

# RESEARCH METHODS

For Business and Marketing

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## FOREWORD

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I have taught BASV 316, *Introductory Methods of Analysis*, on-line for the University of Arizona in Sierra Vista since 2010 and enjoy working with students on research methodology. I wanted a textbook that presented research in a practical way so students could use the lessons learned in their own research projects. I found an excellent book but over the years the cost of that book increased to the point that I felt like it was an unfair burden on students.

I began by looking for an acceptable “open source” book since authors make those available to students free of charge and I could modify the book to meet my own objectives. I could not find any that were focused on business research though I tried for several years—and keep looking to this day. I did, though, find a few open source books about research in the social and psychological sciences that were reasonably close to what I needed. So, I modified those books to emphasize business research and then provided my work to students free of charge.

Bhattacharjee[4], Blackstone[5], and Price[31] all released books about research that formed the major sources for this book. Those books are all open source and published under a Creative Commons license that permitted me to copy and modify them.

Three goals shaped the choices made about the topics covered by the text and how those topics are presented.

- The topics must have relevance for business students.
- Both qualitative and quantitative research methods are given roughly equal attention since both types of research are used in business.
- The text is engaging and readable.

While the book is useful in its current form, I will continually update it based on emerging trends in research.

This book is published under a Creative Commons **Attribution-NonCommercial-ShareAlike** license, just like the books that provided its foundation. The source is available at my GitHub account: <http://bit.ly/2xIjzXL>. It is my hope that students can use this book to learn about business research and other instructors can modify and use it for their own classes.

— George Self



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## Part I

### BACKGROUND

Research methods are grounded in philosophy, statistics, sociology, and many other disciplines. The chapters in this section introduce these background concepts.



## Part II

### QUANTITATIVE METHODS

Quantitative methods are based in the measurement of concepts and the statistical analysis of those measures. Quantitative methods include activities like sampling, surveys, and experimental research.



## Part III

### QUALITATIVE METHODS

Qualitative methods are based in the evaluation of non-numeric data, like photographs and text documents. These methods include activities like field work, unobtrusive, and interpretive research methods.





## FIELD RESEARCH

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### 1.1 INTRODUCTION

If researchers wanted to know who conducts more of the housework in households, how could they find the answer? One way might be to interview people and simply ask them. That is exactly what Arlie Hochschild did in her study of the second shift, her term for the work that goes on in the home after the day's work for pay is completed[23]. Hochschild interviewed 50 heterosexual, married couples with children to learn about how they did, or did not, share the work of the second shift. Many of these couples reported to her that they shared the load of the second shift equally, sometimes dividing the house into areas that were “her responsibility” and those that were “his.” But Hochschild was not satisfied with just people’s personal accounts of second-shift work. She chose to observe 12 of these couples in their homes as well, to see for herself just how the second shift was shared.



What Hochschild discovered was that even those couples who claimed to share the second shift did not have as equitable a division of duties as they had professed. For example, one couple who told Hochschild during their interview that they shared the household work equally had explained that the wife was responsible for the upstairs portion of the house and the husband took responsibility for the downstairs portion. Upon conducting observations in this couple’s home, however, Hochschild discovered that the upstairs portion of the house contained all the bedrooms and bathrooms, the kitchen, the dining room, and the living room, while the downstairs included a storage space and the garage. This division of labor meant that the woman actually carried the weight of responsibility for the second shift. Without a field research component to her study, Hochschild might never have uncovered these and other truths about couples’ behaviors and sharing (or not sharing) of household duties.

### Objectives

- Define “Field Research.”
- Describe the strengths and weaknesses of field research.
- Describe how to get started with field research: choosing a site and role.
- Describe how to write field notes and then analyze those notes.

