



ETHIOPIAN ELECTRIC POWER
RESEARCH AND DEVELOPMENT DEPARTMENT

**Basic guidelines for research proposal preparation and
submission**

August 2022

Addis Ababa, Ethiopia

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1. Introduction

In today's world, effective and efficient service providing can be attained through the identification of the problems and providing the scientific solutions through the research. Taking into account the potential importance of research and development in the electricity sector and the country's socio-economic development, Ethiopian Electric power (EEP) Research and Development Department has been designed to coordinate the research related activities to the development of electricity at the corporate level, as well as to carry out the research independently. Since the formation, the department is preparing the important documents to increase its productivity. Therefore, one of the ways designed to help and make the independent research and scientific activities effectively is the creation of the research proposals preparation and submission. Therefore, this document can be used as a guideline for the research proposal submission to the department.

2. Purpose of the document

This document is mainly produced to give a basic proposal preparation processes for internal and external researchers. This document will be used as references for the proposal evaluation processes throughout the company. All the research proposal documents that are submitted the Ethiopian electric Power Research and Development department shall follow this guideline during the proposal development process.

3. Research proposal

A research proposal is a simply a structured, formal document that explains what you plan to research (i.e. your research topic), why it's worth researching (i.e. your justification), and how you plan to investigate it (i.e. your practical approach).

The purpose of the research proposal is to convince your research supervisor, committee or client that your research is suitable (for the requirements) and manageable (given the time and resource constraints you will face).

- It is a detailed plan of your study.
- It is a document which sets out your ideas in an easily accessible way.
- The intent of written proposal is to present a focused and scholarly presentation of a research problem and plan.
- The objective is to describe what you will do, why it should be done, how you will do it, and what you expect will result.

4. Process in a research proposal development

You may need to go through some steps to develop a clear and desirable research proposal. These are called the sections of research proposal. In general speaking, the research proposal sections should answer some important question in the research.

Basically the research proposal shall answer the following questions

- What do you want to do? – Research Topic
- Why do you want to do it? – Statement of the Problem
- Why is it important? – significance of the study
- Who has done similar work? – background/Literature Review
- How are you going to do it? –methodology
- How long will it take? –work plan
- How much it requires? – Budget

5. Sections of research proposal

The research proposal shall compose of the following sections.

5.1.Title

Title is the most readable content in the research proposal and it shall be

- Specific
- Short the fewest possible words that adequately describe the contents of the study.
- It is a label; not a sentence
- It shouldn't contain any abbreviations
- The title page has no page number and is not counted.
- This forms the first impression about your research
- If vague – Reader will be cynical

5.2.Summary/Synopsis (optional)

This part is an optional part. Most research scholars recommend this part but it is not a mandatory to write summary in the proposal development phase. If one needs to add this portion in their proposal, it should be

- Should not be more than one page
- It should shows that your work fits with the topic
- It should show what a contribution your work will make.
- It should specify the research question and how it is going to be answered.
- Do not put any information not stated in the main text.
- Never contain references, figures and tables.
- It comes first but written last.

5.3.Table of contents

Table of contents should be well formatted and have a proper headings

5.4.List of tables, acrimonies and figures (if available)

The list of tables, figures and acrimonies should be listed properly and shall be easily understandable.

This should capture the title and page number where the table/figure is found.

- The numbering style should be two numbers level
- Titles for Tables should be placed above the table/figure

5.5.Introduction

Background information of the research proposal Convince the reader that you have identified a research problem, worthy of investigating.

Start very general – Broad Topic

Highlight

- the concept
- Practical significance

Reduce it to a narrow topic by

- Raising questions, and
- Stating answers from literature for most.

Establish rationale:

- Raise necessary questions for which there is no answer yet.

5.6.Statement of the problem

It is an explanation in research that describes the issue that is in need of study. What problem is the research attempting to address? Having a Problem Statement allows the reader to quickly understand the purpose and intent of the research. In this portion

- The issue that leads to a need for the study.
- Answer the question ‘Why does this research be conducted?’
- The foundation for everything to follow in the proposal.

5.7.Objectives

The research objectives describe what your research is trying to achieve and explain why you are pursuing it. They summarize the approach and purpose of your project and help to focus your research. Your objectives should appear in the introduction of your research paper, at the end of your problem statement. Objectives should be

simple, specific, stated in advance, stated using action verbs. Mostly derived from the topic.

Objectives can be classified into:

General objective – showing what exactly to be studied

Specific objectives – shows in greater detail the specific aims of the research project.

