**Research**

Research is defined as the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings. This could include synthesis and analysis of previous research to the extent that it leads to new and creative outcomes.

Research in common parlance refers to a search for knowledge. Once can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation.

Research is "creative and systematic work undertaken to increase the stock of knowledge". It involves the collection, organization and analysis of information to increase understanding of a topic or issue. A research project may be an expansion on past work in the field.

Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study’s overall validity and reliability. The methodology section answers two main questions: How was the data collected or generated? How was it analyzed?

**OBJECTIVES OF RESEARCH**

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, we may think of research objectives as falling into a number of following broad groupings:

1. To gain familiarity with a phenomenon or to achieve new insights into it (studies with this object in view are termed as exploratory or formulative research studies);

2. To portray accurately the characteristics of a particular individual, situation or a group (studies with this object in view are known as descriptive research studies);

3. To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as diagnostic research studies);

4. To test a hypothesis of a causal relationship between variables (such studies are known as hypothesis-testing research studies).

**MOTIVATION IN RESEARCH**

What makes people to undertake research? This is a question of fundamental importance. The possible motives for doing research may be either one or more of the following:

1. Desire to get a research degree along with its consequential benefits;

2. Desire to face the challenge in solving the unsolved problems, i.e., concern over practical problems initiates research;

3. Desire to get intellectual joy of doing some creative work;

4. Desire to be of service to society;

5. Desire to get respectability.

However, this is not an exhaustive list of factors motivating people to undertake research studies. Many more factors such as directives of government, employment conditions, curiosity about new things, desire to understand causal relationships, social thinking and awakening, and the like may as well motivate (or at times compel) people to perform research operations.

**TYPES OF RESEARCH**

The basic types of research are as follows:

(i) Descriptive vs. Analytical: Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. In social science and business research we quite often use the term Ex post facto research for descriptive research studies. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening. Most ex post facto research projects are used for descriptive studies in which the researcher seeks to measure such items as, for example, frequency of shopping, preferences of people, or similar data. Ex post facto studies also include attempts by researchers to discover causes even when they cannot control the variables. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and correlational methods. In analytical research, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material.

(ii) Applied vs. Fundamental: Research can either be applied (or action) research or fundamental (to basic or pure) research. Applied research aims at finding a solution for an immediate problem facing a society or an industrial/business organisation, whereas fundamental research is mainly concerned with generalisations and with the formulation of a theory. “Gathering knowledge for knowledge’s sake is termed ‘pure’ or ‘basic’ research.”4 Research concerning some natural phenomenon or relating to pure mathematics are examples of fundamental research. Similarly, research studies, concerning human behaviour carried on with a view to make generalisations about human behaviour, are also examples of fundamental research, but research aimed at certain conclusions (say, a solution) facing a concrete social or business problem is an example of applied research. Research to identify social, economic or political trends that may affect a particular institution or the copy research (research to find out whether certain communications will be read and understood) or the marketing research or evaluation research are examples of applied research. Thus, the central aim of applied research is to discover a solution for some pressing practical problem, whereas basic research is directed towards finding information that has a broad base of applications and thus, adds to the already existing organized body of scientific knowledge.

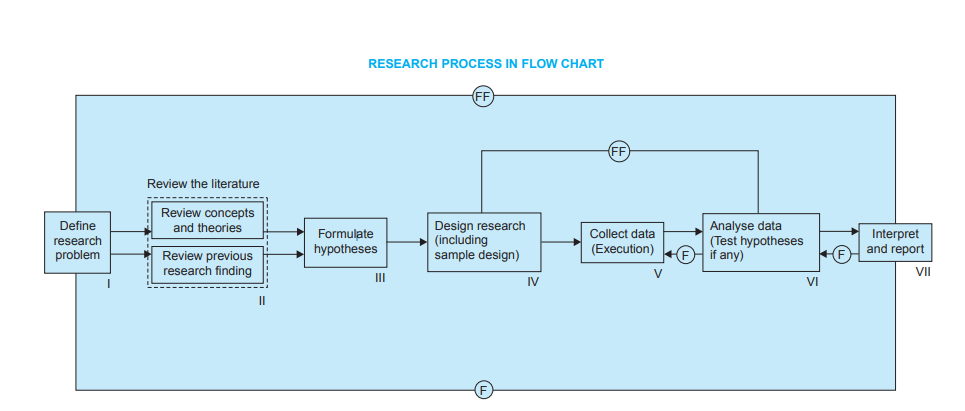
(iii) Quantitative vs. Qualitative: Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behaviour (i.e., why people think or do certain things), we quite often talk of ‘Motivation Research’, an important type of qualitative research. This type of research aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is specially important in the behavioural sciences where the aim is to discover the underlying motives of human behaviour. Through such research we can analyse the various factors which motivate people to behave in a particular manner or which make people like or dislike a particular thing. It may be stated, however, that to apply qualitative research inpractice is relatively a difficult job and therefore, while doing such research, one should seek guidance from experimental psychologists.

