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Research Methodology

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Introduction-

Research methodology is a collective term for the structured process of conducting research. There are many different methodologies used in various types of research and the term is usually considered to include research design, data gathering and data analysis. Research methodology seeks to inform: How the research problem has been defined, in what way and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why particular technique of analyzing data has been used and a host of similar other questions are usually answered when we talk of research methodology concerning a research problem or study.

Research methodologies can be quantitative (for example, measuring the number of times someone does something under certain conditions) or qualitative (for example, asking people how they feel about a certain situation). The entire research plan is based on the concept of right research methodology. More over through the research methodology the external environment constitutes the research by giving an in-depth idea on setting the right research objective, followed by literature point of view, based on that chosen analysis through interviews or questionnaires findings will be obtained and finally concluded.

The research methodology constitutes the internal environment by understanding and identifying the right type of research, strategy, philosophy, time horizon, approaches, followed by right procedures and techniques based one's research work. A good design should ensure the research is valid, i.e. it clearly tests the hypothesis and not extraneous variables, and that the research is reliable, i.e. it yields consistent results every time.

Part of the research methodology is concerned with the how the research is conducted. This is called the study design and typically involves research conducted using questionnaires, interviews, observation and/or experiments. The term research methodology, which prescribes the research method to use, usually encompasses the procedures followed to analyze and interpret the data gathered.

In simple terms research methodology is used to give a clear cut idea on what the researcher is carrying out in his or her research. In order to plan in a right point of time and to advance the research work, research methodology makes the right platform to the researcher to mapping out the research work in relevance to make solid plans. Moreover, research methodology guides the researcher to involve and to be active in his or her particular field of enquiry. Most of the time, the aim of the research and the research topic won't be same at all time it varies from its objectives and flow of the research, but by adopting a suitable methodology this can be achieved.



The system of collecting data for research projects is known as research methodology. The data may be collected for either theoretical or practical research for example management research may be strategically conceptualized along with operational planning methods and change management. Some important factors in research methodology include validity of research data, ethics and the reliability of most of your work is finished by the time you finish the analysis of your data. This is followed by research design, which may be either experimental or quasi-experimental. The last two stages are data analysis and finally writing the research paper, which is organized carefully into graphs and tables so that only important relevant data is shown.

Importance of Research Methodology in Research

It is necessary for a researcher to design a research methodology for the problem chosen. One should note that even if the research method considered for two problems are same the research methodology may be different. It is important for the researcher to know not only the research methods necessary for the research under taken but also the methodology. For example, a researcher not only needs to know how to calculate mean, variance and distribution function for a set of data, how to find a solution of a physical system described by mathematical model, how to determine the roots of algebraic equations and how to apply a particular method but also need to know -

- (i) Which is a suitable method for the chosen problem?
- (ii) What is the order of accuracy of the result of a method?
- (iii) What is the efficiency of the method?

Considerations of these aspects constitute a research methodology. More precisely, research methods help us get a solution to a problem. On the other hand, research methodology is concerned with the explanation of the following:

- (1) Why is a particular research study undertaken?
- (2) How did one formulate a research problem?
- (3) What types of data were collected?
- (4) What particular method has been used?
- (5) Why was a particular technique of analysis of data used?

The study of research methods gives training to apply them to a problem. The study of research methodology provides us the necessary training in choosing research methods, materials, scientific tools and training in techniques relevant for the problem chosen.

Methodology refers to more than a simple set of methods.