Concept, Nature and Significance of Research

Research is a matter of raising a question and then trying to find an answer. In other words, research means a sort of investigation describing the fact that some problem is being investigated to shed for generalization. Therefore, research is the activity of solving problem which adds new knowledge and developing of theory as well as gathering of evidence to test generalization.

The Webster's International Dictionary defines research as "a careful critical enquiry or examination in seeking facts for principles, diligent investigation in order to ascertain something". The people when they talk about research are not specific and precise enough to get a complete and clear idea of what research involves. But their activities make to repeat a search. Improving upon the definition given above, it may be stated that research refers to a critical and exhaustive investigation or experimentation having it as aim of revision of accepted conclusions in the light of newly discovered facts. The researcher is constantly concerned with researching of the accepted conclusions of the theories and degrees of agreement existed at a given point of time. So he does research by probing for facts of the empirical that confirm or falsefy the accepted conclusions. In a way, research may in effect turn to build up of new theories to take place of those no longer

suitable to the data of the empirical world. Stated otherwise, research is a systematic endeavour to seek beyond our level of knowledge saw truth, saw reality and difficult to perceive and follow to keep on these horizons without end. In modern times, research is often a corporate affair in as much as the complex technique of collecting and processing data resulting in generalizations.

Another is an important definition given by the Encyclopaedia of Social Sciences. It defines research as "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". This definition throws light on four connotations, viz.

1. Manipulation of things
2. Generality
3. Extending knowledge
4. Building up theory or practice

If an attempt is made to analyse of the terms mentioned above the clause-analysis can be observed which is given below:

1. To know how the things are and how they respond under specific conditions, the scientists put them handling, called it 'manipulations'. For example, the physicist deals with the abstract notions of spheres, circles, plusses, minusses, etc. Similarly, the psychologist deals with child's abstract notions of hunger, likes and dislikes, etc. All these abstract notions themselves are not dealt but being made to dealt with. Similarly are the cases with concepts or symbols. Research, thus, involves manipulation of things or concepts or symbols.

2. Once the manipulation of theory is done, the purpose being to arrive at statements of generalities. In other words, the controlled things would result in propositions or conclusions which may vary in their degree of generalities. Generality is one of the basic objective of research.

3. Generalizations, thus, have drawn effect on corpus knowledge. Extending generalization to its bounds of knowledge exerts pressure on the scientist to bring about changes or

amendments to rectify disagreement by several propositions. The generalizations establish corpus knowledge well. Suppose, a new general proposition helps to appropriate the deeper and detailed linkages between several class of phenomena. In this way a new set of facts is brought within the grasp of the established corpus knowledge in rightful way. For example, 'relative deprivation' may serve as a useful tool for examining the relation between the rise in wages and production efficiency of a worker. This observation does not always correct. Wage rise, despite low productivity of worker appears to be a manifestation of reference behaviour of working group. Thus, a deeper and understanding of a particular phenomena has gained. Another example is that proving something considered to be true is in fact wrong, is also an important addition to knowledge. In brief, the new generalization gets through manipulation of concepts or symbols which disagree with old ones, in the sense the new generalization derived in the process of research extends and verifies knowledge.

4. New knowledge is derived from manipulation and generalization have two uses namely (a) theoretical and (b) practical. Knowledge thus, acquired may be used for building the theoriteeal models. Articulation of those derived propositions into meaningful concepts is known as 'theory-oriented'. And the activities which seek building up of the theories of non-utilitarian impart are often known as 'pure' or 'basic' or 'theoretical' research. The research which seeks knowledge for practical concerns are often called 'applied' or 'action-oriented' or 'practice-oriented' research.

Pure scientist is desired to see an increasing knowledge in the field of enquiry. To the researcher, the challenge of not knowing is paramount. The pure scientist would probably argue that knowledge itself is always of practical use in the end. According to Huxley, A., to pure scientist, knowledge is the highest good, truth is the supreme value; all the rest is secondary and subordinate.

The applied scientist is desired to work his research in a practical context from the onset. Sociologist studies a host of problems namely the problem of juvenile delinquency of

practice is "a blessing for the development of theory" In nutshell, pure research thrives for knowledge or principles whereas the applied research for development of wealth applying knowledge or principles.

