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**Explain the various research methods and how they can be applied**

**The major Types of research methods include:**

**1 Scientific method**

**2 Quantitative method**

**3 Qualitative method**

**Below are some other research methods:**

- Experiments**
- Surveys**
- Questionnaires**
- Interviews**
- Case studies. ...**
- Participant and non-participant observation**
- Observational trials**
- Studies using the Delphi method**

## Scientific method and its applications

This is a method of procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses. It involves careful observation, applying rigorous skepticism about what is observed, given that cognitive assumptions can distort how one interprets the observation. It involves formulating hypotheses, via induction, based on such observations; experimental and measurement-based testing of deductions drawn from the hypotheses; and refinement (or elimination) of the hypotheses based on the experimental findings. These are principles of the scientific method, as distinguished from a definitive series of steps applicable to all scientific enterprises.

Though diverse models for the scientific method are available, there is in general a continuous process that includes observations about the natural world. People are naturally inquisitive, so they often come up with questions about things they see or hear, and they often develop ideas or hypotheses about why things are the way they are. The best hypotheses lead to predictions that can be tested in various ways. The most conclusive testing of hypotheses comes from reasoning based on carefully controlled experimental data. Depending on how well additional tests match the predictions, the original hypothesis may require refinement, alteration, expansion or even rejection. If a hypothesis becomes very well supported, a general theory may be developed.

Scientific method in drug discovery has centered on generating a hypothesis (target identification) and hypothesis testing (target validation). Traditionally, both processes were performed using animal data, with the basic pharmacologist being pivotal. Many therapeutic areas that rely on human data to validate targets as animal models are poorly predictive. Failures of molecules in Phase III for poor efficacy raise questions about target identification and validation. The clinical pharmacologist, working with the basic pharmacologist can play a major role in aiding target identification and by developing trial designs using small patient populations, mitigating the need for full Phase III studies to test the hypothesis. Technologies such as genomics, non-invasive imaging and proteomics are in the forefront of improving target identification and in some cases in providing paradigms for target validation in man.

Hypothesis generation and validation in drug discovery is changing. Human data is becoming essential in identifying and validating novel targets. The roles of the basic and clinical pharmacologist are becoming more blurred. Technological innovation is an essential enabler for future success.

### Basic Postulates of Scientific Method

The scientific method is, thus, based on certain basic postulates which can be stated as under:

It relies on empirical evidence;

It utilizes relevant concepts;

It is committed to only objective considerations;

It presupposes ethical neutrality, i.e., it aims at nothing but making only adequate and correct statements about population objects;

It results into probabilistic predictions;

Its methodology is made known to all concerned for critical scrutiny are for use in testing the conclusions through replication;

It aims at formulating most general axioms or what can be termed as scientific theories.

Thus, “the scientific method encourages a rigorous, impersonal mode of procedure dictated by the demands of logic and objective procedure.” Accordingly, scientific method implies an objective, logical and systematic method, i.e., a method free from personal bias or prejudice, a method to ascertain demonstrable qualities of a phenomenon capable of being verified, a method wherein the researcher is guided by the rules of logical reasoning, a method wherein the investigation proceeds inane orderly manner and a method that implies internal consistency.

### **Quantitative method and its application**

Quantitative research is defined as a systematic investigation of phenomena by gathering quantifiable data and performing statistical, mathematical, or computational techniques. Quantitative research collects information from existing

and potential customers using sampling methods and sending out online surveys, online polls, questionnaires, etc., the results of which can be depicted in the form of numerical. After careful understanding of these numbers to predict the future of a product or service and make changes accordingly.

An example of quantitative research is the survey conducted to understand the amount of time a doctor takes to tend to a patient when the patient walks into the hospital. A patient satisfaction survey template can be administered to ask questions like how much time did a doctor take to see a patient, how often does a patient walk into a hospital, and other such questions.

Quantitative research is mostly conducted in the social sciences using the statistical methods used above to collect quantitative data from the research study. In this research method, researchers and statisticians deploy mathematical frameworks and theories that pertain to the quantity under question.

Quantitative research templates are objective, elaborate, and many times, even investigational. The results achieved from this research method are logical, statistical, and unbiased. Data collection happened using a structured method and conducted on larger samples that represent the entire population.

