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## **Basic Research Concepts**

### **Problem Recognition and Definition**

We understand the world by asking questions and searching for answers. Our construction of reality depends on the nature of our inquiry.

All research begins with a question. Intellectual curiosity is often the foundation for scholarly inquiry. Some questions are not testable. The classic philosophical example is to ask, "How many angels can dance on the head of a pin?" While the question might elicit profound and thoughtful revelations, it clearly cannot be tested with an empirical experiment. Prior to Descartes, this is precisely the kind of question that would engage the minds of learned men. Their answers came from within. The scientific method precludes asking questions that cannot be empirically tested. If the angels cannot be observed or detected, the question is considered inappropriate for scholarly research.

Defining the goals and objectives of a research project is one of the most important steps in the research process. Do not underestimate the importance of this step. Clearly stated goals keep a research project focused. The process of goal definition usually begins by writing down the broad and general goals of the study. As the process continues, the goals become more clearly defined and the research issues are narrowed.

Exploratory research (e.g., literature reviews, talking to people, and focus groups) goes hand-in-hand with the goal clarification process. The literature review is especially important because it obviates the need to reinvent the wheel for every new research question. More importantly, it gives researchers the opportunity to build on each other's work.

The research question itself can be stated as a hypothesis. A hypothesis is simply the investigator's belief about a problem. Typically, a researcher formulates an opinion during the literature review process. The process of reviewing other scholar's work often clarifies the theoretical issues associated with the research question. It also can help to elucidate the significance of the issues to the research community.

The hypothesis is converted into a null hypothesis in order to make it testable because the only way to test a hypothesis is to eliminate alternatives of the hypothesis. Statistical techniques will enable us to reject or fail to reject a null hypothesis, but they do not provide us with a way to accept a hypothesis. Therefore, all hypothesis testing is indirect.

## What is Research – Definition, Methods, Types & Examples



### What is Research: Definition

A careful consideration of study regarding a particular concern or problem using scientific methods. According to the American sociologist Earl Robert Babbie, “Research is a systematic inquiry to describe, explain, predict, and control the observed phenomenon. Research involves inductive and deductive methods.”

Inductive research methods are used to analyze an observed event. Deductive methods are used to verify the observed event. Inductive approaches are associated with qualitative research and deductive methods are more commonly associated with quantitative research.

Research is conducted with a purpose to understand:

- What do organizations or businesses really want to find out?

- What are the processes that need to be followed to chase the idea?
- What are the arguments that need to be built around a concept?
- What is the evidence that will be required for people to believe in the idea or concept?

### **Characteristics of research**

1. A systematic approach must be followed for accurate data. Rules and procedures are an integral part of the process that set the objective. Researchers need to practice ethics and a code of conduct while making observations or drawing conclusions.
2. Research is based on logical reasoning and involves both inductive and deductive methods.
3. The data or knowledge that is derived is in real time from actual observations in natural settings.
4. There is an in-depth analysis of all data collected so that there are no anomalies associated with it.
5. Research creates a path for generating new questions. Existing data helps create more opportunities for research.
6. Research is analytical in nature. It makes use of all the available data so that there is no ambiguity in inference.
7. Accuracy is one of the most important aspects of research. The information that is obtained should be accurate and true to its nature. For example, laboratories provide a controlled environment to collect data. Accuracy is measured in the instruments used, the calibrations of instruments or tools, and the final result of the experiment.

### **What are the types of research?**

Following are the types of research methods:

**Basic research:** A basic research definition is data collected to enhance knowledge. The main motivation is knowledge expansion. It is a non-commercial research that doesn't facilitate in creating or inventing anything. For example: an experiment to determine a simple fact.

**Applied research:** Applied research focuses on analyzing and solving real-life problems. This type refers to the study that helps solve practical problems using scientific methods. Studies play an important role in solving issues that impact the overall well-being of humans. For example: finding a specific cure for a disease.

**Problem oriented research:** As the name suggests, problem-oriented research is conducted to understand the exact nature of a problem to find out relevant solutions. The term “problem” refers to multiple choices or issues when analyzing a situation.

For example, revenue of a car company has decreased by 12% in the last year. The following could be the probable causes: there is no optimum production, poor quality of a product, no advertising, or economic conditions.

**Problem solving research:** This type of research is conducted by companies to understand and resolve their own problems. The problem-solving method uses applied research to find solutions to the existing problems.

**Qualitative research:** Qualitative research is a process that is about inquiry. It helps create in-depth understanding of problems or issues in their natural settings. This is a non-statistical method.

Qualitative research is heavily dependent on the experience of the researchers and the questions used to probe the sample. The sample size is usually restricted to 6-10 people. Open-ended questions are asked in a manner that encourages answers that lead to another question or group of questions. The purpose of asking open-ended questions is to gather as much information as possible from the sample.

