

# **RESEARCH METHODOLOGY**

## **LECTURE 1**

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# OUTLINE

- **INTRODUCTION**
- **OBJECTIVES OF RESEARCH**
- **TYPES OF RESEARCH**
- **REASONS FOR RESEARCH**
- **IMPORTANCE OF RESEARCH**
- **OUTCOMES OF RESEARCH**

# INTRODUCTION

## What is Research ?

- Research is a logical and systematic search for new and useful information on a particular topic.
- It is an investigation of finding solutions to scientific and social problems through objective and systematic analysis.
- It is a search for knowledge, that is, a discovery of hidden truths. Here knowledge means information about matters.
- The information might be collected from different sources like experience, human beings, books, journals, nature, etc.
- A research can lead to new contributions to the existing knowledge.
- Only through research is it possible to make progress in any field.

# OBJECTIVES OF RESEARCH

- To discover new facts
- To verify and test important facts
- To analyze an event or process or phenomenon
- To identify the cause-and-effect relationship
- To develop new scientific tools; Concepts and theories to solve and understand scientific and non-scientific problems
- To find solutions to scientific, non-scientific and social problem
- To overcome or solve the problems occurring in our everyday life

# TYPES OF RESEARCH

**Research is Broadly Classified Into Two Main Classes :**

- 1. Fundamental or Basic Research :** Fundamental or Basic research (is mainly concerned with generalisations and with the formulation of theory).
- 2. Applied Research :** Applied research (aims at finding a solution for an immediate problem facing a society or an industrial/business organisation).

# TYPES OF RESEARCH CONT'D (2)

## What is Basic Research ?

- Basic research is an investigation on basic principles and reasons for occurrence of a particular event or process or phenomenon.
- It is also called theoretical research.
- Study or investigations of some natural phenomenon or relating to pure science are termed as basic research. Basic researches sometimes may not lead to immediate use or application.
- It is not concerned with solving any practical problems of immediate interest. But it is original or basic in character.
- It provides a systematic and deep insight into a problem and facilitates extraction of scientific and logical explanation and conclusion on it.

## **TYPES OF RESEARCH CONT'D (3)**

### **What is Applied Research ?**

- In an applied research one solves certain problems employing well known and accepted theories and principles.
- Most of the experimental research, case studies and interdisciplinary research are essentially applied research.
- Applied research is helpful for basic research. A research the outcome of which has immediate application is also termed as applied research. Such a research is of practical use to current activity.
- For example, researches on social problems have immediate use.
- Applied research is concerned with actual life research such as research on increasing efficiency of a machine, increasing gain factor of production of a material, pollution control, preparing vaccination for a disease, etc.
- Obviously, they have immediate potential application.

## TYPES OF RESEARCH CONT'D (4)

### Differences Between Basic And Applied Researches

S/N	Basic Research	Applied Research
1.	Seeks generalization	Studies individual or specific cases without the objective to generalise.
2.	Aims at basic processes	Aims at any variable which makes the desired difference.
3.	Attempts to explain why things happen.	Tries to say how things can be changed.
4.	Tries to get all the facts	Tries to correct the facts which are problematic.
5.	Reports in technical language of the topic.	Reports in common language.



# REASONS FOR RESEARCH

## What Makes People Do Research ?

- To get a research degree (Doctor of Philosophy) (PhD) along with its benefits like better employment, promotion, increment in salary, etc.
- To get a teaching position in the university and other higher institutions.
- To become a scientist in research institution.
- To get a research position in countries like U.S.A, Canada, Germany, U.K, Japan, Australia etc., and settle there.

# REASONS FOR RESEARCH CONT'D (2)

## What Makes People Do Research Cont'd ?

- To solve the unsolved and challenging problems.
- To get joy of doing some creative work.
- To acquire respectability.
- To get recognition.
- Curiosity to find out the unknown facts of an event.
- Curiosity to find new things.
- To serve the society by solving social problems.

# IMPORTANCE OF RESEARCH

- Research is important both in scientific and non-scientific fields.
- In our life, new problems, events, phenomena and processes may occur every day.
- Practically implementable solutions and suggestions are required for tackling new problems that arise.
- Scientists, have to undertake research on them and find their causes, solutions, explanations, and applications. Precisely, research assists us to understand nature and natural phenomena.

# OUTCOMES OF RESEARCH

- Research on existing theories and concepts help us identify the range and application of them.
- Research is the fountain of knowledge and provides guidelines for solving problems.
- Research provides basis for many government policies
- For example, research on the needs and desires of the people and on the availability of revenues to meet the needs helps a government to prepare a budget.

## **OUTCOMES OF RESEARCH CONT'D (2)**

- It is important in industry and business for higher gain and productivity and to improve the quality of products.
- Mathematical and logical research on business and industry optimizes the problems in them.
- It leads to the identification and characterization of new materials, new living things, new stars, etc.
- Only through research can inventions be made, for example, new discoveries.

**END**

**THANKS FOR LISTENING**