**Chapter 2: The Research Process and Design**

Before embarking on the details of research methodology and techniques it seems appropriate to present brief overview of the research process. The research process consists of a series of actions or steps necessary to effectively carry out research and the decided sequencing of these steps. The following flow chart will illustrate the general research process. The chart shows that the research process consists of a number of closely related activities, which may overlap rather than following a strictly prescribed sequence. At times the first step determines the last step to be undertaken. If subsequent procedures have not been taken into account in the early stages, serous difficulties may arise, which may even prevent the completion of the study. The various steps involved are not mutually exclusive; nor are the separate and distinct. They do not necessarily follow each other in any specific order and the researcher has to be constantly anticipating at each step in the research process the requirements of the subsequent steps. However, the following order concerning the various steps provides a useful procedural guideline regarding the research process:

* Identifying and formulating the research problem
* Extensive literature survey
* Developing the working hypothesis
* Preparing the research design
* Determining the sample design
* Collecting the data
* Execution of the project
* Analysis of the data
* Hypothesis testing
* Generalizations and interpretations
* Preparing the report and presentation of the results (formal write up of conclusions reached.

**I) Identification of a Research Topic**

To do a research a topic or a research problem must be identified. A researcher must single out the research problem he/she wants to study. So, the first step in the research process is the choice of a suitable problem for investigation. Research usually starts with a felt difficulty. It takes place when there is a problematic situation and a need to solve the problems. A researcher must find a problem to be analyzed and formulate it in such a manner that it becomes susceptible to research. The identification of a research problem is a difficult but an important phase of the entire research process. Finding a research topic required a great deal of time, energy, and logical thinking on the part of the researcher. In order to define a problem correctly one has to know what a research problem is.

What is a research problem?

 A research problem in general refers to some difficulty, which a researcher experiences in the context of either a theoretical or practical situation and wants to obtain a solution for the problem. Generally a research problem exists if the following conditions are met with:

* There must be an individual or group, which has some difficulty or the problem.
* There must be some objective to be attained at. If one wants nothing one cannot have a problem.
* There must be alternative means (or other courses of actions) for obtaining the objectives one wishes to attain. This means that there must be at least two means available to a researcher for it he/she has no choice of means he/she cannot have a problem.
* There must be an unanswered question (there must remain some doubt in the mind of the researcher with regard to the selection of alternatives).
* There must be some environment to which the difficulty pertains.

Thus a research problem is one, which requires a researcher to find out the best solution for the given problem i.e. to find out by which course of action the objective can be attained optimally in the context of a given environment.

Some potential Sources of a Research Topic

Even before determining the research topic the researcher may have to choose a broad field of study within which he/she will conduct the study. A general understanding of the known facts and ideas in the field or area in which the researcher is interested constitute the first and most important step in selecting a problem for study. So, a general area of interest or aspect of a subject matter (agriculture, industry, social sector, etc.) may have to be identified at first. Although an experienced research guide might help in identifying a research topic, a topic must spring from the researcher’s mind like a plant springs from its’ own seed. Nevertheless, some important sources, which may be helpful to a researcher for selecting a research problem, may be suggested.

*a) Professional Experience*

Own professional experience is the most important source of a research problem. Nevertheless, contacts and discussions with research oriented people, attending conferences, seminars, and listening to the learned speakers are all helpful in locating research problems.

*b) Inferences from theory and Professional Literature*

Research problems can also emanate from inferences that can be drawn from theories and from empirical literature. Two types of literature can be reviewed. The conceptual literature concerning the concepts and theories and the empirical literature consisting of studies made earlier, which are similar to the one proposed. The validity, scope, and the particularity of various theories can be tested through research. The study of professional literature will not only expose a researcher to pressing research problems but will suggest the way in which research is conducted. Research reports, bibliographies of books, and articles, periodicals, research abstracts and research guides suggest areas that need research. In general, a preliminary literature search is important in order.

