

Unit:3 - Research design

“A Research Design is the logical and systematic planning in directing the research. The design research from translating a general scientific model into varied research problem. But in practices in most of the basis it is just a plan of study. The research design can either be formal or informal.

1. “It constitutes the blue print for the collection, measurement and analysis of data” - Philips Bernard S

2. It “provides a systematic plan of procedure for the researcher to follow” -Best John N

3. “The design research from controlling general scientific model into varied research procedure”- P.V. Young

4. “A research design is “the programme that guides the investigator in the process of collecting, analysis and interpreting observations”. – David and Shava

- Important concepts

- The following are the important concepts used in research design.

Independent variables, dependent variables, extraneous variables, control, confounded relationship, research, experimental and non- experimental hypothesis testing, experimental and control groups, treatments, experiment, experimental units.

- Features of a good design

A good design has these features. 1. Flexibility 2. Efficiency 3. Appropriate 4. Economical 5. Minimum error 6. Maximum reliability 7. Smallest experimental error 8. Maximum information

- Types

1.Exploratory Research Design (Formulative Research) Exploratory Research studies are also termed as formulative research studies. Exploratory Research is preliminary study on an unknown problem.

2. Descriptive Research Design Descriptive study is fact finding investigation with adequate interpretation. It is the sample type of research. It is more specific than the exploratory study. As it has focus on particular aspects or dimensions of the problem studied. It is design to gather descriptive informations and provides information for formulating more sophisticated studies. Data are collected by using of appropriate methods.

3. Action Research Action Research is a type of evaluation study. It is a concurrent evaluation study of an action programme launched for solving a problem. Action research is otherwise called Applied Research.

- Sampling: meaning and types

Meaning

Sometimes it is not feasible and possible to study a whole group or an extremely large group. The way out is the process called sampling.

Sampling is the selection of samples from a population. It is used when units of population have similar characteristics. And when the time and money constraints negate a census

method. if one can get almost same result by studying a carefully selected small group of people, there is no need for census method at all.

Types or methods of sampling

- a) Probability or Random sampling
- b) Non Probability or Non- Random sampling.

Probability sampling is the following types:

- a) Simple Random sampling b) Stratified Random c) Systematic Random d) Random Sampling with probability proportional to size. e) Cluster sampling f) Area sampling
- b) Non Probability sampling may be classified into: a) Convenient sampling b) Purposive sampling c) Quota sampling d) Snow-Ball sampling

- Sampling errors

A **sampling error** is a statistical **error** that occurs when an analyst does not select a **sample** that represents the entire population of data and the results found in the **sample** do not represent the results that would be obtained from the entire population.

The total error of the survey estimate results from the two types of error.

sampling error arises when only a part of the population is used to represent the whole population.

**Non-sampling error** can occur at any stage of a sample survey and can also occur with censuses.

(Kindly refer to your reference study materials supplied for detailed description)