(iv) Conceptual vs. Empirical: Conceptual research is that related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones. On the other hand, empirical research relies on experience or observation alone, often without due regard for system and theory. It is data-based research, coming up with conclusions which are capable of being verified by observation or experiment. We can also call it as experimental type of research. In such a research it is necessary to get at facts firsthand, at their source, and actively to go about doing certain things to stimulate the production of desired information. In such a research, the researcher must first provide himself with a working hypothesis or guess as to the probable results. He then works to get enough facts (data) to prove or disprove his hypothesis. He then sets up experimental designs which he thinks will manipulate the persons or the materials concerned so as to bring forth the desired information. Such research is thus characterised by the experimenter’s control over the variables under study and his deliberate manipulation of one of them to study its effects. Empirical research is appropriate when proof is sought that certain variables affect other variables in some way. Evidence gathered through experiments or empirical studies is today considered to be the most powerful support possible for a given hypothesis.

(v) Some Other Types of Research: All other types of research are variations of one or more of the above stated approaches, based on either the purpose of research, or the time required to accomplish research, on the environment in which research is done, or on the basis of some other similar factor. Form the point of view of time, we can think of research either as one-time research or longitudinal research. In the former case the research is confined to a single time-period, whereas in the latter case the research is carried on over several time-periods. Research can be field-setting research or laboratory research or simulation research, depending upon the environment in which it is to be carried out. Research can as well be understood as clinical or diagnostic research. Such research follow case-study methods or indepth approaches to reach the basic causal relations. Such studies usually go deep into the causes of things or events that interest us, using very small samples and very deep probing data gathering devices. The research may be exploratory or it may be formalized. The objective of exploratory research is the development of hypotheses rather than their testing, whereas formalized research studies are those with substantial structure and with specific hypotheses to be tested. Historical research is that which utilizes historical sources like documents, remains, etc. to study events or ideas of the past, including the philosophy of persons and groups at any remote point of time. Research can also be classified as conclusion-oriented and decision-oriented. While doing conclusionoriented research, a researcher is free to pick up a problem, redesign the enquiry as he proceeds and is prepared to conceptualize as he wishes. Decision-oriented research is always for the need of a decision maker and the researcher in this case is not free to embark upon research according to his own inclination. Operations research is an example of decision oriented research since it is a scientific method of providing executive departments with a quantitative basis for decisions regarding operations under their control.

**The Research Process**

Before embarking on the details of research methodology and techniques, it seems appropriate to present a brief overview of the research process. Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps. The chart shown in Figure 1.1 well illustrates a research process.



The chart indicates that the research process consists of a number of closely related activities, as shown through I to VII. But such activities overlap continuously rather than following a strictly prescribed sequence. At times, the first step determines the nature of the last step to be undertaken. If subsequent procedures have not been taken into account in the early stages, serious difficulties may arise which may even prevent the completion of the study. One should remember that the various steps involved in a research process are not mutually exclusive; nor they are separate and distinct. They do not necessarily follow each other in any specific order and the researcher has to be constantly anticipating at each step in the research process the requirements of the subsequent steps. However, the following order concerning various steps provides a useful procedural guideline regarding the research process: (1) formulating the research problem; (2) extensive literature survey; (3) developing the hypothesis; (4) preparing the research design; (5) determining sample design; (6) collecting the data; (7) execution of the project; (8) analysis of data; (9) hypothesis testing; (10) generalisations and interpretation, and (11) preparation of the report or presentation of the results, i.e., formal write-up of conclusions reached.

**Research design definition**

Research design is the framework of research methods and techniques chosen by a researcher. The design allows researchers to hone in on research methods that are suitable for the subject matter and set up their studies up for success.

The design of a research topic explains the type of research (experimental, survey research, correlational, semi-experimental, review) and also its sub-type (experimental design, research problem, descriptive case-study).

There are three main types of designs for research: Data collection, measurement, and analysis.

The type of research problem an organization is facing will determine the research design and not vice-versa. The design phase of a study determines which tools to use and how they are used.

An impactful research usually creates a minimum bias in data and increases trust in the accuracy of collected data. A design that produces the least margin of error in experimental research is generally considered the desired outcome. The essential elements are:

* Accurate purpose statement
* Techniques to be implemented for collecting and analyzing research
* The method applied for analyzing collected details
* Type of research methodology
* Probable objections for research
* Settings for the research study
* Timeline
* Measurement of analysis

**Research characteristics**

* Neutrality: When you set up your study, you may have to make assumptions about the data you expect to collect. The results projected in the research should be free from bias and neutral. Understand opinions about the final evaluated scores and conclusions from multiple individuals and consider those who agree with the derived results.
* Reliability: With regularly conducted research, the researcher involved expects similar results every time. Your design should indicate how to form research questions to ensure the standard of results. You’ll only be able to reach the expected results if your design is reliable.
* Validity: There are multiple measuring tools available. However, the only correct measuring tools are those which help a researcher in gauging results according to the objective of the research. The questionnaire developed from this design will then be valid.
* Generalization: The outcome of your design should apply to a population and not just a restricted sample. A generalized design implies that your survey can be conducted on any part of a population with similar accuracy.
* The above factors affect the way respondents answer the research questions and so all the above characteristics should be balanced in a good design.
* A researcher must have a clear understanding of the various types of research design to select which model to implement for a study. Like research itself, the design of your study can be broadly classified into quantitative and qualitative.
* Qualitative: Qualitative research determines relationships between collected data and observations based on mathematical calculations. Theories related to a naturally existing phenomenon can be proved or disproved using statistical methods. Researchers rely on qualitative research methods that conclude “why” a particular theory exists along with “what” respondents have to say about it.
* Quantitative: Quantitative research is for cases where statistical conclusions to collect actionable insights are essential. Numbers provide a better perspective to make critical business decisions. Quantitative research methods are necessary for the growth of any organization. Insights drawn from hard numerical data and analysis prove to be highly effective when making decisions related to the future of the business.