* to find out what other researches have to say about the topic,
* to ensure that no one else has already exhausted the questions that you aim to examine,
* to see how the topic has been discussed within the competing theoretical framework, and
* To make sure that there is enough material available for you to work with productively.

*c) Technological and Social Changes*

New developments bring forth new development challenges for research. New innovations and changes need to be carefully evaluated through the research process.

*Some possible helping guides could be suggested that could help in identifying a research topic*.

* Identify a general area of interest or aspect (agriculture, industry, service sector, trade, etc.)
* Re-examine course materials if they could suggest some topics (a research topic may be generated from the topics or questions raised in the material or courses that you found particularly exciting or would like to explores in more detail. For example, the Ethiopian economy, macro related topics, micro related topics, etc.)
* Carefully revisit your professional interest and experience (the best research is nearly always based on a high degree of enthusiasm for the subject. In other words strong professional interest is important).

*If the above procedures could not produce a research topic that may be important then the following may be recommended in the form of practical exercises.*

* If you have not found a particular topic that you would like to work on or explore further then you may draw a list of potential interesting topics on the basis of experience, curiosity say for example from the media, your own state of knowledge or existing problems-applied research begins with a problem that look potentially interesting to you.
* Then discuss these topics with others say your instructor, or anyone you know who has expertise in the area and might be able to offer advice or insight.
* Select a topic that interests you most and that you are fairly certain that it can be investigated with the resources at hand.
* Focus upon a specific question within that topic that relates to the wider concern, is supported by sufficient relevant material, and is sufficiently modest in scope for you to achieve within the set deadline.

*Some points to be observed when selecting a problem*

 The following points may have to be observed by a researcher in selecting a research problem or a subject for research.

* Subject, which is overdone, should be avoided since it will be difficult to throw any new light in such cases for the average researcher.
* Controversial subjects should not become the choice of the average researcher.
* Too narrow or too broad or vague problems should be avoided
* The subject selected for the research should be familiar and feasible so that the researcher is within the researcher’s reach.
* The importance of the subject in terms.
* The qualification and the training of researcher, and
* The cost involved and the time factor are few other factors that must be considered in selecting a study topic.

The task of formulating or defining the research problem is a step of greatest importance in the entire research process. Formulation of the research problem often follows a sequential pattern where a number of formulations are set up each formulation more specific than the preceding one, each one phrases in more analytical terms, and each more realistic in terms of the available data and resources.

*The Research Question*

At first the topic you may have chosen is usually very broad and lack focus for conducting a research. Therefore, it is essential that the topic be appropriately narrowed down and focused into specific questions. So, the next step after a topic has been identified is to narrow down the research topic by posing research questions. Posing a research question helps;

* to articulate the issues and give it an empirical focus
* to give the reader a clear idea of the nature of the topic
* to help the researcher to structure the research task, and
* to set limits on the scope of the research endeavor.

Example: Is age at marriage associated with divorce is better than a question which says what causes divorce?

There are several techniques that may be utilized to narrow a research topic into research questions.

* Examining of the literature (past and present literature)
* Discussing the idea with other people
* Applying the topic to specific context (specific, historical or time period, specific society or geographical unit, specific subgroups or categories etc.)
* Defining the aim of the outcome (whether the research is exploratory, explanation, or descriptive)

Example: Industrial development in Ethiopia may be a general topic. One could give it specific focus say by taking one textile industry say Bahir Dar textile factory.