5.8.Hypothesis/ Research questions

A hypothesis is a tentative answer to a research problem that is advanced so that it can be tested. Developing hypotheses requires that you identify one character, variable or descriptor of a sampling unit that causes, affects, or has an influence on, another character, variable or descriptor of the same or other sampling units. The character, variable or descriptor that affects other variables or sampling units is called the independent variable. The character, variable or descriptor which is affected by the independent variable is called the dependent variable or response variable.

Note that although for the purposes of research methodology some variables may be called 'dependent' when investigating their relationship with other 'independent' variables, this does not imply the existence of a causal (as compared with associative) relationship unless strict rules of research design are followed.

5.9.Scope of the study

The scope of a study explains the extent to which the research area will be explored in the work and specifies the parameters within the study will be operating. Basically, this means that you will have to define what the study is going to cover and what it is focusing on.

In order to write the scope of the study that you plan to perform, you must be clear on the research parameters that you will and won't consider. These parameters usually consist of the sample size, the duration, inclusion and exclusion criteria, the methodology and any geographical or monetary constraints.

Each of these parameters will have limits placed on them so that the study can practically be performed, and the results interpreted relative to the limitations that have been

defined. These parameters will also help to shape the direction of each research question you consider.

It should cite the focus of the study geographical area or target group/population/depth of focus in concepts or variables. In this section, the researcher describes the focus or scope of the study to enable an enthusiastic reader to make generalization of the findings.

5.10. Expected outputs/Significance

The significance of the study is a written statement that explains why your research was needed. It's a justification of the importance of your work and impact it has on your research field, its contribution to new knowledge and how others will benefit from it. The expected output shall mainly address:-

- Expected project achievements
- Beneficiaries and how they will access the outputs

5.11. Limitation of the study

This brings out the perceived factors which might affect the research in the course of the study. It should also show the suggested methods which are supposed to deal with the problem. The limitations should not be stated in terms of time or financial resources constraints. Researchers are expected to plan and implement research projects within the available time and financial resources.

5.12. Literature review

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 the work of previous researchers, and in so doing, assures the reader that your work has been well conceived. 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.

A literature review creates a "landscape" for the reader, giving her or him a full understanding of the developments in the field. This landscape informs the reader that the author has indeed assimilated all (or the vast majority of) previous, significant works in the field into her or his research.

"In writing the literature review, the purpose is to convey to the reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are. The literature review must be defined by a guiding concept (e.g. your research objective, the problem or issue you are discussing or your argumentative thesis). (Bloomsberg University)

Generally, the literature review need to have two components:-

5.12.1. Theoretical review

This section should discuss current/relevant theory that supports the research problem been studied. For example in marketing problem particularly consumer related, the underlying marketing theory relevant to your project e.g. Consumer behaviour, employee motivation, power should be discussed.

5.12.2. Empirical Review

This literature review section of the proposal should present a review of the literature related to the problem and purpose. The literature review section should therefore be organized or categorized according to the research questions or specific objectives in order to ensure relevance to the research problem. It should be written using appropriate writing style of the American Psychological Association (APA) style as recommend by most school of Business

Research/Thesis Writing Guideline, 2021 of Ethiopian Universities. Cite 3-5 references per key section in the text.

Review the empirical literature relevant to the problem being investigated showing clearly the linkage of literature review to the research questions. During literature review, it's important to note the following points:

- ❖ You should evaluate what has already been done, show the relationships between different works, and show how it relates to your project.
- ❖ Refer to work by recognized experts in your chosen area
- ❖ Consider and discuss work that supports and work that opposes your ideas
- ❖ Make reasoned judgments regarding the value of others' work to your research
- ❖ Support your arguments with valid evidence in a logical manner
- ❖ Distinguish clearly between facts and opinions
- ❖ Ensure the review is done chronologically
- ❖ Each key variable should be 2-3 pages long.
- ❖ The hypothesized variables should be subheadings of the literature review to form a framework that would help in analysis.
- ❖ It is not supposed to be just a summary of other people's work but Critique of the existing literature relevant of the study
- ❖ Review and critique any previous studies. For the review to be critical, you will need to develop critical judgment.
- ❖ Indicate what has been done by other researchers including the methodologies used and identify the gaps.
- ❖ The emerging Research gaps.

5.13 Conceptual Frame work

The Conceptual framework should demonstrate an understanding of what variable influences what.

