

# Introduction to research and it's types



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## **What is research?**

There are various definitions of research. According to John . W. Best, research is a systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, theories and concepts, resulting in prediction for seeing and possibly ultimate control of events. On the other hand, Clifford Woody defined research as a careful enquiry or examination in seeking facts or principles, a diligent investigation to ascertain something.

Furthermore, Mouley defined research as a process of arriving at dependable solution to the problems through the planned and systematic collection, analysis and interpretation of data. According to Martyn Shuttleworth (Oct 3, 2008), in the broadest sense of the word, the definition of research includes any gathering of data, information and facts for the advancement of knowledge. Kothari (2002) described research as a systematic investigation to find solution to a problem.

## **What is the importance of research?**

Research is very much beneficial to everyone in the society. According to Ayesha Afsar, research is important because it gives direction to deal with a specific problem. Whether the problem is thoroughly solved or not is not the forte of the research work. Accumulating amicable and all the possible solutions hypothetically are in itself considered a commendable achievement. Moreover, as stated by Michelle Lowe, research can help us to explore education and the education process. It can help us to answer questions about learning and teaching.

Prince Samuels also added that research is very vital to our everyday decision making. It arms us from wrong information and save time and money. It is important to our success as we take on life's challenges and career decisions making. Furthermore, Joe Gilbert stated that research is important when conducted correctly because it helps us to understand and possibly even solve existing or possible problems in the world. This could be anything from social issues to medical breakthroughs.

Governments carry out research all of the time in order to come to conclusions about policies and strategies. They will often choose experts in the particular field to go out and carry out in-depth research to help them out. Without this research and knowledge, it would be difficult to make a change in the world. It would also mean that changes wouldn't be fully considered which could result in bigger problems in the long run.

## **What are the kinds of research?**

As emphasized by C. R. Kothari, the following are the different kinds of research: Basic Research deals with the formulation of theory; gathering knowledge for knowledge's sake is 'pure' or 'basic' research; pure research is "research made without any idea of application to industrial matters but solely with the view of extending our knowledge of the Laws of Nature. "

- Applied {action} Research focuses at finding a solution for immediate problem; helps in discovering a solution for some pressing practical problem; is the application of knowledge from one or more natural scientific fields [pure research] to solving practical problems
- Descriptive/ex post facto research includes survey facts finding

inquires it focuses on two aspects: {a}What has happened? {b}What is happening? \* Correlational research attempts to discover or establish the existence of a relationship/ interdependence between two or more aspects of a situation.

- Explanatory research attempts to clarify why and how there is a relationship between two or more aspects or a phenomenon.

Exploratory research is undertaken to explore an area where a little is known or to investigate the possibilities of undertaking a particular research study {feasibility/ pilot study}. It is the development of hypothesis rather than their testing. Exploratory research often relies on secondary research such as reviewing available literature and/or data, or qualitative approaches such as informal discussions with consumers, employees, management or competitors, and more formal approaches through in-depth interviews, focus groups, projective methods, case studies or pilot studies Historical research is the type of research that examines past events or combinations of events to arrive at an account of what has happened in the past.

- Experimental research is defined essentially as research in which the causal (independent) variable(s) can be manipulated in order to change an effect Because of this element of manipulation, researchers in using experimental methods are expected to maintain a good degree of control throughout the period of the study to establish with confidence that cause and effect occurred. (Dr. Anthony G. Picciano) \* Constructive research is mainly done by many technological corporates in order to find new/alternative solutions to any particular crisis or problems. For example-renewable energy research or development of

the capacity of optical fiber may fall into this category of research. \*

Empirical research is very impressive observational type of research, where one observes or test on real-life data or analysis the pattern of some specific events in order to identify the nature or the class of trend that specific phenomenon maintains.

Based on the test result, researchers try to draw lines in order to predict the result of that type of incidents with certain level of confidence.

## **What are the characteristics of research?**

According to Ranjit Kumar, the following are the characteristics of research:

- Empirical. Research is based on direct experience or observation by the researcher.
- Logical. Research is based on valid procedures and principles.
- Cyclical. Research is a cyclical process because it starts with a problem and ends with a problem. Analytical. Research utilizes proven analytical procedures in gathering the data, whether historical, descriptive, experimental and case study.
- Critical. Research exhibits careful and precise judgment.
- Methodical. Research is conducted in a methodical manner without bias using systematic method and procedures.
- Replicability. The research design and procedures are replicated or repeated to enable the researcher to arrive at valid and conclusive results.