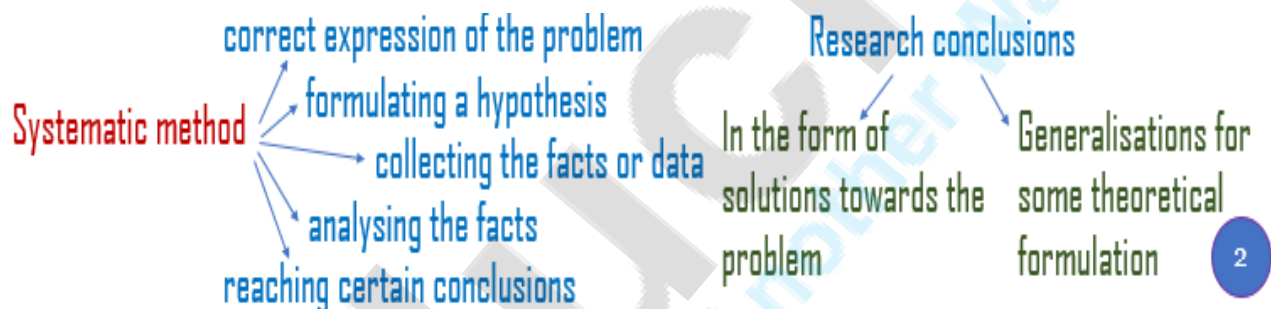


## Research Definition:

- Research refers to a search for knowledge.
- We can also define research as a scientific and systematic search for useful / appropriate information on a specific topic.
- According to - Advanced Learner's Dictionary of Current English the meaning of research as "a careful investigation or inquiry specially through search for new facts in any branch of knowledge."
- According to - Redman and Mory the meaning of research as "systematized effort to gain new knowledge."
- It is the pursuit of truth with the help of study, observation, comparison and experiment.
- 'Research' refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analysing the facts and reaching certain conclusions either in the form of solutions(s) towards the concerned problem or in certain generalisations for some theoretical formulation

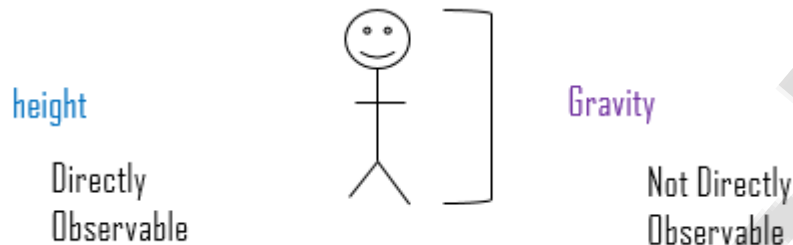


## Concept of Construct:

- A concept is a bundle of meanings or characteristics associated with certain events, objects, conditions, situations, and the like.
- If one is to understand and communicate information about objects and events, there must be a common ground on which to do it.
- The success of research depends on how clearly we conceptualize and how well others understand the concepts we use.
- Construct- Construct is a variable which cannot be directly measurable.
- Height is a not construct because when we see someone we directly say how tall that person is. We can also measure the height with the help of tape and come to know how much the height is.
- Now, there are something that we cannot measure, the good example is, gravity.



- **Gravity** or **gravitation**, is a natural phenomenon by which all things with mass or energy—including planets, stars, galaxies, and even light—are brought toward (or *gravitate* toward) one another so we can say gravity cannot be directly measurable so it is a construct.



- A construct is an image or idea specifically invented for a given research and/or theory building purpose.
- We build constructs by combining the simpler concepts, especially when the idea or image we intend to convey is not directly subject to observation.
- For e.g., Presentation quality is a construct which is formed by combining concept of typing speed, 0-format accuracy etc.

### Postulate:

- The natural sciences and mathematics are based on Postulates. Postulates are not proven; they are simply accepted at their face value. Hypothesis is based on some earlier theory whereas postulates are taken as granted true.
- Galileo - Sun-centered solar system

### Objective of Research

The main aim of research is **to find out the truth which is hidden and which has not been discovered as yet**. Though each research study has **its own specific purpose**, we may think of research objectives as falling into a number of following three groupings:

#### 1. Theoretical Objective:

Those researches whose objectives are theoretical, they formulate new theories, principles or laws. Such type of research is explanatory coz it explains the relationship of certain variables. These research contribute some basic knowledge to the human knowledge. The researches in different disciplines i.e. Physics, Chemistry, Mathematics etc. have the theoretical objective.