## 1.2 WHAT IS FIELD RESEARCH?

Field research is a qualitative method of data collection aimed at understanding, observing, and interacting with people in their natural settings. Thus when researchers talk about being in “the field,” they’re talking about being out in the real world and involved in the everyday lives of the people they are studying. Sometimes researchers use the terms ethnography or participant observation to refer to this method of data collection; the former is most commonly used in anthropology, while the latter is used commonly in sociology. This text uses two main terms: field research and participant observation. Field research is an umbrella term that includes the myriad activities that field researchers engage in when they collect data: they participate, they observe, they usually interview some of the people they observe, and they typically analyze documents or artifacts created by the people they observe.

Because interviews (Chapter ??) and document analysis (Chapter 2) are covered elsewhere, this chapter focuses only on the participation and observation aspects of field research. These aspects of field research are usually referenced together and are known as participant observation. Like field research, participant observation also has multiple meanings. Researchers conducting participant observation vary in the extent to which they participate or observe [2]. While many “participation scales” have been developed, Baker proposes a continuum where “Nonparticipation” lies at one end and “complete membership” lies at the other, as illustrated in Figure 1.

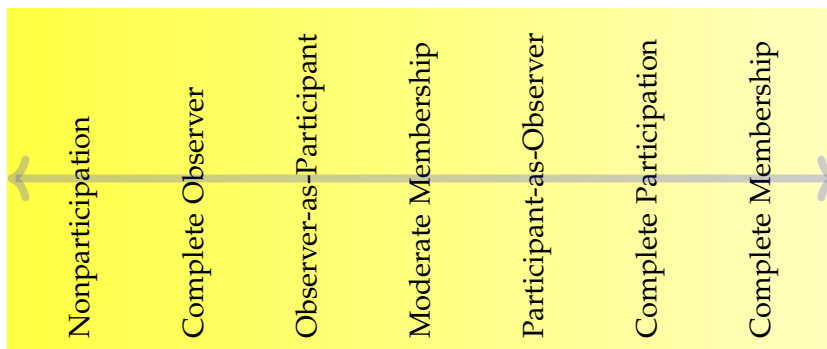


Figure 1: Participant Observation Levels

**NONPARTICIPATION** Researchers using this method have no involvement with the group being studied. Researchers are not physically present but can observe using an entirely different environment. As an example of this level of involvement, imagine a researcher watching some sort of group interaction from another room on a closed-circuit television system.

**COMPLETE OBSERVER** Researchers using this method are physically present with the insiders being observed but have no interaction (or, at most, minimal superficial interaction) with the insiders. Researchers are only present to listen and observe.

**OBSERVER-AS-PARTICIPANT** Researchers using this method are engaged in more observation than participation but still have some interaction, like brief interviews, with the insiders. Researchers do not become friends with the insiders and would not “get a beer after work” but would feel comfortable asking them why they were doing some task in a particular manner.

**MODERATE MEMBERSHIP** Researchers using this method attempt to maintain a balance between being an insider and pure observation. They would participate in certain activities but not those that are at the core of insider membership. As an example, researchers observing drug dealers may “hang out” and listen to music with them, but would not engage in any sort of illegal activity.

**PARTICIPANT-AS-OBSERVER** Researchers using this method become more involved with insiders’ central activities but still do not fully commit to the members’ values and goals. Researchers may develop friendships with the insiders and even participate in social activities, like going to dinner together, with them.

**COMPLETE PARTICIPATION** Researchers using this method are said to “go native” with the insiders. They become part of the insiders’ group and share all of the goals and norms of the group.

being studied. This level of involvement can be problematic since researchers may become so ingrained in the group being observed that they can no longer offer unbiased observations. For this reason, most research experts warn that “going native” should be avoided.

**COMPLETE MEMBERSHIP** Researchers using this method have completely “gone native” and are part of the group being observed. The main difference between this level and the previous level is that researchers who attain complete membership do so intentionally and have no hesitation in being part of the group being observed.

As it might have been imagined based on the examples of the observational roles assumed, field research is well equipped to answer “how” kinds of questions. Whereas survey researchers often aim to answer “why” questions, field researchers ask how the processes they study occur, how the people they spend time with in the field interact, and how events unfold.

