Types of Research

Descriptive Research

Descriptive research is a type of research that describes a situation, or phenomenon that is being studied. It focuses on answering the *how, what, when, and where* questions If a research problem, rather than the *why*.

This is mainly because it is important to have a proper understanding of what a research problem is about before investigating why it exists in the first place.

Analytical Research

Analytical research is a specific type of research that involves critical thinking skills and the evaluation of facts and information relative to the research being conducted. A variety of people including students, doctors and psychologists use analytical research during studies to find the most relevant information.

Descriptive vs. Analytical Research

Analytical research focuses on understanding the cause-effect relationships between two or more variables. In analytical research, the researcher tries to explain the reasons why and how the trade deficit has moved in a specific direction within the given time.

Descriptive research tells us what is happening.

Analytical research explains why it is happening and how variables are related.

Aspect	**Descriptive Research**	**Analytical Research**
Purpose	Describes the characteristics of a phenomenon, situation, or population	Analyses data to explain relationships, causes, or patterns
Focus	What is happening?	Why and how it is happening?
Researcher's Role	Observes and records information	Interprets and evaluates existing information
Methods	Surveys, case studies, observations, questionnaires	Data analysis, comparative studies, statistical analysis

Applied Research

Applied research refers to scientific study and research that seeks to solve practical problems. Applied research is used to find solutions to everyday problems, cure illness, and develop innovative technologies, rather than to acquire knowledge for knowledge's sake

For example, applied researchers may investigate ways to:

- Improve agricultural crop production
- Treat or cure a specific disease
- Improve the energy efficiency of homes, offices, or modes of transportation

Fundamental Research

Fundamental research is driven by a scientist's curiosity or interest in a scientific question. The main motivation is to expand man's knowledge, not to create or invent something. There is no obvious commercial value to the discoveries that result from basic research.

For example, basic science investigations probe for answers to questions such as:

- How did the universe begin?
- What are protons, neutrons, and electrons composed of?
- How do slime molds reproduce?
- What is the specific genetic code of the fruit fly?

Qualitative research

Qualitative research is research dealing with phenomena that are difficult or impossible to quantify mathematically, such as beliefs, meanings, attributes, and symbols.
Qualitative researchers aim to gather an in-depth understanding of human behaviour and the reasons that govern such behaviour. The qualitative method investigates the why and how of decision making, not just what, where, when.

Quantitative research

Quantitative research refers to the systematic empirical investigation of any phenomena via statistical, mathematical or computational techniques. The objective of quantitative research is to develop and employ mathematical models, theories and/or hypotheses pertaining to phenomena
Quantitative research is generally made using scientific methods, which can include:

- The generation of models, theories and hypotheses
- The development of instruments and methods for measurement
- Experimental control and manipulation of variables
- Collection of empirical data
- Modelling and analysis of data
- Evaluation of results

Aspect	**Qualitative Research**	**Quantitative Research**
Nature of Data	Non-numerical, descriptive data	Numerical, measurable data
Focus	Understanding meanings, beliefs, and experiences	Measuring variables and testing hypotheses
Objective	In-depth understanding of behavior and reasons	Statistical analysis and generalization of results
Research Questions	Why? How?	What? How much? How many?
Type of Data	Words, images, observations	Numbers, statistics
Research Approach	Exploratory and interpretive	Structured and scientific
Methods Used	Interviews, focus groups, observations, case studies	Surveys, experiments, statistical analysis

Conceptual Research

Conceptual research is defined as a methodology wherein research is conducted by observing and analyzing already present information on a given topic. Conceptual research doesn't involve conducting any practical experiments. It is related to abstract concepts or ideas. Philosophers have long used conceptual research to develop new theories or interpret existing theories in a different light.

Empirical Research

Empirical research is a type of research methodology that makes use of verifiable evidence in order to arrive at research outcomes. In other words, this type of research relies solely on evidence obtained through observation or scientific data collection methods.

Empirical research can be carried out using qualitative or quantitative observation methods, depending on the data sample, that is, quantifiable data or non-numerical data. Unlike theoretical research that depends on preconceived notions about the research variables, empirical research carries a scientific investigation to measure the experimental probability of the research variable