J. Francis Rummel defines "research is an endeavour to discover, develop and verify knowledge. It is an intellectual process that has developed over hundreds of years, ever changing in purpose and form and always searching for truth." Research may be defined by W. S. Monroe as "a method of studying problems whose solutions are to be desired partly or wholly from facts. The facts dealt with in research may be statements of opinions, historical facts, those contained in records and reports, the results of tests, answers to questionnaires, experimental data of any short, and so forth."

Thus, research looking up for facts and figures involve an integration of them in a new way to shed light on a new problem. The term research does include the formulation of hypothesis, the developing of theory as well as the gathering of facts to test the generalization. Therefore, research is the function of solving problem which leads to new knowledge using method to enquire which is currently accepted as adequate by the researchers in the field. The final purpose of research is to ascertain principles for developing theory. The testing validity of theory cannot be possible but for research. That is why research is often defined as "scientific thinking".

From the above definitions it is learnt that research must possess certain characteristic features which are discussed below.

Logic and Objective

The purpose of any research is to find out facts for which drawing inferences or generalizations is a must. Drawing inferences or generalizations must be logic which means a method that is used in for reaching the above. Suppose, all the vegetarian uneducated city people have long life and all the vegetarian educated village people have also long life. Vegetarianism is, thus, the cause of longevity.

Observing true picture of a phenomenon without being affected by observer's own opinion is termed as 'objective'. In other words, objectivity means knowing reality. Objectivity is

fundamental to all sciences of research and is crucial for verification. The criteria of objectivity is that all researchers should arrive at the same conclusion about the phenomenon on which they are persuing research. For example, coal is black. The proposition that coal is black because it appears black to all. If say that coal is the most useful mineral, this may not purely objective because all people may not agree to this statement. Competitive and collective enterprise would serve the objectivity.

Reliability and Validity

Truth is the basic cannon of research. This can be established on the basis of evidence to which sufficient data reliable and valuable is essential. The error of bias or sampling may be avoided for ensuing the aim of reliability as well as validity.

Verifiability

The conclusions drawn through means of research is subject to the quality of verification. So, verifiability presupposes the phenomenon of research which being observed and measured. This point is illustrated by the law of Coefficient of Linear Expansion. The matter will be expanded by heating but the rate of expansion is different for different matters—gas expands more, and water expands less. Another example from social sciences is that the illiteracy is the cause of criminality among the people. This proposition would be regarded as scientific fact when verify the observation that the ratio of criminals among literates is less than among illiterates. Wilkinson and Bhandarkar viewed that "invalidation is no less than verification". In brief, criticism is very life blood of science which helps in verification of facts.

Accuracy

The accuracy is sensitive point to meet the purpose, in pragmatic manner, of the study for which it is undertaken. The investigator must expertise before undertaking the investigation with regards to the precision of information. In other words, the data are gathered, recorded and analysed with as complete accuracy as possible by using standardized tools.

The problem of impartiability is a part of the problem of objectivity. Knowing reality involves consideration of the correct method dealing with logic. Bias leads to wrong information which affects the objective of the study.

Scientific Integrity

Modern culture is over-ridden with scientific attitude and scientific method of approach. With the fast development of sciences, the science of research has become a reliable instrument for the advancement of knowledge as well as material gains.

Recording and Reporting

Every term is carefully defined, every procedure is described in detail, every limiting factor is recognised, every reference is carefully documented and every result is objectively recorded. All conclusions and generalizations are cautiously arrived at with the due consideration for all of the limitations of methodology, data collected, etc. By recording it becomes a source of investigation for further research.

Like the qualities of research, a researcher must have possess some qualities to carry out the investigation successfully. The qualities of a researcher are given below:

1. Scientific attitude with reflective thinking
2. Imagination and insight
3. Perseverance
4. Clarity of thinking
5. Knowledge of the study
6. Knowledge of technique of research
7. Unbiased attitude
8. Personal taste in the study

Objective of Research

The objectives of any research are broadly studied under two headings namely (a) Academic and (b) Utilitarian.