**II) Definition and Statement of the Problem**

After a problem has been selected the next task is in to define it clearly in a manner amenable to research. What does one mean when he/she wants to define a research problem? To define a problem means to put a fence around it. Defining a problem involves the tasks of laying down the boundaries within which a researcher shall study the problem with pre-determined objectives in view. The researcher must be certain that he knows exactly what his/her problem is before he/she begins work on it. A problem clearly defined is a problem half solved. The problem to be investigated must be defined unambiguously for that will help to discriminate relevant data from the irrelevant ones. A proper definition of the research problem will enable the researcher to be on the track whereas an ill-defined problem may create hurdles. It will be easy to find answers to questions like:

* What data are to be collected?
* What characteristics of data are relevant and need to be studied
* What relations are to be explored
* What techniques are to be used for the purpose

In fact formulation of a problem is often more essential than its solutions. Hence, in the formal definition of the problem the researcher is required to describe the background of the study, its theoretical basis and underlying assumptions and state the problem in concrete, specific and workable questions.

The technique for the purpose of defining the research problem involves undertaking the *following steps* generally one after the other.

1. Statement of the problem in a general way\_\_ problem should be stated in a broad and general ways keeping in mind either some practical concern or some scientific or intellectual interest. The problem stated in a general way may contain various ambiguities, which must be resolved.
2. Understanding the nature of the problem more clearly\_\_ the next steps is to understand its origin and nature clearly. The best way to understand the problem is to discuss it with other more acquainted or experienced people. The researcher should also examine all those points, which lead him/her to make a general statement.
3. Survey of the available literature\_\_ the available literature concerning the problem has to be surveyed and examined before a definition of the research problem is given. The researcher must devote sufficient time in reviewing both the conceptual and empirical literature. Research already undertaken on related topics or problems need to be systematically reviewed. This exercise enables the researcher to (i) find out what date are available for operational purposes (ii) find out if there are gaps in theories, and (iii) find out whether the existing theory is applicable to the problem understudy.
4. Developing the ideas through discussion-discussion concerning a problem often produces useful information. New ideas can be developed through this exercise. This is also called experience survey. The discussion sharpens the researcher’s focus of attentions on specific aspects of the study.
5. Rephrasing the research problem- the researcher must sit to rephrase the research problem into a working proposition. Through rephrasing, the researcher puts the research problem in as specific terms as possible so that it may become operationally viable and may help in the development of a working hypothesis..
6. Additional issues necessary when describing a problem-technical terms or phrases, with special meanings used in the statement of the problem should be clearly defined. Basic assumptions or postulates relating to the research problem should be clearly stated. The suitability of the time period and the sources of data available must be considered in defining the problem. The scope of the investigation within which the problem is to be studied must be mentioned explicitly in defining a research problem.

 Example: The general research problem in broad terms may be why is productivity in Ethiopia much lower than in other countries? This question has many ambiguities. For instance, set of productivity is being referred to–labor, capital or land? With what industries is it related? With what period of time the productivity is being talked about?

 In view of such ambiguities the given statement is much too general to be amenable to analysis. Rethinking and discussion about the problem may result in narrowing down the question for instance, to:

What factors were responsible for the higher labor productivity in other countries manufacturing industries during the 1970s relative to the Ethiopian manufacturing industries?

This later version is definitely an improvement over its earlier version for the various ambiguities have been removed to the extent possible. Further rethinking and rephrasing might be possible. To what extent did labor productivity in the 1970s in India exceeded that of the Ethiopian manufacturing in respect of 15 selected manufacturing industries?

**III) Extensive Literature Survey**

Once the problem is formulated, a brief summary of it should be written down. At this juncture the researcher should undertake extensive literature survey connected with the problem. For this purpose, the abstracting and indexing journals and published or unpublished bibliographies are the first places to go to. Academic journals, conference proceedings, dissertations, government reports, policy reports, publications of international organizations, books, etc. must be tapped depending on the nature of the problem. Usually one source leads to the next and the best place for the survey is the library.

Literature survey varies in scope and depth. While some surveys may take a researcher a year to complete an extensive professional summary review of all literature on a broad question (say as in a PhD. work), others more specialized issues may take only few months or weeks. The goal of the literature survey also varies.

*The main goals may be:*

* To familiarize oneself with the issue and establish credibility
* To show the path of prior research and how current project is linked to it
* To integrate and summarize what is known in the area
* To learn from others and stimulate new ideas.

