

# 1. Research Methodology: An Introduction

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## **Abstract:**

*The most significant developments in this field of study and research, as well as in other areas of human endeavor, are brought about by the digital age. While scientific research has a long history, business and management research is relatively new compared to other study domains. The recent emergence of new research approaches and information technology has significantly altered the character of research. As such, scholars must be open to assimilating novel ideas while adhering to fundamental roles inherited from past phases of the profession. The purpose of this chapter is to give beginning researchers a quick overview of those areas of relevant research.*

*In this chapter focus is given on introduction of research methodology. Which includes Introduction, meaning, and definition of research. Research objectives, characteristics of good research. Types of research methodology. Importance of research methodology. Characteristics of research objectives. advantages and disadvantages of research methodology.*

## **Keywords:**

*Research, Methodology, Data, quantitative, qualitative.*

## **1.1 Introduction:**

Research has become an important activity in the today's world. It provides us a frame work to conduct research. Research means to search again, to gain more knowledge about the things on which somebody has done the work. It is a scientific search on a specific topic. Methodology of research is a science of research methodology, which provides a way and guiding principles for doing research. A researcher can describe their intended study approach by using research methodology. It's a methodical, logical strategy to address a research issue. A methodology describes how a researcher will conduct their study in order to get accurate, trustworthy data that meet their goals and objectives. The systematic, scientific process of gathering, evaluating, and interpreting quantitative or qualitative data in order to address research questions or test hypotheses is known as research methodology. A research technique helps researchers stay on track by restricting the scope of the study, much like a plan for carrying out research. When choosing an acceptable research approach, there are a number of factors to take into account, including potential ethical issues and study limits.

A scientific paper's research methodology section explains the various methodological decisions taken, such as the techniques used for data collecting and analysis, and the rationale behind them. The justifications ought to clarify why the selected techniques are the best suitable for addressing the research issue. The validity and dependability of the study findings are further enhanced by an effective research process. Depending on the goals of the research, one can select from three different types of research methodology: mixed-method, quantitative, and qualitative.

## **1.2 What Does the Term "Methodology" in Research Mean?**

A research methodology delineates the methods and approaches employed in order to locate and evaluate data pertaining to a certain study subject. It's a method by which scientists plan their investigation to enable them to use the chosen research tools to accomplish their goals.

It covers every crucial facet of research, such as the overarching framework for the study as well as the methodologies used for data collecting, analysis, and research design. Although these principles can aid in your comprehension of research technique, you also need to appreciate the significance of selecting the appropriate methodology. Various academics have given different definitions to research, which reflects the variety of viewpoints and methods used in the area. Here are several well-known academics' definitions of research:

- a. **John W. Creswell:** According to eminent researcher and methodology expert Creswell, research is "a process of steps used to collect and analyze information to increase our understanding of a topic or issue.
- b. **Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams:** As stated in their book "The Craft of Research," research is "the process of asking questions about a subject or topic, using methods to find the answers, and communicating what you learn."
- c. **W. Lawrence Neuman:** Neuman, in his work "Social Research Methods: Qualitative and Quantitative Approaches," describes research as "an organized, systematic, data-based, critical, objective, scientific inquiry or investigation into a specific problem, undertaken with the purpose of finding answers or solutions to it."
- d. **Kerlinger and Lee** Kerlinger and Lee, in their work "Foundations of Behavioral Research," define study as "the systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, or theories, resulting in prediction and possibly ultimate control of events."
- e. **Clifford Woody:** Research is defined by Woody as "the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data."
- f. **Paul Leedy and Jeanne Ellis Ormrod** Leedy and Ormrod, in their text "Practical Research: Planning and Design," refer to research as "a systematic process of collecting, analyzing, and interpreting information in order to increase our understanding of a phenomenon about which we are interested or concerned."
- g. **Robert Yin:** Research, according to Yin, who is well-known for his work on case study research, is "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used."

### 1.3 What Makes Research Methodology Crucial?

Following are the advantages of research methodology

- Provides assistance to other researchers who might wish to duplicate your findings; the justifications will be useful to them.
- If inquiries concerning your research come up later, you can readily address them.
- Research questions, hypotheses, and objectives can be precisely defined by researchers using the structure and instructions provided by a research methodology.
- It assists researchers in selecting the best sampling strategy, research design, and techniques for gathering and analyzing data.
- A strong research technique aids in ensuring that the conclusions drawn from studies are accurate, dependable, and devoid of biases.
- It also aids in making sure that moral principles are observed when performing research.
- By guaranteeing the best possible use of their time and resources, a sound research methodology aids researchers in organizing their work effectively.