5.14. Materials & methods (Research methodology)

5.14.1. Research design

In this section, the researcher should identify, and provide justification for the specific research design or strategy used in carrying out the study. Research designs include exploratory, descriptive, causal, or quasi experimental. The research design should emphasize on defining the design, revealing its merits and providing justification for its selection. In experimental study, the tests, equipment and control conditions should be described

5.14.2. Research Philosophy

Research philosophy is important in the development of the research background, research. Knowledge and its nature (Saunders and Thornhill, 2007). Furthermore research philosophy can also be described as a paradigm which involves a broad framework, which comprises perception, beliefs and understanding of several theories and practices that are used to conduct a research (Cohen, Manion and Morrison, 2000). A paradigm is a way of thinking about and conducting a research. It is not strictly a methodology, but more of a philosophy that guides how the research is to be conducted. Research paradigm and philosophy comprises various factors such as individual's mental model, his way of seeing thing, different perceptions, variety of beliefs towards reality, etc.

It is necessary for the researcher to understand the philosophical position of research issues to understand the different combination of research methods.

5.14.3. Target Population

The researcher should identify and describe the characteristics of the population involved in the study. Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate. Population forms a basis from which the sample or subjects for the study is drawn. Clearly identify the population and the target population and its size and characteristics. Justify the source of the target population. Where necessary provide the Sampling frame in the form of a table.

5.14.4. Sampling design

In this section, details description of sampling method and the actual sample size should be provided. Sampling methods may include probability and non-probability techniques. In nonprobability sampling designs, the elements in the population do not have any probabilities attached to their being chosen as sample subjects. This means that the findings from the study of the sample cannot be confidently generalized to the population. Typical examples of nonprobability sampling techniques include convenience sampling, and purposive sampling.

To ensure fair representation and generalization of finding to the general population, probability sampling technique should be used. Typical examples of probability

sampling include simple random sampling, systematic sampling, stratified random sampling and cluster sampling. The sample size should, therefore, be representative of the general population.

5.14.5. Data collection instruments

The researcher is supposed to discuss the type of data which will be collected. This should be followed by the instruments to be used to collect the data. In this section, the researcher should describe the major methods for collecting data from the subjects. The major methods for obtaining data in a study may include interviews, questionnaires and observation techniques. The data collection instruments should be developed and organized on the basis of the research questions or specific objectives to ensure relevance to the research problem. A description of the instruments should be given, whether they are researcher developed or standardized instruments. A description of the nature of instrument items, validity and reliability, and administration procedures should be provided.

It is worth noting that for primary data the researcher can use more than one instrument, in such a case he/she should justify why used more than one method. In addition, the researcher should operation which part of the questionnaire/questions will address which objective (s).

5.14.6. Data collection procedure.

After development of the data collection instruments what next? This section describes step by step which will be followed in data collection. It should discuss which method(s) to be used to address Validity and reliability of the study instruments. Such methods include pilot testing, Cronbach alpha, test-retest method among others. Beside this the researcher should discuss the method of administering the data collection instruments, justify the use of such method. Issues related to research permit, research assistants should also be discussed. Finally the research should state the approximate time required to collect the data.

5.14.7. Data analysis and presentation

This should present detailed steps of how the quantitative and qualitative data will be analyzed. For quantitative data it should include descriptive statistics and inferential

statistics to be used, also show which of these will be used for which objective or hypothesis. Descriptive statistics include frequencies, measures of central tendencies (mean, median or mode) and measures of dispersion (standard deviation, range or variance). Inferential statistics involve measurement or relationships and differences between or among the variables. Inferential statistics include correlation, regression and analysis of variance among others.

The qualitative data analysis technique used should be content analysis. The candidate should also explain how Type I and Type II errors will be controlled. In addition, the researcher should include, the procedures used to examine the variables and steps taken to control for extraneous influences that might threaten the findings of the study. Finally the section should explain how the results of data analysis will be presented and justify why use that specific method of presentation.

In Summary, research methodology simply refers to the practical “how” of any given piece of research. More specifically, it’s about how a researcher systematically designs a study to ensure valid and reliable results that address the research aims and objectives.

For example, how did the researcher go about deciding?

- What data to collect (and what data to ignore)
- Who to collect it from (in research, this is called “sampling design”)
- How to collect it (this is called “data collection methods”)
- How to analyse it (this is called “data analysis methods”)

In a dissertation, thesis, academic journal article (or pretty much any formal piece of research), you’ll find a research methodology chapter (or section) which covers the aspects mentioned above. Importantly, a good methodology chapter in a dissertation or thesis explains not just what methodological choices were made, but also explains why they were made.

In other words, the methodology chapter should justify the design choices, by showing that the chosen methods and techniques are the best fit for the research aims

and objectives, and will provide valid and reliable results. A good research methodology provides scientifically sound findings, whereas a poor methodology doesn't.

