



## DESCRIPTION OF TYPES OF RESEARCH

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**Abstract:** Research is a form of knowledge whose content is given by the "creation" resulting from human curiosity, or better said, research activity. Scientific research is based on scientific knowledge and is a continuous search carried out within a complex process, the content of which is given by "scientific creation". The researcher's opinion is actually his answer, written in the form of a narrative, the content of which presents, in a logical and fluent structure, the staged development of the research activity, as well as the conclusions and results obtained as a result. When we discuss about types of research we are actually discussing different approaches that researchers can use to research a problem, a phenomenon or even a process. The methodology used in a research activity is often determined by the type of research being addressed. Therefore, there are different types of research, and each of them is conducted for a specific purpose, scope and type of data.

**Key words:** applied, deductive, descriptive, experimental, exploratory, primary, qualitative, quantitative, theoretical

### 1. INTRODUCTION

Research activity is an important and necessary part of any academic or professional duty, being used by both scientists and business people. This is defined as a systematic and structured investigation aimed at discovering or validating knowledge, insights or even solutions.

Depending on the purpose, scope and type of data used, research activity can be classified into different types.

### 2. PURPOSE

#### 2.1. Theoretical research

Theoretical research (TR) is used to build new theories and concepts that can be applied in different fields. Its purpose is to expand existing knowledge and to understand in detail a certain concept, phenomenon or topic.

This type of research involves testing existing hypotheses and theories and developing improved versions, respectively building models to explain the observed phenomena

#### 2.2. Applied research

The purpose of applied research (AR) is to solve practical problems and improve understanding of the real world.

This type of research involves using scientific methods and theories to develop practical solutions to concrete problems or challenges as opposed to pure research, which aims to expand knowledge without a concrete application in mind.

In this context, AR focuses on producing practical results that are further used in industry, medicine, public policy or other fields.

The main purpose of AR is to improve the ability to predict, control and manipulate real-world phenomena and processes in order to then create equally real benefits for society.

Whether we are talking about developing new technologies, improving existing products or creating new policies, AR plays a special role in developing knowledge and improving the ability to solve practical, concrete, everyday problems.

The three types of ARs are listed and detailed below:

a) Evaluation research (ER) is used to evaluate the effectiveness of programs, policies or interventions.

This involves collecting and analyzing data to determine whether the program, policy, or intervention is achieving its stated goals and objectives.

ER results are used to improve the program, policy or intervention, respectively to make the most



appropriate decisions to continue or even justify their funding.

Examples include evaluating the impact of a new public health policy, evaluating the effectiveness of a school program, or measuring the results of a social intervention.

b) Research and development (R&D) is a type of applied research that involves the creation of new products, processes or technologies.

Typically, R&D is carried out by companies or organizations that want to improve the performance of already existing products, make the services they provide more efficient, or simply innovate, develop, or produce new technologies.

R&D involves a systematic process of experimentation, testing and refinement with the aim of creating something new, innovative and useful.

Examples include developing a new medical treatment, designing a new technological product, or improving an existing manufacturing process.

c) Action-Research (A-R) is a collaborative approach that is proposed with the goal of real-time problem solving.

This type of applied research involves working with different stakeholders to identify and quickly solve practical problems and challenges and is used to address practical problems and challenges faced by companies, organizations or even communities.

A-R typically involves a cyclical process of problem identification, data collection, analysis, and solution implementation, and is often used in areas such as industry, education, healthcare, and social services.

Some examples include working with a community to develop a new poverty reduction program or working with a school to improve student achievement.

### **3. DATA TYPE**

#### *3.1. Qualitative research*

Qualitative research (Q-litaR) is a type of research that seeks to understand and interpret human behavior, experiences and social, economic, physical, chemical, etc. phenomena.

This type of research is often used when the research topic requires an in-depth understanding of the context, meaning and complexity of a phenomenon.

Research methods used within Q-litaR include interviews, focus groups, ethnographies and case studies. The data collected in this way is often non-numerical and is used to identify themes, patterns and meanings.

Q-litaR is commonly used in many fields, including sociology, anthropology, and psychology, and is particularly useful for exploring new topics, generating new hypotheses, and gaining a deep understanding of a phenomenon from the perspective of the people involved.

#### *3.2. Quantitative research*

Quantitative research (Q-titaR) is a type of research that seeks to measure and analyze numerical data to test hypotheses, identify patterns, and make predictions.

This type of research is often used when the research question requires precise measurement of a phenomenon and statistical analysis.

Research methods used within Q-titaR include experiments, surveys and secondary data analyses. The data thus collected are often numerical, and they are analyzed using statistical methods to identify the relationships between the variables.

Q-titaR is commonly used in fields such as psychology, economics, and public health, where it is particularly useful for testing hypotheses and making generalizations about a population based on a sample.

This type of research is used to make evidence-based recommendations and to inform policy and practice in various research areas.

#### *3.3. Mixed methods research*

Mixed methods research (MixR) combines the type of qualitative and quantitative research to obtain a complete picture of a certain phenomenon.

This type of research is often used when a single type of research cannot provide a complete understanding of the phenomenon to be researched

### **4. MANIPULATION OF VARIABLES**

#### *4.1. Experimental research*

Experimental research (ExpR) is a type of research that establishes cause-effect relationships between variables.

In this type of research, an independent variable is manipulated and its effects on a dependent variable are observed while controlling for extraneous variables.

This type of research involves the use of randomized controlled trials, so the data collected is often quantitative and statistical analysis is used to test hypotheses.