Field research is a method that was originally crafted by anthropologists for the purpose of cultural understanding and interpretation [38]. Dissatisfied with studying groups of people based solely on secondhand accounts and inspection of artifacts, several anthropologists decided to try living in or near the communities they studied to learn from and about them. Two anthropologists in particular, Franz Boas [7] and Bronislaw Malinowski [28] are credited with developing this method around the turn of the 20th century. Boas lived with native populations in Canada and in the American Northwest. Malinowski lived in Papua New Guinea with people who were native to the area. Sociologists picked up on the idea and on the benefits of field research. Soon, a number of sociologists had embraced this new method and adapted field research for their own studies of groups. Many of the early field researchers in sociology were former social workers who got interested in sociological research because of experiences in their roles as social reformers.

### 1.3 STRENGTHS AND WEAKNESSES OF FIELD RESEARCH

Field research has many benefits, as well as a set of drawbacks, both explored here.

#### 1.3.1 *Strengths of Field Research*

Field research allows researchers to gain firsthand experience and knowledge about the people, events, and processes that they study. No other method offers quite the same kind of closeup lens on everyday life. This close-up on everyday life means that field researchers

can obtain very detailed data about people and processes, perhaps more detailed than they can obtain using any other method.

Field research is an excellent method for understanding the role of social context in shaping people's lives and experiences. It enables a greater understanding of the intricacies and complexities of daily life. Field research may also uncover elements of people's experiences or of group interactions of which we were not previously aware. This in particular is a unique strength of field research. With other methods, such as interviews and surveys, respondents cannot answer questions to which they do not know the answer or to provide us with information of which they are not aware. Also, because field research typically occurs over an extended period of time, social facts that may not even be immediately revealed to a researcher but that become discovered over time can be uncovered during the course of a field research project.

In sum, the major benefits of field research are the following:

1. It yields very detailed data.
2. It emphasizes the role and relevance of social context.
3. It can uncover social facts that may not be immediately obvious or of which research participants may be unaware.

### 1.3.2 *Weaknesses of Field Research*

Despite the fact that field researchers can collect very detailed data, that comes at a cost. Because a field researcher's focus is so detailed, it is by necessity also somewhat narrow. Field researchers simply are not able to gather data from as many individuals as, say, a survey researcher can reach. Indeed, field researchers generally sacrifice breadth in exchange for depth. Related to this point is the fact that field research is extremely time intensive.

Field research can also be emotionally taxing. Interview research requires, to a certain extent, the development of a relationship between a researcher and her participants, but field research requires a much greater investment in the researcher's life. It may be said that interviews are like casual dating while field research is like a marriage.

The relationships developed as a field researcher are sustained over a much longer period than the hour or two it might take to conduct an interview. Not only do the relationships last longer, but they are also more intimate. A number of field researchers have documented the complexities of relationships with research participants (See Taylor[37], Sanjari[33], and Greene[22]). On the plus side, these relationships can be very rewarding (and yield the rich, detailed data noted as a strength in the preceding discussion). But, as in any relationship, field researchers experience not just the highs but also the lows of

daily life and interactions. And participating in day-to-day life with one's research subjects can result in some tricky ethical quandaries. It can be a challenge if the goal is to observe as "objectively" as possible.

Finally, documentation can be challenging for field researchers. Where survey researchers have the questionnaires participants complete and interviewers have recordings, field researchers generally have only themselves to rely on for documenting what they observe. This challenge becomes immediately apparent upon entering the field. It may not be possible to take field notes as they observe, nor will they necessarily know which details to document or which will become the most important details to have noted. Finally, the notes taken after some observation may be incomplete since researchers may not recall everything exactly.

In sum, the weaknesses of field research include the following:

1. It may lack breadth; gathering very detailed information means being unable to gather data from a very large number of people or groups.
2. It may be emotionally taxing.
3. Documenting observations may be more challenging than with other methods.

