# INTRODUCTION

Formulating a PhD thesis proposal is a process that allows the researcher to organize his/her ideas around a problem or a question that he/she considers important to solve. The proposal defines and justifies a question to be investigated according to the most relevant and actualized previous studies. It formulates objectives, collects and synthetizes the theoretical foundation upon which the investigation is based. Also, the proposal describes the methodology, and the techniques required to achieve the proposed objectives. Likewise, it contains an estimation of the research’s associated costs and features a detailed, realistic and efficient budget.

A PhD thesis proposal must contain all the necessary information for an academic jury, or an external evaluator or a funding agency to answer questions like: a) what is the problem or question that the proposal is looking to solve? b) How does the investigator justify the importance of this question and the need of solving it with the proposed research? (why?) c) What does the proponent know about the specific topic in which the question is nationally and globally framed? (Theorical framework and state-of-art) d) Specifically, what is going to be done in the proposal? (general and specific objectives). And what is the purpose? e) How is the problem going to be approached in order to achieve the proposed objectives? (methodology). f) What type of results do the researcher expect to obtain? g) What is the cost of the performed activities for obtaining the results? h) What is the trajectory and experience of the research group regarding the topic?

The purpose of this template is to guide the PhD student to make sure that the proposal contents answers to the above questions. It includes the following items.

**PHD THESIS PROPOSAL**

1. ***TITTLE***

The proposal’s tittle should describe the content of the investigation in a clear, exact and concise way using the fewest words possible. The tittle must contain correct syntax and needs to agree with the proposed general objective and with the investigation question.

1. ***SUMMARY***

The summary should not exceed 500 words and must contain the necessary information to provide the reader the exact idea about the research question, objectives, relevance, used methodology and the type of results that are expected. **EVERY PROPOSAL MUST HAVE A SUMMARY.**

1. ***DESCRIPTION***
	1. ***Research question and justification***

It is essential to clearly formulate the question or problem that needs to be solved through the PhD thesis. Also, to justify (explain why) its relevance and importance in function to the border knowledge, national and global problem solutions or the creation of opportunities and technology innovations. Generally, the research question that is approached by a proposal is derived from a larger problematic, which is previously identified by the investigator or another instances.

* 1. ***State-of-art***

##### Precise and concise summary about the current state of the relevant knowledge to the research question. The state of art should show a comprehensive and actualized knowledge of the bibliography and other information sources in a national and global level. The state of art does not have to be an extensive revision of the literature about the topic. But rather, it should deliver a focal vision about the specific bodies of knowledge that the proposal will impact or add somehow. A good state of art will show the existing gaps and holes that the author wants to fulfill with the proposal.

* 1. ***Theoretical framework***

##### In the theoretical framework the thinking model, the theories and the approaches that the researcher uses to answer the research question is established. In addition to frame into a context, the central object of the investigation. In the theoretical framework not only an exhaustive bibliographic revision should be developed, but also an argumentative base which supports the most adequate way for answering the question and research objectives should be created. Additionally, a set of arguments and hypothesis that guarantee functional unity and the structure of the PhD thesis should be identified.

* 1. ***Objectives***

The proposal’s objectives define what is to be done or what it is pretended to be done and should show a clear and concise relationship with the questions that want to be answered. The formulation of clear, precise and viable objectives establishes an important base to accomplishing a coherent proposal and facilitates the methodology structure. It is recommended to formulate only one general objective in coherence with the question raised. And, two or three specific objectives necessary for accomplish the general one. The specific objectives must be reachable within the proposed methodology. Remember that the knowledge generation is more than the production of new data and objectives should not be confused with activities or methodological procedures.

It is important to differentiate the research objectives from its purpose. The objectives answer the question: What is going to be accomplished with the development of the research proposal? While the proposal purpose answers the question: What is the reason or what needs to be done with the obtained results? It is highly related to the expected impact of the results.

* 1. ***Proposed Methodology***

This section should show firstly, a general level of the logical structure and the scientific strictness of the investigation process. It should also describe, in an organized and precise way, how the investigation hypothesis is structured and how each of the proposed specific objectives will be accomplished. Followed by a detailed description of the specific methodological approach to be used and the description of the way in which the results are going to be analyzed, interpreted and displayed. In this part, the procedures, techniques, activities and other methodologic strategies must be detailed. The process of information gathering, the quantitative or qualitative data organization, systematization and analysis must be indicated. The methodologic design is the base for planning all the activities that the proposal demands and to determine the required human and financial resources.

* 1. ***Ethics considerations, active legal dispositions and intellectual properties***

In this section, the PhD student should detail the ethics considerations for the PhD thesis and cite the main active laws or regulations in which the proposal is framed. It is expected to find in this section, the planning or reflection that shows the purpose of the investigators to develop their investigation without colliding with the basic ethics principles regarding life’s respect, people, testing animals and nature. Additionally, the PhD student must fill out completely the “Declaration of ethics and intellectual aspects of intellectual property”. See all formats at:

<http://www.unisabana.edu.co/investigacion/sistemadeinvestigacionsdinolis/>

If the PhD in Engineering commission finds it necessary, the “**Declaration of** **ethics and intellectual aspects of intellectual property**” will go under revision by the **Subcommittee of Research.** This subcommittee will evaluate if the proposal fulfills the relevant ethical criteria and current regulation accordingly.

It is recommended to make a detailed revision to the intellectual property ruling:

https://portalservicios.unisabana.edu.co/DirGenInves/\_layouts/15/WopiFrame.aspx?sourcedoc=/DirGenInves/Polticas%20y%20Reglamentaciones/Reglamento%20de%20Propiedad%20Intelectual.pdf&action=default

* 1. ***Expected results/products and possible beneficiaries***

The expected results/products must be viable and coherent with the specific objectives and proposed methodology. For each one of the expected results/products the following items must be identified:

* 1. Verification indicators: It refers to the data that allows establishing a state situation.
	2. *Beneficiary/User:* It refers to the institutions, associations and communities in a national and international approach*.*
	3. ***Expected impacts on Sustainability***

The impacts are not necessary achieved by the end of the thesis, neither with just the results/products attainment. The expected impacts are a description of the possible proposal results incidence for the usage in function of the solution of strategic problems (national or global) approached in the PhD thesis. Generally, those are achieved in a medium and long term, as a result of the applied knowledge and technology through the development of one or more research lines in which the thesis is enrolled. The impacts on sustainability can be grouped in categories such as social, economic and environmental. A complete sustainability analysis should be done in this section.

* 1. ***Bibliography and other information sources.***

Bibliographic references and other information sources cited in the proposal should be listed using some reference manager using an international recognized style. Remember that the cited literature shows the actualization degree of the researches about the topic both in an international and a national context. Also, it is a very important factor on the peer’s PhD thesis proposal evaluation.

1. ***SCHEDULE***

The schedule is a tool where the PhD student defines the time that will be used for each activity according to the results that is expecting to obtain. In the schedule, the time that the specific objectives will take to be accomplished must be identified. A table/format showing the relation between the activities to be completed in function of the time (years) must be created during the period of the PhD thesis.

1. ***BUDGET***

In the budget, the estimation of the investment required for the thesis development is shown. This budget can be determined from the following items: equipment, materials and supplies, bibliography, technical services, specialized software, field trips, travels, academic events, patents and publications, tracking and evaluation, etc.

1. ***DOCUMENT FORMAT***

# Font: Times New Roman

# Font size: 12

# Line spacing: 1,5 lines

# Margins: 2 cm each side

# Numeration: Bottom centered, Arabic numbers

# References: APA rules or another internationally recognized

# A PhD thesis proposal should not exceed 25 pages.