of the Research
    - Summary of Key Literature
    - Conceptual Framework
    - Research Question
    - Non-directional/Directional Hypotheses
    - Null Hypotheses
- Design and Methodology
    - Description of Research Participants
    - Operationalization of Variables
    - Reliability and Validity
    - Facilities and Equipment/Measurement and Instrumentation
    - Data Collection Plan and Procedures
    - Data Analysis Procedures
- Time Frame
- Intellectual Merit
- Broader Impacts
- References Cited

Your research proposal should be formatted in APA style, including the APA recommended format for headings and subheadings.

## Abstract

An abstract follows a clear structure that reflects the key elements of your study. These elements include a brief description of the scholarly context of your project; the objective or goal(s) of your research; the methodology you will employ; the findings you might expect; and the overall research contributions you hope to make. An abstract is typically one to two paragraphs in length (approximately 250 words). Researchers often write their abstract *after* other components of the proposal are finalized.

## Description of the Research

A description of the research is where you position your study in the field and explain where and how you developed the components of your project question(s). Think of it as sharing the evolution of your thought process in designing your study, i.e., where ideas came from, how you envision the study unfolding, and what you think you know and want to confirm or find out.

### Summary of Key Literature

These are the most important academic publications that inform your study. Key literature is the core of work published on your topic, or those pieces that shaped the focus and design of your research. The literature covered in this section should be sufficient in detail to describe the existing knowledge on your topic and to position where and how your work will fit within the field.

## Conceptual Framework

The conceptual framework is an outline of your research plan for conducting the study. This is where you discuss how your study fits within the broader field and its theoretical concepts; where your work might build upon or support a theoretical model; what the objectives of your study are; how you explain the phenomenon that is the focus of your research; and so on.

## Research Questions

Research questions include the key question(s) you want your research to answer. You should be able to tell your audience what you want to know with focused, concise question(s).

## Non-directional/Directional Hypotheses

A hypothesis is an assumption that you will test in your study to see if it is or might be true. Hypotheses are what you expect to find in your research based on the limited knowledge that has informed the development of your investigation.

Alternative hypothesis can be directional or non-directional. A directional hypothesis assumes a specific direction of the variable change. A non-directional hypothesis assumes that some change in variable will happen but the direction is not determined.

## Null Hypotheses

For every alternative hypothesis, there is a testable null hypothesis. Null hypotheses are the hypotheses we test in a study.

# Design and Methodology

This section focuses on the type of research design you will use in your study. What type of design are you planning? For example, is it going to be correlational, experimental, or quasi-

experimental, or will it be something different? Explain why the design is suitable for your study and the potential limitations of the design.

Consider the following questions when writing this section, and keep in mind that not all questions will be applicable to your specific study:

- What type of design will you employ (i.e., quantitative, mixed-methods)? You may need to be more specific and discuss cross sectional design, longitudinal study, case study, and so on, depending on the study.
- What type of data are you using (e.g., primary, secondary)?
- How are you going to collect data, if it comes from a primary data source?
- What are the characteristics of participants you need for the study? If you are comparing two or more groups, what are the different characteristics you need?
- What sampling method will you use? What is the rationale for it?
- What is your sample size (if known)? How did you determine the number?

**Description of Research Participants**

In this sub-section, describe the number of research participants required for the study and the characteristics of those individuals. If recruiting multiple groups of individuals, be sure to mention the characteristics of each group. You should discuss the sampling plan and sampling method you intend to use for selecting your participants. Include how you will determine the optimum number of participants (sample size) needed for your study. You should also address issues of statistical power needed for the study, as applicable.

**Operationalization of Variables/Constructs**

This sub-section covers how you define and will measure the variables outlined in your study.

- What are the main constructs of the study?
- What are the independent and dependent variables? How are they defined? How will you measure them?
- Are you using any additional variables in your study (e.g., mediator, moderator, intervening)?
- How have you operationalized your variables? How have you broken down their meaning into variables that are measurable for quantitative studies? Explain each variable of interest in detail and include how you have decided to measure it.
- Remember to include the rationale for each variable, supporting these decisions with literature as needed.

**Reliability, Validity, and Researcher's Bias**

Here you should describe issues of reliability and validity to ensure fidelity of your study, including how well measures and instruments capture the variables of interest in order to answer your research question(s). Various aspects of validity and reliability should be discussed.

Consider the following:

- How have you ensured for reliability (e.g., consistency of the measurement, discussion of data collection instrument)?

- Validity occurs only if there is reliability established (and not the other way around). It answers the question: How do you know that the tool you are using truly measures your concept? Discuss the type of validity you are handling and how you are handling it.

**Facilities and Equipment/Measurement and Instrumentation**

In this sub-section, address the types of instruments to be used, equipment needed, and/or space required, as necessary. In case you develop your own instrument, you need to describe the development procedure and validation process you will undertake to assure the validity of the instrument.

**Data Collection Plan and Procedures**

Here you will discuss and/or describe your planned approach to collecting data using your selected instruments. Also discuss any approaches and/or activities you will use to minimize biases and enhance the validity of your study.

Every detail about data collection is included here. If the data comes from a secondary source, include details from the original study. Be sure to address the following:

- How long will interviews last (both qualitative and quantitative)?
- Where will interviews take place?
- Provide the interview protocol and interview questions (include these as an attachment).
- Include necessary permissions from businesses, organizations, universities, and so on and what they have agreed to provide for you.

**Data Analysis Procedures**

In this sub-section, discuss your data analysis plan, including the steps you will take to ensure accuracy and/or trustworthiness of the findings and their interpretation. For any quantitative analysis, include the specific statistical tests that are planned to analyze data. Any

additional analyses (i.e., secondary analyses) that will be performed are also described in this section. Be sure to address the following questions and topics:

- How will you manage the data?
- You should discuss how the data will be handled and cleaned, as well as how you will manage missing data.
- What types of tests will you run? What are your expectations?

## Time Frame

Provide an approximate time frame for your study. Consider all aspects of research preparation, data collection, data analysis, and dissertation writing, keeping in mind that most stages of dissertation take longer than initially planned. For example, and as applicable, you will need to allocate time for IRB review and approval; human subject recruitment and scheduling; document and data access; equipment purchases; and drafting, writing, revising, reviewing, and re-writing processes.

| **ACTIVITY** | **PROPOSED TIME FRAME** |
|---|---|
| Research Preparation | |
| Data Collection | |
| Data Analysis | |
| Dissertation Writing | |

## Intellectual Merit

This is the academic or scientific contribution that the findings from your research will provide. Intellectual merit is how your work advances knowledge of a topic or in your field.

## Broader Impacts

This is the non-academic contribution your research has the potential to make to broader society. Broader impacts, or significance of the study, cover the possible benefit of your research to the general public.

## References Cited

Include only the references you have cited in your Research Proposal. Your references must be complete and in APA format.