

Hypothesis; Meaning, Need and Formulation

Meaning and Definition

The word hypothesis is a compound of two words ‘hypo’ and ‘thesis’ where ‘hypo’ means under and ‘thesis’ means reason or rational view. Thus, hypothesis is a below reasoned view. It is a view, which is not fully reasoned. In social research and other research, hypothesis is used to mean a statement about the relationship, which helps to be investigated. **According to F.N. Kerlinger, “Hypothesis is the most powerful tool man has invented to achieve dependable knowledge ”** Once the problem to be answer is defined, the researcher formulates theory. Theory formulation leads to hypothesis formulation. Data collection and analysis revolve around the hypothesis, when hypothesis comes to be true, it originates theory.

Hypothesis is an educated guess about a problem’s solution. It shows the relation between two or more variables, which need to be investigated for the truth. Non-hypothesis can be defined as logically conjectured relationship between two or more variables in testable statements. Hypothesis is always presented in declarative sentence form. They can be general or specific.

Hypotheses can be strong or weak. “Students’ IQ scores are related to their academic achievement” is an example of a weak hypothesis, since it indicates neither the directionality of the hypothesis (i.e., whether the relationship is positive or negative), nor its causality (i.e., whether intelligence causes academic achievement or academic achievement causes intelligence). A stronger hypothesis is “students’ IQ scores are *positively* related to their academic achievement”, which indicates the directionality but not the causality. A still better hypothesis is “students’ IQ scores have positive effects on their academic achievement”, which specifies both the directionality and the causality (i.e., intelligence causes academic achievement, and not the reverse).

Definition

According to G.A. Lundberg: - *“A hypothesis is a tentative generalization the validity of which remains to be tested. It may be any hunch, imaginative idea or intuition whatsoever, which becomes the basis of action or investigation.”*

According to W. Goode and P.K. Hatt: - *“A hypothesis is a proposition, which can be put to test to determine its validity. It may seem contrary to, or in accordance with common sense.”*

CHARACTERISTICS OF HYPOTHESIS

- It should be conceptually clear, specific and well designed.
- It should be available to techniques and capable of being varied.
- It should be capable of empirical test.
- It should not be mere a judgment.
- It should be simple and to the point.

IMPORTANCE OF THE HYPOTHESES

- Hypotheses facilitate the extension of knowledge in an area.
- Hypothesis provides the researcher with rational statements.
- Hypothesis provides direction o the research.
- Hypothesis provide basis for exporting the conclusions for the study.

FORMULATION OF THE HYPOTHESES

- Hypotheses are the products of considerable speculation and imaginative guess work.
- They are based partly on known facts and explanations and partly conceptual.
- There are certain necessary conditions which are conducive to their formulation.
- Richness of background knowledge.
- Versatility of intellect.
- Analogy and other practices.

Important Approaches of Formulating Hypothesis

1) Deductive method /approach/logic:

The deductive method is one in which the researcher develops hypothesis from theory and design a research strategy to test them. There, hypothesis formulation is preceded by theory formulation. A clear theoretical portion is developed prior to data collection.

2) Inductive method/approach/logic:

The inductive method is in which the researcher develops hypothesis from specific observation. Here, the researcher first collects data and then develops theory as a result of data analysis. It is based on the principle of developing theory after the data have been collected. The two approaches are closely interlinked. Theory and research go side by side. They have never ending interaction. The deductive approach owes more to positivism and the inductive approach to interpretive.

CRITERIA OF USEABLE HYPOTHESES

- Hypotheses should be clearly and precisely stated.
- Hypotheses should be testable.
- Hypotheses should state the expected relationship between variables.
- Hypotheses should be limited on scope.
- Hypotheses should be stated as far as possible in simple terms.
- The hypotheses selected should be amenable to testing within a reasonable time.

TYPES OF HYPOTHESIS

- Descriptive hypothesis: It describes the characteristics of a variable.
- Relational hypothesis: It describes the relationship between the variables.
- Casual hypothesis: It describes the causal relationship between the variables.
- Working hypothesis: Hypotheses which are subject to modification as the investigation proceeds.
- Null hypothesis: They state that no difference exists between the parameter and statistic being compared to it.
- Alternative Hypothesis: They are the opposite of Null hypothesis, which state that there is difference which exists between the parameter and statistic being compared to it.

□□Statistical hypothesis: These are statements about a statistical population. These are quantitative in nature in that they are numerically measurable.

□□Commonsense hypothesis: It represents the commonsense ideas. They state the existence of empirical uniformities perceived through day to day observation.

□□Complex hypothesis: It aims s at testing the existence of logically derived relationship between empirical uniformities.

□□Analytical hypothesis: these are concerned with the relationship of analytic variables. These hypotheses occur at the highest level of abstraction. It also specifies the relationship between changes in one variable and changes in another.

Aleem Akhtar.