**Research design into five categories:**

1. Descriptive research design: In a descriptive design, a researcher is solely interested in describing the situation or case under their research study. It is a theory-based design method which is created by gathering, analyzing, and presenting collected data. This allows a researcher to provide insights into the why and how of research. Descriptive design helps others better understand the need for the research. If the problem statement is not clear, you can conduct exploratory research.

2. Experimental research design: Experimental research establishes a relationship between the cause and effect of a situation. It is a causal design where one observes the impact caused by the independent variable on the dependent variable. For example, one monitors the influence of an independent variable such as a price on a dependent variable such as customer satisfaction or brand loyalty. It is a highly practical research method as it contributes to solving a problem at hand.

The independent variables are manipulated to monitor the change it has on the dependent variable. It is often used in social sciences to observe human behavior by analyzing two groups. Researchers can have participants change their actions and study how the people around them react to gain a better understanding of social psychology.

3. Correlational research design: Correlational research is a non-experimental research technique that helps researchers establish a relationship between two closely connected variables. This type of research requires two different groups. There is no assumption while evaluating a relationship between two different variables, and statistical analysis techniques calculate the relationship between them.

A correlation coefficient determines the correlation between two variables, whose value ranges between -1 and +1. If the correlation coefficient is towards +1, it indicates a positive relationship between the variables and -1 means a negative relationship between the two variables.

4. Diagnostic research design: In diagnostic design, the researcher is looking to evaluate the underlying cause of a specific topic or phenomenon. This method helps one learn more about the factors that create troublesome situations.

This design has three parts of the research:

* Inception of the issue
* Diagnosis of the issue
* Solution for the issue

5. Explanatory research design: Explanatory design uses a researcher’s ideas and thoughts on a subject to further explore their theories. The research explains unexplored aspects of a subject and details about what, how, and why of research questions.

**Secondary Data**

Secondary data is the data that has already been collected through primary sources and made readily available for researchers to use for their own research. It is a type of data that has already been collected in the past.

A researcher may have collected the data for a particular project, then made it available to be used by another researcher. The data may also have been collected for general use with no specific research purpose like in the case of the national census.

Data classified as secondary for particular research may be said to be primary for another research. This is the case when data is being reused, making it primary data for the first research and secondary data for the second research it is being used for.

* Sources of Secondary Data

Sources of secondary data include books, personal sources, journals, newspapers, websitess, government records etc. Secondary data are known to be readily available compared to that of primary data. It requires very little research and needs for manpower to use these sources.

With the advent of electronic media and the internet, secondary data sources have become more easily accessible. Some of these sources are highlighted below.

* Books

Books are one of the most traditional ways of collecting data. Today, there are books available for all topics you can think of.  When carrying out research, all you have to do is look for a book on the topic being researched, then select from the available repository of books in that area. Books, when carefully chosen are an authentic source of authentic data and can be useful in preparing a literature review.

* Published Sources

There are a variety of published sources available for different research topics. The authenticity of the data generated from these sources depends majorly on the writer and publishing company.

Published sources may be printed or electronic as the case may be. They may be paid or free depending on the writer and publishing company's decision.

* Unpublished Personal Sources

This may not be readily available and easily accessible compared to the published sources. They only become accessible if the researcher shares with another researcher who is not allowed to share it with a third party.

For example, the product management team of an organization may need data on customer feedback to assess what customers think about their product and improvement suggestions. They will need to collect the data from the customer service department, which primarily collected the data to improve customer service.

* Journal

Journals are gradually becoming more important than books these days when data collection is concerned. This is because journals are updated regularly with new publications on a periodic basis, therefore giving to date information.

Also, journals are usually more specific when it comes to research. For example, we can have a journal on, "Secondary data collection for quantitative data" while a book will simply be titled, "Secondary data collection".

* Newspapers

In most cases, the information passed through a newspaper is usually very reliable. Hence, making it one of the most authentic sources of collecting secondary data.

The kind of data commonly shared in newspapers is usually more political, economic, and educational than scientific. Therefore, newspapers may not be the best source for scientific data collection.

* Websites

The information shared on websites is mostly not regulated and as such may not be trusted compared to other sources. However, there are some regulated websites that only share authentic data and can be trusted by researchers.

Most of these websites are usually government websites or private organizations that are paid, data collectors.

* Blogs

Blogs are one of the most common online sources for data and may even be less authentic than websites. These days, practically everyone owns a blog, and a lot of people use these blogs to drive traffic to their website or make money through paid ads.

Therefore, they cannot always be trusted. For example, a blogger may write good things about a product because he or she was paid to do so by the manufacturer even though these things are not true.