#### 1.4 GETTING IN

When embarking on a field research project, there are two major things researchers must consider: where to observe and what role to take at the field site. The decision about each of these will be shaped by a number of factors, some of which researchers will have control over and others which they will not. The decisions about where to observe and what role to play will also have consequences for the data they are able to gather and how that data are analyzed and shared.

##### 1.4.1 *Choosing a Site*

Where to observe may be determined somewhat by the research question, but because field research often works inductively, researchers may not have a totally focused question before they begin observations. In some cases, field researchers do not define a research question until after they find out where the data are taking them. Other times, they begin with a research question but remain open to the possibility that their focus may shift as they gather data. In either case, when a site is chosen, a number of factors must be considered. What do they hope to accomplish with the field research? What is their topical/substantive interest? Where are they likely to observe behavior that has something to do with that topic? How likely is it

that they will actually have access to the locations that are of interest? How much time do they have to conduct participant observations? Will the participant observations be limited to a single location or will they observe multiple locations?

Perhaps the best place to start as researchers identify a site or sites for their field research is to think about their limitations. One limitation that could shape participant observation is time. Field researchers typically immerse themselves in their research sites for many months, sometimes even years (see, for example, Davies[13] and Jack[24]). Researchers must ask themselves if they have several years available to conduct research or should they seek a smaller-scale field research experience? How much time do they have to participate and observe per day? Per week? Identifying the time available helps them determine where and what sort of research sites to choose.

Researchers must also think about where they live and whether travel is an option. Some field researchers actually move to live with or near their population of interest, but that may not be an option in most cases. Professor Erik Larson's research on variations in economic institutions in a global environment, for example, has taken him across the globe, from Fiji to Ghana to Iceland[26]. Sociologist Sara Dorow's research on transnational adoption took her from the United States to China[17]. These are just two of many examples of researchers who have traveled the globe for the purpose of collecting data.

In choosing a site, researchers must also consider how the social location might limit what or where they can study. The "ascribed" aspects of locations are those that are involuntary, such as the researcher's age, race, or mobility. How might the ascribed status of a middle-aged man, for example, shape a researcher's ability to conduct complete participation in a study of children's birthday parties? The "achieved" aspects of locations, on the other hand, are those over which researchers have some control. In field research, researchers may also have some choice about whether or the extent to which they reveal the achieved aspects of their identities. There are numerous examples of field researchers whose achieved statuses granted them access to field sites into which they might not have otherwise been allowed. For example, a licensed paralegal may be able to gain access to law offices that would not be possible for other people.

The preceding discussion should not be taken to mean that researchers cannot, should not, or do not study those from whom they differ. In fact there have been plenty of successful field studies conducted by researchers who may have looked out of place in the sites they chose to investigate. Teresa Gowan, a self-described "small, white English woman" conducted field research with homeless men in some of San Francisco's most notoriously rough neighborhoods[21]. The aim here is not to reify the socially constructed categories upon which

society places so much emphasis in organizing itself. Rather, the point is to be aware of which ascribed and achieved aspects of the researcher's identity may shape decisions about field sites.

Finally, in choosing a research site, researchers must consider whether the research will be a collaborative project or completed on their own. Collaborating with others has many benefits; researchers can cover more ground and therefore collect more data than if they are working on their own. Also, having collaborators in any research project, but especially field research, means having others with whom researchers can share their trials and tribulations in the field. However, collaborative research comes with its own set of challenges such as possible personality conflicts among researchers, competing commitments in terms of time and contributions to the project, and differences in methodological or theoretical perspectives. When considering something that is of interest, researchers should consider whether they have possible collaborators and how those collaborators could shape the decisions about where to conduct participant observation.

While this section began by considering the limitations that might shape field site decisions, it is also true to remember the opportunities—social, geographic, and otherwise—that location affords. Perhaps researchers are already members of an organization where they would like to conduct research. Maybe they “know someone who knows someone” who may be able to help access a site. Perhaps they have friends they could stay with so they could observe participants away from home. Choosing a site for participation is shaped by all these factors: the research question and area of interest, a few limitations, some opportunities, and sometimes a bit of being in the right place at the right time.