There are different types of literature reviews that one may consider. The following are the most common ones:

* Context review-review the context of a given document
* Historical review-traces the development of an idea or theory as it evolves over time
* Theoretical review-presents different theories that support an idea, compare them
* Integrative review-presents the current state of knowledge and integrates the ideas into the current research.
* Methodological review- reviews the methodological strength of past studies.
* Self study review- aims at building self-confidence for the reviewer.

**IV) Development of Working Hypothesis**

After extensive survey of the literature, researchers should state in clear terms the working hypothesis or hypotheses. A hypothesis is a statement, which predicts the relationship between two or more variables. It is a necessary link between theory and investigation. And the formulation of a research hypothesis is of prime importance in research. If the hypothesis is inadequately conceived the research procedures may not be applicable. Therefore, formulating an appropriate and realistic research hypothesis is a sin quo non for a sound research. The initial hypothesis is called working hypothesis because it is subject to modifications as the investigation proceeds. A working hypothesis is a tentative assumption made in order to draw out and test its logical or empirical consequences. Formulating hypothesis is particularly useful for causal relationships. The manner in which research hypothesis are developed is particularly important since they provide the focal point for research.

Hypothesis should be very specific and limited to the piece of research in hand because it has to be tested. The role of the hypothesis is to guide the researcher by delimiting the area of research and keep him/her on the right track. It is also an indicator of the type of data needed for the study. The hypothesis is the necessary link between theory and the investigation, which leads to the discovery of additional knowledge.

*Approaches to develop a working hypothesis*

The main approaches to develop a working hypothesis include:

* Discussion with colleagues and experts about the problem, its origin and objectives in seeking a solution
* Examination of data and records, if available, concerning the problem for possible trends, peculiarities and clues
* Review of similar studies in the area or of the studies on similar problems, and
* Exploratory personal investigation, which involves original field interviews on a limited scale with, interested parties and individuals with a view to secure greater insight into the practical aspects of the problem.

Thus working hypothesis arises as a result of a priori thinking about the subject, examination of the available data and material including related studies and the opinion of experts and interested parties.

*Main problems in formulating a working hypothesis*

Formulation of a hypothesis is not an easy task. The main problems that may arise while formulating a working hypothesis include:

* The lack of clear theoretical framework
* The lack of ability to utilize that theoretical framework logically
* The failure to be acquainted with available research techniques so as to be able to phrase the hypothesis properly.

*Characteristics of useable hypotheses*

How does one judge the utility of a useable hypothesis? There are some important criteria for judging the hypothesis.

1. The hypothesis must be conceptually clear. This involves two things (i) the concept should be clearly defined if possible (ii) the hypothesis should be commonly accepted ones. In other words, the hypothesis should be stated in simple terms.
2. The hypothesis should have empirical referents- no useable hypothesis embody moral judgments while a hypothesis may study value judgment such a goal must be separated from a moral preachment or a plea for acceptance of one’s values.
3. The hypothesis must be specific-all the operations and predictions indicated by it should be spelled out. Such specific formulations assure that research is practicable and significance in advance of expenditure.
4. The hypothesis should be related to available techniques- theory and methods are not opposed. A theorist who does not know what techniques are available to test his/her hypothesis is on a poor way to formulate useable hypothesis or questions.
5. The hypothesis should be related to a body of theory-often research should be aimed at supporting, reflecting or qualifying existing theories. It should posse theoretical relevance. A useable hypothesis arises as a result of a priori thinking about the subject.
6. The hypothesis should be testable-hypothesis should be formulated in such a way that it is possible to verify it.
7. The hypothesis should be limited in scope
8. The hypothesis should be amenable to testing within a reasonable time.

Having formulated a useable hypothesis to be investigated, the researcher then faces the problem of designing his/her study so that evidence pertaining to the tentative acceptance of the hypothesis can be accumulated.

