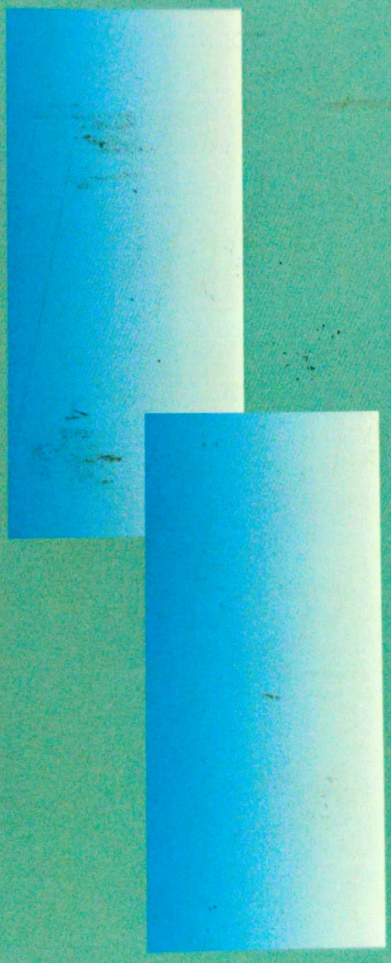
Research Methodology



Edited by

Shivpal Singh
Rakesh Kumar Keshari

RESEARCH METHODOLOGY

Edited by

S.P. Singh

Rakesh Kumar Keshari

NEW DELHI PUBLISHERS

90, Sainik Vihar, Mohan Garden, New Delhi 110059

Ph. : 9971676330, 9582248909

Email: ndpublishers@gmail/@rediffmail.com

www.ndpublisher.in

Research Methodology by S.P. Singh and Rakesh Kumar Keshari, New Delhi
Publishers, 2015, New Delhi.

First Edition: 2015

ISBN : 978-93-81274-69-9

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90, Sainik Vihar, Mohan Garden, New Delhi 110059
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Architecture of Research- Research Design

Vaibhav Goel Bhartiya

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

— Clair Seltiz

'Research', in simple terms, can be defined as 'systematic investigation towards increasing the sum of human knowledge' and as a 'process' of identifying and investigating a 'fact' or a 'problem' with a view to acquiring an insight into it or finding an apt solution therefore. An approach becomes systematic when a researcher follows certain scientific methods.

Invariably every research begins with a question or a problem of some sort. The aim of research is to know '*something more*' about '*something*' or to discover answers to meaningful questions through the application of scientific procedures. Legal research is not an exception to this general precept of research. However, undertaking and executing legal research, as a systematic inquiry, is a complex process. It involves a three-stage process. Each one of them warrants skill. The processes are research planning, research implementation, and presenting of research findings.

Once a research problem is formulated clearly enough, the researcher has to think of pursuing it. He has to think about the information that is needed, the way to gather it, and the manner in which it is analyzed and interpreted. In other words, he has to work out the 'plan' and 'design' of his research.

The process of research design can be explained by an analogy of an architect designing a building. In 'designing' a building, the architect has to consider each decision that is required to be made in constructing the building. Bearing in mind the purpose for which the building is to be used, he has to consider various matters such as how large it will be, how many rooms it will have, how these rooms will be approached, what

materials will be used and so on. He considers all these factors before the actual construction begins. He proceeds in this way because he wants a picture of the whole structure before starting construction of any part. This paper-picture helps to visualize clearly the difficulties and inconveniences that he and his assistants would face when the building is under construction and to devise the strategies to overcome them. On the basis of the sketch, he can effect corrections or modifications and make improvements before the actual construction starts. It is obvious that the building may be defective and cause a lot of inconveniences to its users and thus the very purpose for which it is to be constructed may be defeated if careful thought was not given to the matter at the 'designing' stage.[1]

This analogy is applicable with equal force to any research. A researcher has, therefore, to 'design' his research before he pursues it so that he can anticipate the problems that he may encounter during his research journey and can take appropriate precautions and measures to overcome them. Such a design will not only make his research journey less problematic but will also enhance the reliability of his research findings and thereby of its contribution to the existing knowledge.

