

AQ 399–Research Project

Research Proposal Guidelines

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Research Proposal

A Research Proposal should be written following **UDSM** format. You are required to submit a completed draft of your proposal for the final review and examination. The research proposal must be your own original work and should not duplicate any other previously works.

A proposals **MUST** include the following;

- Title page
- Table of Contents
- Introduction
- Materials and Methods
- Other relevant Information (Financial Budget and time frame)
- References

Title/cover Page

This should contain a proposed title, an institutional information, your names and name of your supervisor.

- **Title** – The title should be concise and clear. From the title, the reader should be able to predict fairly accurately what the project will be about.

Tip

The title page does not contain a page number.

Table of contents

Provide a list of chapters, sections and subsections together with the page number in which they are found.

You must also provide;

- **List of Figures** – This shows location of all figures in the proposed document
- **List of Tables** – This shows location of all tables in the proposed document

Tip

Table of contents must have a roman page number.

1 Introduction

This section must include the following and must have Arabic page numbers;

1.1 General introduction (Min. 2 pages).

In this subsection explain the general background information about your research topic. Summarize key available literature and cite the most current and important previous studies that are relevant to the current research. In this section, the following must be included;

- Explain what has been done in the past research
- Show what has not been done – **the gap**
- Address what are you going to do to reduce or fill the gap

1.2 Statement of Research Problem (Max. 1 page).

In this section deals with identification of the problem

The section should include;

- A clear statement that the problem exists
- Evidence that supports the existence of the problem
- Evidence of an existing trend that has led to the problem
- The causes related to the problem

1.3 Objectives of the research

This outline where the project is headed and what will be accomplished. Objectives should directly address the problem mentioned in the problem statement. They should be very specific. It includes both general and specific objectives.

1.3.1 General objective

The general objective is what you want to achieve in your project. This is the main goal or aim of your research project.

1.3.2 Specific objectives

The specific objectives are the building blocks of the general objective. These are activities which will be done in your research.

1.4 Hypotheses/Research questions

When writing your proposal, you may either use hypothesis or research question. A hypothesis is an assumption that is made based on some evidence of your research. A research hypothesis is the one which will be tested during data analysis.

Tip

In biological research, hypotheses are normally stated in ***NULL*** and not in Alternative hypothesis.

Every specific objective, must have its own hypothesis or research question

A research question is a question that a study or research project aims to answer. This question often addresses an issue or a problem, which, through analysis and interpretation of data, is answered in the study's conclusion.

1.5 Significance of the study

Significance of the study refers to the importance of your research. While stating the significance, you must highlight the contribution or benefits of your research in science and in society. Start with broader importance, and narrowing it down to demonstrate the specific group that will benefit from your research.

1.6 Literature Review (Min. 3 pages)

A literature review is a comprehensive summary of previous research on a topic. The literature review surveys scholarly articles, books, and other sources relevant to a particular area of research. The review should enumerate, describe, summarize, objectively evaluate and clarify this previous research. It should give a theoretical base for the research and help you (the author) determine the nature

of your research. The literature review acknowledges (citing) the work of previous researchers. It is assumed that by mentioning a previous work in the field of study, that the author has read, evaluated, and assimilated that work into the work at hand.

2 Materials and Methods

A research proposal should contain this section which gives details on the materials and methods proposed to be used when conducting the research. The materials are tools, raw materials, subject and/or important chemicals used in your experiments. Basically these are important details of **WHAT** you use in your research. The methods is **HOW** you conduct the research. It describe all the steps or procedures you have done in order to achieve the research objectives, including the experimental design and data analysis.

This section must include the following;

2.1 Study site or area

This describe the location(s) where the proposed research will be carried out. The details of the conditions and geographical characteristics and the map of the an area should also be included in this section.

2.2 Experimental design or sampling design

This is the step by step descriptions of where and how the experiment or the study will be conducted. This is the setup of your research experiment. Explain how you will design your study or experiment, how often (frequency) will data be collected and for how long you will be collecting data. This section should be

described precisely and in details; it must be reproducible. If questionnaires will be used, samples of the proposed questionnaires should be presented.

2.3 Data collection

Explain the type of data which you will collect. Show the technique will be used in collect data. If you are using a method that has been validated; state the method and cite the author. In case new methods or technique have been developed; describe it in details.

2.4 Data analysis

Data analysis is a process of cleaning, transforming, presenting, visualizing and modeling data to discover useful information for decision-making. It involves statistical analyses in order to draw conclusion based on your research objectives and hypotheses. There are two types of statistical analysis – **Descriptive statistics** and **Inferential statistics**

Descriptive statistics is a describes nature of the data or gives a summary of the data. It shows distribution and variation of the data. However, you can not make conclusion based on this type of statistics.

Inferential statistics is the type of statistics used to draw conclusion. There are different types of inferential statistics; some are **parametric** such as t-test, ANOVA while some are **non-parametric** such as Man-whitney test and Kruskal-wallis.

This section is very important when preparing your research proposal. State the type of statistical test which you will use to test each hypothesis. The type of statistical software which you are going to use during analysis also have to be shown in this section.

2.5 Other relevant information

2.5.1 Work plan or Timeframe

A work plan is a schedule, chart or graph that summarizes different activities of a research project. Every activity of your research have to be included in this section from formulation of the research title to the final submission of the report.

2.5.2 Budgeting and Financial arrangements

Financial budget will include all the cost that will be needed to conduct and complete the study. Total amount of cost should be broken up into specific amount.

2.6 References

The reference section must contain an alphabetical list of all references cited in the text. Use **Tanzania Journal of Science** referencing style to cite and list the references. All references cited in the document **MUST** appear in the reference list, and all in the reference list **MUST** be cited in the document.