**V) Preparing the Research Design**

Once the research problem has been formulated in clear terms, the researcher will be required to prepare a research design, i.e. he/she will have to state the conceptual structure within which research can be conducted. The research design is a plan that specifies the sources and types of information. A research design is the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose. It is the conceptual structure, plan, and strategy of investigation within which research is conducted. It constitutes the blue print for the collection, measurement and analysis of data.

The purpose of the research design is to provide for the collection of relevant evidence with minimal expenditure of efforts, time and money. The design that gives the smallest experimental error is the best design. As pointed out earlier if the purpose of the research is exploration, a flexible research design, which considers different aspects of a problem, is considered to be appropriate. But if the purpose is to describe accurately (description) of a situation or of an association between variables the suitable design will be one that minimizes bias and maximizes the reliability of the data collected and analyzed. The most important features of a research design include:

* It is a plan that specifies the sources and types of information relevant to the research problem
* It is strategy specifying which approach will be used for gathering and analyzing the data
* It also includes the time and cost budgets since most studies are done under these two constraints.

The following elements are critical when making design decisions

* What is the study about (purpose of the study)
* Why is the study being made (reasons for undertaking the study)
* What type of data is required (data required)
* Where can the required data be found (source of data)
* What will be the sampling design
* What techniques of data collection will be used
* How will the data be analyzed (method of data analysis)
* In what style will the report be prepared (method of reporting)

In other words, the following points must be considered as useful in preparing a research design

* The means of obtaining the information
* The availability and skills of the researcher and his staff
* The explanation of the way in which selected means of obtaining information will be organized and the reasoning leading to the selection
* The time available for the research
* The cost factor relating to research i.e. the finance available for the purpose.

Different types of research designs can be used and the overall research design could be splitted into the following four parts.

* The sampling design which deals with the method of selecting items to be studied or observed for the given study
* The observational design which relates to the conditions under which the observations are to be made
* The statistical design, which concerns with the question of how many items are to be observed and how the information and the data gather are to be analyzed.
* The operational design, which deals with the techniques by which the procedures specified in the sampling, statistical and observational designs, can be carried out.

*Features of a Good Research Design*

A good design is characterized by issues like

* Flexibility
* Appropriateness
* Efficiency
* Economy and so on.

Generally the design, which minimizes bias and maximizes the reliability of the data collected and analyzed, is considered as a good design. The design, which gives the smallest experimental error, is supposed to be the best design. A design that yields maximum information and provides an opportunity for considering many different aspects of the problem is considered as most appropriate and efficient design.

*Classification of Research Designs*

There are a number of different design approaches but unfortunately there is no simple classification system that defines all the variations that must be considered. Nevertheless, different research designs could be considered based on the type of research problem to be studied.

* Research design in case of exploratory research studies
* Research design in case of descriptive and diagnostic research studies, and
* Research design in case of hypothesis-testing research studies.

i) ***Research design in case of exploratory research***-- studies exploratory research studies are also termed as formulative research studies. The main purpose of such studies is that of formulating a problem for more precise investigations or of developing the working hypothesis from an operational point of view. The major emphasis in such studies is on the discovery of ideas and insights. The research design appropriate for such studies must be flexible enough to provide opportunity for considering different aspects of a problem under study.

***ii) Research design in case of descriptive and diagnostic research--*** studies descriptive studies are studies which are concerned with descriptive the characteristics of a particular individual, or of a group, whereas diagnostic research studies determine the frequency with which something occurs or its association with something else. Studies concerning certain variables are associated are examples of diagnostic research studies.