A researcher, like a building architect, has to take decision about certain aspects of his proposed research before he starts 'designing' his research. The major design decisions, which are required to be taken, are to be in reference to the following aspects:

1. What is the study about?
2. What is the purpose of the study and its scope?
3. What are the types of data required?
4. Where can the data needed data be found and what are their sources
5. What will be the place or area of the study?
6. What periods of time will the study include?
7. What time is approximately required for the study?
8. What amount of material or number of cases will be needed for the study?
9. What bases will be used for the selection of the required material /cases?
10. What techniques of data gathering will be adopted?
11. What type of sampling, if required, will be used?
12. How will the data be analyzed?
13. How best can all these questions be decided upon and what should be make so that decisions the research purpose will be achieved with minimum expenditure of money, time and energy?

The consideration of these questions, which, in ultimate analysis, enters into making the decision regarding the what, where, when, how much, and by what means, constitutes research design. However, the decision relating to these questions must be based on convincing and pragmatic grounds. Keeping in view the fact that research is a systematic, scientific investigation of a fact, the design decisions must also be based on an accepted methodology.

Broadly speaking, research design refers to the visualization of the entire process of conducting research before its commencement. It is a planned sequence of the entire process involved in conducting a research study. It is a conceptual structure within which the research is to be conducted.

Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions. The 'plan' includes everything the investigator will do from formulating the research problem or the hypothesis to the final analysis of the data and presenting his inferences. The 'structure' is the outline, the scheme, or the paradigm of the operation of the variables. While, the 'strategy' includes the methods to be used to collect and analyze the data.

However, the 'design' of a research study depends, to a great extent, on the particular purpose that the proposed research is intended to serve. The purpose of research influences the design of study. Research design is closely linked to the investigator's objectives. Research designs, therefore, differ depending on the research purpose just as the plan of a building would depend upon the purpose for which it is intended to be used.

'A research design', against this backdrop, according to Claire Selltiz and others, 'is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure'.[2]

Research design, in this sense, tells the researcher what observations to make, how to make them and how to analyze the quantitative representation of the observations. It constitutes the blueprint for the collection, measurement and analysis of data. It, in a way, guides the investigator in the process of collecting, analyzing and interpreting observations. It also tells him as to what types of statistical analysis to use. It is the logical and systematic planning and directing of a piece of research. 'Research design' is invented to enable the researcher to answer research questions as validly, objectively, accurately, and economically as possible.

Based on the above explanation, one can say that research design possesses three important characteristics. *First*, it is a plan that specifies the sources and types of information relevant to the research problem. *Secondly*, it is a strategy specifying which approach will be used for gathering and analyzing the data. *Thirdly*, it includes the time and cost budgets since most studies are done under these two constraints.

However, it is difficult, though not impossible, to prepare an ideal research design in social science as well as in socio-legal research for two prominent reasons. *First*, sometimes it may not be possible for a researcher to foresee 'everything' and 'visualize' all the contingencies in the beginning of the research. *Secondly*, he, in spite of his perfect or near perfection foreseeablity, may encounter with some unforeseen factors or facts on the way of his research journey that need to be handled.

A research design is only tentative in the sense that as the study progresses, new facts, new ideas and new conditions, which may necessitate a change in the original research plan may occur. The researcher has to amend his design to meet these and contingencies. Thus, a research design can be flexible. Research design

furnishes guidelines for investigative activity and not necessarily hard-and-fast rules that must remain unbroken. A universal characteristic of any research design is flexibility. Nevertheless, he needs to translate the research design, with apt modifications into a working procedure.