The following are the methods used for qualitative research:

1. One-to-one interview
2. Focus groups
3. Ethnographic research
4. Content/Text Analysis
5. Case study research

Learn more: [Qualitative Research Methods](#)

**Quantitative research:** Quantitative research is a structured way of collecting data and analyzing it to draw conclusions. Unlike qualitative methods, this method uses a computational and statistical process to collect and analyze data. Quantitative data is all about numbers.

Quantitative research involves a larger population — more people means more data. With more data to analyze, you can obtain more accurate results. This method uses close-ended questions because the researchers are typically looking to gather statistical data.

Online surveys, questionnaires, and polls are preferable data collection tools used in quantitative research. There are various methods of deploying surveys or questionnaires.

Online surveys allow survey creators to reach large amounts of people or smaller focus groups for different types of research that meet different goals. Survey respondents can receive surveys on mobile phones, in emails, or can simply use the internet to access surveys.

Learn more: [What is Quantitative Research?](#)

### What Is the Purpose of Research?

There are three purposes of research:

1. **Exploratory:** As the name suggests, exploratory research is conducted to explore a group of questions. The answers and analytics may not offer a final conclusion to the perceived problem. It is conducted to handle new problem areas which haven't been explored before. This exploratory process lays the foundation for more conclusive research and data collection.
2. **Descriptive:** Descriptive research focuses on expanding knowledge on current issues through a process of data collection. Descriptive studies are used to describe the behavior of a sample population. In a descriptive study, only one variable is required to conduct the study. The three main purposes of descriptive research are describing, explaining, and validating the findings. For example, a study conducted to know if top-level management leaders in the 21st century possess the moral right to receive a huge sum of money from the company profit.
3. **Explanatory:** Explanatory research or causal research is conducted to understand the impact of certain changes in existing standard procedures. Conducting experiments is the most popular form of casual research. For example, a study conducted to understand the effect of rebranding on customer loyalty.

To understand the characteristic of research design using research purpose here is a comparative analysis:

	<b>Exploratory Research</b>	<b>Descriptive Research</b>	<b>Explanatory</b>
Research approach used	Unstructured	Structured	Highly structured
Research conducted through	Asking research questions	Asking research questions	By using research hypotheses.

When is it conducted?	Early stages of decision making	Later stages of decision making	Later stages of decision making
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Learn More: [Primary Research – Examples, Methods and Purpose](#)

Research method is defined as the tools or instruments used to accomplish the goals and attributes of a study. Think of the methodology as a systematic process in which the tools or instruments will be employed. There is no use of a tool if it is not being used efficiently.

Research begins by asking the right questions and choosing an appropriate method to investigate the problem. After collecting answers to your questions, you can analyze the findings or observations to draw appropriate conclusions.

When it comes to customers and market studies, the more thorough your questions, the better. By thoroughly collecting data from customers through surveys and questionnaires, you get important insights into brand perception and product needs. You can use this data to make smart decisions about your marketing strategies to position your business effectively.

### Types of research methods and research example



Research methods are broadly classified as Qualitative and Quantitative.

Both methods have distinctive properties and data collection methods.

## **Qualitative Methods**

Qualitative research is a method that collects data using conversational methods. Participants are asked open-ended questions. The responses collected are essentially non-numerical. This method not only helps a researcher understand what participants think but also why they think in a particular way.

Types of qualitative methods include:

- **One-to-one Interview:** This interview is conducted with one participant at a given point in time. One-to-one interviews need a researcher to prepare questions in advance. The researcher asks only the most important questions to the participant. This type of interview lasts anywhere between 20 minutes to half an hour. During this time the researcher collects as many meaningful answers as possible from the participants to draw inferences.
- **Focus Groups:** Focus groups are small groups comprising of around 6-10 participants who are usually experts in the subject matter. A moderator is assigned to a focus group who facilitates the discussion amongst the group members. A moderator's experience in conducting the focus group plays an important role. An experienced moderator can probe the participants by asking the correct questions that will help them collect a sizable amount of information related to the research.
- **Ethnographic Research:** Ethnographic research is an in-depth form of research where people are observed in their natural environment without This method is demanding due to the necessity of a researcher entering a natural environment of other people. Geographic locations can be a constraint as well. Instead of conducting interviews, a researcher experiences the normal setting and daily life of a group of people.
- **Text Analysis:** Text analysis is a little different from other qualitative methods as it is used to analyze social constructs by decoding words through any available form of documentation. The researcher studies and understands the context in which the documents are written and then tries to draw meaningful inferences from it. Researchers today follow activities on a social media platform to try and understand patterns of thoughts.
- **Case Study:** Case study research is used to study an organization or an entity. This method is one of the most valuable options for modern This type of research is used in fields like the education sector, philosophical studies, and psychological studies. This method involves a deep dive into ongoing research and collecting data.

