



RESEARCH DESIGN



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WHAT IS RESEARCH DESIGN ?

Task of defining the research problem is the preparation of the research project, popularly known as the “research design”.

Decisions regarding **what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design.**



Meaning of research design

- A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.



Research design have following parts

- Sampling design
- Observational design
- Statistical design
- Operational design



Sampling designs

- Which deals with the methods of selecting items to be observed for the study.

Observational design

- Which relates to the condition under which the observation are to be create.





Statistical design

- Which concern the question of the of **How the information and data gathered are to be analyzed ?**

Operational design

- Which deals with techniques by which the procedures satisfied in sampling .

Features of a good research design

A research design appropriate for a particular research problem, usually involves the following features.

- The mean of obtaining information.
- The availability and skills of the researcher and his staff, if any.
- The objective of the problem to be studied.
- The nature of the problem to be studied .
- The availability of time and money for the research work.





Important concepts relating to research design

- **Dependent and independent variables:**

a concept which can take on different quantitative values is called a variable.

A phenomena which can take on different qualitatively values even in decimal value are called continues.

Extraneous variables

- That are not related to the purpose of the study but may effect on the dependent variables are termed as the extraneous variables

For e.g.:-





Example of this

- Suppose a researcher **want to test the hypothesis** that there is a **relationship between children gains in social studies achievement and their self concept.**
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In this case self-concept =independent variable

Social studies achievement =dependent variable

Intelligence may as well affect on the social achievement.

But it is not related to the study undertaken by the researcher so it is a **Extraneous variable**

Control

- One important characteristic of a good research is to minimize the influence or effect. The terminal term used when we design the study minimizing the the effect of extraneous independent variable



Conformed relationship

- When the dependent variable is not free from the influence of extraneous variable .the relationship between the depended and independent v variable is said to be confused by an extraneous variable



Research hypothesis

- The researcher hypothesis is a predicative statement that relates an independent variable to dependent variable.



Experimental and non-experimental hypothesis testing

When the purpose of research is to test a research hypothesis, it is termed as hypothesis testing research .

It can be experimental or non-experimental





Experimental and control groups

- When a group is exposed to usual conditions, it is termed as a **control group**.
- But when the group is exposed to be some special condition, it is termed as **Experimental group**

Treatments

- The different conditions under which Experiment and control groups are put up usually referred to as treatment.



Experiment

- The process of examining the truth of a statistical hypothesis, relating to some research problem, is known as an Experiment.

E.g.:-

we can conduct an Experiment to examine the usefulness of a certain newly developed drug.



Different research design



In case of
Exploratory
research
study

in case of
descriptive
and
diagnostic
research

In case of
hypothesis
-testing
research
studies

Research design in case of exploratory research design

- exploratory research method are also termed as formulative research studied.

The main purpose is that of formulate the research problem .three methods are

3. The survey of concerning literature
4. The experience survey
5. The analysis of 'inside-stimulating



1. The survey of concerning literature

- This is most simple and fruitful method of formulating the research problem .

Hypothesis is taken earlier workers and their usefulness be evaluating as a basis for further Research.



2. The experience survey

- The experience survey means the survey of people who had practical experience .
- The object is to obtain new ideas relating to the research problem.



3. The analysis of 'inside-stimulating'

- It is also a fruitful method of suggesting the hypothesis. It is particularly suitable in the areas where there is little experience to serve as a guide.

In this method the existing records may be examined .



In case of descriptive and diagnostic research

in case of descriptive research study –one those studied which are concerned with describing the characteristics of a particular Individual , or a group.

In diagnostic research study determine the frequency which some thing occur



Difference between formulative= descriptive/diagnostic

- Flexible design
- Judgmental sampling
- No pre-determined design
- No fixed decision about the operational procedures
- No flexibility
- Random sampling
- Pre-determined design for analysis
- Advanced decisions



In case of hypothesis-testing research studies

- hypothesis-testing research studies known as experimental studies are those researcher tests the hypothesis of casual relationship between variables.





thanks