#### 1.4.2 *Choosing a Role*

As with choosing a research site, some limitations and opportunities beyond researchers' control might shape the role they take once they begin participant observation. Researchers need to make some deliberate decisions about how they enter the field and “who” they will be once they are in.

In terms of entering the field, one of the earliest decisions researchers need to make is whether to be overt or covert. As an overt researcher, they enter the field with research participants having some awareness about the fact that they are the subjects of a research project. Covert researchers, on the other hand, enter the field as though they are participants, opting not to reveal that they are also researchers or that the group they have joined is being studied. As it may be imagined, there are strengths and weaknesses to both approaches. A critical point to keep in mind is that whatever decision is made about how they enter the field, it will affect many subsequent experiences.



Overt researchers may experience some trouble establishing rapport at first. Having an insider at the site who can vouch for the researcher will certainly help, but the knowledge that subjects are being “watched” will inevitably (and understandably) make some people uncomfortable and possibly cause them to behave differently than they would were they not aware of being research subjects. Because field research is typically a sustained activity that occurs over several months or years, it is likely that participants will become more comfortable with the researcher’s presence over time. Overt researchers also avoid a variety of moral and ethical dilemmas that they might otherwise face.<sup>1</sup>

Covert researchers are able to “get in” the site easier but then face other issues. For how long should they conceal their identities? How might participants respond once they discover they have been studied? How will researchers respond if asked to engage in activities they find unsettling, unsafe, or even unethical? Field researcher Richard Mitchell was forced to consider these very questions during his covert research among right-wing survivalists when he was asked to participate in the swapping of violently racist and homophobic stories, an experience over which he later expressed profound grief and deep regret (reported by W. Shaffir and RA Stebbins [35]). Beyond their own personal level of comfort with deceiving participants and willingness to take risks, it is possible that the decision about whether to enter the field covertly is made for researchers. If they are conducting research while associated with any federally funded agency (and even many private entities), the [Institutional Review Board \(IRB\)](#) probably will have something to say about any planned deception of research subjects. Some [IRBs](#) approve deception, but others look warily upon a field researcher engaging in covert participation. The extent to which the research site is a public location, where people may not have an expectation of privacy, might also play a role in helping researchers decide whether covert research is a reasonable approach.

Insiders, with whom a researcher may have some prior connection or a closer relationship than with other site participants, are called “key informants” and they can provide a framework for observations, help “translate” what is observed, and provide important insight into a group’s culture. If possible, having more than one key informant at a site is ideal, as one informant’s perspective may vary from another’s.

Once a decision is made about how to enter a field site, researchers need to think about the role they will adopt while there. Aside from being overt or covert, they need to determine how close they will be to participants? In the words of Fred Davis, who coined these terms in reference to researchers’ roles, will you be a *Martian*, a *Convert*, or

<sup>1</sup> Students interested in this aspect of field research may want to investigate the [Hawthorne](#) effect.

a bit of both ([15])? Davis describes the *Martian* role as one in which a field researcher stands back a bit, not fully immersed in the lives of his subjects, in order to better problematize, categorize, and see with the eyes of a newcomer what is being observed. From the *Martian* perspective, a researcher should remain disentangled from too much engagement with participants. The *Convert*, on the other hand, intentionally dives right into life as a participant. From this perspective, it is through total immersion that understanding is gained.

While Davis' definition of researcher roles is simple and easy to understand, earlier in this chapter the "Participant Observation Levels" were more thoroughly defined along a continuum from "Nonparticipation" to "Complete Membership." Those planning to engage in field research should carefully evaluate the roles and levels of observation before starting the study.

