VARIABLES

Variable is anything that has varying values. The values can differ at various times for the same object or person or at the same time for different objects or persons. In practice the term 'variables' is used as synonym for construct or the object being studied. In this context, a variable is a symbol of an event, act, characteristics trait or attribute that can be measured and to which we assign numerical value.

Variable is central idea in research. Simply defined, variable is a concept that varies. There are two types of concepts: those that refer to a fixed phenomenon and those that vary in quantity, intensity, or amount (e.g. amount of education). The second type of concept and measures of the concept are variables. A variable is defined as **anything that varies or changes in value**. Variables take on two or more values. Because variable represents a quality that can exhibit differences in value, usually magnitude or strength, it may be said that a variable generally is anything that may assume different numerical or categorical values. Once you begin to look for them, you will see variables everywhere.

For example, gender is a variable; it can take two values: male or female. Marital status is a variable; it can take on values of never married, single, married, divorced, or widowed. Family income is a variable; it can take on values from zero to billions of Rupees. A person's attitude toward women empowerment is variable; it can range from highly favorable to highly unfavorable. In this way the variation can be in quantity, intensity, amount, or type; the examples can be production units, absenteeism, gender, religion, motivation, grade, and age. A variable may be situation specific; for example gender is a variable but if in a particular situation like a class of Research Methods if there are only female students, then in this situation gender will not be considered as a variable.

DEPENDENT VARIABLES

The variable that is the effect or is the result or outcome of another variable is the dependent variable (also referred W as outcome variable or effect variable). The dependent variable is the variable of primary interest to the researcher. Researchers are most interested in relationships among variables. Through the analysis of dependent variables, it is possible to find answers or solutions to the problem.

For Example, a manager is concerned that the sales of a new product introduced after test marketing it, do not meet with his expectations. The dependent variable here is sales. Since the sales of the product can vary can be low, medium or high- it is a variable; since sales is the main focus of interest to the manager, it is the dependent variable.

INDEPENDENT VARIABLES

The cause variable, or the one that identifies forces or conditions that act on something else, is the independent variable. An independent variable is one that affects the dependent variable in either a positive or negative way.

For Example, a successful new product development has an influence on stock market price of the company. Therefore, the success of the new product is the independent variable and stock market price the dependent variable.

The independent variable is "independent of" prior causes that act on it, whereas the dependent variable "depends on" the cause. It is not always easy to determine whether a variable is independent or dependent. Two questions help to identify the independent variable. First, does it come before other variable in time? Second, if the variables occur at the same time, does the researcher suggest that one variable has an impact on another variable? Independent variables affect or have an impact on other variables. When independent variable is present the dependent variable is also present, and with each unit of increase in the independent, variable, there is an increase or decrease in the dependent variable also. In other words, the variance in dependent variable is accounted for by the independent variable. Dependent variable is also referred to as criterion variable.

Relationship among Variables

Once the variables relevant to the topic of research have been identified, then the researcher is interested in the relationship among them. A statement containing the variable is called a proposition. It may contain one or more than one variable. The proposition having one variable in it may be called as **univariate** proposition, those with two eatables as **bivariate** proposition, and then of course **multivariate** containing three or more variables. Prior to the formulation of a proposition the researcher has to develop strong logical arguments which could help in establishing the relationship. For example, age at marriage and education are the two variables that could lead to a proposition: the higher the education, the higher the age at marriage. What could be the logic to reach this conclusion? All relationships have to be explained with strong logical arguments. If the relationship refers to an observable reality, then the proposition can be put to test and any testable proposition is hypothesis.