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Research methodology

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Research

- Research:
- Research comprises defining and redefining problems, formulating hypothesis or suggested solution; collecting, organizing and evaluating data, making deductions and reaching conclusions and carefully testing the conclusions to determine whether they fit the formulating hypothesis. The manipulation of things, concepts or symbols for the purpose of generalizing to extend , correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art. Research in simple terms refers to search for knowledge. It is a scientific and systematic search for information on a particular topic or issue. It is also known as the art of scientific investigation. Several social scientists have defined research in different ways.

Research Methods Vs Methodology:

Research methods include all those techniques/methods that are adopted for conducting research. Thus, research techniques or methods are the methods that the researchers adopt for conducting the research studies.

On the other hand, research methodology is the way in which research problems are solved systematically. It is a science of studying how research is conducted scientifically. Under it, the researcher acquaints himself/herself with the various steps generally adopted to study a research problem, along with the underlying logic behind them. Hence, itis not only important for the researcher to know the research techniques/ methods, but also the scientific approach called methodology.

What is the definition of research methodology?

- The process used to collect information and data for the purpose of making business decisions. The methodology may include publication research, interviews, surveys and other research techniques, and could include both present and historical information.
- Research methodology is a term that basically means the science of how research is done scientifically. It is a way to systematically and logically solve a problem, help us understand the process not just the product of research, and analyzes methods in addition to the information obtained by them.

What are the types of research methodology?

- Basic research
- Applied Research
- Problem oriented research
- Problem solving
- Quantitative Research
- Qualitative Research

Research Problem

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.

What is research problem statement?

A problem statement is the description of an issue currently existing which needs to be addressed. It provides the context for the research study and generates the questions which the research aims to answer. The statement of the problem is the focal point of any research. How do you identify the problem?

Seven-steps for an effective problem-solving process

- Identify the issues. Be clear about what the problem is.
- Understand everyone's interests.
- List the possible solutions (options).
- Evaluate the options.
- Select an option or options.
- Document the agreement(s).
- Agree on contingencies, monitoring, and evaluation.

Necessity of Defining a Research Problem:

- The problem to be researched needs to be described unambiguously as that will help you to discriminate useful data from the unrelated ones. A proper formulation of research problem will allow the investigator to be on the track in contrast to an ill-defined problem may possibly create difficulties.
- Questions like: What data are to be gathered?
- What attributes of data are appropriate and need to be analyzed?
- What relations should be investigated.
- What methods should be employed for the purpose?
- As well as other questions turn up in the head of the investigator who can well plan his strategy and find solutions to these kinds of questions only when the research problem has been well defined. Therefore, defining the problem accurately is a necessity for any research and is a step of the highest value. In fact, formulation of a problem is often vital than its solution. It is only on thoroughly describing the problem that we can work out the research design and can efficiently proceed all the consequential steps needed while doing research

Important Points to Keep in Mind while Defining the Research Problem

- The correct question needs to be addressed if research is to help decision makers. A right answer to the wrong question leads either to bad advice or to no advice.
- Usually in problem we have an inclination to rationalize and defend our actions once we have started upon a specific research plan. The perfect time to examine and think about alternative techniques is in the planning stage. If it is completed unnecessary expense of false start and redoing work may be prevented.
- An excellent beginning in problem definition is to ask what the decision maker want to know if the requested information can be gathered without error and without expense.
- Another excellent rule to follow is “Never settle on a specific strategy” without developing and taking into consideration at least one alternate option”.
- The problem definition stage of research is the determination and structuring of the decision maker’s question. It should be the decision maker’s question and not the researcher’s question. 6. What decision do you face? Unless you have decision to make, there isn’t any research problem.
- What are the alternatives? In case there are no options to choose, once again there is absolutely no research problem.
- What are the factors for selecting the best alternative? Unless you have criteria for evaluation, again there’s no problem.
- The researcher should stay away from the acceptance of the superficial and the obvious.