* Diaries

They are personal records and as such rarely used for data collection by researchers. Also, diaries are usually personal, except for these days when people now share public diaries containing specific events in their life.

A common example of this is Anne Frank's diary which contained an accurate record of the Nazi wars.

* Government Records

Government records are a very important and authentic source of secondary data. They contain information useful in marketing, management, humanities, and social science research.

Some of these records include; census data, health records, education institute records, etc. They are usually collected to aid proper planning, allocation of funds, and prioritizing of projects.

* Podcasts

Podcasts are gradually becoming very common these days, and a lot of people listen to them as an alternative to radio. They are more or less like online radio stations and are generating increasing popularity.

Information is usually shared during podcasts, and listeners can use it as a source of data collection.

Exploratory research: Definition

Exploratory research is defined as a research used to investigate a problem which is not clearly defined. It is conducted to have a better understanding of the existing problem, but will not provide conclusive results. For such a research, a researcher starts with a general idea and uses this research as a medium to identify issues, that can be the focus for future research. An important aspect here is that the researcher should be willing to change his/her direction subject to the revelation of new data or insight. Such a research is usually carried out when the problem is at a preliminary stage. It is often referred to as grounded theory approach or interpretive research as it used to answer questions like what, why and how.

For example: Consider a scenario where a juice bar owner feels that increasing the variety of juices will enable increase in customers, however he is not sure and needs more information. The owner intends to carry out an exploratory research to find out and hence decides to do an exploratory research to find out if expanding their juices selection will enable him to get more customers of if there is a better idea.

**Types and methodologies of Exploratory research**

While it may sound a little difficult to research something that has very little information about it, there are several methods which can help a researcher figure out the best research design, data collection methods and choice of subjects. There are two ways in which research can be conducted namely primary and secondary.. Under these two types, there are multiple methods which can used by a researcher. The data gathered from these research can be qualitative or quantitative. Some of the most widely used research designs include the following:

**Primary research methods**

Primary research is information gathered directly from the subject.  It can be through a group of people or even an individual. Such a research can be carried out directly by the researcher himself or can employ a third party to conduct it on their behalf. Primary research is specifically carried out to explore a certain problem which requires an in-depth study.

Surveys/polls: Surveys/polls are used to gather information from a predefined group of respondents. It is one of the most important quantitative method. Various types of surveys  or polls can be used to explore opinions, trends, etc. With the advancement in technology, surveys can now be sent online and can be very easy to access. For instance, use of a survey app through tablets, laptops or even mobile phones. This information is also available to the researcher in real time as well. Nowadays, most organizations offer short length surveys and rewards to respondents, in order to achieve higher response rates.

For example: A survey is sent to a given set of audience to understand their opinions about the size of mobile phones when they purchase one. Based on such information organization can dig deeper into the topic and make business related decision.

Interviews: While you may get a lot of information from public sources, but sometimes an in person interview can give in-depth information on the subject being studied. Such a research is a qualitative research method. An interview with a subject matter expert can give you meaningful insights that a generalized public source won’t be able to provide. Interviews are carried out in person or on telephone which have open-ended questions to get meaningful information about the topic.

For example: An interview with an employee can give you more insights to find out the degree of job satisfaction, or an interview with a subject matter expert of quantum theory can give you in-depth information on that topic.

Focus groups: Focus group is yet another widely used method in exploratory research. In such a method a group of people is chosen and are allowed to express their insights on the topic that is being studied. Although, it is important to make sure that while choosing the individuals in a focus group they should have a common background and have comparable experiences.

For example: A focus group helps a research identify the opinions of consumers if they were to buy a phone. Such a research can help the researcher understand what the consumer value while buying a phone. It may be screen size, brand value or even the dimensions. Based on which the organization can understand what are consumer buying attitudes, consumer opinions, etc.

Observations: Observation research can be qualitative observation or quantitative observation. Such a research is done to observe a person and draw the finding from their reaction to certain parameters. In such a research, there is no direct interaction with the subject.

For example: An FMCG company wants to know how it’s consumer react to the new shape of their product. The researcher observes the customers first reaction and collects the data, which is then used to draw inferences from the collective information.

**Secondary research methods**

Secondary research is gathering information from previously published primary research. In such a research you gather information from sources likes case studies, magazines, newspapers, books, etc.

Online research: In today’s world, this is one of the fastest way to gather information on any topic. A lot of data is readily available on the internet and the researcher can download it whenever he needs it. An important aspect to be noted for such a research is the genuineness and authenticity of the source websites that the researcher is gathering the information from.

For example: A researcher needs to find out what is the percentage of people that prefer a specific brand phone. The researcher just enters the information he needs in a search engine and gets multiple links with related information and statistics.

Literature research: Literature research is one of the most inexpensive method used for discovering a hypothesis. There is tremendous amount of information available in libraries, online sources, or even commercial databases. Sources can include newspapers, magazines, books from library, documents from government agencies, specific topic related articles, literature, Annual reports, published statistics from research organizations and so on.

However, a few things have to be kept in mind while researching from these sources. Government agencies have authentic information but sometimes may come with a nominal cost. Also, research from educational institutions is generally overlooked, but in fact educational institutions carry out more number of research than any other entities.

Furthermore, commercial sources provide information on major topics like political agendas, demographics, financial information, market trends and information, etc.