Many of the points made about power and relationships for interviews (Chapter ??, page ??) apply to field research as well. In fact, the researcher-researched relationship is even more complex in field studies, where interactions with participants last far longer than the hour or two it might take to interview someone. Moreover, the potential for exploitation on the part of the researcher is even greater in field studies as relationships are usually closer and lines between "research" and personal or off-the-record interaction may get blurred. These precautions should be seriously considered before deciding to embark upon a field research project.

### 1.5 FIELD NOTES

Field notes are an opportunity for a researcher to write poorly and get away with it. While that is said in jest, it contains at least a grain of truth. This is one type of writing where researchers should not be going for literary value, making the writing interesting, or even making it readable for anyone other than the researcher. Instead, the aim is to record observations as accurately and quickly as possible. Field notes are the first, and necessary, step toward developing qualitative analysis. They are also the record that affirms what was observed. In other words, field notes are not to be taken lightly or overlooked as unimportant.

Some say that there are two different kinds of field notes: descriptive and analytic. Though the lines between what counts as "description" and what counts as "analysis" can get fuzzy, the distinction is nevertheless useful when thinking about how to write and interpret field notes. This section focuses on descriptive field notes, which simply describe a field researcher's observations as straightforwardly as possible. These notes typically do not contain explanations of or comments about those observations; instead, the observations are pre-

sented on their own, as clearly as possible. The next section considers analysis of field notes.

### 1.5.1 *Writing in the Field*

Field researchers use a variety of strategies to take notes while in the field. Some research is conducted in settings where sitting with a notebook, tablet, or computer is no problem (e.g., observing in a classroom or at a meeting), but this is probably the exception rather than the rule. More often, field researchers must find creative ways to note their observations while engaged in the field. There are stories about field researchers jotting notes on their hands and arms, keeping very small notebooks in their pockets and occasionally jotting notes there, carrying small recorders to make quick observations, and even writing notes on toilet paper during visits to the restroom. With the advent of smart phones, taking notes in the field has become less arduous since it is common to see someone texting or surfing the web from a phone in almost any setting.

The strategy for recording observations while in the field will be determined mostly by the chosen site and role. If researchers are in a setting where having a notebook or smart phone in their hands does not look out of place then they should use those tools to take notes. But they must be careful to not let note-taking distract them from observing what is happening. Writing notes while in the field requires a fine balance between jotting down observations and engaging in the setting. Researchers who are strictly an observer will find it easier to balance the note-taking and observation process; but those who are also participants need to be more careful about balance. If researchers happen to be in a location where taking notes “in the moment” would be too obvious, rude, or distracting, they may still be able to occasionally jot down a few things very quickly. They may also need to develop a way of jotting down observations that do not require complete sentences or perhaps even words. Many field researchers develop their own version of “shorthand” for notes, using some combination of abbreviations and symbols, without taking too much time away from their participation in the field.

As with any other proficiency, writing field notes is a skill that can be improved with practice. Conducting field research and taking field notes are decidedly not informal activities. In field research, observation is deliberate, not haphazard. That said, for a first-time field researcher, taking field notes can feel like a rather haphazard activity. Understanding when to write, what to write, where to write, and how to write are all skills that field researchers develop with experience.

No matter how difficult it can be to write notes while in the field, it is worth the effort. Field researchers rely on the notes they take in the field to develop more complete notes later and, eventually, to

develop analysis. There is an old philosophical question that if a tree falls in the woods but nobody hears it, did it actually make a sound? While the answer to that question is outside the purview of this book, when it comes to field research, observations that are not noted may as well have not happened. This is because researchers, like any other human being, cannot possibly be expected to remember everything that they see over the hours, days, months, or years that are spent collecting data in the field. For this reason, writing notes in the field (to the extent possible) is important, as is “filling in” those notes as soon as researchers are in a location where they can focus on more formal note taking.

### 1.5.2 *Writing Out Of The Field*

Immediately upon leaving any observation in the field, researchers should take the time to complete the brief notes taken while in the field. Even if they feel that the notes are complete, they can be surprised by how much more they recall once they sit down without distractions and read through their notes. This is also a good opportunity to add their own reflections about the observations.