## 2. Factual Objective :

Those researches whose objective is factual, they find out new facts. This objective is by nature descriptive. These researches describe facts or events which happened previously. Such type of research is done in social sciences.

## 3. Application Objective:

The research having application objective does not contribute a new knowledge in the edifice of human knowledge but suggests new applications. By application we mean improvement and modification in practice. For Ex: If anyone gives a new application of electricity then such type of research has application objective.

### Issues and Problems in Research

1. The lack of a scientific training in the methodology of research
2. There is insufficient interaction between the university research departments on one side and business establishments, government departments and research institutions on the other side.
3. Lack of confidence that the information/data obtained from a business unit will not be misused.
4. There does not exist a code of conduct for researchers and inter-university and interdepartmental rivalries
5. Library management and functioning is not satisfactory at many places and much of the time and energy of researchers are spent in tracing out the books, journals, reports, etc., rather than in tracing out relevant material from them.
6. There is also the problem that many of our libraries are not able to get copies of old and new Acts/Rules, reports and other government publications in time.

### Characteristics of Research

**EMPIRICAL (verifiable by observation/ experience):** Research is based on direct experience/observation by a researcher.

**LOGICAL:** Research is based on logical reasoning, it makes research more meaningful in the context of decision making.

**CRITICAL:** the process of research must be full proof and free from drawbacks, so, the process adopted and the procedures used must be able to withstand critical scrutiny.



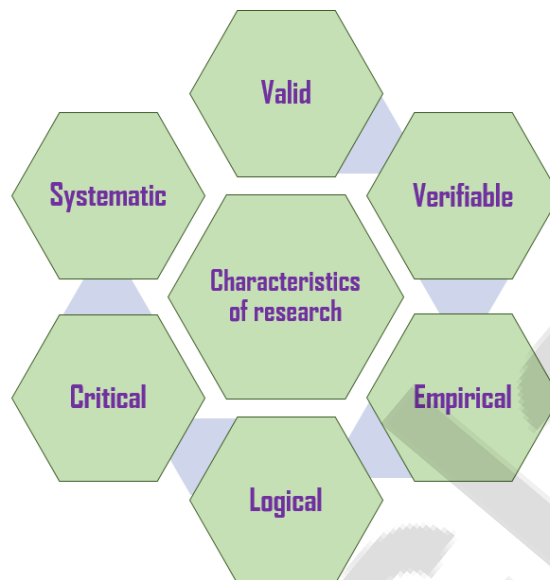
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**SYSTEMATIC:** Research is structured with some specific steps to be taken in specific order with some well defined set of rules.

**VALID & VERIFIABLE:** **verifiable** means research can be tested and proven to be true by replicating the study. This concept implies that whatever we conclude on the basis of your findings is correct and can be verified by you and others.



## Hypothesis

- Hypothesis is one of the **fundamental tools for research** in any kind of investigation.
- In fact, **it is the second step to follow** any kind of research process.
- The hypothesis is a tentative solution of a problem.
- The research activities are planned to verify the hypothesis.
- Researcher always plan or formulate a hypothesis in the beginning of the problem.
- It is a proposition
- The word hypothesis consists of two word: Hypo + thesis--- where 'Hypo' means tentative and 'Thesis' means statement about solution of a problem.
- It is a proposition about the factual and conceptual elements.
- Hypothesis is called a leap into the dark, it is a brilliant guess about the solution of a problem.
- It is a statement temporarily accepted as true in the light of what is known at the time about the time about the phenomenon.
- It is the basis for planning and action- in the research for new truth.



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## Hypothesis vd Propositions

- The terms "proposition" and "hypothesis" both refer to the formulation of a possible answer to a specific scientific question.
- In particular, a proposition deals with the connection between two existing concepts.
- The main difference between the two is that a hypothesis must be testable and measurable, while a proposition deals with pure concepts for which no laboratory test is currently available.

## Hypothesis and the Scientific Method

- Forming a hypothesis is the initial step in developing a theory under the scientific method.
- It is an educated guess based on research and working knowledge.
- For a hypothesis to be considered valid, it must make a prediction that scientists can test using a repeatable experiment.
- If a hypothesis cannot be falsified through experimentation, it cannot be considered part of a valid scientific theory.

## Scientific Propositions

- A proposition is similar to a hypothesis, but its main purpose is to suggest a link between two concepts in a situation where the link cannot be verified by experiment.
- As a result, it relies heavily on prior research, reasonable assumptions and existing correlative evidence.
- A scientist can use a proposition to spur further research on a question or pose one in hopes that further evidence or experimental methods will be discovered that will make it a testable hypothesis.