Major Contents of Research Design

The term 'research design', as mentioned earlier, refers to the entire process of planning and carrying out a research study. It involves the following major steps:

1. Identification and selection of the research problem.
2. Choice of a theoretical framework (conceptual model) for the research problem and its relationship with previous researches.
3. Formulation of the research problem or hypothesis, if any, to be tested and specification of its objectives, its scope.
4. Design of experiment or inquiry.
5. Definition and measurement of variables.
6. Identification of the 'suitable population' for the study and of 'sampling' procedure.
7. Tools and techniques for gathering data.
8. Editing, coding and processing of data.
9. Analysis of data-selection and use of appropriate statistical procedures for summarizing data and for statistical inference.
10. Reporting-description of the research process; presentation, discussion and interpretation of data; generalization of research findings and their limitations; suggestions for further research.

The broad outline of the design of a research study may be re-stated in the following main steps:

1. Formulation of the research problem.
2. Decision about suitable population for the study and setting down the sampling procedure.
3. Devising tools and techniques for gathering data.
4. Determination of the mode of administering the study.
5. Setting the arrangements for the editing, coding and processing of data.
6. Indicating the procedures and statistical indices for the analysis of data.
7. Deciding about the mode of presentation of the research report.

These steps can further be grouped into four major stages: (i) the planning stage, (ii) the design stage, (iii) the operational stage, and (iv) the completion stage. The planning stage includes the identification, selection and formulation of research problem as well as the formulation of hypothesis and its linkage with theory and existing literature. The design stage consists of drawing up the design of the experiment or inquiry, definition and measurement of variables, sampling procedures, tools and techniques for gathering data. The operational stage deals with the drawing of the finance

budgeting, recruitment and training of the staff, if necessary. The completion stage is concerned with analysis and interpretation of data.

Each of these steps of conducting research is a complex one and requires a separate discussion which is not attempted in this Unit. It must, however, be emphasized that several alternatives are possible at every step. Therefore, efficiency of a research design involves in selecting from among the several alternatives at every step, those procedures for the collection and analysis of data, which are most economical as well as most relevant for the purpose of research.

Nevertheless, it is imprtant to list here below some essential considerations that should be taken into account by a researcher while developing each of the research design steps of, particularly a socio-legal problem.[4]

1. Identification and selection of the research problem.
   (i) Presents clear and brief statement of the problem with concepts defined where necessary.
   (ii) Shows that the problem is limited to bounds amenable treatment or test.
   (iii) Describes the background and significance of the problem with reference to one or more of the following criteria:
      (a) Is timely.
      (b) Fills research gap.
      (c) Permits generalization to broader principles of social interaction or general theory.
      (d) Sharpens the definition of an important concept or relationship.
      (e) Has many implications for a wide range of practical or theoretical problems.
      (f) May create or improve an instrument for observing and analyzing data.
      (g) Provides opportunity for gathering data.
      (h) Provides possibility for a fruitful exploration of data with known techniques.

2. Theoretical Framework

   Clearly states the relationship of the problem to a theoretical framework.
   (i) Demonstrates the relationship of the problem to the previous research studies.
   (ii) Presents alternate hypotheses considered feasible within the framework of the theory.

3. The Hypothesis
   (i) Clearly states the hypothesis selected for test.
   (ii) Indicates the significance of test hypothesis to the advancement of research and theory.
   (iii) Identifies limitations, if any, of the hypothesis.
   (iv) Defines concepts or variables (preferably in operational terms).
      (a) Independent and dependent variables should be distinguished from each other.

(b) The scale upon which variables are to be measured (quantitative, or qualitative) should be specified.

4. Design of the experiment or inquiry and measurement of variables.
   (i) Describes ideal design or designs with especial attention to the control interfering variables.
   (ii) Describes selected operational design.
   (iii) Specifies statistical tests.

5. Sampling Procedure
   (i) Specifies the population to which the hypothesis is relevant.
   (ii) Explains determination of size and type of sample.
   (iii) Specifies method(s) of drawing or selecting sample.
   (iv) Estimates relative costs of the various sizes and types of samples.