When the notes are entered into a computer upon returning from a field setting, researchers should “fill in the blanks” and write as much as possible about what was just observed. Even if it seems mundane, it is fair to say that field notes can never contain too much detail. Writing as much as possible, in as much detail as possible, should also help researchers avoid generalizing in their field notes. The notes should be specific about observations; so rather than saying that “everyone” said or did something, notes about who said or did something, or even a note that the researcher is not sure exactly who did something but it seemed as if most everyone did. Rather than noting that someone was “angry,” it is best to describe how that impression was formed; for example, was that person yelling, red in the face, or shaking her fist?

Researchers must also take care to describe exactly where some activity took place and detail the surroundings (in addition to describing the interactions and conversations that were observed and participated in). Early in a field research project, researchers may focus slightly more on describing the “lay of the land” than later in the project. This might mean writing up very detailed descriptions of the locations and the people involved in interactions. It is also fairly common for researchers to draw a map or, if appropriate, take pictures of the field sites. If observations will be conducted in the same place and with the same people, these descriptive details noted early on will become less noticeable over time, so it is helpful to have some documentation of the researcher’s first impression.

As an example, the following is an excerpt from Blackstone's first meeting with two of the key informants in a field research project concerning the breast cancer movement[5].

1/14/99, 11:00am

Met Jane and Polly at the XX office today. I was scheduled to be there at 10:30 but traffic was so bad due to last night's snow storm that I did not get there until 11:00am. Jane and Polly did not seem bothered by my tardiness (Polly, "We don't keep a time clock around here."). I walked into the building and took the elevator up to the second floor. I was a little unsure about where to go from there so I just walked into the first open door and said, "I'm looking for the XX office." A woman showed me into a large office (long and slightly irregular shape with windows on one wall, a desk and table and many chairs. Also two computers set up on a counter that runs along the wall across from the windows.) Two women were looking at a computer screen that was on the counter. When I walked in I introduced myself and Jane and Polly introduced themselves to me. Both women shook my hand, though Jane was the first to do so and did so with slightly more self-assurance than Polly. Polly told me to hang my coat on one of the "coat racks" and gestured to the many chairs that were around the office. I placed my coat and purse in what I hoped would be the most out of the way location; a corner behind the table.

This excerpt is not going to win the Pulitzer Prize for its riveting story or prose, but that is not its purpose. Instead, Blackstone's goal was to describe a location and a first impression of the two women who would be likely candidates for key informants. One thing of note is that quotation marks are used every time a person is directly quoted. Including as many direct quotes as possible is a good idea since such quotes provide support for the analytic points made later when describing patterns in the data. This is another reason that taking notes in the field (to the extent possible) is a good idea. Direct quotes may be difficult to remember hours or even minutes after hearing them. For this reason, researchers may wish to write verbatim quotes while in the field and then take the time to describe the circumstances under which something was said later on when compiling full notes.

Another useful convention is to use punctuation, like all-capital letters or brackets, to distinguish between observations and an interpretation of those observations. Is not always easy to make a distinction between a dispassionate observation and its interpretation but most

researchers attempt to distinguish between these two categories of information in their field notes.

To be sure, the “here is what I thought” portions of a researcher’s field notes may never be used, but those sections can inform the analysis of data. Sometimes, bracketed notes express emotion or difficult thoughts or feelings, which can be especially helpful when researchers feel upset or annoyed by something that occurs in the field. Because field research requires developing personal relationships with “subjects,” and because interpersonal relationships all experience various highs and lows, it is important to express feelings about those relationships in the notes. Writing these more personal reflections may become important for analysis later or they may simply be cathartic at the moment. They might also reveal biases researchers have about the participants and it is important to be honest about that confounding factor.

