

Guidelines for writing an ELTR research project synopsis to be submitted to the ELTR/ELITA Scientific Committee to conduct an ELTR study.

The synopsis should be constructed in a manner that facilitates the reviewer to understand the research project at a glance. It gives a panoramic view of your research for quick analysis by the ELTR/ELITA Scientific Committee. It should be brief but precise. A synopsis can be structured in the following manner:

1. Title
2. Official requirements
3. Statement of the problem and hypothesis
4. Aims and objectives
5. Review of literature
6. Research methodology
7. References

1. **Title.** The title of the research project should be brief but informative; sensationalization of the title is best avoided. It should neither be too short nor too long. The hypothesis to be studied can be included. The precision, "A study from the ELTR" should be part of the title.
2. **Official requirements.** A synopsis is incomplete if it does not contain the following information:
 - a. Name of the researcher and designation
 - b. Name and designation of the guide
 - c. Name and designation of head of department\institution
 - d. Name of the institution
3. **Statement of the problem or hypothesis.** The problem being studied should be mentioned in precise and clear terms. Understanding the problem aids the researcher in constructing the research proposal. It also allows the person to formulate the hypothesis. The problem under study should be relevant to the present. A brief account of its utility at the local, national, or international level has to be discussed. The present status of the problem and the necessity for taking up the study needs to be mentioned.
Hypothesis is mentioned as a tentative prediction or explanation of the relationship between two or more variables. Hypothesis should not be a haphazard guess but should reflect the knowledge, imagination, and experience of the investigator. Hypothesis can be formulated by understanding the problem, reviewing the literature on it, and considering other factors. A researcher can state the problem and the hypothesis in about 200 words covering all the aspects described above.
4. **Aims and objectives.** All research projects should have objectives and aims, and every effort should be made to achieve them. The objectives and aims should be only a few (2-3). They must pertain to the study problem.
5. **Review of literature.** Review of literature is a very important part of a research project. It achieves the following:

1. Familiarizes the reader to the problem under study.
2. It describes the work done by others either at local or international level on it or similar subject.
3. It helps the researcher to understand the difficulties faced by others and the corrective steps taken or modifications made by them. The researcher can anticipate similar or additional problems during the study and review of literature helps him in anticipating them.
4. Research methodology of the researcher can be structured and modified after reviewing the literature.
5. The review assists in identifying various variables in the research project and conceptualizes their relationship.
6. Review of literature in a synopsis helps the reviewer in assessing the knowledge of the researcher. The reviewer can assess the work put in by the researcher and also assists in assessing the feasibility of the study.

The review of literature in a synopsis need not be exhaustive. The relevant information should be covered in about 300 words quoting 8-10 authentic, easily retrievable references. Literature can be reviewed by using various scientific-information-gathering methods. Internet provides a vast avenue for information gathering. Care must be taken to retrieve only relevant information.

- 6. Research methodology.** In a synopsis the research methodology adopted should be mentioned in about 150-200 words. The research methodology forms the core of the research project. The methodology should cover the following aspects:

- a. Study design
- b. Study settings
- c. Sampling
- d. Variables
- e. Controls
- f. Data collection
- g. Data analysis
- h. Ethical clearance

- a. Study design.** The methodology starts with selection of study design. A single study design or a combination can be selected e.g.:

Descriptive designs (Cross-sectional study or survey, Epidemiological description of disease occurrence, Community diagnosis, Study of natural history of a disease)
Observational analytical designs (Retrospective study, Follow-up study)

- b. Study settings**

A mention about the research setting should be made. This includes information about the institution, facilities available, time of study, and population of study.

- c. Sampling.** Sampling is selecting a sample of appropriate size for the study. The sample size depends on the study design. The study population can be population of cases, population of people, or population of recipients of certain treatment. There are many methods for sampling like simple random, systemic and stratified sampling, cluster sampling, etc. Care should be taken to ensure that the sample size is adequate to produce meaningful results. The sample size should be adequate to apply all relevant tests of statistical significance. The samples should be representative of the population and should be reliable. This minimizes sampling errors.

- d. Variables.** Variables are the factors that can change. These changes can affect the outcome of a research project. Thus, it is important to identify the variables at the planning stage. They should be quantified with a measurable unit. Knowledge of the various variables in a research project will assist in refining the objectives. Usually, objectives of a research will be to see the effect of independent variables on dependent variables. There are four types of variables.

 - Independent variables.* These are the variables that can be manipulated by the researcher and the effects of that are observed on the other variables. For example, predisposing factors, risk factors and cause.
 - Dependent variables.* The changes occur as a result of independent variables. For example, disease and outcome.
 - Intervening variables.* These may influence the effect of independent variables on the dependent variables. For example, while studying the response of HIV-AIDS to HAART the outcome may be influenced by the presence of antitubercular drugs.
 - Background variables.* These are changes that are relevant in the groups or population under study. These need to be included in the study. For example, age, sex, and ethnic origin.
 - e. Controls.** Control groups increase the validity of the research project. They usually consist of units of same population but differ in some respects. Controls are not necessary for all research projects. As far as possible they should be used in all analytical studies, drug trials, and intervention programs.
 - f. Data collection.** Here, the researcher will need to provide a list with the ELTR data needed to conduct the research. Only ELTR participating centers are eligible to use the data, the list of ELTR variables is available from the center representatives listed as ELTR contact persons. The researcher will also need to specify if there are other variables not available in the ELTR that are essential to the project. If so, the researcher will need to request special permission from ELTR/ELITA to proceed with the data collection.
 - g. Data analysis.** Data analysis is an important part of a research project. A good analysis leads to good results. The plans for data analysis should be mentioned under the following heads Statistical methods, Computer program used, and Data sorting method. A general statement "appropriate statistical methods will be used." must be avoided.
 - h. Ethical clearance.** Wherever necessary, ethical committee clearance from the institute should be obtained. The certificate must be attached. Ethical clearance is required in all human and animal studies.
- 7. References.** All references quoted in review of literature and anywhere else in the synopsis should be listed here. There are two styles for writing references, Vancouver style and Harvard style. Vancouver style is easy to follow as it depends on the numbers as quoted in text.

Synopsis writing is an important step in a research project. A good synopsis will give maximum information in minimum words. A well-conceived synopsis will go a long way in convincing the reviewer about the ability of the researcher to conduct the project. Thus, all research workers should make efforts to prepare a well-structured synopsis.