BITS College

M.Sc. Program

Guide to Thesis Proposal Writing

Table of Contents

1. Introduction

BITS College requires all M.Sc. students to conduct research/thesis or Industry Project as partial fulfillment of the requirement for its M.Sc. programs.

A research project or thesis will take at least two semesters to complete. Prior to starting a research and after enrolling in a research methods course, students must go through the proposal stage, during which students develop their proposal and have it reviewed by his/her research advisor. The proposal should follow the format as described below.

2. Proposal Contents

Once a student chooses a topic for research in any area related to IS and an advisor is assigned, the details of the research proposal should meet the following guidelines.

2.1 General

Number of pages, font and font type

The proposal should not exceed 20 pages with 1.5 spaced lines, of 12 pt. Times New Roman.

Section Heading and Numbering

The proposal can be divided in sections per the preference of the research advisor and the student. Each section should be numbered with a section heading. Section sub-headings should be numbered accordingly.

Table of contents

The proposal should contain the appropriate section headings detailed in a table of content

2.2 Title

Give a title to the research proposal. The title should be concise and clear. From the title, the reader should be able to predict fairly accurately what the research is about.

2.3 Background

Background or introduction section provides a description of the basic facts and importance of the research area - What is your research area? the motivation of research, and how important is it for the industry practice or knowledge advancement?

The background should generally engage readers with broad themes and topics. At one level, the purpose of a background section is to give the reader the relevant facts about the research topic so that readers understand the material that the candidate is writing about and how it links to his/her research question. This section must not, however, simply provide the general context, but must direct the readers' attention to the empirical details through which the research topic and question are made relevant. As such, this writing must not just fill in details of the topic the candidate is researching, but implicitly illustrate the need for and importance of the research.

In summary, the content of the background should

- reach out to a specific audience.
- lay the broad foundation for the problem that leads to the study,
- place the study within the larger context of the scholarly literature, and
- establish a framework for the research, so that readers can understand how it is related to other research
- create reader interest in the topic,

2.4 Problem Statement

Problem statement provides a clear and concise description of the issues that need to be addressed - What is the specific problem in that research area that you will address? (e.g. lack of understanding of a subject, low performance …)? Knowing the knowledge gap is crucial

The problem statement section gives a context to the problem of the proposed research. It is in this section that the researcher comprehensively reviews the literature pertinent to the problem to show what other people have published on the problem (citing specific authors where appropriate), what gaps of knowledge still exist, and what additional research needs to be done. Therefore, the research problem has to be delineated or identified in this section. It is also in this section that the researcher demonstrates his/her mastery of the theoretical subject matter in the research area.

Effective problem statements answer the question

- Why does this research need to be conducted?
- If a researcher is unable to answer this question clearly and succinctly, then the statement of the problem will come off as ambiguous and diffuse.
- Make sure to state the problem in terms intelligible to someone who is generally sophisticated but who is relatively uninformed in the area of your investigation.

2.5 Significance of the Study

What are the benefits/impact (e.g. better understanding, improved productivity …) that will be generated if the research problem is answered?

Indicate how your research will refine, revise, or extend existing knowledge in the area under investigation. While thinking about the significance of your study, ask yourself the following questions.

- What will be improved or changed as a result of the proposed research?

- Will results influence programs, methods, and/or interventions?
- Will results contribute to the solution of a problem facing the society?
- Will results influence the decision making process?
- How will results of the study be implemented, and what innovations will come about?

2.6 Research Questions

Determine and evaluate your research question. What aspect of the more general topic you will explore? What are you trying to find out? Are your research questions clear, focused and simple?

Remember that research questions guide your thinking and are of great value in organizing the research project. Since questions development stage is pre-empirical it should not yet focus on methods. Questions are refined gradually to make them specific and answerable

2.7 Research aims and objectives

Objectives provide a list of goals that will be achieved through the proposed research.

"The purpose statement should provide an accurate synopsis of the overall purpose of the study". Try to incorporate a sentence that begins with "The purpose of this study is . . ."

Based on your research problem and research questions, use action verbs

Eg. to describe, to assess, to develop, to understand, to come up with, to examine, to identify, to come up with, to explore/discover, etc.

2.8 Methodology

Research methodology defines the research methods and logic steps - What to do and how to solve the problem and achieve proposed objectives? Which research methods (e.g. survey, modeling, case study …) will be used? Attach a schedule, if necessary.

A thesis proposal should contain a section giving details on the methods, approaches and techniques to be used when conducting the research. The location(s) where the proposed research will be carried out (when applicable) should also be given in this section. If particular instruments are to be used, their details and specifications should be presented. If the data are to be collected through sampling, then the research design and sampling procedures should be described. If questionnaires will be used, samples of the proposed questionnaires should be presented. If standard methods will be used, then full references to them should be given. In all cases, the data analysis plan should also be included. If any limitations to the proposed methods are known, then these should be pointed out.

