

By -  
Dr. Shweta Patel  
Assistant Professor  
Department of Commerce  
S. Sinha College  
Aurangabad

### Hypothesis Testing

Meaning of Hypothesis → The word hypothesis is derived from the Greek word (Hypo) (under) and tithenai (to place) and suggest that when the hypothesis is placed under the evidence or foundation, they tend to support one another.

The word 'hypothesis' in science generally refers to a definite interpretation of a given set of facts, which is put forth as a tentative suggestion and remains partly or wholly unverified. After it is once established it ceases to be a hypothesis and becomes a theory or explanatory principle.

Hypothesis testing is to test some hypothesis about parent population from which the sample is drawn on the basis of investigation & provides the direction in which the study should proceed.

- A hypothesis ensures the proper direction in which the study should proceed.
- It facilitates the collection of adequate facts and helps one to arrive at appropriate conclusion and suggestions & observations.

'Hypothesis is a proposition which can be put to test, to determine validity.' - *Goode and Hatt*

'A hypothesis is a statement capable of being tested and thereby verified or rejected.' - *Rummel and Balline*

"A hypothesis is a proposition, condition or principle which is assumed, perhaps without belief, in order to draw out its logical consequences and by this method to test its accord with facts which are known or may be determined." - *Webster Dictionary*

"Hypothesis is any supposition which we make (either without actual evidence, or an evidence) avowedly ill, sufficient in order to endeavour to deuce conclusion in accordance with facts which are known to be real, under the idea that if the conclusions to which the hypothesis leads are known truths, the hypothesis itself either must be or at least likely to be true." - *Mill*

Hypotheation is proposition, generalisation or justification which is put to test in order to test its validity. Attempt is made to deduce correct result out of it.

"The formulation of a deduction however constitutes a hypothesis. If verified, it becomes a part of theoretical construction." Proposition which can be included in test determine a validity. - *Goode W.G. and Hatt P.K.*

"A hypothesis is an attempt at explanation of a provisional supposition made in order to explain scientifically some facts or phenomenon." - *Coffey*

"A hypothesis directs our search for the order. It is not essential for a hypothesis to be necessarily true." - *Cohen M. and Negel E.*

A hypothesis serves several important functions as follows: *Role of hypothesis*

- A hypothesis gives a definite point for investigation. It also gives direction on the research study. Without a hypothesis, research becomes unfocussed, a random wandering.
- It also specifies the sources of data that is required for study.
- It exactly determines the data needs. It defines which facts are relevant and which are not.
- The use of hypothesis prevents a blind search and collection of unessential data - usually proving irrelevant to the problem.
- A hypothesis also suggests what type of research is likely to be most appropriate.
- It determines the most appropriate technique of analysis.
- A hypothesis contributes to the development of theory. It links theory and investigation.

When a social scientist develops a theory to explain a phenomenon, he does not test the theory directly. He tests the hypothesis derived from it. If the test confirms the hypothesis the theory is accepted. This is how hypothesis make it possible to test theories.

Following are the important functions of hypothesis :

- To test theories
- To suggest theories
- To describe (explain) social phenomena (environment situation)

## Sources of hypothesis

For the hypothesis to originate, some problem must exist to cause someone to start looking for facts connected with this problem. These facts are then organised to state some 'felt difficulty' in form of a 'determination problem'. We must be able to pick out, on basis of previous knowledge, certain elements in the subject matter significant.

The sources of hypothesis in managerial analysis include:

- Observation in day-to-day practices
- Suggestions from functional executives
- Suggestions from the shop floor
- Scientific theory
- Analogies (similarity between two phenomena)
- Experiences of the competitors
- Findings of Research and Development Department

~~formulates hypothesis.~~ Goode and Hatt have stated the following as the source of hypothesis:

**Analogy :** Hypothesis is formulated on the basis of analogy or similarity between phenomena. Once a similarity or analogy is observed between two phenomena, a thesis is formulated to test whether the two phenomenon are similar in other respect or not. Sometimes, the similarity that is observed in one field may also be noticed in the other field. The theory of Ecology is based on Botany. It is based on the observations of certain plants in certain geographical conditions, and on the basis of that the hypothesis is formulated in certain geographical conditions, certain plants shall grow. This is hypothesis drawn from 'analogy'.

**General culture :** There is a great influence of the cultural pattern on the thinking process of the people and the hypothesis may be formulated to test one or more of these ideas. Cultural element or common cultural pattern may form a source of the hypothesis formulation.

**Individual experience :** For formulation of hypothesis it is not culture, science and analogy alone are responsible. The way in which an individual reacts to each of these is also a factor that is responsible for formulation of hypothesis. Certain factors are present but every one is not able to observe them and formulate a hypothesis. A person who has correct approach sees a thing and formulates a hypothesis. Isaac Newton discovered the "Theory of Gravitation" is an example of this type of 'personal experience.'

**Scientific theories :** Scientific theory explains what has been found to be correct after experimentation. On the basis of the knowledge of scientific theory, further generalisation can be made to formulate hypothesis. These generalisations are part and parcel of hypothesis. For example, the theory propounded regarding suicide which deals with the factors that influence the society is known as 'Theory of suicide' On the basis of this theory it is known that poverty, unemployment, frustration etc. are responsible for suicide. There is also a link between these factors and their results. So, on the basis of this theory, a hypothesis can be formulated.