



<PhD/MPhil> Research Proposal

<TITLE OF YOUR PhD/MPhil
RESEARCH PROPOSAL>

< Name of Candidate>

<Registration No. of Candidate>

Supervisors(s):

<Name of Supervisor>

<Name of Supervisor>

<Date of Submission>

Department of <Name of Department>

Faculty of <Name of the Faculty>

UNIVERSITY OF MORATUWA-SRI LANKA

Declaration

I declare that this is my own research proposal and this proposal does not incorporate without acknowledgement any material previously published submitted for a Degree or Diploma in any other university or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Signature:
<Name of Candidate>

Date:

I have read the proposal and it is in accordance with the approved university proposal outline. I am willing to supervise the research work of the above candidate on the proposed area.

Signature of the supervisor:.....
<Name of Supervisor>

Date:

Abstract

The abstract is a brief summary of your PhD/MPhil Research Proposal, and should be no longer than 200 words. It starts by describing in a few words the knowledge domain where your research takes place and the key issues of that domain that offer opportunities for the scientific or technological innovations you intend to explore. Taking those key issues as a background, you then present briefly your research statement, your proposed research approach, the results you expect to achieve, and the anticipated implications of such results on the advancement of the knowledge domain.

The guidelines provided in this template are meant to be used creatively and not, by any means, as a cookbook recipe for the production of research proposals.

Keywords:

This section is an alphabetically ordered list of the more appropriate words or expressions (up to eight) that you would introduce in a search engine to find research related or similar to yours. The successive keywords are separated by commas.

Table of Contents

SECTION 1 INTRODUCTION.....	1
SECTION 2 LITERATURE REVIEW.....	2
SECTION 3 RESEARCH OBJECTIVES	3
SECTION 4 RESEARCH METHODOLOGY	4
SECTION 5 WORK PLAN AND RESOUCRE REQUIREMENTS	5
SECTION 6 CONCLUSION	6
REFERENCES.....	6

Section 1

Introduction

The introduction gives an overview of the research project you propose to carry out. It explains the background of the project, focusing briefly on the major issues of its knowledge domain and clarifying why these issues are worthy of attention. It then proceeds with the concise presentation of the research statement, which can take the form of a hypothesis, a research question, a project statement, or a goal statement. The research statement should capture both the essence of the project and its delimiting boundaries, and should be followed by a clarification of the extent to which you expect its outcomes to represent an advance in the knowledge domain you have described.

The introduction should endeavour, from the very beginning, to catch the reader's interest and should be written in a style that can be understood easily by any reader with a general background in the field. It should cite all relevant references pertaining to the major issues described, and it should close with a brief description of each one of the sections that follow.

Each Section shall start on a new page.

Section 2

Literature Review

The Literature Review (or Foundations), serves a cluster of very important aims. First of all, it demonstrates that you have built a solid knowledge of the field where the research is taking place, that you are familiar with the main issues at stake, and that you have critically identified and evaluated the key literature. On the other hand, it shows that you have created an innovative and coherent view integrating and synthesising the main aspects of the field, so that you can now put into perspective the new direction that you propose to explore in order to address the research problem you have identified.

The Literature Review must give credit to the authors who laid the groundwork for your research, so that when, in the following section, your research objectives are further clarified, the reader is able to recognize beyond doubt that what you are attempting to do has not been done in the past and that your research will likely make a significant contribution to the literature.

The Literature Review is usually the more extensive part of a research proposal, so it will expectedly develop over various paragraphs and sub-paragraphs. It should be accompanied by comprehensive references, which you list at the end of the proposal. Ideally, all influential books, book chapters, papers and other texts produced in the knowledge domain you are exploring which are of importance for your work should be mentioned here and listed at the end of the proposal. You should follow very strictly the appropriate referencing conventions and make sure that no document you refer to is missing in the final list of references, nor vice versa. The choice of referencing conventions may depend on the **specific field** where your research is located. Popular international referencing conventions are those established by the Association for Computing Machinery (ACM), the Association for Information Systems (AIS), the Institute of Electrical and Electronics Engineers (IEEE), and the American Psychological Association (APA). APA Style or IEEE Style is recommended.