6. Methods of Gathering Data
   (i) Describe measures of quantitative variables showing reliability and validity these are known. Describe means of identifying qualitative variables.
   (ii) Include the following in description of questionnaires or schedules, if they used:
      (a) Approximate number of questions to be asked to each respondent.
      (b) Approximate time needed for interview.
      (c) Preliminary testing of interview and results.
   (iii) Include the following in description of interview procedure, if this is used:
      (a) Means of obtaining information, i.e. by direct interview, all or part by telephone, e-chatting, or other means.
      (b) Particular characteristics of interviewers must have or special training must be given them.

7. Working Guide
   (i) Prepare working guide with time and budget estimates.
      (a) Planning.
      (b) Drawing sample.
      (c) Preparing observational materials.
      (d) Collecting data.
      (e) Processing data.
      (f) Preparing final report.

8. Analysis of Results
   (i) Specify method of analysis.
      (a) Use of tables, sorter, computer, etc.
      (b) Use of graphic techniques

9. Interpretation of Results

(i) Discusses how conclusions will be fed back into theory.

10. Publication or Reporting Plans

(i) Write these according to Department and Graduate School requirements.

(ii) Select for journal publication the most significant aspects of the problem in succinct form. Follow style and format specified by the journal to which the article will be submitted.

Types of research design

It is important to recall that the purposes of research influence contents of the design of study. Research design is closely linked to an investigator's objectives. Invariably, every research begins with a question or a problem of some sort. Researches are undertaken for various purposes. These purposes, as discussed elsewhere, may be classified under the following four major categories:

1. To gain familiarity with a phenomenon or to gain insight into it with a view to formulate the problem precisely. [Studies having this purpose are known generally as Exploratory of Formulative studies.]
2. To describe accurately a given phenomenon and to determine associations between different dimensions of the phenomenon. [Studies characterized by such aims are known generally as Descriptive studies.]
3. To determine the frequency with which something occurs or with which it is associated or see causal relationships between its different dimensions. [Studies having this purpose are known as Diagnostic studies.]
4. To test a hypothesis suggesting a causal relationship between different variables. [Studies characterized by this purpose are called Experimental studies.]

Research designs, based on these purposes, take different structural forms as well as nomenclature. The research designs that are appropriate for the first, second, third and the fourth purposes indicated above are terminal: (i) exploratory or formulative, (ii) descriptive, (iii) diagnostic, and (iv) experimental or explanatory, respectively.[5]

Some of the distinctive features of these research designs are discussed in brief in the following paragraphs.

(i) Exploratory or formulative research design

Generally, every research study is built upon the existing stock of our knowledge. The formulation of the problem, spelling out the objectives of the study and formulation of the hypothesis, if required, depend upon the existence of adequate knowledge. But occasionally a researcher may be confronted with a problem in a hitherto uncharted area without sufficient knowledge even to formulate his problem adequately. The researcher has little or no knowledge about the problem. He just wants to 'explore' it.

His primary aim is to acquaint with the characteristics of research target. He intends to discover ideas and to have insight into the problem or situation under investigation.

Research design in exploratory studies has to be flexible to provide opportunity for the consideration of different aspects of the problem or situation under study. Such flexibility in research design is needed because the research problem, broadly defined initially, is transformed into one with more precise meaning.

Generally, the important methods to conduct exploratory studies include (a) a review of the related literature, (b) a survey of people who have had practical experience of the broad problem with the problem to be studied, and (c) an analysis of 'insight stimulating' cases or examples.[6]

A careful review of literature helps the investigator to formulate his research problem precisely or to develop a workable hypothesis with precise meaning. A review of hypotheses stated in earlier works may also help him in identifying the thitherto-analysed concepts and theories and deciding utility of the thitherto formulated/tested hypotheses. It also enables the researcher to decide the possibility of any new hypotheses from those concepts and hypotheses. A survey of experienced people and unstructured interactions with them will help the investigator to obtain insight into the problem under investigation and to get clues to the possible hypotheses. It gives him information about the effectiveness or otherwise of the thitherto used methods and procedures used for achieving specific goals. It can also provide information about the practical possibilities for doing different kinds of research. While the third method, i.e. analysis of 'insight-stimulating' cases, involves intensive study of selected instances of the phenomenon under investigation. It helps the researcher to gain information about the cases that exhibit sharp contrasts or have striking features. This diverse information helps him to have insight into the problem under study.

