



RESEARCH HYPOTHESIS

Dr. Pirshant Kumar

Associate Professor

Department of Media Studies
Mahatma Gandhi Central University, Motihari

TABLE OF CONTENTS

- ◆ What is Hypothesis?
- ◆ Contributions of Hypothesis
- ◆ Functions of Hypothesis
- ◆ Types of Hypothesis
- ◆ Simple Hypothesis
- ◆ Complex Hypothesis
- ◆ Empirical Hypothesis
- ◆ Question form of Hypothesis
- ◆ Null Hypothesis
- ◆ Alternative Hypothesis
- ◆ Statical Hypothesis
- ◆ Directional Hypothesis
- ◆ Non-Directional Hypothesis
- ◆ Causal Hypotheis
- ◆ Associative Hypothesis
- ◆ Characteristics of Hypothesis
- ◆ Reference



WHAT IS HYPOTHESIS?

- Hypothesis is usually considered as the principal instrument in research. Its main function is to suggest new experiments and observations.
- A mere assumption or some supposition to be proved or disproved. For a researcher hypothesis is a formal question that he intends to resolve.

- ◈ Quite often a research hypothesis is a predictive statement, capable of being tested by scientific methods, that relates an independent variable to some dependent methods.
- ◈ For example “students who receive counselling will show a greater increase in creativity than students not receiving counselling.” Or “The automobile A is performing as well as automobile B.”

These are hypothesis capable of being objectively verified tested. Thus, we may conclude that a hypothesis states that we are looking for and is a proposition which can be put to test to determine its validity.

CONTRIBUTIONS OF HYPOTHESIS

- ◊ It provides clarity to the research problem and research objectives.
- ◊ It describes, explains or predicts the expected results or outcome of the research.
- ◊ It indicates the types of research design.
- ◊ It directs the research study process.
- ◊ It identifies the population of the research study that is to be investigated or examined.
- ◊ It facilitates data collection, data analysis and data interpretation.

FUNCTIONS

- ◈ It enables an investigator to start his research work.
- ◈ It may lead to formulations of another hypothesis.
- ◈ It leads to interpret results drawing conclusions related to original purpose.

TYPES OF HYPOTHESIS

- ◇ Simple
- ◇ Complex
- ◇ Empirical
- ◇ Null
- ◇ Alternative
- ◇ Logical
- ◇ Statistical

HYPOTHEIS

```
graph TD; A[HYPOTHEIS] --> B[RESEARCH HYPOTHESIS]; A --> C[NULL HYPOTHESIS]; A --> D[TESTABLE HYPOTHESIS];
```

RESEARCH
HYPOTHESIS

NULL
HYPOTHESIS

TESTABLE
HYPOTHESIS

RESEARCH
HYPOTHESIS

```
graph LR; A[RESEARCH HYPOTHESIS] --- B[ASSOCIATIVE HYPOTHESIS]; A --- C[CAUSAL HYPOTHESIS]; A --- D[NON-DIRECTIONAL HYOTHESIS]; A --- E[DIRECTIONAL HYPOTHESIS]; A --- F[SIMPLE HYPOTHESIS];
```

ASSOCIATIVE
HYPOTHESIS

CAUSAL
HYPOTHESIS

NON-
DIRECTIONAL
HYOTHESIS

DIRECTIONAL
HYPOTHESIS

SIMPLE
HYPOTHESIS

SIMPLE HYPOTHESIS

- ◆ Simple hypothesis is that one in which there exists relationship between two variables one is called independent variable or cause and the other is dependent variable or effect.
- ◆ Ex. Smoking leads to cancer.
- ◆ The higher ratio of unemployment leads to crimes.

COMPLEX HYPOTHESIS

- ◆ Complex hypothesis is that one in which as relationship among variables exists.
- ◆ In this type dependent and independent variables are more than two.
- ◆ Ex. Smoking and other drugs leads to cancer, tension, chest infections etc.
- ◆ The higher ration of unemployment poverty illiteracy leads to crimes like dacoit etc.

EMPIRICAL HYPOTHESIS

- ◆ **Empirical** which means it is based on evidence.
- ◆ In scientific method the word “**empirical**” refers to the use of working **hypothesis** that can be tested using observation and experiment.
- ◆ **Empirical** data is produced by experiment and observation.

QUESTION FORM OF HYPOTHESIS

- ◆ It is the simplest form of empirical hypothesis.
- ◆ In simple case of investigation and research are adequately implemented by resuming a question.
- ◆ Ex. How is the ability of 9th class students in learning moral values?

NULL HYPOTHESIS

- ◆ Null the hypothesis that there is no significant difference between specified populations, any observed difference being due to sampling or experimental error.
- ◆ It is denoted by H_0 .

ALTERNATIVE HYPOTHESIS

- ◆ The alternative hypothesis, denoted by H_1 or H_a .
- ◆ Is the hypothesis that sample observations are influenced by some non random cause.

STATISTICAL HYPOTHESIS

- ◈ A hypothesis which can be verified statistically called statistical hypothesis.
- ◈ The statement would be logical or illogical but if statistics verifies it, it will be statistical hypothesis.

DIRECTIONAL HYPOTHESIS

- ◆ Directional hypothesis predicts the direction of the relationship between the independent and dependent variable.
- ◆ Example- high quality of nursing education will lead to high quality of nursing practice skills.
- ◆ Girls ability to learning moral science is better than boys.

NON DIRECTIONAL HYPOTHESIS

- ◆ Non directional hypothesis predicts the relationship between the independent variable and the dependent variable but does not specify the direction of the relationship.
- ◆ Example- teacher student relationship influence student's learning.
- ◆ There is no significant difference between 9th class boys and girls abilities of learning moral values.

CAUSAL HYPOTHESIS

- ◆ Causal hypothesis predicts a cause and effects relationship or interaction between the independent variable and dependent variable.
- ◆ This hypothesis predicts the effect of the independent variable on the dependent variable.

ASSOCIATIVE HYPOTHESIS

- ◆ Associative hypothesis predicts an associative relationship between the independent variable and the dependent variable.
- ◆ When there is a change in any one of the variables, changes also occurs in the other variable.

CHARACTERISTICS

- ◆ A hypothesis must be capable of verification.
- ◆ A hypothesis is must be relation to the existing body of knowledge.
- ◆ A hypothesis needs to be precise, simple and specific.

REFERENCES

- ◇ *Wikipedia*
- ◇ *Linkedin slideshare*
- ◇ *Research Methodology : Methods
and Techniques by C.R. Kothari*

THANKYOU