## Valid Uses for Propositions

- Propositions can serve an important role in the scientific process.
- By suggesting a link between two concepts, a scientific proposition can suggest promising areas of inquiry for researchers.
- In areas of study where valid hypotheses can rarely be made, a proposition may serve as a common assumption that can support further speculation.
- This can occur in extremely complex systems, such as those dealt with by sociology and economics, where an experimental test would be prohibitively expensive or difficult.
- Propositions are also valuable in areas of study in which little hard evidence remains, such as archeological and paleontological studies in which only fragments of evidence have been discovered.



## Drawbacks of Propositions

- Because a proposition does not rely on testable data, it is more difficult to disprove in a scientific context.
- It only needs to be convincing and internally consistent to appear valid.
- Propositions that satisfy both of these conditions have nevertheless been found to be wrong or inaccurate when new testable data becomes available.
- Belief in propositions that have been commonly accepted for long periods of time may be extremely difficult to overcome, even if other researchers put more likely propositions forward.

## Need of Research in Social Science

- Social sciences refer to business, commerce, demography, psychology, sociology, etc. Social sciences directly involve people.
  - **Research in social sciences** arena deals with the behavior of people in their different roles, such consumers, competitors, producers, executives, salespersons, leaders, workers, followers, teachers, students, opinion-makers, etc.
  - **Research in social sciences** deals with the systematic method of discovering new facts or of verifying old facts, their sequence, inter-relationship, casual explanations and the natural laws which cover them.
  - The importance that **social science research** wields today is immeasurable and enlarging.
  - As social, business and economic problems abound, the significance of **social research** gets enhanced as it provides workable solutions.
  - We know the **objectives of social research** are elaborate.
  - From these emanate the significance of research.
  - The following points bring out the significance of **research in social sciences**.
1. **Problems solving** is the thrust of most researches. Social problems are felt directly by people and that research by offering solutions to such problems ameliorates the conditions of people at large. Hence the significance of social research.
  2. Social research thrusts on **societal behavior** which is studied, analysed and steps needed to modify the same to achieve certain broad goals. All our social problems could be attributed to certain societal behavior. So, by modifying the same in the right lines, social good is achieved.



3. **Development of methodology** to deal with social issues is one of the contributions of social research. Executive stress, worker ethics, leadership style, child labor women illiteracy, drug addiction, labor absenteeism, etc are social issues related to organisations, labor units, and, such other social groups. To deal with these issues appropriate methodology is needed. Social research provides the same.
4. Social research contributes to **societal development**. The research develops scientific temper. Creativity and innovation are developed Basic and applied new knowledge is developed. All this adds to up-gradation of society. Knowledge is power. And that power is powered by research.
5. **Formulation of new theories** and reevaluation of already accepted theories are attempted by social research. There are several theories on leadership, motivation, human attitude and behavior and so on. All these theories help designing suitable packages for societal behavioral upliftment.
6. Social research is a tool for **social planning, prediction and control**. Any constructive action need to be planned, outcome predicted and deviation of actual from the desirable predicted outcome need to be controlled. Social research aids in designing appropriate models of social planning, prediction and control.
7. Social research contributes to **social welfare**. Social research is generally normative emphasizing what is good for the society. By stating, what is and what is not good for the economy, for the industry, for the consumers, for the students, for the stock-market and the like, social research helps to contribute to social welfare.
8. Social research catches the **dynamics of social institutions and phenomena**. Social institutions and phenomena are never static. These keep changing. To gauge the change research is needed and such research helps in dynamically responding to social institutions and phenomena.



### Need of Research in Business

- A **business research program** is surely a preferred way for businesses to train and educate their managers and other staff members in a vast array of different fields.
- Business research can relate to economics, business strategy and ethics, in fact, anything associated with modern business and trade.
- Undertaking *research in business management* is important since it aids a business plan for the future, based on what may have occurred in earlier times.
- If performed effectively it can help an organization to make plans on how to become more viable in its field.

