

Understanding Research Methodology

A guide to types, tools, and purposes



What Is Research Methodology?

Research methodology is the systematic plan for conducting research.

It outlines how data is collected, analyzed, and interpreted – ensuring the research is credible, replicable, and aligned with objectives.

Types of Research Methods

Quantitative Research

Purpose: Test hypotheses, quantify behaviors, identify patterns.

Characteristics: Structured, objective, data-driven.

Common Tools:

- Surveys & questionnaires
- Statistical analysis
- Controlled experiments

Example:

Analyzing test scores to measure academic performance.

Qualitative Research

“Understanding Human Experiences”

Purpose: Explore meanings, perceptions, and social contexts.

Characteristics: Open-ended, flexible, descriptive.

Common Tools:

- Interviews & focus groups
- Field observations
- Text/document analysis

Example:

Exploring how teachers feel about online education.

Mixed Methods Research

Purpose: Combine numerical data and personal insight.

Design Approaches:

- Sequential: One method follows the other.
- Concurrent: Both methods run simultaneously.

Common Scenario:

- Conducting a survey (quantitative)
- Followed by in-depth interviews (qualitative)

Choose the Right Method Based On...

- Your research question
- The type of data needed
- Your audience
- Available time and resources

Why It Matters

- Ensures credibility and accuracy
- Aligns with research questions
- Builds trust through transparency
- Enables replication by others

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“Without a sound methodology, even the best research question remains unanswered.”

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