## **Quantitative Research Methods**

As mentioned above, quantitative research is data oriented. There are two methods to conduct quantitative research. They are:

### **Primary Quantitative Research Methods**

There are four different types of quantitative research methods:

Primary quantitative research is the most widely used method of conducting market research. The distinct feature of primary research is that the researcher focuses on collecting data directly rather than depending on data collected from previously done research. Primary quantitative research can be broken down into three further distinctive tracks, as well as the process flow. They are:

#### **A. Techniques and Types of Studies**

There are multiple types of primary quantitative research. They can be distinguished into the four following distinctive methods, which are:

Survey Research:

Survey Research is the most fundamental tool for all quantitative research methodologies and studies. Surveys used to ask questions to a sample of respondents, using various types such as online polls, online surveys, paper questionnaires, web-intercept surveys, etc. Every small and big organization intends to understand what their customers think about their products and services, how well are new features faring in the market and other such details.

By conducting survey research, an organization can ask multiple survey questions, collect data from a pool of customers, and analyze this collected data to produce numerical results. It is the first step towards collecting data for any research.

Learn More: [300+ Sample Survey Research Templates](#)

This type of research can be conducted with a specific target audience group and also can be conducted across multiple groups along with comparative analysis. A prerequisite for this type of research is that the sample of respondents must have randomly selected members. This way, a researcher can easily maintain the accuracy of the obtained results as a huge variety of respondents will be addressed using random selection. Traditionally, survey research was conducted face-to-face or via phone calls but with the progress made by online mediums such as email or social media, survey research has spread to online mediums as well.

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There are two types of surveys, either of which can be chosen based on the time in-hand and the kind of data required:

**Cross-sectional surveys:** Cross-sectional surveys are observational surveys conducted in situations where the researcher intends to collect data from a sample of the target population at a given point in time. Researchers can evaluate various variables at a particular time. Data gathered using this type of survey is from

people who depict similarity in all variables except the variables which is considered for research. Throughout the survey, this one variable will stay constant.

Cross-sectional surveys are popular with retail, SMEs, healthcare industries. Information is garnered without modifying any parameters in the variable ecosystem.

Using cross-sectional survey research method, multiple samples can be analyzed and compared.

Multiple variables can be evaluated using this type of survey research.

The only disadvantage of cross-sectional surveys is that the cause-effect relationship of variables cannot be established as it usually evaluates variables at a particular time and not across a continuous time frame.

**Longitudinal surveys:** Longitudinal surveys are also observational surveys but, unlike cross-sectional surveys, longitudinal surveys are conducted across various time durations to observe a change in respondent behavior and thought processes. This time can be days, months, years, or even decades. For instance, a researcher planning to analyze the change in buying habits of teenagers over 5 years will conduct longitudinal surveys.

In cross-sectional surveys, the same variables were evaluated at a given point in time, and in longitudinal surveys, different variables can be analyzed at different intervals of time.

Longitudinal surveys are extensively used in the field of medicine and applied sciences. Apart from these two fields, they are also used to observe a change in the market trend, analyze customer satisfaction, or gain feedback on products/services.

In situations where the sequence of events is highly essential, longitudinal surveys are used.

Researchers say that when there are research subjects that need to be thoroughly inspected before concluding, they rely on longitudinal surveys.

**Correlational Research:**

A comparison between two entities is invariable. Correlation research is conducted to establish a relationship between two closely-knit entities and how one impacts the other and what are the changes that are eventually observed. This research method is carried out to give value to naturally occurring relationships, and a minimum of two different groups are required to conduct this quantitative research method successfully. Without assuming various aspects, a relationship between two groups or entities must be established.

Researchers use this quantitative research method to correlate two or more variables using mathematical analysis methods. Patterns, relationships, and trends between variables are concluded as they exist in their original set up. The impact of one of these variables on the other is observed along with how it changes the relationship between the two variables. Researchers tend to manipulate one of the variables to attain the desired results.

Ideally, it is advised not to make conclusions merely based on correlational research. This is because it is not mandatory that if two variables are in sync that they are interrelated.

Example of Correlational Research Questions:

The relationship between stress and depression.

The equation between fame and money.

The relation between activities in a third-grade class and its students.

Causal-Comparative Research:

This research method mainly depends on the factor of comparison. Also called the quasi-experimental research, this quantitative research method is used by researchers to conclude cause-effect equation between two or more variables, where one variable is dependent on the other independent variable. The independent variable is established but not manipulated, and its impact on the dependent variable is observed. These variables or groups must be formed as they exist in the natural set up. As the dependent and independent variables will always exist in a group, it is advised that the conclusions are carefully established by keeping all the factors in mind.