In General, research methodology can summarize:-

- A detail description of the activities and the methodological steps you will take to achieve your objectives.
- Depending upon the type of study, it includes:
- Description of study area, study design and study participants
- Sampling technique and sample size used
- Methods of data collection
- Method (s) of data analysis, etc.

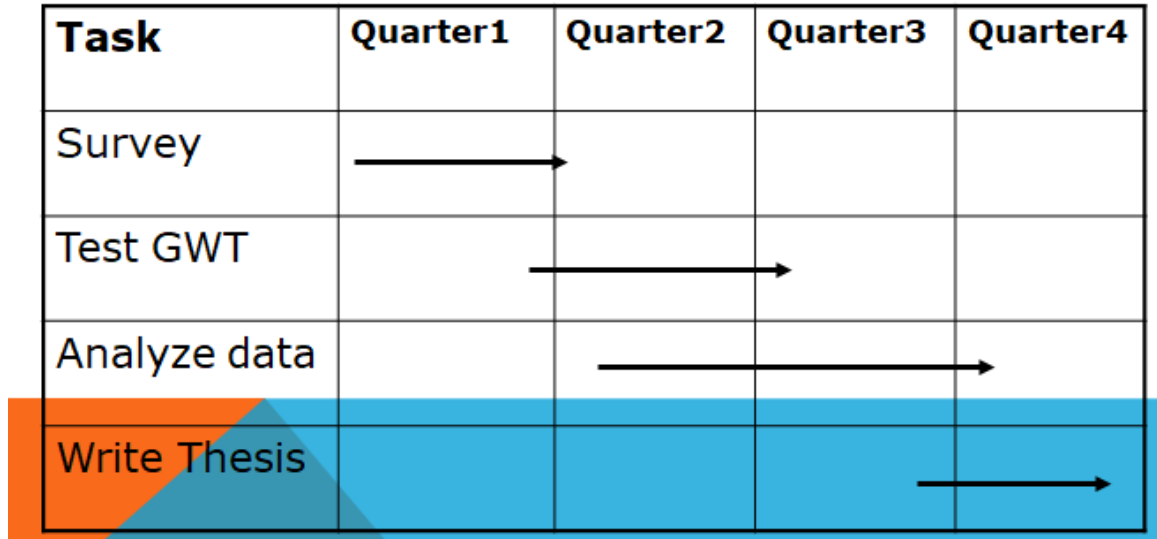
5.15. A tentative time table/Work plan

A work plan is an overview of a series of objectives and procedures by which a team and/or entity can achieve those goals and provide the reader with a clearer picture of the project's context. It's a schedule that summarizes the different components of a research proposal and how they will be implemented. Work plan may describe:-

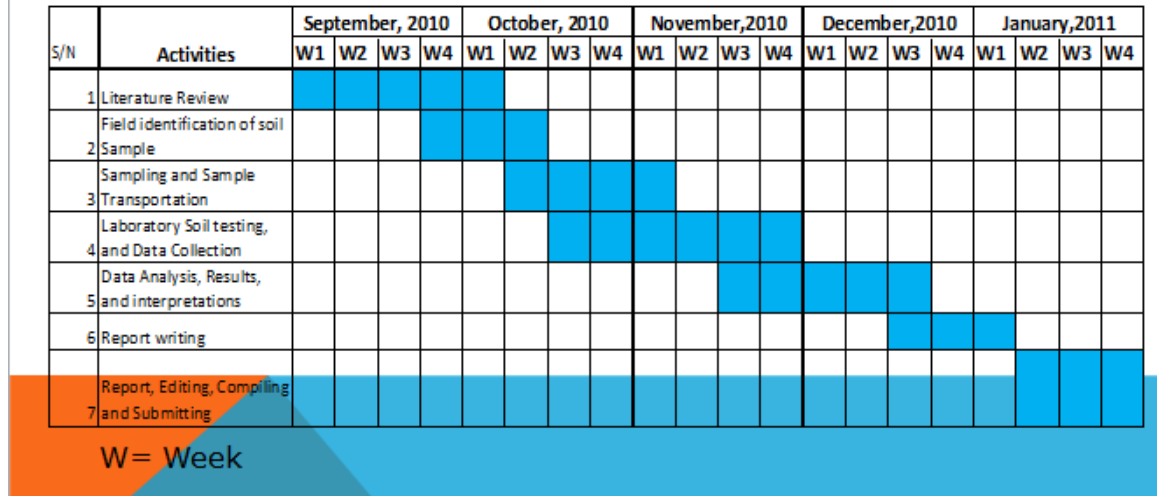
- ✓ Different phase/components of the study should be stated
- ✓ Describe the activities in each phase.
- ✓ Indicate time frame to accomplish the various aspects of the study.
- ✓ Could be presented in table, chart or graph.

