

SIGNIFICANCE OF RESEARCH METHODOLOGY IN RESEARCH

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ABSTRACT

The basic aim of undergoing quality research is that it should give reliable and credible evidence in favour or against any issue. The result of using poor research methodology is that the researcher will be unable to solve the research problem, or the conclusion to the study will be prejudiced. In this era, it is very much important for researchers to have an access to good quality of research information. Any student when takes the decision to go for higher education, he is deciding for not only his presents but also his future. Same is in the research i.e. all the decisions of researcher relating to research methodology will affect the results of research. Thus, it's the research methodology which will help the researcher in achieving the goals of the research. Research methodology includes many components which affect the success of any research work like research design, research methods etc. The choice made by researchers in all these aspects will give a better execution to the research work.

KEYWORDS: Research, Research Methodology

The approach of the researcher, methods used during the research and the design of the study are very well explained in any post-doctoral thesis, research papers published in journals or the dissertations concluded after completion of training programs. When the researcher prepares the design of the study, he incorporates the detailed research methodology along with the tools and techniques which will be used during the study. In this paper, the detailed role of research methodology, its types and the tools and techniques, which are normally used for the collection and the analysis of data, are elaborated in detail.

Research methodology is a means of elaborating the plan of researcher for conducting the research. It's a method of solving a research problem. Research methodology is a systematic approach for achieving reliable and effective outcomes from the research, which ultimately achieve the aims and objectives of the researcher. It comprises of the type of data which will be collected like primary or secondary and the sources from where it will be arranged including the tools which will be used for analysing the data.

Research methodology elaborates the steps which will be followed for completing the research. Research methodology is of various types and is used in accordance with the type of research. It comprises of decisions relating to research design, data collection and analysis of data. Research methodology provides answers to the below mentioned question:

- a. What is the reason for conducting research?

- b. How to define the research problem?
- c. How to formulate hypothesis?
- d. What is the reason for the formulation of hypothesis?
- e. Which technique to be used for the analysis of data?

Research methodology provides the direction to the researcher from the choice of topic to performing the research and making out conclusions. The whole research depends upon the choice of research methodology. Research methodology is a system of collection of data for any research problem. This data collection can be of qualitative or quantitative research. Various factors which affect research methodology are as follow:

- a. Ethics in research
- b. Research design
- c. Accuracy of research data
- d. Analysis of data

OBJECTIVE OF THE STUDY

To describe the role of research methodology in meeting the aims and objectives of research.

NEED AND IMPORTANCE OF STUDY

The right means of research methodology contributes in achieving the aims and objectives of research and also enhances the quality of research outcomes. In addition to this, research methodology makes the researcher; better understand the tools and techniques of research, methods of research and ways of analysis of data.

ROLE OF RESEARCH METHODOLOGY

A research methodology enhances the validity of research and makes available technically comprehensive results. It also brings out elaborated plan which supports the researchers by giving them right direction, makes further steps in making research more easy, real and controllable. On the other hand, the research methodology also helps the students involved in research to better understand the methods and approaches used to achieve conclusions.

The various benefits of research methodology are explained as follow:

1. Researchers who are new in research can easily understand the basis of research by having an overview of research methodology. Further, if they want to perform the research in related area, they can get detailed information from the research methodology of similar researches.
2. Researchers during their presentation can easily explain their approach with the help of research methodology.
3. Research methodology acts as a plan of action and guides the researchers in decision making throughout the study.
4. Researchers can only achieve their objectives formulated during the study with the help of research methodology.
5. The expected outcomes of the research are outlined with the help of research

methodology.