Causal-comparative research is not restricted to the statistical analysis of two variables but extends to analyzing how various variables or groups change under the influence of the same changes. This research is conducted irrespective of the type of relation that exists between two or more variables. Statistical analysis is used to distinctly present the outcome of obtained using this quantitative research method.

Example of Causal-Comparative Research Questions:

The impact of drugs on a teenager.

The effect of good education on a freshman.

The effect of substantial food provision in the villages of Africa.

Experimental Research: Also known as true experimentation, this research method is reliant on a theory. Experimental research, as the name suggests, is usually based on one or more theories. This theory has not been proven in the past and is merely a supposition. In experimental research, an analysis is done around proving or disproving the statement. This research method is used in natural sciences.

There can be multiple theories in experimental research. A theory is a statement that can be verified or refuted.

After establishing the statement, efforts are made to understand whether it is valid or invalid. This type of quantitative research method is mainly used in natural or social sciences as there are various statements which need to be proved right or wrong.

Traditional research methods are more effective than modern techniques.

Systematic teaching schedules help children who find it hard to cope up with the course.

It is a boon to have responsible nursing staff for ailing parents.

B. Data Collection Methodologies



The second major step in primary quantitative research is data collection. Data collection can be divided into sampling methods and data collection with the use of surveys and polls.

### Step 1: Sampling Methods

There are two main sampling methods for quantitative research: Probability and Non-probability sampling.

**Probability sampling:** A theory of probability is used to filter individuals from a population and create samples in probability sampling. Participants of a sample are chosen random selection processes. Each member of the target audience has an equal opportunity to be selected in the sample.

There are four main types of probability sampling-

**Simple random sampling:** As the name indicates, simple random sampling is nothing but a random selection of elements for a sample. This sampling technique is implemented where the target population is considerably large.

**Stratified random sampling:** In the stratified random sampling method, a large population is divided into groups (strata), and members of a sample are chosen randomly from these strata. The various segregated strata should ideally not overlap one another.

**Cluster sampling:** Cluster sampling is a probability sampling method using which the main segment is divided into clusters, usually using geographic and demographic segmentation parameters.

**Systematic sampling:** Systematic sampling is a technique where the starting point of the sample is chosen randomly, and all the other elements are chosen using a fixed interval. This interval is calculated by dividing the population size by the target sample size.

**Non-probability sampling:** Non-probability sampling is where the researcher's knowledge and experience are used to create samples. Because of the involvement of the researcher, not all the members of a target population have an equal probability of being selected to be a part of a sample.

There are five non-probability sampling models:

**Convenience Sampling:** In convenience sampling, elements of a sample are chosen only due to one prime reason: their proximity to the researcher. These samples are quick and easy to implement as there is no other parameter of selection involved.

**Consecutive Sampling:** Consecutive sampling is quite similar to convenience sampling, except for the fact that researchers can choose a single element or a group of samples and conduct research consecutively over a significant period and then perform the same process with other samples.

**Quota Sampling:** Using quota sampling, researchers can select elements using their knowledge of target traits and personalities to form strata. Members of various strata can then be chosen to be a part of the sample as per the researcher's understanding.

**Snowball Sampling:** Snowball sampling is conducted with target audiences, which are difficult to contact and get information. It is popular in cases where the target audience for research is rare to put together.

**Judgmental Sampling:** Judgmental sampling is a non-probability sampling method where samples are created only based on the researcher's experience and skill.

## Step 2: Using Surveys & Polls

Once the sample is determined, then either surveys or polls can be distributed to collect the data for quantitative research.

### Using Surveys for Primary Quantitative Research

A Survey is defined as a research method used for collecting data from a pre-defined group of respondents to gain information and insights on various topics of interest. The ease of survey distribution and the wide number of people it can be reached depending on the research time and research objective make it one of the most important aspects of conducting quantitative research.

### Fundamental Levels of Measurement – Nominal, Ordinal, Interval and Ratio Scales

There are four measurement scales that are fundamental to creating a multiple-choice question in a survey. They are nominal, ordinal, interval, and ratio measurement scales without the fundamentals of which, no multiple-choice questions can be created. Hence, it is crucial to understand these levels of measurement to be able to develop a robust survey.

