

# Steps Involved In Research Process | Research Aptitude Notes 2020

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***In this blog post series, we have covered the topic Steps of Research based on NET Exam syllabus. which is part of Research Aptitude Unit-2 (see syllabus below). The research process steps are covered from problem formulation through to writing a research report. Details of various steps involved in the research process have been covered in details. Not only this you will also able to answer Question-based on Steps of the research process, steps in research design, evaluation of research design, different steps involved in a research process, phases of the research process, steps in the research process in research methodology etc.***

**Unit-II Research Aptitude[Based on Revised New Syllabus ]**

## **VARIOUS STAGES OF A RESEARCH**

Whenever a scientific problem is to be solved there are several important steps to follow. The problem must be stated clearly, including any simplifying assumptions. Then develop a mathematical statement of the problem. This process may involve the use of one or more mathematical procedures. Frequently, more advanced textbooks or review articles will be needed to learn about the techniques and procedures.

Next, the results have to be interpreted to arrive at a decision. This will require experience and an understanding of the situation in which the problem is embedded.

A general set of sequential components of research is the following:

**Warning!** Better check yourself, Various books and writers mention different steps in the research process. Some will say its 10 step process while some will say its 7 steps process. so don't get confused with those.

Its all about how you achieve the different phases of the research process.

## **PHASE I RESEARCH PROBLEM IDENTIFICATION**

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## **PHASE II PLANNING FOR RESEARCH STUDY AND INSTRUMENT**

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## **PHASE III CONDUCTING RESEARCH AND RESEARCH REPORT**

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### **Steps in Research Process:**

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- Formulating the Research Problem (Including Extensive Literature Review)
- Developing the objectives/Conceptualization a research design
- Preparing the Research Design /Constructing an instrument for data collection
- Selecting a sampling design
- Writing a research proposal
- Collecting the Data
- Analysis of Data/ Processing and displaying data /Including Generalization and Interpretation
- Preparation of the Report or Presentation of Results-Formal write-ups of conclusions reached.

The research process is similar to undertaking a journey. For a research journey, there are two important decisions to make-

**1) What you want to find out about or what research questions (problems) you want to find answers to;**

**2) How to go about finding their answers.**

There are practical steps through which you must pass in your research journey in order to find answers to your research questions. The path to finding answers to your research questions constitutes research methodology.

At each operational step in the research process, you are required to choose from a multiplicity of methods, procedures and models of research methodology which will help you to best achieve your objectives.

This is where your knowledge base of research methodology plays a crucial role.

**Let's See the steps involved in the research process in research methodology.**

## Various steps involved in the research process

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Research process consists of a series of steps or actions required for effectively conducting research.

The following are the steps that provide useful procedural guidelines regarding the conduct of research.

### PHASE I RESEARCH PROBLEM IDENTIFICATION

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#### STEP 1: Formulate a research problem

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The first step in research is formulating a research problem, at this step, your goal should be clear that what you intend to achieve out of research.

It is the most crucial step in the research process

- ***The main function is to decide what you want to find out about.***
- ***The way you formulate a problem determines almost every step that follows.***

All other steps in the research process will be influenced by research problem identification.

So its extremely important that you should consider time, cost, expertise you have in the field of research you have chosen.

The process of reviewing the literature helps you to understand the subject area better and thus helps you to conceptualize your research problem clearly and precisely.

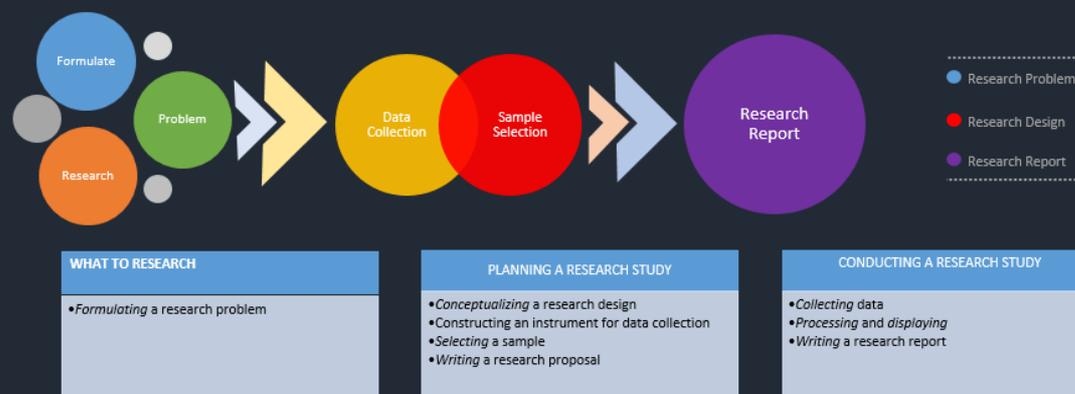
It also helps you to understand the relationship between your research problem and the body of knowledge in the area.

