**Research design**

Introduction

A detailed outline of how an investigation will take place. A research design will typically include how data is to be collected, what instruments will be employed, how the instruments will be used and the intended means for analyzing data collected.

**Characteristics of Research Design**

There are four key characteristics of research design:

**Neutrality:** The results projected in research design should be free from bias and neutral. Understand opinions about the final evaluated scores and conclusion from multiple individuals and consider those who agree with the derived results.

**Reliability:** If a research is conducted on a regular basis, the researcher involved expects similar results to be calculated every time. Research design should indicate how the research questions can be formed to ensure the standard of obtained results and this can happen only when the research design is reliable.

**Validity:** There are multiple measuring tools available for research design but valid measuring tools are those which help a researcher in gauging results according to the objective of research and nothing else. The questionnaire developed from this research design will be then valid.

**Generalization:** The outcome of research design should be applicable to a population and not just a restricted sample. Generalization is one of the key characteristics of research design.

Advantages research design

* Lead to more accurate results.
* Give optimum efficiency and reliability.

 Minimize the wastage of time as well as money.

* Instills confidence in the research.
* Provides satisfaction & success.

**Type of research design**

A researcher must have a clear understanding of the various types of research design to select which type of research design to implement for a study. Research design can be broadly classified into quantitative and qualitative research design.

**Qualitative Research Design:**

**Qualitative Research** is implemented in cases where a relationship between collected data and observation is established on the basis of mathematical calculations. Theories related to a naturally existing phenomenon can be proved or disproved using mathematical calculations. Researchers rely on qualitative research design where they are expected to conclude “why” a particular theory exists along with “what” respondents have to say about it.

**Quantitative Research Design:**

**Quantitative Research** is implemented in cases where it is important for a researcher to have statistical conclusions to collect actionable insights. Numbers provide a better perspective to make important business decisions. Quantitative research design is important for the growth of any organization because any conclusion drawn on the basis of numbers and analysis will only prove to be effective for the business.

**Descriptive Research Design:**

In a descriptive research design, a researcher is solely interested in describing the situation or case under his/her research study. It is a theory-based research design which is created by gather, analyze and presents collected data. By implementing an in-depth research design such as this, a researcher can provide insights into the why and how of research is conducted.

**Experimental Research Design:**

**Experimental Research design** is used to establish a relationship between the cause and effect of a situation. It is a causal research design where the effect caused by the independent variable on the dependent variable is observed. For example, the effect of an independent variable such as price on a dependent variable such as customer satisfaction or brand loyalty is monitored. It is a highly practical research design method as it contributes towards solving a problem at hand. The independent variables are manipulated to monitor the change it has on the dependent variable. It is often used in social sciences to observe human behavior by analyzing two groups – affect of one group on the other.

**Correlational Research Design:**

**Correlational research** is a non-experimental research design technique which helps researchers to establish a relationship between two closely connected variables. Two different groups are required to conduct this research design method. There is no assumption while evaluating a relationship between two different variables and statistical analysis techniques are used to calculate the relationship between them. Correlation between two variables is concluded using a correlation coefficient, whose value ranges between -1 and +1. If the correlation coefficient is towards +1, it indicates a positive relationship between the variables and -1 indicates a negative relationship between the two variables.

**Diagnostic Research Design:**

In the diagnostic research design, a researcher is inclined towards evaluating the root cause of a specific topic. Elements that contribute towards a troublesome situation are evaluated in this research design method.

There are three parts of diagnostic research design:

* Inception of the issue
* Diagnosis of the issue
* Solution for the issue

**Explanatory Research Design:**

In exploratory research design, the researcher’s ideas and thoughts are key as it is primarily dependent on their personal inclination about a particular topic. Explanation about unexplored aspects of a subject is provided along with details about what, how and why related to the research questions.