For example: A company has low sales. It can be easily explored from available statistics and market literature if the problem is market related or organization related or if the topic being studied is regarding financial situation of the country, then research data can be accessed through government documents or commercial sources.

Case study research: Case study research can help a researcher with finding more information through carefully analyzing existing cases which have gone through a similar problem. Such analysis are very important and critical especially in today’s business world. The researcher just needs to make sure he analyses the case carefully in regards to all the[variables](https://www.questionpro.com/blog/nominal-ordinal-interval-ratio/) present in the previous case against his own case. It is very commonly used by business organizations or social sciences sector or even in the health sector.

For example: A particular orthopedic surgeon has the highest success rate for performing knee surgeries. A lot of other hospitals or doctors have taken up this case to understand and benchmark the method in which this surgeon does the procedure to increase their success rate.

**Exploratory research: Steps to conduct a research**

* Identify the problem: A researcher identifies the subject of research and the problem is addressed by carrying out multiple methods to answer the questions.
* Create the hypothesis: When the researcher has found out that there are no prior studies and the problem is not precisely resolved, the researcher will create a hypothesis based on the questions obtained while identifying the problem.
* Further research: Once the data has been obtained, the researcher will continue his study through descriptive investigation. Qualitative methods are used to further study the subject in detail and find out if the information is true or not.

**Characteristics of Exploratory research**

* They are not structured studies
* It is usually low cost, interactive and open ended.
* It will enable a researcher answer questions like what is the problem? What is the purpose of the study? And what topics could be studied?
* To carry out exploratory research, generally there is no prior research done or the existing ones do not answer the problem precisely enough.
* It is a time consuming research and it needs patience and has risks associated with it.
* The researcher will have to go through all the information available for the particular study he is doing.
* There are no set of rules to carry out the research per se, as they are flexible, broad and scattered.
* The research needs to have importance or value. If the problem is not important in the industry the research carried out is ineffective.
* The research should also have a few theories which can support its findings as that will make it easier for the researcher to assess it and move ahead in his study
* Such a research usually produces qualitative data, however in certain cases quantitative data can be generalized for a larger sample through use of surveys and experiments.

**Advantages of Exploratory research**

* The researcher has a lot of flexibility and can adapt to changes as the research progresses.
* It is usually low cost.
* It helps lay the foundation of a research, which can lead to further research.
* It enables the researcher understand at an early stage, if the topic is worth investing the time and resources  and if it is worth pursuing.
* It can assist other researchers to find out possible causes for the problem, which can be further studied in detail to find out, which of them is the most likely cause for the problem.

**Disadvantages of Exploratory research**

* Even though it can point you in the right direction towards what is the answer, it is usually inconclusive.
* The main disadvantage of exploratory research is that they provide qualitative data. Interpretation of such information can be judgmental and biased.
* Most of the times, exploratory research involves a smaller sample, hence the results cannot be accurately interpreted for a generalized population.
* Many a times, if the data is being collected through secondary research, then there is a chance of that data being old and is not updated.

**Importance of Exploratory research**

Exploratory research is carried out when a topic needs to be understood in depth, especially if it hasn’t been done before. The goal of such a research is to explore the problem and around it and not actually derive a conclusion from it. Such kind of research will enable a researcher to  set a strong foundation for exploring his ideas, choosing the right research design and finding variables that actually are important for the analysis. Most importantly, such a research can help organizations or researchers save up a lot of time and resources, as it will enable the researcher to know if it worth pursuing.

**Qualitative research**

Qualitative research involves collecting and analyzing non-numerical data (e.g., text, video, or audio) to understand concepts, opinions, or experiences. It can be used to gather in-depth insights into a problem or generate new ideas for research.

Qualitative research is the opposite of [quantitative research](https://www.scribbr.com/methodology/quantitative-research/), which involves collecting and analyzing numerical data for statistical analysis.

Qualitative research is commonly used in the humanities and social sciences, in subjects such as anthropology, sociology, education, health sciences, history, etc.

**Qualitative research question examples**

* How does social media shape body image in teenagers?
* How do children and adults interpret healthy eating in the UK?
* What factors influence employee retention in a large organization?
* How is anxiety experienced around the world?
* How can teachers integrate social issues into science curriculums?

**Approaches to qualitative research**

Qualitative research is used to understand how people experience the world. While there are many approaches to qualitative research, they tend to be flexible and focus on retaining rich meaning when interpreting data.

| **Qualitative research approaches** | |
| --- | --- |
| **Approach** | **What does it involve?** |
| **Grounded theory** | Researchers collect rich data on a topic of interest and develop theories inductively. |
| **Ethnography** | Researchers immerse themselves in groups or organizations to understand their cultures. |
| **Action research** | Researchers and participants collaboratively link theory to practice to drive social change. |
| **Phenomenological research** | Researchers investigate a phenomenon or event by describing and interpreting participants’ lived experiences. |
| **Narrative research** | Researchers examine how stories are told to understand how participants perceive and make sense of their experiences. |

Common approaches include grounded theory, ethnography, action research, phenomenological research, and narrative research. They share some similarities, but emphasize different aims and perspectives.