Like any method or instrument, research methodology has drawbacks of its own. The following are some typical drawbacks of research methodology:

- a. Subjectivity:** The prejudices, viewpoints, or interpretations of the researchers themselves can occasionally have an impact on study methods. This subjectivity may cause conclusions or outcomes to be distorted.
- b. Limitation of Scope:** Certain research approaches may have limitations when it comes to capturing the intricacy of particular phenomena or answering particular kinds of research questions. This may lead to limited or insufficient comprehension of the subject matter being studied.
- c. Resource-intensive:** In terms of staff, finances, and time, some research procedures can be resource-intensive, especially those that need substantial data collecting, analysis, or experimentation. For academics with low funding, in particular, this may make some research proposals less feasible.
- d. Ethical Concerns:** Research procedures may give rise to moral questions about matters like participant harm, informed consent, and privacy. In order to guarantee that their study is carried out properly and ethically, researchers need to carefully traverse these ethical considerations.
- e. Validity and dependability:** One of the ongoing challenges in research methodology is ensuring the validity and dependability of study findings. Researchers must carefully evaluate methodological decisions throughout the research process because they might affect the validity and reliability of study findings. Examples of these decisions include sampling strategies and measurement methodologies.
- f. Complexity:** Certain research strategies can be challenging to comprehend and apply successfully, especially when they involve sophisticated statistical methods or intricate experimental designs. Researchers may face difficulties as a result of this intricacy, especially those with little expertise or training.
- g. Resistance to Change:** It can be challenging for researchers to embrace fresh or creative ideas when established research procedures become ingrained in academic

fields or research communities. Within the research sector, this reluctance to change has the potential to impede creativity and innovation.

- h. Interdisciplinary Challenges:** Interdisciplinary research can be difficult since different research procedures from different disciplines may use different language, approaches, and underlying assumptions. It can be challenging to bridge these disciplinary gaps, and researchers may need to modify or adapt current procedures to fit the needs of their particular research situation.
- i. Generalizability:** Some research techniques may yield results that are hard to extrapolate from the particular setting in which the study was carried out. This may restrict how broadly research findings can be applied to different groups or environments.
- j. Publication Bias:** Studies with null or non-significant findings may have a lower chance of being published than those using research approaches that yield statistically significant or intriguing results. A topic's overall body of research evidence may be distorted by this publication bias.

#### **1.4 Meaning and Definition of Research Methodology:**

Research methodology is a methodical and structured approach used to collect, evaluate, and understand quantitative or qualitative data to answer research questions or test hypotheses.

A research methodology is like a plan for carrying out research and helps keep researchers on path by restraining the scope of the research. Several aspects must be measured before selecting an suitable research methodology, such as research limitations and ethical concerns that may affect your research.

#### **1.5 Types of Research Methodology**

The following three types of research methodology are important which is based on the type of research and the data required.

##### **A. Quantitative Research Methodology:**

Its foundation is the concentration of measuring and testing numerical data. This strategy works well for quickly contacting a big number of people. This kind of study aids in prediction-making, examining the causal links between variables, and extrapolating findings to larger populations.

##### **B. Qualitative Research Methodology:**

Investigates people's beliefs, actions, and experiences. It gathers and examines textual data and words. Because each participant in this research methodology spends a significant amount of time, it requires fewer participants but still requires more time.

When conducting exploratory research and the research problem is not well defined, this approach is used.

## **C. Mixed-Method Research Methodology:**

Incorporates into a single study the features of both quantitative and qualitative research approaches. Through the use of the other approach, researchers can corroborate their findings, ascertain whether the results gained from the two ways are complementary, and provide an explanation for any unexpected outcomes from one method.

### **1.6 Characteristics of Research Objectives:**

- **Clarity:** objectives of the research should be clearly defined and easy to understand. One should ensure there is no space for uncertainty or misconception.
- **Specificity:** Objectives should be precise and intently focused on the aspects of the research topic that the study intends to investigate. They should respond the problem of “what” or “which” rather than “how” or “why.”
- **Measurability:** objectives of the research should be formulated in a way that allows for measurement and assessment. This means that there should be a way to decide whether the objectives have been achieved or not.
- **Relevance:** Objectives should be appropriate to the research topic and line up with the overall research hypothesis or question. They should address significant aspects of the subject matter.
- **Realistic:** Objectives should be achievable within the constraints of the study, including time, resources, and probability.
- **Time-bound:** Research objectives may have associated **timelines** or **deadlines** to point to when the research aims should be accomplished.

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