Research Design: What it is, Elements & Type

Can you imagine doing research without a plan? Probably not. When we discuss a strategy to collect, study, and evaluate data, we talk about research design. This design addresses problems and creates a consistent and logical model for data analysis. Let's learn more about it.

What is Research Design?

Research design is the framework of research methods and techniques chosen by a researcher to conduct a study. The design allows researchers to sharpen the research methods suitable for the subject matter and set up their studies for success.

Creating a research topic explains the type of research (experimental, survey research, correlational, semi-experimental, review) and its sub-type (experimental design, research problem, descriptive case-study).

There are three main types of designs for research:

- Data collection
- Measurement
- Analysis

The research problem an organization faces will determine the design, not vice-versa. The design phase of a st[...] determines which tools to use and how they are used.

Research Design Elements

Impactful research usually creates a minimum bias in data and increases trust in the accuracy of collected data [...] design that produces the slightest margin of error in experimental research is generally considered the desired [...] outcome. The essential elements are:

1. Accurate purpose statement

2. Techniques to be implemented for collecting and analyzing research

3. The method applied for analyzing collected details

4. Type of research methodology

5. Probable objections to research

6. Settings for the research study

7. Timeline

8. Measurement of analysis

Characteristics of Research Design

A proper design sets your study up for success. Successful research studies provide insights that are accurate [...] unbiased. You'll need to create a survey that meets all of the main characteristics of a design. There are four ke[...] characteristics:

- **Neutrality:** When you set up your study, you may have to make assumptions about the data you expect to [...] collect. The results projected in the research should be free from bias and neutral. Understand opinions ab[...] the final evaluated scores and conclusions from multiple individuals and consider those who agree with the [...] results.

- **Reliability:** With regularly conducted research, the researcher expects similar results every time. You'll on[...]

research questions to ensure the standard of results.

- **Validity:** There are multiple measuring tools available. However, the only correct measuring tools are those which help a researcher in gauging results according to the objective of the research.
The questionnaire developed from this design will then be valid.

- **Generalization:** The outcome of your design should apply to a population and not just a restricted sample. A generalized method implies that your survey can be conducted on any part of a population with similar accuracy.

The above factors affect how respondents answer the research questions, so they should balance all the above characteristics in a good design.

Research Design Types

A researcher must clearly understand the various research design types to select which model to implement for a study. Like research itself, the design of your analysis can be broadly classified into quantitative and qualitative.

- Qualitative research

It determines relationships between collected data and observations based on mathematical calculations. Statistical methods can prove or disprove theories related to a naturally existing phenomenon. Researchers rely on qualitative research methods that conclude "why" a particular theory exists and "what" respondents have to say about it.

- Quantitative research

It is for cases where statistical conclusions to collect actionable insights are essential. Numbers provide a better perspective for making critical business decisions. Quantitative research methods are necessary for the growth of any organization. Insights drawn from complex numerical data and analysis prove to be highly effective when making decisions about the business's future.

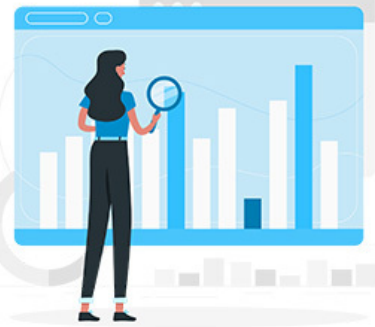You can further break down the types of research design into five categories:
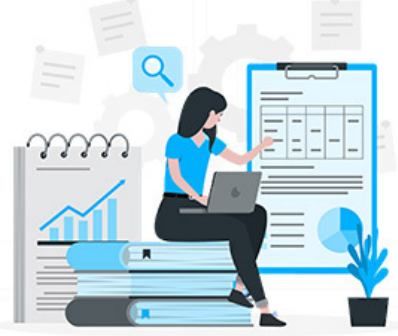
Types of Research Design
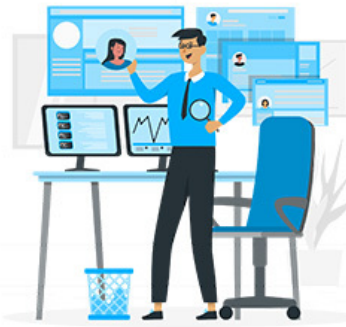
DESCRIPTIVE EXPERIMENTAL CORRELATIONAL

DIAGNOSTIC EXPLANATORY

QuestionPro

1. Descriptive: In a descriptive composition, a researcher is solely interested in describing the situation or case under their research study. It is a theory-based design method created by gathering, analyzing, and presenting collected data. This allows a researcher to provide insights into the why and how of research. Descriptive design helps others better understand the need for the research. If the problem statement is not clear, you can conduct exploratory research.

2. Experimental: Experimental research establishes a relationship between the cause and effect of a situation. a causal design where one observes the impact caused by the independent variable on the dependent variable example, one monitors the influence of an independent variable such as a price on a dependent variable such a customer satisfaction or brand loyalty. It is an efficient research method as it contributes to solving a problem.

The independent variables are manipulated to monitor the change it has on the dependent variable. Social scie often use it to observe human behavior by analyzing two groups. Researchers can have participants change the actions and study how the people around them react to understand social psychology better.

3. Correlational research: Correlational research is a non-experimental research technique. It helps researche establish a relationship between two closely connected variables. There is no assumption while evaluating a relationship between two other variables, and statistical analysis techniques calculate the relationship between them. This type of research requires two different groups.

A correlation coefficient determines the correlation between two variables whose values range between -1 and - the correlation coefficient is towards +1, it indicates a positive relationship between the variables, and -1 means negative relationship between the two variables.

4. Diagnostic research: In diagnostic design, the researcher is looking to evaluate the underlying cause of a specific topic or phenomenon. This method helps one learn more about the factors that create troublesome situations.

This design has three parts of the research:

- Inception of the issue

- Diagnosis of the issue

- Solution for the issue

5. Explanatory research: Explanatory design uses a researcher's ideas and thoughts on a subject to further explore their theories. The study explains unexplored aspects of a subject and details the research questions' w how, and why.