**Qualitative research methods**

Each of the research approaches involve using one or more data collection methods. These are some of the most common qualitative methods:

* Observations: recording what you have seen, heard, or encountered in detailed field notes.
* Interviews: personally asking people questions in one-on-one conversations.
* Focus groups: asking questions and generating discussion among a group of people.
* Surveys: distributing questionnaires with open-ended questions.

Secondary research: collecting existing data in the form of texts, images, audio or video recordings, etc.

**Research example**

To research the culture of a large tech company, you decide to take an ethnographic approach. You work at the company for several months and use various methods to gather data:

* You take field notes with observations and reflect on your own experiences of the company culture.
* You distribute open-ended surveys to employees across all the company’s offices by email to find out if the culture varies across locations.
* You conduct in-depth interviews with employees in your office to learn about their experiences and perspectives in greater detail.

Qualitative researchers often consider themselves “instruments” in research because all observations, interpretations and analyses are filtered through their own personal lens.

For this reason, when writing up your [methodology](https://www.scribbr.com/dissertation/methodology/) for qualitative research, it’s important to reflect on your approach and to thoroughly explain the choices you made in collecting and analyzing the data.

**Observation studies**

Watch what I do, not what I say, could be a good lead-in for Observational Research. People in focus groups or in surveys may say one thing such as, “I always buy green apples” but perhaps when observed they buy the less costly apples, or the freshest looking apples. Observational research allows the researcher to see what their subjects really do when confronted with various choices or situations.

The term refers to the study of non-experimental situations in which behavior is observed and recorded. It could also be termed, “what’s going on or what’s she doing.” The research is classified as non-experimental because the variables are neither controlled nor manipulated. The results are both qualitative and quantitative in nature.

**THE DIFFERENT TYPES OF OBSERVATIONAL RESEARCH**

There are different types of observational research and they have their strengths and weaknesses. The technique is used in marketing and the social sciences. As stated earlier variables are not created or manipulated. In natural observational research the researcher is simply recording what they are seeing in front of them. What their subjects are doing and how they are interacting. This could be observing animals in the wild from behind blind, shoppers in a grocery store, students in a classroom or soldiers on the battlefield.  Another type is participant observation where the researcher is involved and interacting with the subjects by asking questions (usually unstructured) taking notes, photographs, drawings and other record-keeping tasks. Case studies and archival research are two other forms of observational research. Case studies usually involve a more in-depth study of an individual, group or event and can be natural or participatory. Archival is the observation of previous data that has been collected and analyzed often for another purpose.

STRENGTHS AND WEAKNESSES OF OBSERVATIONAL RESEARCH

The strengths of the observational method in market research is that it is less hypothetical since it captures what people are purchasing as opposed to what they say they will do or have done. It also allows the researchers to observe people’s behavior when confronted with actual displays, price choices rather than predict their behaviour based on survey or focus group answers. Some of the weaknesses are human bias since the observer is a human with their own bias. Also, one cannot know what the subject is thinking, their mid-set or decision-making process. For example, did they choose something because they were just in a hurry, did they actually see that display, was cost not a factor because they are very wealthy. Desired demographics may be difficult to achieve.

Experimental research

Experimental research is research conducted with a scientific approach using two sets of variables. The first set acts as a constant, which you use to measure the differences of the second set. Quantitative research methods, for example, are experimental.

If you don’t have enough data to support your decisions, you must first determine the facts. Experimental research gathers the data necessary to help you make better decisions.

Any research conducted under scientifically acceptable conditions uses experimental methods. The success of experimental studies hinges on researchers confirming the change of a variable is based solely on the manipulation of the constant variable. The research should establish a notable cause and effect.

You can conduct experimental research in the following situations:

* Time is a vital factor in establishing a relationship between cause and effect.
* Invariable behavior between cause and effect.
* You wish to understand the importance of the cause and effect.

**Learn about: Quantitative Market Research**

Types of experimental research design

The classic experimental design definition is, “The methods used to collect data in experimental studies.”

There are three primary types of experimental design:

* Pre-experimental research design
* True experimental research design
* Quasi-experimental research design

The way you classify research subjects, based on conditions or groups, determines the type of design.

1. Pre-experimental research design: A group, or various groups, are kept under observation after implementing factors of cause and effect. You’ll conduct this research to understand whether further investigation is necessary for these particular groups.

You can break down pre-experimental research further in three types:

* One-shot Case Study Research Design
* One-group Pretest-posttest Research Design
* Static-group Comparison

2. True experimental research design: True experimental research relies on statistical analysis to prove or disprove a hypothesis, making it the most accurate form of research. Of the types of experimental design, only true design can establish a cause-effect relationship within a group. In a true experiment, three factors need to be satisfied:

* There is a Control Group, which won’t be subject to changes, and an Experimental Group, which will experience the changed variables.
* A variable which can be manipulated by the researcher
* Random distribution

This experimental research method commonly occurs in the physical sciences.

3. Quasi-experimental research design: The word “Quasi” indicates similarity. A quasi-experimental design is similar to experimental, but it is not the same. The difference between the two is the assignment of a control group. In this research, an independent variable is manipulated, but the participants of a group are not randomly assigned. Quasi-research is used in field settings where random assignment is either irrelevant or not required.