ExpR is a powerful tool for exploring causal relationships, but at the same time it has limitations such as the difficulty of generalizing real-world findings and ethical considerations related to the manipulation of variables.

Its findings can help inform policies and practices in various research fields, such as natural sciences, social sciences, medical sciences, engineering sciences, etc.

#### *4.2. Non-experimental research*

Non-experimental research (N-expR) is a type of research that is used to observe and measure variables without manipulating them.

N-expR is often used in studies where it is not possible or ethical to manipulate variables, such as in studies involving human behavior or medical conditions.



Research methods used within N-expR include observational studies, surveys and case studies.

The data thus collected are often qualitative or quantitative, and the interpretation of the results is done with the help of statistical analysis.

Although, N-expR cannot establish causal relationships between variables, it can provide valuable information about the nature of the variables and identify potential areas for further research.

#### 4.3. *Quasi-experimental research*

Quasi-experimental research (Q-expR) is a type of research that combines elements of ExpR and N-expR.

In it, researchers manipulate an independent variable, but unlike ExpR, they do not use random assignment to assign participants to different experimental conditions.

Q-expR is frequently used in studies where it is not possible or practical to use random assignments, such as in studies involving preexisting groups or natural events.

Research methods used within Q-expR include interrupted time series, non-equivalent control group designs and regression discontinuity models. The data are often quantitative, and the interpretation of the results is done with the help of statistical analysis.

This research cannot establish causality as effectively as ExpR, but instead can provide valuable information on the relationship between variables and also help inform policy and practice in various research areas.

## 5. TYPE OF INTERFERENCE

### 5.1. *Deductive research*

Deductive research (DR) is a type of research that starts from a theory or hypothesis and then tests it using empirical data.

In DR, researchers begin by developing a clear and specific hypothesis that builds on a pre-existing theory or body of knowledge.

They collect data and use statistical analysis to test hypothesis and draw conclusions about the proposed theory.

DR is often used in the natural sciences, social sciences and medicine to test hypotheses, respectively to establish causal relationships between variables.

The data thus collected are often quantitative, and the interpretation of the results is done with the help of statistical analysis.

Although, DR can provide strong evidence to support or reject a theory, it has limitations, such as the possibility of missing important variables and the difficulty of generalizing findings beyond the study population.

Despite these limitations, deductive research is a type of research that can help inform policy and practice in various research fields.

### 5.2. *Hypothetic-deductive inquiry research*

Hypothetical-deductive inquiry (H-DiR) is a type of research that combines deductive and hypothetical reasoning.

In this type of research, researchers start from a hypothetical explanation of a phenomenon or observation and then use deductive reasoning to test the hypothesis, making predictions about what should happen if the hypothesis is correct.

The predictions are then tested using empirical data, and if the resulting data confirm the predictions, the hypothesis is considered to be supported. If the data do not support the predictions, the hypothesis is revised or rejected. This type of research is commonly used in the natural sciences, social sciences, and medicine to test hypotheses and establish causal relationships between variables.

The data thus collected are often quantitative, and the interpretation of the results is done with the help of statistical analysis.

Although, H-DiR can provide strong evidence to support or reject a hypothesis, it has limitations, such as the possibility of missing important variables and the difficulty of generalizing the results beyond the study population.

## 6. SOURCE OF INFORMATION

### 6.1. *Primary research*

Primary research (PR) is a type of research that involves collecting original data directly from sources.

This type of research involves conducting surveys, interviews, experiments, and observations to collect new information that has not been collected or analyzed previously studied.

PR can be qualitative or quantitative in nature, depending on the research topic and methodology.

The qualitative research methods used involve the collection of non-numerical data such as personal experiences, attitudes and behaviors, which are often used in the social sciences and humanities.

Quantitative research methods involve collecting numerical data and using statistical analysis to make inferences about a population and are commonly used in the natural sciences, social sciences, as well as the medical field.

PR is often expensive and time-consuming, but it can provide much more accurate and detailed information than secondary research, which involves analyzing existing data.

PR is important research and can help answer questions that cannot be answered with secondary research alone.



## 6.2. Secondary research

Secondary research (SR) is a type of research that involves analyzing existing data and information that has already been collected by other researchers.

This type of research involves examining published sources such as books, academic journals, reports, and databases to gather information about a specific topic or research topic.

SR can be qualitative or quantitative in nature, depending on the data sources and the research topic.

This type of research involves the analysis of non-numerical data such as case studies, literary analyses, interviews and is often used in the social sciences and humanities.

This type of research also involves the analysis of numerical data, such as statistics and surveys, and is commonly used in the natural sciences, social sciences, and medical fields.

SR is less expensive than primary research, but may have limitations such as outdated or incomplete data, biased sources, and limited data availability.

## 7. CONCLUSIONS

To research is equivalent to asking, given that the answers to these questions depend on the detailed knowledge of the field under research, respectively the detection of the limits of the research act in order to reduce the effect on the performance of the activity of scientific knowledge.

In general, the questions that the researcher asks are related to the object of the researched field and the limits of his knowledge, so that these elements produce, provoke and determine approaches and delimitations that are theoretical in terms of:

- scope of the addressed field;
- delimitation of the concepts to be used;
- the clear definition and characterization of the content of the concepts (historical approach);
- the delimitation of the techniques and tools to be used in the research;
- characterization and explanation of the way in which the obtained results will be used or have been used;
- comparing the results obtained, by applying the research tools, with the existing knowledge and with the structuring of the researcher's opinion.

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