Most exploratory studies use one or more of these three methods. Whatever method is chosen, it must be used with flexibility so that many different facets of a problem may be considered as and when they arise and come to the notice of the researcher. But it is important to remember that exploratory studies merely lead to insights or hypotheses; they do not test them. An exploratory study must always be regarded as simply a first step; more carefully controlled studies are needed to test whether the hypotheses that emerge (from the exploratory study) have general applicability.

(ii) Descriptive and diagnostic research designs

A descriptive research study, as its name suggests, is concerned with describing the characteristics of a particular individual or a phenomenon. It is aimed at description or measuring of the different aspects of a phenomenon, group or community. It is mainly a fact-finding study with adequate interpretation. Such a study, unlike exploratory study, presupposes prior knowledge of the problems to be investigated.

In descriptive studies, the researcher must be able to define clearly what he wants to measure and find adequate methods for measuring. In addition, he must be able to specify the subject is to be included in his 'population' of study and how he is going to

collect evidence. In other words, in a such a study, what is needed is a clear formulation of 'what' and 'who' is to be measured, and the techniques for valid and reliable measurements.

A diagnostic research is more directly concerned with causal relationships and with implications for action than a descriptive study. It is more concerned with the frequency with which something occurs or its association with something else.

In fact, there is a very thin line of distinction between descriptive and diagnostic studies. A descriptive study is oriented towards finding out what is occurring while a diagnostic study is directed towards discovering not only what is occurring but also why it is occurring and what can be done. The former is about 'what is it?' while the latter is concerned with 'why is it?' A diagnostic study is more actively and explicitly guided by hypothesis than a descriptive study. They have a common element of emphasis on the specific characteristics of a given situation.

From the point of view of research design, the descriptive as well as diagnostic research studies, in spite of a thin of distinction between them, share common requirements. The research design of a descriptive and diagnostic study, unlike that of an exploratory study, has to be rigid. It must address and focus on:

1. *Formulation of the objectives of the study*- The first step in a descriptive as well as diagnostic study is to define, precisely the research problem and the research objectives. This enables him to perceive the required and relevant data.
2. *Designing the methods of data collection*- After the research problem is formulated, it becomes necessary for the investigator to identify the methods by which the required data are to be obtained. The techniques of data collection must be carefully identified and indicated in the research design.
3. *Selecting the sample*- The researcher must specify the methods of drawing sample from the identified 'population'.
4. *Collecting the data*- In the design of his study he must specify the sources of the relevant and required information and the period to which such data are related.
5. *Processing and analysis of data*- As the collected data need to be processed and analyzed, the researcher must indicate coding and decoding of the collected data and methods of processing and analyzing them.
6. *Reporting the findings*- Finally, the investigator has to draw a broad outline of his research report for effective communication of his findings to his audience. The layout of the report needs to be well planned so that all things relating to the research study may well be presented in simple and effective style.[7]

(iii) Experimental or explanatory research design

Experimental studies deal with cause and effect problems. They are concerned with testing the causal hypotheses. However, testing of a causal hypothesis is a very complex matter. At least three kinds of evidence are needed to confirm that the given independent variable (the cause) produces the given dependent variable (the effect). *First*, several independent variables have their effect on a given dependent variable.