Since the aim is to obtain complete and accurate information in the said studies, the procedures to be used must be carefully planned. The research design must make enough provisions for protection against bias and must maximize reliability, with due concern for the economical completion of the research study. The design in such studies must be rigid and not flexible and must focus attention on the following:

* Formulating the objective of the study
* Designing the methods of data collection
* Selecting the sample
* Collecting the data
* Processing and analyzing the data
* Reporting the findings

In designing samples should be tackle in such a fashion that the samples might yield accurate information with a minimum amount of research effort. Thus the research design in the case of descriptive/diagnostic studies is a comparative design throwing light on the above points and must be prepared keeping in view the objective of the study and the resources available.

**iii) Research design in case of hypothesis-testing studies**- these studies are those, which test hypothesis of causal relationship between variables. Such studies require procedures that will not merely reduce bias and increase reliability, but will permit drawing inferences about causality.

**VI) Selecting the Sample**

The researcher must decide the way of selecting a sample or what is popularly known as the sample design. A sample design is a definite plan determined before any data are actually collected for obtaining a sample from a given population. For example, the plan to select 20 textile firms from the textile industry consisting of 200 firms is a sample design.

Samples could be either probability or non-probability samples. With probability samples each element has a known probability of being included in the sample but non-probability samples do not allow the researcher to determine this probability.

 Probability samples are those based on

* Simple random sampling
* Systematic sampling
* Stratified sampling
* Cluster sampling

Non-probability samples are those based on

* Convenience sampling
* Judgment sampling
* Quota sampling

Several of the methods of sampling procedures may be used in combination. Random sampling can be used or preferred so that bias can be eliminated and sampling error could be estimated. But purposive sampling may be more important when the universe is small and a known characteristic of it is to be studied intensively.

*Errors in sampling*

Even if a sample is properly selected there will be some difference between the estimates obtained from the sample and the actual value in the population. Sample studies are subject to sampling and non-sampling errors, which are of a random and/or a constant nature. The errors which are due to sampling and of which the average magnitude can be determined are called sampling errors.

Total error

 Sampling errors

Non-sampling error

(Total error)2 = (sampling errors)2 + (non-sampling errors)2

**VII). Collecting the Data (Execution of the Project)**

Researcher should see that the project is executed in a systematic manner and in time. Execution involves how the survey is conducted, by means of structured questionnaire or otherwise, the training of the interviewers and if respondents do not cooperate some means must be designed. When dealing with any real life problem it is often found that data at hand are inadequate and thus it becomes necessary to collect data that are appropriate. The data may either be primary or secondary. Several ways of collecting the data exist.

They differ in terms of:-

1. Money costs

(ii) Time costs and

(iii) Other resources

Primary data can be collected through experiments or through surveys. In the case of survey data can be collected by any one or more of the following ways:

* By observations
* Through personal interviews
* Through telephone interviews
* By mailing questionnaires
* Through schedules

The researcher should select one of these methods of collecting the data taking into account or considerations the nature of investigations, objectives and scope of the study, financial resources, available time and the desired level of accuracy. Much depends on the ability and the experience of the researcher.

**VIII) Analysis of Data**

After the data have been collected the researcher turns to the task of analyzing them. The analysis may involve a number of closely related operations such as:

* Establishment of categorizations and application of these categories to the raw data
* Editing of the raw data
* Manipulation of data
* Summarizing and tabulation of the data to obtain answers to research questions
* Drawing statistical inferences.

Researchers should classify raw data into some proposed and useable categories of data, editing is the process of that improves the quality of the data for coding. It is the process of examining the collected data to detect errors and omissions and correct them. The coding operation assigns numeral symbols to responses so that they can be put under limited number of categories or classes. In other words, the categories of data are transformed into symbols that may be tabulated and counted.

Entry onto the computer is usually done by data clerks. Various statistical soft wares are available for data entry and analysis. For instance, SPSS, STATA, Spreadsheet programs such as Excel, Lotus, etc. are some of them. Second round editing is done once the data entry is completed by examining the frequency distributions, averages, ranges, modes, etc. to detect outliers. The questionnaire may have to be checked when there are outliers. Analysis is completed with the preparation of descriptive tables, rung econometric and mathematical models or programming models.