### Use of Different Question Types

To conduct quantitative research, close-ended questions have to be used in a survey. They can be a mix of multiple question types including multiple-choice questions like semantic differential scale questions, rating scale questions, etc.

### Survey Distribution and Survey Data Collection

In the above, we have seen the process of building a survey along with the survey design to conduct primary quantitative research. Survey distribution to collect data is the other important aspect of the survey process. There are different ways of survey distribution. Some of the most commonly used methods are:

**Email:** Sending a survey via email is the most widely used and most effective methods of survey distribution. The response rate is high in this method because the respondents are aware of your brand. You can use the Questioner email management feature to send out and collect survey responses.

**Buy respondents:** Another effective way to distribute a survey and conduct primary quantitative research is to use a sample. Since the respondents are knowledgeable and are on the panel by their own will, responses are much higher.

**Embed survey in a website:** Embedding a survey in a website increases a high number of responses as the respondent is already in close proximity to the brand when the survey pops up.

**Social distribution:** Using social media to distribute the survey aids in collecting higher number of responses from the people that are aware of the brand.

**QR code:** QuestionPro QR codes store the URL for the survey. You can print/publish this code in magazines, on signs, business cards, or on just about any object/medium.

SMS survey: A quick and time-effective way of conducting a survey to collect a high number of responses is the SMS survey.

QuestionPro app: The QuestionPro App allows to circulate surveys quickly, and the responses can be collected both online and offline.

API integration: You can use the API integration of the QuestionPro platform for potential respondents to take your survey.

### Survey Example

An example of a survey is a short customer satisfaction (CSAT) survey template that can quickly be built and deployed to collect feedback about what the customer thinks about a brand and how satisfied and referenceable is the brand.

You can also opt to use from any of over 300+ free survey templates from the QuestionPro survey template and questionnaire repository to conduct your quantitative research.

### Using Polls for Primary Quantitative Research

Polls are a method to collect feedback with the use of close-ended questions from a sample. The most commonly used types of polls are election polls and exit polls. Both of these are used to collect data from a large sample size but using basic question types like a multiple-choice question.

### C. Data Analysis Techniques

The third aspect of primary quantitative research is data analysis. After the collection of raw data, there has to be an analysis of this data to derive statistical inferences from this research. It is important to relate the results to the objective of research and establish the statistical relevance of results.

It is important to consider aspects of research which were not considered for the data collection process and report the difference between what was planned vs. what was actually executed.

It is then required to select precise statistical analysis method such as SWOT, Conjoint, Cross-tabulation, etc. to analyze the quantitative data.

**SWOT Analysis:** SWOT Analysis stands for the acronym of Strengths, Weakness, Opportunities, and Threat analysis. Organizations use this statistical analysis technique to evaluate their performance internally and externally to develop effective strategies for improvement.

**Conjoint Analysis:** Conjoint Analysis is a market analysis method to learn how individuals make complicated purchasing decisions. Trade-offs are involved in the daily activities of an individual, and these reflect their ability to decide from a complex list of product/service options.

**Cross-tabulation:** Cross-tabulation is one of the preliminary statistical market analysis methods which establishes relationships, patterns, and trends within the various parameters of the research study.

**TURF Analysis:** TURF Analysis, an acronym for Totally Unduplicated Reach and Frequency Analysis, is executed in situations where the reach of a favorable communication source is to be analyzed along with the frequency of this communication. It is used for understanding the potential of a target market.

Inferential statistics methods such as confidence interval, margin of error, etc. can then be used to provide results.

## Secondary Quantitative Research Methods

Secondary quantitative research or desk research is a research method that involves using already existing data or secondary data. Existing data is summarized and collated to increase the overall effectiveness of research.

This research method involves the collection of quantitative data from existing data sources like the internet, government resources, libraries, research reports, etc. Secondary quantitative research helps to validate the data that is collected from primary quantitative research as well as aid in strengthening or proving or disproving previously collected data.

Following are five popularly used secondary quantitative research methods:

**Data available on the internet:** With the high penetration of internet and mobile devices, it has become increasingly easy to conduct quantitative research using the internet. Information about most research topics is available online, and this aids in

boosting the validity of primary quantitative data as well as proving the relevance on previously collected data.

Government and non-government sources: Secondary quantitative research can also be conducted with the help of government and non-government sources that deal with market research reports. This data is highly reliable and in-depth and hence, can be used to increase the validity of quantitative research.