,Therefore, in order to test the effect of a given independent variable, it is necessary hold constant the effect of other independent variables and to isolate the effect given variable. *Second*, it is necessary to show that change in the given independent variable did not take place before the change in the given independent variable the cause ought to precede or be simultaneous with the effect but it should not the effect. *Third*, it is necessary to show that the change in the given independent variable has actually produced change in the given dependent variable; the greater change in the independent variable the greater the change in the dependent variable

These three kinds of evidence may be summarized as follows:

1. Ruling out the effect of other causal variables.
2. Causal time sequence between the changes in the independent and dependent variables.
3. Concomitant variation between the independent and the dependent variables

A descriptive study which is designed to make observations about the reality as exists can best provide evidence about concomitant variation. To procure the other two kinds of evidence, one has to make observation under controlled conditions. The procedures of making observation under controlled conditions constitute the experiment. The chief requirement of an experiment is to induce change in the given independent variable while holding constant the effect of the other independent variables.

There are different ways of conducting experiments. In the physical and natural sciences laboratories are used extensively for experimentation. But laboratory experiments for studying human behavior are ruled out in most cases for obvious reasons. However, the use of laboratories is not necessary condition for experimentation. What is important is the logic of making observation under controlled conditions. Utilizing this logic, the social scientists have devised, among other methods, an experimental mechanism of using two groups of subjects, one termed the experimental group and the other, control group.

The subjects in the experimental and the control groups are so chosen that the two groups are similar, if not identical, with regard to the given independent and dependent variables as well as with regard to the various other variables which also exert their causal effect on upon the given dependent variable. Observations and measurements are made at two points of time. First, before the change is induced in the independent variable, the given independent and dependent variables are measured in both the groups. Then change is induced in the given independent variable only in the experimental group. After allowing sufficient time for the impact of the change to be felt on the given dependent variable, the given independent and dependent variables are measured in both the groups for the second time. According to the causal hypotheses, it is expected that at the second point of time there would be greater change in both the given independent and dependent variables in the experimental group as compared with their counterparts in the control group. Existence of such a difference would confirm the hypothesis.

It can be readily seen that the above experimental design is capable of generating simultaneously all the three kinds of evidence which are required for testing a causal hypothesis. The evidence ruling out the effect of other independent variables is secured by equating these variables in both the experimental and control groups, so that whatever effect they produce on the given dependent variable would be of the same order in both the groups. The evidence that the change in the dependent variable did not take place before the change in the given independent variable is ensured by measuring the variables twice-once before inducing the change in the independent variable and a second time after the inducement. The evidence about concomitant variation is obtained by comparing the relationship between the two variables in the two different settings of the experimental and the control groups before and after the inducement of change in the given independent variable in the experimental group.

The experimental design of study poses special problems of equating the experimental and the control groups with regard to the variables to be controlled and of inducing change in the given independent variable, of which the investigator must be aware. As for securing control of the variables in the two groups there are different techniques such as randomization, equated frequency distribution and precision control or control by identical individual pair matching. The investigator should be able to judge as to which one or more of these techniques are appropriate for his study.

The experimental design differs from the descriptive study design, among other respects, in two important ways, inasmuch as the groups studied need not be representative of their population and the variables under investigation are manipulated. Therefore, the term sample survey is not applied to the experimental study.

It has been pointed out that there are different ways of designing an experimental study subject to the adherence of the same logic of experiment. Even as regards the particular experimental mechanism described above, various adaptations and modifications are possible. for instance, although ordinarily observations are made twice in an experimental study-once before the change is introduced in the experimental variable, and a second time after the inducement of change sometimes the study is conducted after the change in the experimental variable has already taken place; but in the latter case the information about the earlier point of time is obtained from the existing records. The experimental study which is designed before the change in the experimental variable is termed the projected experimental design or 'before and after' study, while the latter type is named *ex-post facto* experimental design or 'after only' study.[7]

Pre-planning of an experiment is of fundamental importance in conducting an experiment. As the experimenter is not required to be a passive spectator but an active manipulator of the situation, he must plan out things in advance and their minutest details in order to get the best results. Planning of an experiment consists of the following steps: (i) selection of problem; (ii) selection of setting; (iii) conduction of a pilot study; (iv) formulation of a research design; (v) collection of data, and (vi) interpretation of results.[8]