Manipulation the things, findings new propositions or concepts resulting to generalizations and discovery of truth and intimate knowledge which by recording and reporting

supplies or adds knowledge to the academicians. For example, Raman's Effect. Rendering the society by offering solutions to the existing problems based on the principles or theories, is the main function of utilitarian objective.

Motives to Do Research

1. To gain knowledge
2. To innovate new concepts, theories, etc.
3. To understand, analyse and explore the phenomena
4. To know the cause-effect relationship
5. To enjoy and improve the society

Significance of Research

The research deals with the broad range of human behaviour which affect by diverse influences like environmental, biological, psychological, sociological, etc. As such, under these situations it is an arduous task for scientist to innovate or discover a solution to the problem or complexity nature of human beings. In a simple word what is the significance of importance of research. The answer to this question explains by itself if one could understand the fact that what use is a new-born child? This means that new (scientific) knowledge is like a new born baby which holds great potential of growth as well as development. Like new born-child, research gives us pleasure. It also gives us satisfaction of knowing unknown that a scientist is self-justifying goodness of scientific knowledge which may be small or big.

Adding new knowledge to the existing store is obvious function of any research. Equally important is cleansing clinches as well as removing worthless inapplicable theories. This dual function of research has akin to people's basic needs and welfare, meaning the science and the society have a two-way relationship. Rithie Caldor explains this regard as give and take between science and social condition. Science helps to create social conditions and the latter recharges the accumulation of the former. In other words, science is a two-face weapon. It cannot lead but can only serve. It has sharp eyes for methods but blind to ends and values. This means the utility of research needs the greatest care of the

researcher in its applicatic for thriving for fruitfulness. The significance of research may be analysed as under.

1. Research has an important role in guiding social planning. Knowledge of the society and the cultural behaviour of people require proper planning for their well development because both the knowledge and the cultural behaviour of human being are interdependent. A reliable as well as factual knowledge may be utmost needed to take decision for planning. This is possible by means of research. Social research is generally worth much more than the cost incurred over it. It is as important as physical research of the area since the success of the former depends ultimately on people's acceptance and participation. So, any plan for success of our economic development needs to be taken research. A study of modernization which may be considered a unique magnetic field of social forces pulling in opposite direction rightly observed is to be quite revealing and enlighting besides its feed-back theory.

2. Knowledge is a kind of power with which one can foresee the implications of a particular phenomena. It also dispells the 'thrust' of odd-settings, superstitions, etc. and light is thrown on them for welfare development. Thus, social research may have the effect of promoting better understanding and social cohesion.

3. Research is charged with responsibility for effective functioning of facts. Thus, it affords a considerably sound basis for prediction. Otherwise it leads to failure-bound programme which may have a serious impact on society. For example, Chernobyl Nuclear Plant disaster. Another is Bhopal gas disaster. Thus, prediction serves better control over the phenomena and helps in successful plan. This leads towards cherished goals. For example, vigorous innovative measures in agriculture for higher productivity resulting a target of 150 million tonnes of foodgrains production has achieved. The implementation of family planning with prediction is another example. In other words, efforts are taken to curb population explosion, on one side and on the other, measures to raise agricultural production.

4. It is role of the researcher to effect constant improvement in techniques of his trade, i.e. research. He is in spatial-

temporal contexts, each challenging his attack is faced with the need to improve upon his techniques. In other words, the technique of research has to become greater perfection. So big contentment in research and so big revolutionary in technological change. Examples are electronics, industrialization.

Nature of Research

The goal of research is to improve the level of living in society. The word research carries an aura of respect. The prestige of much is great and is equally emphasised on the researcher to challenge the problem that needs to be solved even though the situation is far beyond the scope of research. Some people think the research is a waste of time, effort and money; and further think that more pure research is needed for practical values. Personal opinion guided by prejudices or dogmatism may be conceded in nature of problem but can be solved only on the basis of research evidence. The researcher has to implement more effectively his value judgment for the benefit of much to the society. Then, the question arises what is the benefit of research to the researcher? One can perhaps say that a researcher enjoy the intellectual freedom and independent thinking, and can have a rewarding experiences. And further more, it is he (researcher) as adviser has to take the society towards right path of development.

Q. Define research. Discuss its objectives and importance to the society.

Q. What are the specific characteristics of research? Discuss them in brief.