### Research Methodology Unit-1 Presented By-Sarita Yaday

### Meaning of Research

- Redman and Mory defines research as a," Systematized effort to gain new knowledge". Some people consider research as a movement, a movement from the known to the unknown.
- According to Clifford woody, research comprises defining and redefining problems, formulating hypothesis or suggested solutions collecting, organising and evaluating data, making deductions and reaching conclusions; to determine whether they fit the formulating hypothesis.

# **OBJECTIVES OF RESEARCH**

- To gain familiarity with a phenomenon or to achieve new insights into it (Exploratory).
- To describe accurately the characteristics of a particular individual, situation or a group (Descriptive).
- To determine the frequency with which something occurs or with which it is associated with something else.
- To test a hypothesis of a causal relationship between variables (Causal).

### Characteristics of research

- Good research follows a systematic approach to capture accurate data. Researchers need to practice ethics and a code of conduct while making observations or drawing conclusions.
- The analysis is based on logical reasoning and involves both inductive and deductive methods.
- Real-time data and knowledge is derived from actual observations in natural settings.
- There is an in-depth analysis of all data collected so that there are no anomalies associated with it.
- It creates a path for generating new questions. Existing data helps create more research opportunities.
- It is analytical and uses all the available data so that there is no ambiguity in inference.
- Accuracy is one of the most critical aspects of research.

# Motivation of research

- Desire to get research degree
- Desire to face the challenges in solving unsolved problems
- Desire to get intellectual joy of doing some creative work
- Desire to be service of society
- Desire to get respectability

# Types of research

- Descriptive (*Ex Post Facto*) v/s Analytical
- Applied v/s Fundamental
- Quantitative v/s Qualitative
- Conceptual v/s Empirical

#### Variables

- Variable' means the factor or aspect of an issue or incident or a content which should be able to be measured. Variable is based on values. It varies from incident to incident, issue to issue. We may have exampleif we are conducting a research on the present condition of village, there the demographic profile, economic condition, health and hygiene status could be considered as variables. A concept which can take different quantitative values is called a variable.
- According to D'Amato (1970) variables may be defined as those attributes of objects, events, things and beings, which can be measured
- Types
  - Dependent Variable and Independent Variable
  - Qualitative and Quantitative Variables
  - Discrete and Continuous variables
  - Categorical, Ordinal and interval variable
  - Extraneous Variable and Confounded Variable
  - Control Variable

## Concept

- **Concepts** or generalizable properties or characteristics associated with objects, events, or people. While objects such as a person, a firm, or a car are not concepts, their specific characteristics or behavior such as a person's attitude toward immigrants, a firm's capacity for innovation, and a car's weight can be viewed as concepts. While objects such as a person, a firm, or a car are not concepts, their specific characteristics or behavior such as a person's attitude toward immigrants, a firm's capacity for innovation, and a car's weight can be viewed as concepts. While objects such as a person, a firm, or a car are not concepts, their specific characteristics or behavior such as a person's attitude toward immigrants, a firm's capacity for innovation, and a car's weight can be viewed as concepts.
- Concepts are based on our experiences. Concepts can be based on real phenomena and are a generalized idea of something of meaning. Examples of concepts include common demographic measures: Income, Age, Education Level, Number of Siblings.
- We can measure concepts through direct and indirect observations:
- **Direct Observation:** We can measure someone's weight or height. And, we can record the color of their hair or eyes.
- **Indirect Observation:** We can use a questionnaire in which respondents provide answers to our questions about gender, income, age, attitudes, and behaviors.

### Construct

- Constructs: Constructs are measured with multiple variables. Constructs exist at a higher level of abstraction than concepts. Justice, Beauty, Happiness, and Health are all constructs. Constructs are considered latent variable because they cannot be directly observable or measured. Typical constructs in marketing research include Brand Loyalty, Purchase Intent, and Customer Satisfaction.
- A construct is an abstract concept that is specifically chosen (or "created") to explain a given phenomenon. A construct may be a simple concept, such as a person's weight, or a combination of a set of related concepts such as a person's communication skill, which may consist of several underlying concepts such as the person's vocabulary, syntax, and spelling. The former instance (weight) is a **uni-dimensional construct**, while the latter (communication skill) is a **multi-dimensional construct** (i.e., it consists of multiple underlying concepts). The distinction between constructs and concepts are clearer in multi-dimensional construct and the lower order abstractions are called concepts. However, this distinction tends to blur in the case of unidimensional constructs.

### **Examples of construct**

- **Brand loyalty** is a construct that marketing researchers study often. Brand loyalty can be measured using a variety of measures:
  - Number of items purchased in the past
  - Monetary value of past purchases
  - Frequency of past purchase occasions
  - The likelihood of future purchases
  - The likelihood of recommending the brand to a friend or family member
  - The likelihood of switching to a competitive brand

### **Research Process**

- Formulating Research Problem
- Extensive Literature Survey
- Development of working Hypothesis
- Preparing the research design
- Determining sample design
- Collecting the data
- Execution the project
- Analysis of data
- Hypothesis Testing
- Generalization and interpretation
- Presentation of the report or the thesis