Section 3

Research Objectives

This section clarifies the research objectives of your project, taking as its background your description of the literature review and your research problem. The clarification of the research objectives should build solidly on the literature review and relate your research to the work carried out by others. It should elucidate the measure to which your work develops from their work and the extent to which it diverges from theirs to open up new and yet unexplored avenues.

In essence, the section Research Objectives explains what you plan to do to tackle your research problem.

Section 4

Research Methodology

The section Research Methodology describes the methodological approaches you have in mind to face the key research challenges of your project. The “how to” component of the proposal is called the Research Methods, or Methodology, component. It should be detailed enough to let the reader decide whether the methods you intend to use are adequate for the research at hand. It should go beyond the mere listing of research tasks, by asserting why you assume that the methods or methodologies you have chosen represent the best available approaches for your project. This means that you should include a discussion of possible alternatives and credible explanations of why your approach is the most valid.

The section Research Methodology explains how you are going to do it and why you plan to do it that way.

Section 5

Work Plan and Resource Requirements

Not all research proposals lend themselves easily to the creation of detailed work plans. In some cases, namely when the work fits the broader plans of a research group that is progressing steadily, it is possible to build a detailed description of what the researcher plans to do (literature to explore in depth, principles or theorems to formulate and prove, experiments to carry out, sub-systems to build, systems integrations to perform, tests to accomplish). In these cases, it is possible, and desirable, to establish specific milestones and timelines and a Gantt diagram. It should also anticipate the conferences and journals to which the work in progress is expected to be submitted along the way, and schedule it in a Goals for Publication section of the work plan.

Your work plan should be able to put in perspective the implications of the successive steps of your work, reinforcing, in the mind of the reader, the conviction that your approach is solidly oriented toward results, and the outcomes of the project will contribute significantly to the enhancement of the field.

You can indicate all resources you will need, such as hardware, software, networks, data communications, access to participants, access to experts in the field, access to peers, and standardized tests, surveys, or other forms of instrumentation. Indicate whether you have the resources and if not, how you plan to obtain them. Indicate possible or available sponsor(s) for the particular research and what costs are allowed for the resources.

Section 6

Conclusion

The Conclusion briefly restates the objectives of your research project, recap the research approach you plan to follow, and clarify in a few words what you expect to find out, why it is scientifically valuable to find it out, and on what basis you expect to evaluate the validity of your results.

References

The 'Reference list' does not contain a section number.

In this section you should **list all the references** you have made throughout the research proposal, making sure that you comply with the referencing conventions or citation styles that have been established for **your specific field**. Below, you are given a few examples of citations complying with the requirements of the IEEE.

- [1] B. Klaus and P. Horn, *Robot Vision*. Cambridge, MA: MIT Press, 1986.
- [2] L. Stein, "Random patterns," in *Computers and You*, J. S. Brake, Ed. New York: Wiley, 1994, pp. 55-70.
- [3] R. L. Myer, "Parametric oscillators and nonlinear materials," in *Nonlinear Optics*, vol. 4, P. G. Harper and B. S. Wherret, Eds. San Francisco, CA: Academic, 1977, pp. 47-160.
- [4] M. Abramowitz and I. A. Stegun, Eds., *Handbook of Mathematical Functions* (Applied Mathematics Series 55). Washington, DC: NBS, 1964, pp. 32-33.
- [5] E. F. Moore, "Gedanken-experiments on sequential machines," in *Automata Studies* (Ann. of Mathematical Studies, no. 1), C. E. Shannon and J. McCarthy, Eds. Princeton, NJ: Princeton Univ. Press, 1965, pp. 129-153.
- [6] Westinghouse Electric Corporation (Staff of Technology and Science, Aerospace Div.), *Integrated Electronic Systems*. Englewood Cliffs, NJ: Prentice-Hall, 1970.
- [7] M. Gorkii, "Optimal design," Dokl. Akad. Nauk SSSR, vol. 12, pp. 111-122, 1961 (Transl.: in L. Pontryagin, Ed., *The Mathematical Theory of Optimal Processes*. New York: Interscience, 1962, ch. 2, sec. 3, pp. 127-135).
- [8] G. O. Young, "Synthetic structure of industrial plastics," in *Plastics*, vol. 3, *Polymers of Hexadromicon*, J. Peters, Ed., 2nd ed. New York: McGraw-Hill, 1964, pp. 15-64.