Public libraries: Now a sparingly used method of conducting quantitative research, it is still a reliable source of information though. Public libraries have copies of important research that were conducted earlier. They are a storehouse of valuable information and documents from which information can be extracted.

Educational institutions: Educational institutions conduct in-depth research on multiple topics, and hence, the reports that they publish are an important source of validation in quantitative research.

Commercial information sources: Local newspapers, journals, magazines, radio, and TV stations are a great source to obtain data for secondary quantitative research. These commercial information sources have in-depth, first-hand information on economic developments, political agenda, market research, demographic segmentation, and similar subjects.

### Quantitative Research Characteristics

Some distinctive characteristics of quantitative research are:

Structured tools: Structured tools such as surveys, polls, or questionnaires are used to gather quantitative data. Using such structure methods helps in collecting in-depth and actionable data from the survey respondents.

Sample size: Quantitative research is conducted on a significant sample size that represents the target market. Appropriate sampling methods have to be used when deriving the sample to fortify the research objective

Close-ended questions: Closed-ended questions are created per the objective of the research. These questions help collect quantitative data and hence, are extensively used in quantitative research.

Prior studies: Various factors related to the research topic are studied before collecting feedback from respondents.

Quantitative data: Usually, quantitative data is represented by tables, charts, graphs, or any other non-numerical form. This makes it easy to understand the data that has been collected as well as prove the validity of the market research.

Generalization of results: Results of this research method can be generalized to an entire population to take appropriate actions for improvement.

### Quantitative Research Examples

Some examples of Quantitative Research are:

If any organization would like to conduct a customer satisfaction (CSAT) survey, a customer satisfaction survey template can be used. Through this survey, an organization can collect quantitative data and metrics on the goodwill of the brand or organization in the mind of the customer based on multiple parameters such as product quality, pricing, customer experience, etc. This data can be collected by asking a net promoter score (NPS) question, matrix table questions, etc. that provide data in the form of numbers that can be analyzed and worked upon.

Another example of quantitative research is an organization that conducts an event, collecting feedback from the event attendees about the value that they see from the event. By using an event survey template, the organization can collect actionable feedback about satisfaction levels of customers during various phases of the event such as the sales, pre and post-event, the likelihood of recommending the organization to their friends and colleagues, hotel preferences for the future events and other such questions.

### Advantages of Quantitative Research

There are many advantages of quantitative research. Some of the major advantages why researchers use this method in market research are:

Collect reliable and accurate data: As data is collected, analyzed, and presented in numbers, the results obtained will be extremely reliable. Numbers do not lie. They offer an honest picture of the conducted research without discrepancies and is also

extremely accurate. In situations where a researcher predicts conflict, quantitative research is conducted.

Quick data collection: A quantitative research is carried out with a group of respondents who represent a population. A survey or any other quantitative research method applied to these respondents and the involvement of statistics, conducting, and analyzing results is quite straightforward and less time-consuming.

Wider scope of data analysis: Due to the statistics, this research method provides a wide scope of data collection.

Eliminate bias: This research method offers no scope for personal comments or biasing of results. The results achieved are numerical and are thus, fair in most cases.

Quantitative systems pharmacology (QSP) approaches have been increasingly applied . In this perspective, we discuss QSP in the context of other modeling approaches and highlight the impact of QSP across various stages of drug development and therapeutic areas. We discuss challenges to the field as well as future opportunities.

### **Qualitative method and its applications**

Qualitative methods, as the name indicates, are methods that do not involve measurement or statistics. Because the natural sciences have had such resounding success with quantitative methods, qualitative methods are sometimes looked down upon as less scientific.

Qualitative research is a type of social science research that collects and works with non-numerical data and that seeks to interpret meaning from these data that help understand social life through the study of targeted populations or places. People often frame it in opposition to quantitative research, which uses numerical data to identify large-scale trends and employs statistical operations to determine causal and correlative relationships between variables. Within sociology, qualitative research is typically focused on the micro-level of social interaction that



composes everyday life, whereas quantitative research typically focuses on macro-level trends and phenomena.