Types of Research

There are different types of research. The basic ones are as follows.

Descriptive Versus Analytical:

Descriptive research consists of surveys and fact-finding enquiries of different types. The main objective of descriptive research is describing the state of affairs as it prevails at the time of study. The term ‘ex post facto research’ is quite often used for descriptive research studies in social sciences and business research. The most distinguishing feature of this method is that the researcher has no control over the variables here. He/she has to only report what is happening or what has happened. Majority of the ex post facto research projects are used for descriptive studies in which the researcher attempts to examine phenomena, such as the consumers’ preferences, frequency of purchases, shopping, etc. Despite the inability of the researchers to control the variables, ex post facto studies may also comprise attempts by them to discover the causes of the selected problem. The methods of research adopted in conducting descriptive research are survey methods of all kinds, including correlational and comparative methods. Meanwhile in the Analytical research, the researcher has to use the already available facts or information, and analyze them to make a critical evaluation of the subject.

Types of Research

- Applied Versus Fundamental:
- Research can also be applied or fundamental in nature. An attempt to find a solution to an immediate problem encountered by a firm, an industry, a business organization, or the society is known as applied research. Researchers engaged in such researches aim at drawing certain conclusions confronting a concrete social or business problem.
- On the other hand, fundamental research mainly concerns generalizations and formulation of a theory. In other words, "Gathering knowledge for knowledge's sake is termed 'pure' or 'basic' research" (Young in Kothari, 1988). Researches relating to pure mathematics or concerning some natural phenomenon are instances of Fundamental Research. Likewise, studies focusing on human behaviour also fall under the category of fundamental research. Thus, while the principal objective of applied research is to find a solution to some pressing practical problem, the objective of basic research is to find information with a broad base of application and add to the already existing organized body of scientific knowledge.

Types of Research

- Quantitative Versus Qualitative:
- Quantitative research relates to aspects that can be quantified or can be expressed in terms of quantity. It involves the measurement of quantity or amount. Various available statistical and econometric methods are adopted for analysis in such research. Which includes correlation, regressions and time series analysis etc,.
- On the other hand, Qualitative research is concerned with qualitative phenomena, or more specifically, the aspects related to or involving quality or kind. For example, an important type of qualitative research is 'Motivation Research', which investigates into the reasons for certain human behaviour. The main aim of this type of research is discovering the underlying motives and desires of human beings by usingin-depth interviews. The other techniques employed in such research are story completion tests, sentence completion tests, word association tests, and other similar projective methods. Qualitative research is particularly significant in the context of behavioural sciences, which aim at discovering the underlying motives of human behaviour. Such research helps to analyse the various factors that motivate human beings to behave in a certain manner, besides contributing to an understanding of what makes individuals like or dislike a particular thing. However, it is worth noting that conducting qualitative resea rch in practice is considerably a difficult task. Hence, while undertaking such research, seeking guidance from experienced expert researchers is important.

Types of Research

- Conceptual Versus Empirical:
- The research related to some abstract idea or theory is known as Conceptual Research. Generally, philosophers and thinkers use it for developing new concepts or for reinterpreting the existing ones. Empirical Research, on the other hand, exclusively relies on the observation or experience with hardly any regard for theory and system. Such research is data based, which often comes up with conclusions that can be verified through experiments or observation. Empirical research is also known as experimental type of research, in which it is important to first collect the facts and their sources, and actively take steps to stimulate the production of desired information. In this type of research, the researcher first formulates a working hypothesis, and then gathers sufficient facts to prove or disprove the stated hypothesis. He/she formulates the experimental design, which according to him/her would manipulate the variables, so as to obtain the desired information. This type of research is thus characterized by th e researcher's control over the variables under study. In simple term, empirical research is most appropriate when an attempt is made to prove that certain variables influence the other variables in some way. Therefore, the results obtained by using the experimental or empirical studies are considered to be the most powerful evidences for a given hypothesis.