Specifically, this section is divided into:

- **Study design:** What approach will you take to answer your research question or hypotheses? and why? The method must be consistent with the stated research question.
- **Sample:** What population have you chosen? and why? Define the inclusion criteria and exclusion criteria for your sample. State how you will recruit participants to be in the study and what sampling method you used. You also need to state how the sample size was determined.
- **Instruments:** what instruments are you going to use to gather data? Report the validity and reliability of each instrument.
- **Variables** (for quantitative approach): Define the variables of interest for the study and provide both conceptual and operational definitions. Explain why you believe the tools used to measure variables are valid and reliable. Specify the Independent, dependent, intervening and extraneous variables

- **Evaluation mechanism (for design science)** - discuss how the proposed design will be evaluated.
- **Procedure:** How will you actually conduct the study? Explain exactly what data will be collected, how they will be collected and who will collect them and what framework is used.
- **Data analysis:** there must be consistency between the data obtained and the type of analysis selected for the study. There also should be a consistency between the research questions and the analysis used to answer those questions.
- **Ethical concerns:** discuss what ethical issues need to be considered; for example, how you will protect participants' confidentiality. If you are working on health related areas, this might need further ethical approval from a recognized ethical review committee,

2.9 Related Works

Provide a summary of previous related research on the research problem and their strength and weakness and a justification of your research - What is known/what have been done by others? And, why your research is still necessary?

The researcher should present a brief review of the most relevant literature - the most relevant studies around the topic of research need to be discussed under this sub-section to show how the topic at hand is similar with other previous works, yet at the same time different because it deals with a unique and unaddressed topic of interest.

2.10 Timetable

In this section, the researcher should give the total time within which the research is expected to be completed, and also a time-table showing the sequence of the research activities.

- Indicate the length of time required to complete the research
- The proposal must produce a reasonable plan of action for the duration of the proposed research and an estimated completion date

- The Plan of action
  - gives a brief outline of the estimated time needed to complete each section of the research.
  - makes you be more certain that you are not proposing to do too much work.

2.11 Budget

Prepare a budget for your research that shows what you anticipate the cost of conducting the research to be. The section should give in detail the source of funds required for the proposed research and the proposed budget. Some of the main budget items for inclusion in the budget calculation are:

- Personnel
- Travel and perdiem
- Stationery
- Data Collection
- Data Organization and Analysis
- Final Report Writing

Be honest and reasonable in preparing the budget

2.12 References

All factual material that is not original with you must be accompanied by a reference to its source. Please use ASCE guideline on reference and citation style.

All the literature that has been referred to in the text must appear in the reference list. In citing references, the researcher must follow the guidelines given by **Turabian citation style**.

References should be alphabetized properly; and in case of resources by the same person, the latest publication should appear first and the second latest should follow. When an author has two or more publications in one year, one publication should be identified from the other by attaching letters with the year of publication [(Eg. Creswell, J. (2014a) and Creswell, J. (2014b)].

Identify references in text, tables by using author's name and year of publication in parentheses. Please pay attention to the following five rules when writing your references.

- **Any work not your own should be clearly marked**
- **Any quotations within quotation marks**
- **Every reference in the text should be listed**
- **Every item in the list must have a reference in the text**
- **Every table, figure or photograph must have a reference in the text**

2.13 Appendix

The need for complete documentation generally dictates the inclusion of appropriate appendixes in proposals. The following materials are appropriate for an appendix.

- Questionnaires
- Interview protocols
- Sample of informed consent forms
- Cover letters sent to appropriate stakeholders
- Official letters of permission to conduct research

3. Proposal Evaluation

The student will first submit his/her proposal to the advisor, a week before the scheduled proposal presentation date, both in hard and soft copy. The advisor shall distribute the proposal to the research committee members within two days of receiving the proposal.

The student will be asked to present his/her work to the Committee members according to a schedule the advisor will announce. All members of the committee have an equal opportunity to express their concerns and provide their comments in the evaluation process. Members must exercise their independent judgment having in mind the best interest of students, as well as their background, abilities and qualifications.

During the proposal presentation, the student is encouraged to involve other faculty members from outside the committee, or the program, for additional input and suggestions.

The proposal shall be evaluated based on the "The Checklist for Research Proposal Evaluation" and students' standing shall be described as *satisfactory*, *modifications*, or *unsatisfactory*.

In the event where a student earns a comment of **unsatisfactory**, she/he would be asked to revise the proposal and present it again.

In cases of **modification**, the student should review the evaluation form with the advisor. The student is expected to address the comments and points raised by the committee to obtain final approval and signature of the advisor based on the committee's decision. During revision of proposals, any future major divergence from the originally presented proposal should be communicated to the research committee for review and approval before the student continues working on the research. Normally, final approval should be obtained within one week of completing all required revisions.

4. Proposal Defense

Students will be expected to make a brief oral presentation of their research proposal in the presence of three members of the Thesis Proposal Evaluation Committee (TPEC). The Committee shall be composed of:

- Two faculty members who are related/interested in the research work
- Thesis advisor

The thesis advisor shall chair the defense session. The student will present his/her research proposal for 20-40 minutes. The committee will then ask the student questions regarding the study for about 20-40 minutes. After having attended the presentation and examined the written proposal, the committee members should give comments and recommendations accordingly.

The student will then be asked to leave the room so that the committee can discuss the oral presentation and written document. The committee will then discuss the proposal and complete the form for Research Proposal Evaluation. The student should be informed of the result and what the next research steps will be at that point.

A copy of the completed **research proposal evaluation form** should be submitted to the graduate programs coordinator.