Qualitative research has a long history in sociology and has been used within it for as long as the field has existed. This type of research has long appealed to social scientists because it allows the researchers to investigate the meanings people attribute to their behavior, actions, and interactions with others. While quantitative research is useful for identifying relationships between variables, like, for example, the connection between poverty and racial hate, it is qualitative research that can illuminate why this connection exists by going directly to the source—the people themselves. Qualitative research is designed to reveal the meaning that informs the action or outcomes that are typically measured by quantitative research. So qualitative researchers investigate meanings, interpretations, symbols, and the processes and relations of social life. What this type of research produces is descriptive data that the researcher must then interpret using rigorous and systematic methods of transcribing, coding, and analysis of trends and themes. Because its focus is everyday life and people's experiences, qualitative research lends itself well to creating new theories using the inductive method, which can then be tested with further research.

## Methods

Qualitative researchers use their own eyes, ears, and intelligence to collect in-depth perceptions and descriptions of targeted populations, places, and events.

Their findings are collected through a variety of methods, and often a researcher will use at least two or several of the following while conducting a qualitative study:

**Direct observation:** With direct observation, a researcher studies people as they go about their daily lives without participating or interfering. This type of research is often unknown to those under study, and as such, must be conducted in public

settings where people do not have a reasonable expectation of privacy. For example, a researcher might observe the ways in which strangers interact in public as they gather to watch a street performer.

**Open-ended surveys:** While many surveys are designed to generate quantitative data, many are also designed with open-ended questions that allow for the generation and analysis of qualitative data. For example, a survey might be used to investigate not just which political candidates' voters chose, but why they chose them, in their own words.

**Focus group:** In a focus group, a researcher engages a small group of participants in a conversation designed to generate data relevant to the research question. Focus groups can contain anywhere from 5 to 15 participants. Social scientists often use them in studies that examine an event or trend that occurs within a specific community. They are common in market research, too.

**In-depth interviews:** Researchers conduct in-depth interviews by speaking with participants in a one-on-one setting. Sometimes a researcher approaches the interview with a predetermined list of questions or topics for discussion but allows the conversation to evolve based on how the participant responds. Other times, the researcher has identified certain topics of interest but does not have a formal guide for the conversation but allows the participant to guide it.

**Oral history:** The oral history method is used to create a historical account of an event, group, or community, and typically involves a series of in-depth interviews conducted with one or multiple participants over an extended period.

**Participant observation:** This method is like observation, however with this one, the researcher also participates in the action or events to not only observe others but to gain the first-hand experience in the setting.

**Ethnographic observation:** Ethnographic observation is the most intensive and in-depth observational method. Originating in anthropology, with this method, a researcher fully immerses themselves into the research setting and lives among the participants as one of them for anywhere from months to years. By doing this, the researcher attempts to experience day-to-day existence from the viewpoints of

those studied to develop in-depth and long-term accounts of the community, events, or trends under observation.

**Content analysis:** This method is used by sociologists to analyze social life by interpreting words and images from documents, film, art, music, and other cultural products and media. The researchers look at how the words and images are used, and the context in which they are used to draw inferences about the underlying culture. Content analysis of digital material, especially that generated by social media users, has become a popular technique within the social sciences.

While much of the data generated by qualitative research is coded and analyzed using just the researcher's eyes and brain, the use of computer software to do these processes is increasingly popular within the social sciences. Such software analysis works well when the data is too large for humans to handle, though the lack of a human interpreter is a common criticism of the use of computer software.

## Pros and Cons

Qualitative research has both benefits and drawbacks. On the plus side, it creates an in-depth understanding of the attitudes, behaviors, interactions, events, and social processes that comprise everyday life. In doing so, it helps social scientists understand how everyday life is influenced by society-wide things like social structure, social order, and all kinds of social forces. This set of methods also has the benefit of being flexible and easily adaptable to changes in the research environment and can be conducted with minimal cost in many cases. Among the downsides of qualitative research is that its scope is fairly limited, so its findings are not always widely able to be generalized. Researchers also have to use caution with these methods to ensure that they do not influence the data in ways that significantly change it and that they do not bring undue personal bias to their interpretation of the findings. Fortunately, qualitative researchers receive rigorous training designed to eliminate or reduce these types of research bias.

Over the past years, there has been an increase in the use of qualitative methods in health services research, including pharmacy research. Pharmacy practice

researchers can use these methods to understand, explain, discover, and explore both patients' and health care practitioners' thoughts, perceptions, and feelings. Qualitative research can also be used for the “democratization” of research methods through research that is inclusive, collaborative, and involves partnerships and co-production. There is a wide spectrum of qualitative research methods that might be used in pharmacy research.