General Editorial Guideline

Please take note of the following items when proofreading:

1 Formatting

Fonts: A conventional font type must be used and text should be in Times New Roman.

Session heading : Title case - 14 Font size, Bold

Sub-section heading : Sentence case -12 Font size, Bold

Body text : Sentence case - 12 Font size

Tables and Illustrations : Font size may be varied while maintaining legibility

Margins: Margins of 40 mm on left & bottom and 25 mm on top & right should be used.

Pagination: Each page should have page numbers except the “Title” page. Lower case Roman numerals (i, ii, ...) should be assigned centered at the bottom of the page to all “preliminary pages”. Pagination of the body text and appendices is to be in Arabic numerals (1, 2, ...) centered at the bottom of the page. The pagination begins with the first page of the first Section and continues throughout the rest of the text.

Spacing: One and a half line spacing is recommended, except for the tables and indented quotations where single line spacing may be used.

2 Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or headings unless they are unavoidable.

3 Units

- Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive.”
- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: “Wb/m²” or “webers per square meter,” not “webers/m².” Spell units when they appear in text: “...a few henries,” not “...a few H.”
- Use a zero before decimal points: “0.25,” not “.25.” Use “cm³,” not “cc.”

4 Equations

Use an appropriate equation editor to insert equations in to your proposal. Equations should be numbered sequentially in each section such as 2.1, 2.2 etc.

$$a+b = \alpha \tag{4.1}$$

5 Figures and Tables

Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use “Figure 5.1,” even at the beginning of a sentence.

Table 5.1 : TABLE STYLES

Table Head	Table Column Head		
	Table column subhead	Subhead	Subhead
copy	More table copy ^a	d	d

^a Sample of a Table footnote. (Table footnote)

b.

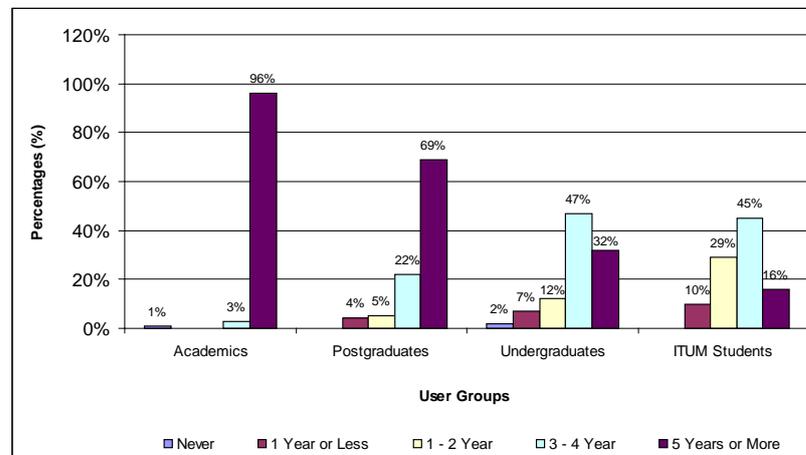


Figure 5.1. Example of a figure caption. (figure caption)

Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization,” or “Magnetization, M,” not just “M.” If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” not just “A/m.” Do not label axes with a ratio of quantities and units. For example, write “Temperature (K),” not “Temperature/K.”

6 Some Common Mistakes

- The word “data” is plural, not singular.
- The subscript for the permeability of vacuum μ_0 , and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o.”
- In American English, commas, semi-/colons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
- A graph within a graph is an “inset,” not an “insert.” The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).
- Do not use the word “essentially” to mean “approximately” or “effectively.”
- In your paper title, if the words “that uses” can accurately replace the word using, capitalize the “u”; if not, keep using lower-cased.
- Be aware of the different meanings of the homophones “affect” and “effect,” “complement” and “compliment,” “discreet” and “discrete,” “principal” and “principle.”
- Do not confuse “imply” and “infer.”
- The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the “et” in the Latin abbreviation “et al.”
- The abbreviation “i.e.” means “that is,” and the abbreviation “e.g.” means “for example.”