**Advantages of experimental research**

* Researchers have a stronger hold over variables to obtain desired results.
* The subject or industry does not impact the effectiveness of experimental research. Any industry can implement it for research purposes.
* The results are specific.
* After analyzing the results, you can apply your findings to similar ideas or situations.
* You can identify the cause and effect of a hypothesis. Researchers can further analyze this relationship to determine more in-depth ideas.
* Experimental research makes an ideal starting point. The data you collect is a foundation on which to build more ideas and conduct more research.

**Surveys Research**

Survey Research is defined as the process of conducting research using surveys that researchers send to survey respondents. The data collected from surveys is then statistically analyzed to draw meaningful research conclusions.  
  
In the 21st century, every organization’s eager to understand what their customers think about their products or services and make better business decisions. Researchers can conduct research in multiple ways, but surveys are proven to be one of the most effective and trustworthy research methods. An online survey is a method for extracting information about a significant business matter from an individual or a group of individuals. It consists of structured survey questions that motivate the participants to respond,  
  
Creditable survey research can give these businesses access to a vast information bank. Organizations in media, other companies, and even governments rely on survey research to obtain accurate data.  
  
The traditional definition of survey research is a quantitative method for collecting information from a pool of respondents by asking multiple survey questions. This research type includes the recruitment of individuals, collection, and analysis of data. It’s useful for researchers who aim at communicating new features or trends to their respondents.  
  
Generally, it’s the primary step towards obtaining quick information about mainstream topics and conducting more rigorous and detailed quantitative research methods like surveys/polls or qualitative research methods like focus groups/on-call interviews can follow. There are many situations where researchers can conduct research using a blend of both qualitative and quantitative strategies.

Survey research methods

Survey research methods can be derived based on two critical factors: Survey research tool and time involved to conduct research.  
  
There are three main survey research methods, divided based on the medium of conducting survey research:

* Online/ Email: Online survey research is one of the most popular survey research methods today. The cost involved in online survey research is extremely minimal, and the responses gathered are highly accurate.
* Phone: Survey research conducted over the telephone (CATI) can be useful in collecting data from a more extensive section of the target population. There are chances that the money invested in phone surveys will be higher than other mediums, and the time required will be higher.
* Face-to-face: Researchers conduct face-to-face in-depth interviews in situations where there is a complicated problem to solve. The response rate for this method is the highest, but it can be costly.

Further, based on the time taken, survey research can be classified into two methods:

* Longitudinal survey research: Longitudinal survey research involves conducting survey research over a continuum of time and spread across years and decades. The data collected using this survey research method from one time period to another is qualitative or quantitative. Respondent behavior, preferences, attitudes are continuously observed over time to analyze reasons for a change in behavior or preferences. For example, suppose a researcher intends to learn about the eating habits of teenagers. In that case, he/she will follow a sample of teenagers over a considerable period to ensure that the collected information is reliable. Often, cross-sectional survey research follows a longitudinal study.
* Cross-sectional survey research: Researchers conduct a cross-sectional survey to collect insights from a target audience at a particular time interval. This survey research method is implemented in various sectors such as retail, education, healthcare, SME businesses, etc. Cross-sectional survey research can either be descriptive or analytical. It is quick and helps researchers collected information in a brief period. Researchers rely on cross-sectional survey research method in situations where descriptive analysis of a subject is required.

Survey research also is bifurcated according to the sampling methods used to form samples for research: Probability and Non-probability sampling. Every individual of a population should be considered equally to be a part of the survey research sample. Probability sampling is a sampling method in which the researcher chooses the elements based on probability theory. The are various probability research methods such as simple random sampling, systematic sampling, cluster sampling, stratified random sampling, etc. Non-probability sampling is a sampling method where the researcher uses his/her knowledge and experience to form samples. The various non-probability sampling techniques are convenience sampling, snowball sampling, consecutive sampling, judgemental sampling, and quota sampling.

Process of implementing survey research methods:

* Decide survey questions: Brainstorm and put together valid survey questions that are grammatically and logically appropriate. Understanding the objective and expected outcomes of the survey helps a lot. There are many surveys where details of responses are not as important as gaining insights about what customers prefer from the provided options. In such situations, a researcher can include multiple-choice questions or closed-ended questions. Whereas, if researchers need to obtain details about specific issues, they can consist of open-ended questions to the questionnaire. Ideally, the surveys should include a smart balance of open-ended and closed-ended questions. Use survey questions like Likert Scale, Semantic Scale, Net Promoter Score question, etc. to avoid fence-sitting.
* Finalize a target audience: Send out relevant surveys as per the target audience and filter out irrelevant questions as per the requirement. The survey research will be instrumental in case the target population decides a sample. This way, results can be according to the desired market and be generalized to the entire population
* Send out surveys via decided mediums: Distribute the surveys to the target audience and patiently wait for the feedback and comments- this is the most crucial step of the survey research. The survey needs to be scheduled, keeping in mind the nature of the target audience and its regions. Surveys can be conducted via email, embedded in a website, shared via social media, etc. to gain maximum responses.
* Analyze survey results: Analyze the feedback in real-time and identify patterns in the responses which might lead to a much-needed breakthrough for your organization. GAP, TURF, Conjoint analysis, Cross tabulation, and many such survey feedback analysis methods can be used to spot and shed light on respondent behavior. Researchers can use the results to implement corrective measures to improve customer/employee satisfaction.