Sometime you should also consider your guide/Supervisor expertise knowledge.

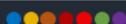
# Research Process

The eight-step model for carrying out research

Research process consists of a series of steps or actions required for effectively conducting research. The following are the steps that provide useful procedural guidelines regarding the conduct of research:



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Research process consists of a series of steps or actions required for effectively conducting research. The following are the steps that provide useful procedural guidelines regarding the conduct of research

## PHASE II PLANNING FOR RESEARCH STUDY AND INSTRUMENT

### STEP 2: Conceptualizing a research design

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Once the research problem is identified the next step is to identify the knowledge gap, selection of appropriate methods, sampling strategy and time frame.

A faulty design may lead to misleading findings and therefore it's important to ensure that your selection of research design permits the accurate prediction of outcome under the given set of limitation.

While selecting a particular research design you must have strong reasons and justification for your selection; and you should be aware of its strengths, weaknesses and limitations.

### STEP 3: Constructing an instrument for data collection

Construction of an instrument for research total depends upon how you are going to collect data and various method around it.

All that is needed is what sort of information is required for the qualitative and quantitative study. This first practical step in research study also requires some validation and reliability for research instrument you have constructed.

#### **STEP 4: Selecting a sampling design**

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Sampling design selection is another crucial step in the research process, the research result will largely depend on the category of sampling design you have chosen for your research study.

The three categories of sampling design random/probability sampling designs, non-random/non-probability sampling designs and 'mixed' sampling design will affect your strategies and you must be able to select most appropriate for your study by considering the strength and weaknesses of each along with their use case.

#### **STEP 5: Writing a research proposal**

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Having done all the preparatory work, the next step is to put everything together in a way that provides adequate information about your research study, for your research supervisor and others.

Universities and other institutions may have different requirements regarding the style and content of a research proposal, but the majority of institutions would require most of what is set out here.

This also varies within an institution, from discipline to discipline or from supervisor to supervisor.

Therefore it should contain the following information about your study

- objectives of the study;
- list of hypotheses if you are testing any;
- study design you are proposing to use;
- the research instrument(s) you are planning to use;
- information on sample size and sampling design;
- information on data processing procedures;
- the study's problems and limitations; and
- the proposed time-frame.

### **PHASE III CONDUCTING RESEARCH AND RESEARCH REPORT**

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#### **STEP 6: Collecting data**

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As a part of the research design, you decided upon the procedure you wanted to adapt to collect your data. In this phase, you actually collect the data using below techniques based on your selected sample and study design.

- Interviews
- Questionnaire

- Focused Group Discussion
- Survey

Many methods could be used some time together to gather the required information.

### **Step 7: Processing and displaying data**

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Processing of data you have collected through various methods requires different ways of analysis; analysis will be quantitative for descriptive study. If you want quantitative analysis, it is also necessary to decide upon the type of analysis required (i.e. frequency distribution, cross-tabulations or other statistical procedures, such as regression analysis, factor analysis and analysis of variance) and how it should be presented

### **Step 8: Writing a research report**

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Universities and other institutions may have different requirements regarding the style and content of a research proposal but there are two broad categories of reports:

- quantitative
- qualitative

Writing the report is the last and, for many, the most difficult step of the research process. This report informs the world what you have done, what you have discovered and what conclusions you have drawn from your findings. If you are clear about the whole process. Your report should be written in an academic style and be divided into different chapters and/or sections based upon the main themes of your study.

Summary:

We have provided the eight steps to cover the spectrum of research endeavour from problem identification to writing the research report. These steps are in logical sequence and detailing of each step and method is beyond scope of series.

#### ***Important note:***

***This is not a theoretical lecture series where we will cover every detail of chapter those who are looking for a detailed study of this topic can reference some good textbook.***

if you would like to study further or more details on these please follow one of the following links in reference.

#### **References :**

- 1. Dawson, Catherine, 2002, Practical Research Methods, New Delhi, UBS Publishers'Distributors**
- 2. Kothari, C.R.,1985, Research Methodology- Methods and Techniques, New Delhi, Wiley Eastern Limited.**
- 3. Kumar, Ranjit, 2005, Research Methodology-A Beginners,(2 nd .ed.),Singapore, Pearson Education.**

## Online Resources –

1. [research-methodology](#)
2. [seven-steps-research-process](#)