## **Quantitative Research Methods**

Quantitative methods deal with numbers and measurable forms. It uses a systematic way of investigating events or data. It is used to answer questions in terms of justifying relationships with measurable variables to either explain, predict, or control a phenomenon.

There are three methods that are often used by researchers:

- **Survey Research** — The ultimate goal of survey research is to learn about a large population by deploying a survey. Today, online surveys are popular as they are convenient and can be sent in an email or made available on the internet. In this method, a researcher designs a survey with the most relevant survey questions and distributes the survey. Once the researcher receives responses, they summarize them to tabulate meaningful findings and data.
- **Descriptive Research** — Descriptive research is a method which identifies the characteristics of an observed phenomenon and collects more information. This method is designed to depict the participants in a very systematic and accurate manner. In simple words, descriptive research is all about describing the phenomenon, observing it, and drawing conclusions from it.
- **Correlational Research**— Correlational research examines the relationship between two or more variables. Consider a researcher is studying a correlation between cancer and married women. Married women have a negative correlation with cancer. In this example, there are two variables: cancer and married women. When we say negative correlation, it means women who are married are less likely to develop cancer. However, it doesn't mean that marriage directly avoids cancer.

### **Identifying Research Methodology**

To choose the appropriate types of research, you need to clearly identify the objectives. Some objectives to take into consideration for your business include:

- Find out the needs of your clients.
- Know their preferences and understand what is important to them.
- Find an appropriate way to make your customers aware of your products and services.
- Find ways to improve your products or services to suit the needs of your customers.

After identifying what you need to know, you should ask what research methods will offer you that information.



Organize your questions within the framework of the 7 Ps of marketing that influence your company – product, price, promotion, place, people, processes, and physical tests.

A well-organized customer research process produces valid, accurate, reliable, timely, and complete results. Results that rigorously reflect the opinions and needs of your clients will help you grow your sales and improve your operations. To obtain the results, you need to establish and follow the processes that you have detailed out for your organization:

### **Set your goals**

Consider the client's objectives and define those that identify with yours. Make sure that you set smart goals and objectives. Do not presume the results of your surveys.

### **Plan your research**

Good planning allows the use of creative and logical approaches to select the methods that gather the most accurate information. Your plan will be influenced by the type and complexity of the information you need, the skills of your market research team, and how soon you need the information. Your budget also plays a large role in your ability to collect data.

### **Collect and collate your results**

Make a list of how you are going to carry out the research process, the data you need to collect, and collection methods. This will help you keep track of your processes and make sense of your findings. It will also allow you to verify that your research accurately reflects the opinions of your clients and your market. Create a record table with:

- The consumer research activity
- The necessary data
- The methods for data collection
- The steps to follow for data analysis.

Remember, research is only valuable and useful when it is valid, accurate, and reliable. Relying on imperfect research is dangerous. Incorrect results can lead to customer churn and a decrease in sales.

It is important to obtain information about how the collection of customer information was carried out, and to ensure that your data is:

- Valid – founded, logical, rigorous, and impartial.
- Accurate – free of errors and including required details.
- Reliable – that can be reproduced by other people who investigate in the same way.
- Timely – current and collected within an appropriate time frame.
- Complete – includes all the data you need to support your business decisions.

### **Analyze and understand your research**

Analysis of the data can vary from simple and direct steps to technical and complex processes. Adopt an approach, and choose the method of data analysis based on the methods you have carried out.

### **Keep the findings ready**

Choose a spreadsheet that allows you to easily enter your data. If you do not have a large amount of data, you should be able to manage them with the use of basic tools available in survey software. If you have collected more complete and complex data, you may have to consider using specific programs or tools that will help you manage your data.

### **Review and interpret the information to draw conclusions**

Once you have gathered all the data, you can scan your information and interpret it to draw conclusions and make informed decisions. You should review the data and then:

- Identify the main trends and issues, opportunities, and problems you observe. Write a sentence describing each one.
- Keep track of the frequency with which each of the main findings appears.
- Make a list of your findings from the most common to the least common.
- Evaluate a list of the strengths, weaknesses, opportunities, and threats that have been identified in a SWOT analysis.
- Prepare conclusions and recommendations about your research.

Review your goals before making any conclusions about your research. Keep in mind how the process you have completed and the data you have gathered help answer your questions. Ask yourself if what your research revealed facilitates the identification of your conclusions and recommendations. Review your conclusions and, based on what you know now:

### **Choose some strategies that will help you improve your business**

- Act on your strategies

- Look for gaps in the information, and consider doing additional research if necessary
- Plan to review the results of the research, and consider efficient strategies to analyze and dissect results for interpretation.