FACTORS AFFECTING RESEARCH METHODOLOGY

1. **Type of Research:** Every research is different in its purpose as well as in the methods used for solving the research problem. All types of research whether qualitative or quantitative have different aims and objectives. So, while deciding the research methodology it is necessary to consider the nature of research, goals of research and also the types of research problem.
2. **Researches of Similar Area:** While selecting the research methodology it is necessary to scrutinize and consider the methods adopted by other researchers in the same area or research studies performed with like goals and purposes. Researchers from similar disciplines frequently use identical methods and standard approaches. This doesn't mean that every researcher should follow the same direction, but they should evaluate the pros and cons of earlier used methodology and try to bring out the maximum benefit out of them.
3. **Constraints of the Methodology:** It is well known that scientific research designs are obtained with the help of various approaches of research methodology but the fact cannot be overlooked that there are various constraints while practically using the research methodology. So, it is very much important to analyze the practicality of the research methodology before using it during the research.
4. **Objective of Research:** The next important factor to be considered by the researcher is the objective of the study. Researcher should be well aware of his requirement of information for achieving the objectives of research, only then he can formulate the suitable research methodology for his research. So, it is very important to consider the objectives of research before deciding upon the research methodology.
5. **Statistics Requirement:** One of the important aspects to be taken care of by the researcher is the types of results and answers required in conclusion of research. Methodology will be different for statistical and data driven research problems. And if the research problem involves an understanding of motives, observations, thoughts and inspirations, then different research methodology will be used.
6. **Size of Sample:** Sample size is another factor, which affects the research methodology. The requirement of sample as per the study will affect the choice of methodology. So, for achieving the research objectives and getting the solution to the research problem, it is necessary to determine the correct size of sample, which in turn affects the choice of research methodology. The sample size affects the following in research methodology:
 - a. Methods of data collection
 - b. Tools for analysis
 - c. Quantity of data
7. **Availability of Time:** Time availability also affects the type of research methodology. If researcher is having limited time frame, then he opts for convenience or random sampling and will use the tools which make the collection of data possible in few days. And if sufficient time is available with the researcher for collecting the data, then he will opt for personal interviews and observations.

PROCESS OF MAKING CHOICE OF BEST RESEARCH METHODOLOGY

Following are the steps followed while choosing the best research methodology:

- 1. Defining the Research Problem:** It is important for the researcher to define the research problem. This will include deciding of objectives and goals of research. So, it is pertinent for the researcher to first decide what he wants from the research or what he wants to achieve from his research. This will give direction to the researcher for achieving conclusive outcomes. Another important issue to be addressed at this stage is to decide dependent and independent variables, which needs to be studied so as to achieve the objectives of research. Concentrating on these variables will lead to effective results.
- 2. Reviewing the available Literature:** There are multiple ways of performing the research but all are not always suitable. The method for conducting research will depend upon the objective and sample of research. So, it is very difficult to decide upon the perfect research methodology if the researcher is not aware of the research methodology used in the previous similar researches. Thus, reviewing the similar researches i.e., the research conducted in the same field and then analyzing the methodology used in those researches will help the researcher to decide his own feasible research methodology.
- 3. Shaping the Research Plan and Arranging Resources for Research:** The method of collecting data in all researches may be different even if the area of research is same. Data collection in some researches may take more time and cost when field study is involved whereas on the other hand it's easy when data is available on internet. So, a researcher should consider these limitations before deciding upon the method of data collection to be used while conducting the research.
- 4. Detailed Writing:** Researcher should write in detail all the activities after deciding the approach which will be used in research. This should include the estimated time and resources, which are required for smooth conducting of research. This research plan in writing will guide the researcher and make him ready to face the various problems which will encounter in the way of achieving conclusive results.

NEED OF SPECIFIC RESEARCH METHODOLOGY

1. Qualitative Research Methodology

- It is a flexible and open methodology which makes use of an inductive and subjective approach.
- This type of research methodology helps in developing theories.
- Under this approach interviews and focus groups are used for the collection of word-based data.
- This approach uses qualitative techniques for analysis of data like thematic analysis, content analysis and size of sample is also small.

2. Quantitative Research Methodology

- This methodology makes use of objective and deductive approach. Further, it applies planned and closed approach.
- This type of research methodology checks the validity of theories.
- This approach relies on the collection of numeric data through surveys.

- Size of sample under this methodology is large and it makes the use of statistical data analysis techniques.

SUGGESTIONS FOR GOOD RESEARCH METHODOLOGY

1. **Focussing on Objectives and Research Questions:** The research methodology part of the study should clearly highlight the rationale behind the techniques used for the achievement of research objective. This rationale will persuade the readers that approach used to achieve research objective is the best suitable approach for problem solving.
2. **Cite Relevant Sources:** Research methodology can be made stronger by quoting the references of literature available in the field. This review of literature will help to:
 - a. Highlight the research methodology used in similar type of research.
 - b. Evaluation of previous research work.
3. **Description for the Readers:** Information highlighted for the readers in the research methodology shouldn't be lengthy. It should be given in precise and concise form. The basis for use of standard methods should be justified.

CONCLUSION

The significance of undergoing quality research is that it will give conclusive evidence for the solution of research problem. Use of poor research methodology will hamper the quality of research and researcher will not be able to justify the objectives of his research. It can also lead to biasness in the outcomes of research. So, it is very much essential for every researcher to know the significance of research methodology for the quality research as good, suitable and properly applied research methodology will only be able to give solution to the problem statement of research.

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