

## **Experimental Research Method**

The experiment is something that people do all the time. For example, individuals try different diets or exercise to see if they will lose weight. Others may get an education to see if that will lead to a better job. Some may change their diet to see if it will lower their blood cholesterol level. As you can see, both scientists and non-scientists use experimentation to try to identify causal relationships. However, scientific experimentation differs from non-scientific experimentation. The scientist makes a deliberate attempt to make observations that are free of bias. Both approaches attempt to identify causal relationships. The experimental research method “is a quantitative approach designed to discover the effects of presumed causes and the key feature of this approach is that one thing is deliberately varied to see what happens to something else”. It is done to discover the effects of presumed causes.

### **Cause and Effect**

When researchers discuss the effects of events, they use the words cause and effect. If we manipulate or do something, we expect something else to happen. If something does happen, the thing or event we manipulate is called the cause and what happens is called the effect. For example, if we spank a child for colouring on a wall and then observe that he no longer colours on the wall, we assume that the spanking caused the child to stop the colouring.

In an experiment, the effect is the difference between what did happen when a treatment was administered and what would have happened to this same group of individuals if the treatment had not been administered. Note the emphasis on the same group of individuals. For example, one group is given a pill and another group is given a placebo.

### **Advantages**

- **Causal Inference:** The experimental research is helpful method for identifying causal relationships. Indeed, its primary advantage is the strength with which a causal relationship can be inferred.
- **Control:** For obtaining a clear answer, it is necessary to set up control over irrelevant variables by either eliminating their influence or holding their influence constant.
- **Ability to Manipulate Variables:** Experimental approach has the ability to manipulate one or more variables of the experimenter's choosing. If a researcher is interested in studying the effects of crowding on a particular behaviour, crowding can be manipulated in a very systematic manner by varying the number of people in a constant amount of space.

### **Disadvantages**

- **Does Not Test Effects of Non-manipulated Variables:** The world in which we live includes many events that are not capable of being controlled by an experimenter. For example, we cannot deliberately manipulate people's ages, , the weather, or terrorists' activities.
- **Artificiality:** The experimental findings are obtained in an artificial atmosphere that stops any generalization to a real life situation.
- **Inadequate Method of Inquiry:** A final criticism that has been made at the experimental approach is that it is inadequate as a method of scientific inquiry into the study of human behaviour.

### **Field and Laboratory Experimental Research**

The experimental research is used in both laboratory settings and field settings. A field experiment is an experimental research study that is conducted in a real life setting. The experimenter actively manipulates variables and carefully controls the influence of as many irrelevant variables as the situation will permit.

The laboratory experiment is a study that is conducted in the laboratory and in which the investigator manipulates one or more variables and controls the influence of all or nearly all of the irrelevant variables.

Experimental research has limited use in social sciences. It is very helpful in medical sciences where variables can be controlled and impact of the independent variable on dependent variables can be studied. It can also be an effective tool in business specially to study consumer behaviour under controlled situations.