Basic steps of doing research

What is the Research Process?

The Research Process is a process of multiple scientific steps in conducting the research work. Each step is interlinked with other steps. The process starts with the research problem at first. Then it advances in the next steps sequentially. Generally, a researcher conducts research work within seven steps. In research work, primarily, you require a Research Proposal. It is because the proposal approves the research project whether you achieve the ability to conduct research or not. So when you write a research proposal, present the detailed plans and specific objectives of your research correctly.

Steps of the research process

Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps. The chart shown in Figure well illustrates a research process. The chart indicates that the research process consists of a number of closely related activities.

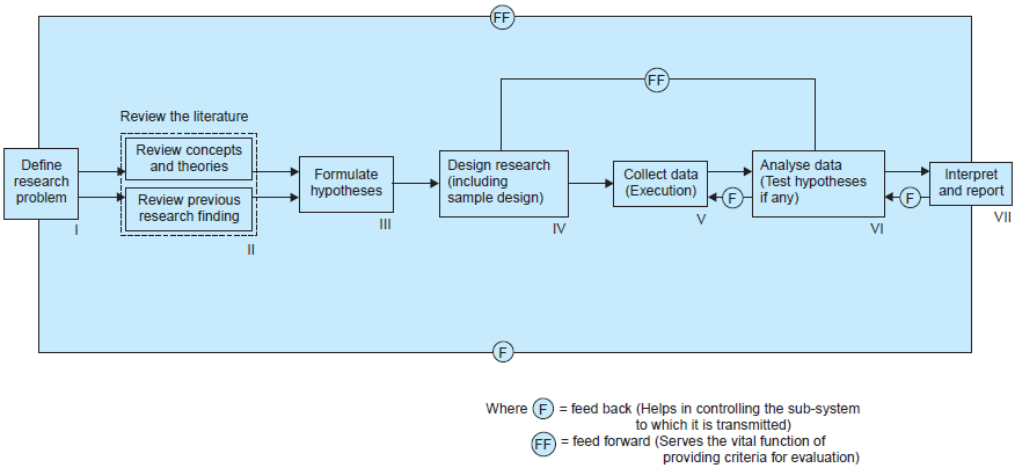

Fig: a research process

Step 1: Identify and defining the Research Problem

The first step in the process is to identify a problem or develop a research question. The research problem may be something the agency identifies as a problem, some knowledge or information that is needed by the agency or the desire to identify a recreation trend nationally. However, the research problem comes up with the ongoing phenomenon or issues. *Formulate Your Question :*

- Your research may start as a general idea or a specific question, statement or thesis.
- Know what you want to focus on before you begin.

A research problem is a statement about an area of concern, a condition to be improved, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation. In some social science disciplines the research problem is typically posed in the form of a question. A research problem **does not** state how to do something, offer a vague or broad proposition, or present a value question.

Step 2: Review the Literature

Once the research problem is identified and defined, the next step is to review the existing research. The researcher must learn more about the topic under investigation. To do this, the researcher must review the literature related to the research problem. This step provides foundational knowledge about the problem area. The review of literature also educates the researcher about what studies have been conducted in the past, how these studies were conducted, and the conclusions in the problem area.

Get Background Information

- Read about your topic using websites or encyclopedias.
- It introduces you to the topic, helps you to focus on its key elements and can help you decide to broaden or narrow your focus.
- These sources often include bibliographies that you can "piggyback" to find more sources on your topic.

In the obesity study, the review of literature enables the programmer to discover horrifying statistics related to the long-term effects of childhood obesity in terms of health issues, death rates, and projected medical costs. In addition, the programmer finds several articles and information from the Centers for Disease Control and Prevention that describe the benefits of walking 10,000 steps a day.

The information discovered during this step helps the programmer fully understand the magnitude of the problem, recognize the future consequences of obesity, and identify a strategy to combat obesity (i.e., walking).

Step 3: Formulating a Hypothesis

In this step, the researcher makes the problem precise.

- The research work is *topic focused and refined*.
- Then the researcher steps forward to how the problem would be approached? The nature of the research problem can decide to formulate a definite hypothesis.
- A hypothesis is tested. Effective research work formulates a hypothesis in such a way that collected factual data will provide evidence that either supports or disproves them. Formulation of Hypothesis in Research will make you more expert.
- In the end, the hypothesis turns into a practical theory.

In order to develop working hypotheses researcher should adopt the following approach

a. Discussions with colleagues and experts about the problem, its origin and the objectives in seeking a solution;
b. Examination of data and records, if available, concerning the problem for possible trends, peculiarities and other clues;
c. Review of similar studies in the area or of the studies on similar problems; and
d. 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.

Step 4: Research Design

The researcher then must find out a research design. Research design decides how the research materials will be collected. One or more research methods, for example, experiment, survey, interview, etc are chosen depending on the research objectives.

- In some research contexts, a survey may be suitable. In other facts, interviews or case studies or observation might be more appropriate.
- Find the ways How to Choose a Research Design? Research Design actually provides insights into "how" to conduct research using a particular Research Methodology. Basically, every researcher has a list of research questions that need to be assessed that can be done with research design.

In other words, the function of research design is to provide for the collection of relevant evidence with minimal expenditure of effort, time and money. But how all these can be achieved depends mainly on the research purpose. Research purposes may be grouped into four categories,

a. Exploration,
b. Description,
c. Diagnosis, and
d. Experimentation.

There are several research designs, such as,

- Experimental and hypothesis testing
  #Experimental designs can be either informal designs (such as before-and-after without control, after-only with control, before-and-after with control)

  ## formal designs (such as completely randomized design, randomized block design, Latin square design, simple and complex factorial designs), out of which the researcher must select one for his own project.

- Non-experimental hypothesis testing.

Step 5: Carry out the Research Process

While the research design is decided, then the researcher collects data, records information. The researcher proceeds with the research. Practical difficulties may arise in this stage. For example, the research method may not suit properly. The interviewer might be unwilling to let carry out the research as planned. Moreover, a false interpretation could potentially bias the result of the study. So, when you collect data, you need to know the effective techniques of data collection in order to gather necessary and relevant information with regard to research.

Step 6: Preparing Research Results

Now work out the implications of the data you gathered. Your challenges are not over yet. Rather problems might just begin! It is hardly easy to clear out the implications of the gathered materials. While it is possible to clarify the research questions, some investigations are less conclusive. So, interpret your research results in order to report the findings.

No matter what kind of research you are doing, there comes a moment when your head is full of ideas that originated from your analysis. Ideally, you'll write them down as they come to you. Now you need to convert the mass of those elements and ideas into a written text that makes sense to the reader and can do justice to your quest.

Step 7: Reporting Research Findings

The final step of the research process outline is to report the research findings. Describe the significance of the research study. Work out how do they relate to the previous research findings. Usually, the research report published as a journal article or book. This is the last stage in terms of the individual research project. Mostly, a research report discusses questions that remained unanswered & suggest further research in the future in general.

This also signifies how do you write your research paper. You must write your research findings in a proper way. So, I do suggest going through Research Report Writing Steps with Format.