Sample work plan

GANTT CHART (TIME LINE)



GANTT CHART (TIME LINE)



Graph 1: Sample Work plan

5.16.A budget

A budget is a detailed statement outlining estimated project costs that support a research project. It should include all Direct Costs, as well as the calculated Facilities and Administrative (F&A) costs required to carry out the research objectives. The proposal budget should be derived directly from the research description and serves as the financial expression of the project. Budget is the cost of conducting research. In summary:-

- ✓ Budget items need to be explicitly stated with justification
- ✓ Should be activity based & costed realistically.
- ✓ Costs are typically:
 - ✓ Direct costs – personnel, consumable supplies, equipment, travel, publication, etc.
 - ✓ Indirect costs – overhead and administrative costs.

5.17.References

Referencing allows you to acknowledge the contribution of other writers and researchers in your work.

Referencing is also a way to give credit to the writers from whom you have borrowed words and ideas. By citing the work of a particular scholar, you acknowledge and respect the intellectual property rights of that researcher. As a student or academic, you can draw on any of the millions of ideas, insights and arguments published by other writers, many of whom have spent years researching and writing. All you need to do is acknowledge their contribution to your assignment.

Referencing is a way to provide evidence to support the assertions and claims in your own assignments. By citing experts in your field, you are showing your marker that you are aware of the field in which you are operating. Your citations map the space of your discipline and allow you to navigate your way through your chosen field of study, in the same way that sailors steer by the stars.

References should always be accurate, allowing your readers to trace the sources of information you have used. The best way to make sure you reference accurately is to

keep a record of all the sources you used when reading and researching for an assignment.

- List all references with consistent style (never list what is not cited inside the document)
- In alphabetical order
- *Italic*

E.g.

Abebe T. 2009 . [Title]. [name of journal]. [Vol. no.].pp. 154-159.

Abebe T. and B. Bogale. 2008. [Title]. [name of journal]. [Vol. no.].pp. 54-60_2009. [Title]. [name of journal]. [Vol. no.].pp. 25-30.

Bekele S., T. Debebe and R.S. Reddy. 2000. Title]. [name of journal]. [Vol. no.].pp. 25-30.

6. Research proposal formatting

The proposals to be submitted to the department of research and development shall be formatted in the following way.

Table: Proposal format

Description	Paragrap hs	Heading 1	Heading 2	Heading 3	Chapters	References
Font family	Times New Roman	Times New Roman	Times New Roman	Times New Roman	Times New Roman	Times New Roman
Font size	12	12	12	12	12	12
Font- weight	normal	bold	bold	bold	Bold; Capitalized	italic

Line and paragraph spacing	1.5	1.5	1.5	1.5	1.5	1.5
Alignment	justify				center	justify
Indentation-left	0pt	0pt	0pt	0pt	0pt	0pt
Indentation-right	0pt	0pt	0pt	0pt	0pt	0pt
Font-Color	automatic	automatic	automatic	automatic	automatic	automatic
Spacing-before	0pt	0pt	0pt	0pt	0pt	0pt
Spacing-after	0pt	auto	auto	auto	auto	opt

APPENDIX

Research proposal sample format



RESEARCH PROPOSAL TITLE

By

RESEARCHER NAME

A Research Proposal Submitted to Ethiopian Electric Power Research and Development
Department

ETHIOPIAN ELECTRIC POWER

MONTH YEAR

Declaration

I hereby declare that this research proposal entitled “**Title**” was composed by myself, with the guidance of my advisor, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted, in whole or in part, for any other purpose or professional qualification.

Researcher Name

Signature _____ Date _____

Approval Sheet

This is to certify that the research document prepared by **Researcher Name** entitled “**Research Proposal Title**” and submitted meets the accepted standards with respect to originality and quality of Ethiopian Electric Power Research and Development.

Research Advisor

Signature, Date

Advisor Name

Abstract/Summary (Optional)

Acknowledgment (Optional)

Table of contents

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Figure 3.2	General overview of transmission lines.....	32

List of Acrimonies

e.g.

EEP Ethiopian Electric Power

CHAPTER ONE
INTRODUCTION

CHAPTER TWO
LITERATURE REVIEW

CHAPTER THREE
MATERIALS AND METHODS /RESEARCH METHODOLOGY

REFERNCES

e.g.

Abebe T. 2009 . [Title]. [name of journal]. [Vol. no.].pp. 154-159.

Abebe T. and B. Bogale. 2008. [Title]. [name of journal]. [Vol. no.].pp. 54-60_2009. [Title]. [name of journal]. [Vol. no.].pp. 25-30.