ROLE OF RESEARCH DESIGNE:

Regardless of the type of research design selected by the researcher or the ... hoped to achieved, a common function of research design is providing ... various kinds of questions and to 'guiding' him in his research journey. A methodologically prepared research design may invariably lead to the following advantages

1. It may result in the desired type of study with useful conclusions.
2. It may lead to reduced inaccuracy.
3. It may give optimum efficiency and reliability.
4. It may minimize the uncertainty, confusion and practical hazards associated with research problem.
5. It may be helpful for the collection of research material, required data, and ... hypothesis.
6. It may operate as a 'guide post' for giving research a 'right direction'
7. It may minimize the wastage of time and beating around the bush.

To be more precise, a research design, regardless of its type, performs ... more of the following functions:

1. *Research design provides the researcher with a blue print of the proposed* ... - A researcher, like a building-constructor having a blueprint of the proposed ... can easily foresee and overcome the possible obstacles if he has some kind of ... plan to execute. Preparation of research design makes him pay attention to ... queries and take decision before beginning his research. For example, if he ... study people directly, some possible considerations might be: (i) a description ... target population about which he seeks information, (ii) the 'sampling methods' ... used to obtain 'elements' of sample and to decide the size of sample, (iii) the ... collection procedures and techniques to be used to acquire the needed information, (iv) the possible ways to analyze the collected data. These problems are given ... considerations in socio-legal research proposal.

2. *Research design dictates boundaries of the research activity* - Research ... outlines boundaries of the proposed research endeavor and enables the researcher ... channel his energies in a specific direction. Without delineation of research ... and/or objectives, a researcher's activities may virtually be endless. The study's ... and structure enables the investigator to reach closer to the proposed research.

3. *Research design enables the researcher to anticipate potential problems ... implementation of the study* - As mentioned earlier, one of the processes of ... review of literature. Literature review, *inter alia*, enables the researcher: (i) to ... about new or alternate approaches to the research problem, (ii) to acquire ... concerning what can reasonably be expected to occur in his own investigation, (iii) to have a critical review of the earlier work on the theme of his research so ... can seek some guidelines for improvement.

4. *Research design enables the researcher to estimate the cost of his research, possible measurement of problems and optimal research assistance* - It enables the researcher to estimate the approximate time and financial budget required to accomplish his proposed research.

Footnotes

1. See, T.S. Wilkinson & P.L. Bhandarkar, *Methodology and Techniques of Social Research* (Himalaya Publishing House, Mumbai, 16th edn, Reprint 2005) 97, and K.D. Gangrade, Empirical Methods as Tools of Research, in S.K. Verma & M. Afzal Wani (eds), *Legal Research and Methodology* (Indian Law Institute, New Delhi, 2nd edn., 2001) 273 (276-77).
2. Claire Selltiz, Marie Jahoda, *et. al.*, *Research Methods in Social Relations* (Holt, Rinehart & Winston, New York, 1962) 50.
3. See, Delbert C. Miller, *Handbook of Research Design and Social Measurement* (David McKay, New York, 3rd edn, 1970) 3-6 and K.D. Gangrade, Empirical Methods as Tools of Research.
4. See, Delbert C Miller, *Handbook of Research Design and Social Measurement.*
5. Claire Selltiz and Marie Jahoda, *et. al.*, *Research Methods in Social Relations*, *supra* n 3. However, there seems to be disagreement amongst social scientists about ways of classifying research designs used in social science research. See, I.H. McGrath, *Research Methods and Designs for Education* (International Text Book Co, Scranton, 1970), and Malida White Riley, *Sociological Research 1-Case Approach* (HarCourt, Brace and World, Inc, New York, 1963).
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9. K.D. Gangrade, Empirical Methods as Tools of Research, at 285.

Further Suggested Readings

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