Tabulation is a part of the technical procedure where the classified data are put in the form of tables. Analysis work after tabulation is generally biased on the computation of various percentages, coefficients, etc. by applying various well defined statistical formulae. Statistical test are conducted to assess the validity of the data.

*Hypothesis testing*- after the data are analyzed, researcher can proceed to test of hypothesis, formulated earlier. Do the facts support the hypothesis? Various tests are available including chi-square test. t-test, f-test, etc. hypothesis testing will result in either accepting the hypothesis or in rejecting it.

**IX) Generalizations and Interpretation**

If a hypothesis is tested and upheld several times, it may be possible for researcher to arrive at generalization i.e. to build theory. After all the real value of research lies in its ability to arrive certain generalizations. If the researcher does have a hypothesis to be tested he/she right seek to explain his/her findings on basis of some theory. This is known as interpretation. Explaining and discussing research results in line with the theoretical framework is part of the interpreted exercise.

**X) Preparation of the Report or the Thesis**

The research process is completed only when the results are shared with the scientific community. For this task the researcher has to prepare the report of what has been done by him. Writing the report must be done with great care keeping in mind the following:

The layout of the report should have

* Preliminary pages
* The main text
* The end matter

The preliminary pages include several elements including:

* The title
* The data
* Acknowledgements
* Prefaces/forwards
* Table of contents
* List of tables
* List of graphs/figures

The main text should have the following parts:

Introduction

* Clear statement of the objective of the research
* An explanation of the methodology
* The scope of the research
* The limitations of the study

Summary of findings- is the part where the main findings and recommendations are reported in a summarized form (Abstracts).

The main report- is the main body of the report that should be broken into several identifiable sections and chapters.

Conclusions- are the part where results of the research are presented in clear and precise language.

At the end of the report appendices and bibliography are listed.

Report should be written in concise and objective style in simple language avoiding vague expressions. Charts and illustrations in the main report should be used only if they present the information more clearly and forcibly. Calculated confidence limits must be mentioned and the various constraints experienced in conducting the research may as well be stated.

***The Research Proposal***

The preparation of a research proposal is a pre requisite in the research process. Generally a written proposal is required when a study is being suggested. The research proposal serves as a basis for determining the feasibility of the project and provides a systematic plan of procedure for the researcher to follow. The proposal assures that the parties understand the project’s purpose and the proposed method of investigation. The research proposal may not generally exceed some 15 single spaced pages excluding appendices.

A research plan is an important document and a worthwhile research study is likely to result only from a carefully planned and well-designed proposal because:

* It helps the researcher to organize his/her ideas in a form whereby it will be possible for him/her to look for flaws or inadequacies.
* It provides an inventory of what must be done and which materials have to be collected
* It is a document that can be given to others for comment.

The research proposal should usually contain the following categories of information:

1. **Introduction**- this part should include the following information

*a) The TITLE*- the title or the topic should be worded in such a way that it suggests the theme of the study. In selecting a title, (i) the researcher must make sure that the title is not burdened with pompous words and should not include terms of unscientific, argumentative, emotional, or biased nature. The language should also be professional language; (ii) the title should not be too long. It should be specific to the area of the study. Nevertheless, it should be remembered that the proposed study cannot completely be presented in the title; it should be worded in a way that it gives sufficient information about the nature of the study.

*b) Statement of the Problem*- this section makes up between one fourth and one half the proposal. The statement of the problem is an explanation of the title. It can be either the form of questions form or as a declarative statement.

*c) Objectives of the Study-* in this section the specific activities to performed are listed .This section is rather brief usually not more than half a page at most. This is the step rephrasing the problem in to operational or analytical terms, i.e. to put the problem in specific terms as possible. The general objective provides a short statement of the specific goals pursued by the research. The specific objectives are operational in nature. This indicates the type of knowledge to be produced, audiences to be reached etc.