### What is the Importance of Research in Business Management ?

1. **Testing of new products.** Business research tests the possible success of fresh products. Businesses need to know what kinds of services and products consumers want before they produce them. Research will reduce risk – Research can help design a new product or service, figuring out what is needed and ensure that the development of a product is highly targeted towards demand.
2. **Guaranteeing adequate distribution.** Businesses can also use research to guarantee sufficient distribution of their products. For instance, a consumer products' company might want to speak with merchants about the various brands they offer. The outcomes of the business research can help managers decide where they need to increase their product distribution.
3. **In-house research is required for professional and self development of the workers through training and mentoring.** Organisational research and analysis would also be needed for assessment of performance management, process reengineering, departmental assessment and well-being of staff members.
4. **Undertaking research can help a company avoid future failure.** Carrying out research can also help a business determine whether now is the right time to expand into another town or whether it needs to apply for a new loan. It may also help a small business decide if a process should be altered or if more needs to be done to meet the requirements of the customer base.





## Research methods vs methodology

### Definition of Research Method

Research method pertains to all those methods, which a researcher employs to undertake research process, to solve the given problem. The techniques and procedure, that are applied during the course of studying research problem are known as the research method. It encompasses both qualitative and quantitative method of performing research operations, such as survey, case study, interview, questionnaire, observation, etc.

These are the approaches, which help in collecting data and conducting research, in order to achieve specific objectives such as theory testing or development. All the instruments and behaviour, used at various levels of the research activity such as making observations, data collection, data processing, drawing inferences, decision making, etc. are included in it. Research methods are put into three categories:

- **First Category:** The methods relating to data collection are covered. Such methods are used when the existing data is not sufficient, to reach the solution.
- **Second Category:** Incorporates the processes of analysing data, i.e. to identify patterns and establish a relationship between data and unknowns.
- **Third Category:** Comprise of the methods which are used to check the accuracy of the results obtained.

### Definition of Research Methodology

Research Methodology, as its name suggest is the study of methods, so as to solve the research problem. It is the science of learning the way research should be performed systematically. It refers to the rigorous analysis of the methods applied in the stream of research, to ensure that the conclusions drawn are valid, reliable and credible too.

The researcher takes an overview of various steps that are chosen by him in understanding the problem at hand, along with the logic behind the methods employed by the researcher during study. It also clarifies the reason for using a particular method or technique, and not others, so that the results obtained can be assessed either by the researcher himself or any other party.



## Key Differences Between Research Method and Research Methodology

The differences between research method and research methodology can be drawn clearly on the following grounds:

- The research method is defined as the procedure or technique applied by the researcher to undertake research. On the other hand, research methodology is a system of methods, used scientifically for solving the research problem.
- The research method is nothing but the behaviour or tool, employed in selecting and building research technique. Conversely, research methodology implies the science of analysing, the manner in which research is conducted appropriately.
- The research method is concerned with carrying out experiment, test, surveys, interviews, etc. As against this, research methodology is concerned with learning various techniques which can be employed in the performance of experiment, test or survey.
- Research method covers various investigation techniques. Unlike, research methodology, which consists of complete approach aligned towards the attainment of purpose.
- Research method intends to discover the solution to the problem at hand. In contrast, research methodology aspires to apply appropriate procedures, with a view to ascertaining solutions.

## Conclusion

The scope of research methodology is wider than that of research method, as the latter is the part of the former. For understanding the research problem thoroughly, the researcher should know the research methodology along with the methods.

### Extra

**The features that a good research procedure must possess are –**

- Should be systematic in nature.
- Should be logical.
- Should be empirical and replicable in nature.
- Should be according to plans.
- Should be according to the rules and the assumptions should not be based on the false bases or judgments.
- Should be relevant to what is required.
- Procedure should be reproducible in nature.
- Controlled movement of the research procedure.



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**Qualities of a good researcher can be summarized as –**

1. **Method of approach** – The researcher should adopt correct procedure for identifying a problem and then for working on it, to find a solution for that problem.
2. **Knowledge** – The researcher should be well aware and should have complete knowledge and information of the field of investigation so that he can go in for correct planning and then implementation of the correct and effective methods for selection of the problem and then for solving it.
3. **Qualification** – The researcher should have a good back ground of study, which will enable the researcher to have a better knowledge and understanding of the subject.
4. **Attitude** – The researcher must have a vision of his own, an aim with some objectives to achieve something.
5. Should have an open thinking.
6. Should be stable, having consistent thinking.
7. Should be honest, sincere, brave and ambitious.



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**Limitations of research –**

- Problems of collection of data and conceptualization may occur.
- Repetition problems.
- Outdated and insufficient information system may cause problems.
- Sometimes lack of resources becomes an obstacle.
- Non-availability of trained researchers.
- Absence of code of conduct.



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