**Reasons to conduct survey research**

The most crucial and integral reason for conducting market research using surveys is that you can collect answers regarding specific, essential questions. You can ask these questions in multiple formats as per the target audience and the intent of the survey. Before designing a study, every organization must figure out the objective of carrying this out so that the study can be structured, planned, and executed to perfection.

Questions that need to be on your mind while designing a survey are:

* What is the primary aim of conducting the survey?
* How do you plan to utilize the collected survey data?
* What type of decisions you plan to take based on the points mentioned above.

There are three critical reasons why an organization must conduct survey research.

* Understand respondent behavior to get solutions to your queries: If you’ve carefully curated a survey, the respondents will provide insights about what they like about your organization as well as suggestions for improvement. To motivate them to respond, you must be very vocal about how secure their responses will be and how you will utilize the answers. This will push them to be 100% honest about their feedback, opinions, and comments. Online surveys or mobile surveys have proved their privacy, and due to this, more and more respondents feel free to put forth their feedback through these mediums.
* Present a medium for discussion: A survey can be the perfect platform for respondents to provide criticism or applause for an organization. Important topics like product quality or quality of customer service etc. can be put on the table for discussion. A way you can do it is by including open-ended questions where the respondents can write their thoughts. This will make it easy for you to correlate your survey to what you intend to do with your product or service.
* Strategy for never-ending improvements: An organization can establish the target audience's attributes from the pilot phase of survey research. Researchers can use the criticism and feedback received from this survey to improve the product/services. Once the company successfully makes the improvements, it can send out another survey to measure the change in feedback keeping the pilot phase the benchmark. By doing this activity, the organization can track what was effectively improved and what still needs improvement.

**Survey research scales**

There are four main scales for measurement of variables:

* Nominal Scale: A nominal scale associates numbers with variables for mere naming or labeling, and the numbers usually have no other relevance. It is the most basic of the four levels of measurement.
* Ordinal Scale: The ordinal scale has an innate order within the variables along with labels. It establishes the rank between the variables of a scale but not the difference value between the variables.
* Interval Scale: The interval scale is a step ahead in comparison to the other two scales. Along with establishing a rank and name of variables, the scale also makes known the difference between the two variables. The only drawback is that there is no fixed start point of the scale, i.e., the actual zero value is absent.
* Ratio Scale: The ratio scale is the most advanced measurement scale, which has variables that are labeled in order and have a calculated difference between variables. In addition to what interval scale orders, this scale has a fixed starting point, i.e., the actual zero value is present.

**Benefits of survey research**

In case survey research is used for all the right purposes and is implemented properly, marketers can benefit by gaining useful, trustworthy data that they can use to better the ROI of the organization.

Other benefits of survey research are:

* Minimum investment: Mobile surveys and online surveys have minimal finance invested per respondent. Even with the gifts and other incentives provided to the people who participate in the study, online surveys are extremely economical compared to the paper-based surveys.
* Versatile sources for response collection: You can conduct surveys via various mediums like online and mobile surveys. You can further classify them into qualitative mediums like focus groups, interviews, and quantitative mediums like customer-centric surveys. Due to the offline survey response collection option, researchers can conduct surveys in remote areas with limited internet connectivity. This can make data collection and analysis more convenient and extensive.
* Reliable for respondents: Surveys are extremely secure as the respondent details and responses are kept safeguarded. This anonymity makes respondents answer the survey questions candidly and with absolute honesty. An organization seeking to receive explicit responses for its survey research must mention that it will be confidential.

**Survey research design**

Researchers implement a survey research design in cases where there is a limited cost involved, and there is a need to access details easily. This method is often used by small and large organizations to understand and analyze new trends, market demands, and opinions. Collecting information through a tactfully designed survey research can be much more effective and productive than a casually conducted survey.

There are five stages of survey research design:

* Decide an aim of the research: There can be multiple reasons for a researcher to conduct a survey, but they need to decide a purpose for research. This is the primary stage of survey research as it can mold the entire path of a survey, impacting its results.
* Filter the sample from target population: Who to target? is an essential question that a researcher should answer and keep in mind while conducting research. The precision of the results is driven by who the members of a sample are and how useful their opinions are. The quality of respondents in a sample is essential for the results received for research and not the quantity. If a researcher seeks to understand whether a product feature will work well with their target market, he/she can conduct survey research with a group of market experts for that product or technology.
* Zero-in on a survey method: Many qualitative and quantitative research methods can be discussed and decided. Focus groups, online interviews, surveys, polls, questionnaires, etc. can be carried out with the pre-decided sample of individuals.
* Design the questionnaire: What will the content of the survey be? A researcher is required to answer this question to be able to design it effectively. What will the content of the cover letter be? Or what are the survey questions of this questionnaire? Understand the target market thoroughly to create a questionnaire that targets a sample to gain insights about a survey research topic.
* Send out surveys and analyze results: Once the researcher decides on which questions to include in a study, they can send it across to the selected sample. Answers obtained for this survey can be analyzed to make product-related or marketing-related decisions.