*d) Review of the Literature*- this section provides a brief overview of the literature the research done and the gaps that the proposed research intends to fill. The theoretical and empirical framework from which the problem arises must briefly be discussed. Both conceptual and empirical literatures are to be reviewed for this purpose. The researcher has to make it clear that his problem has roots in the existing literature but it needs further research and exploration. The analysis of previous research eliminates the risk duplication of what has been done, and provides a basis for formulating hypothesis.

*e) The Hypotheses*- questions that the research is designed to answer are usually framed as hypothesis to be tested on the basis of evidence. It gives direction to the data gathering procedure. It is in light of the hypothesis that the relevance of the data to be collected judged.

*f) The Significance of the Study*- this justifies the need of the study. A proposal should justify the worthwhileness and urgency of the research study. It should indicate clearly how the results of the research could influence theory or practice. The need for undertaking a research study can be shown in several ways.(i) to show the existence of time lapse between the earlier study and the present one, and therefore, the new knowledge, techniques or considerations indicate the need to replicate the study.(ii) to divulge that there are gaps in knowledge provided by previous research studies and to show how the present study will help to fill in these gaps and add to the quantum of existing knowledge.(iii) to show the lack of information about a problem by presenting the supporting statements of other research studies.

*g) Definition of Terms and Concepts*- it is necessary to define all unusual terms and concepts that could be misinterpreted. Technical terms or words and phrases having special meanings need to be defined operationally. There may not be uniform definition or modes of management for certain concepts and terms.

*h) Scope of the Study/delimitations of the study*- boundaries of the study should be made clear with reference to (i) the scope of the study specifying the areas to which the conclusions will be confined and (ii) the procedural treatment including the sampling procedures, the techniques of data collection and analysis, the development of measuring tools and their use in the study.

*i) Basic Assumptions*- assumptions are statements of ideas that are accepted as true. They serve as the foundation upon which the research study is based. Some of the errors committed when setting basic assumptions include (i) failure to sate all of the basic assumptions that are relevant to the study. Some assumptions are taken for granted without being designated as basic assumptions of the study. (ii) the second error concerns irrelevant assumptions. Such assumptions are neither applicable nor necessary to the study. (iii) The third error is that of selecting unsubstantiated assumptions, which cannot be defended by any logic, empirical evidence or authoritative sources.

**II) Methodology**

The methodology section attempts to answer the research question in the most rigorous ways. It is best to organize the methodology to explain how each specific objective will be achieved.

1. *Procedures for collecting data*- the details about the sampling procedures and the data collecting tools are described. (i) Sampling – in research situations the researcher usually comes across unmanageable populations in which large numbers are involved. Under such cases the researcher may use different sampling methods such as random sampling, systematic sampling, multistage sampling, cluster sampling, stratified sampling, judgment sampling etc. researcher should be well informed about the scope and limitations of each sampling methods and a research purpose should clearly define the population from which the researcher will draw his sample.
2. *Tools (instruments)-* in order to collect evidences or data for a study the researchers has to make use of certain testing and non testing tools such as observations, interviews, questionnaires, etc. the research proposal should explain the reasons for selecting a particular tool or tools for collecting the data.
3. *Procedures for treating data (method of analysis)* - in this section, the researcher describe how he/she organizes, analysis and interpret the data. The details of the statistical techniques and the rationale for using such techniques should be described in the research proposal.

**III) Bibliography**

In each proposal the researcher should give a list of books, journals, and other documents that he has used in selecting the problem and which he may use during the conduct of the study.

**IV) Time Schedule**

Researcher should also prepare a realistic time schedule for completing the study with the time available. Dividing a study into phases and assigning dates for the completion each phase helps the researcher to use is time systematically.

**V) Budget Schedule**

The research proposals which are submitted to the government, private or autonomy agencies for financial assistance should also include a budget proposal estimating funds required for travel expenses, typing, printing, purchase of equipments, tools, books, etc.