Every field researcher’s approach to writing up field notes will vary according to whatever strategy works best for that individual. Where one researcher may use brackets to document personal feelings and reflections on bits of data, others may use the “comments” function in a word processing program or use a different font type, size, or color to distinguish observations from reflections. Still others might create two columns for their full field notes, one containing notes only about what was observed directly and the other containing reactions and impressions. There is no right or wrong way to write field notes as long as there is a strategy that enables researchers to write accurately in as much detail as possible while distinguishing observations from reflections.

## 1.6 ANALYSIS OF FIELD RESEARCH DATA

Field notes are data, but moving from pages of notes to presenting findings from a field study in a way that will make sense to others requires that those data be analyzed. Analysis of field research data is the focus in this final section of the chapter.

### 1.6.1 *From Description To Analysis*

Writing and analyzing field notes involves moving from description to analysis. Some field notes can be mostly descriptive in nature, but some can be more analytic. Analytic field notes are notes that include the researcher’s impressions about their observations. Analyzing field note data is a process that occurs over time, beginning at the moment field researchers enter the field and continuing as interactions are happening in the field, as researchers write up descriptive notes, and as they consider what those interactions and descriptive notes mean.

Often field notes will develop from a more descriptive state to an analytic state when the field researchers exit a given observation period, messy jotted notes or recordings in hand (or in some cases, literally on hand), and sit at a computer to type up those notes into a more readable format. Carefully paying attention while in the field is important; so too is what goes on immediately upon exiting the field. Field researchers typically spend several hours typing up field notes after each observation has occurred. This is often where the analysis of field research data begins. Having time outside of the field to reflect upon their thoughts about what was observed and the meaning of those observations is crucial to developing analysis in field research studies.

Once the analytic field notes have been written or typed up, field researchers can begin to look for patterns across the notes by coding the data. This will involve the iterative process of open and focused coding that is outlined in Chapter ??, page ?. It is important that researchers note as much as possible while in the field and as much as can be recalled after leaving the field because they never know what might become important. Things that seem unimportant at the time may later reveal themselves to have crucial relevance.

Sometimes the analytic process of field researchers and others who conduct inductive analysis is referred to as [grounded theory](#) (See Chapter ??, page ?). Grounded theory occurs, as the name implies, from the “ground up.” It requires that researchers begin with an open-ended and open-minded desire to understand a social situation or setting and involves a systematic process whereby they let the data guide rather than guiding the data by preset hypotheses. The goal when employing a grounded theory approach is, perhaps not surprisingly, to generate theory. Its name not only implies that discoveries are made from the ground up but also that theoretical developments are grounded in researchers’ empirical observations of a group’s tangible experiences.

As exciting as it might sound to generate theory from the ground up, the experience can also be quite intimidating and produce anxiety as the open nature of the process can sometimes feel a little out of control. Without hypotheses to guide their analysis, researchers engaged in grounded theory work may experience some feelings of frustration or angst. The good news is that the process of developing a coherent theory that is grounded in empirical observations can be quite rewarding, not only to researchers but also to their peers who can contribute to the further development of new theories through additional research and to research participants who may appreciate getting a bird’s-eye view of their everyday experiences.

## 1.7 SUMMARY

## Summary

- “Field Research” was defined as a qualitative method of data collection aimed at understanding, observing, and interacting with people in their natural settings.
- The strengths of field research include: it yields detailed data, emphasizes social context, can uncover facts that may not be obvious to the casual observer.
- The weaknesses of field research include: the project is normally narrow in scope, it may be emotionally taxing for the researcher, and documentation is challenging.
- Selecting a site is an important starting point. Sites can be local but can also be regional, national, or global. Defining the study site is dependent on many factors, not the least of which is the funding available for the study.
- The researcher role in the study can be as distant as a dispassionate observer or as integrated as a group “insider.” The selection of the researcher’s role will shape the entire project and must be thoughtfully considered at the outset.
- Field notes fall into two categories: hastily scribbled notes taken during some activity and more carefully written notes compiled immediately following an activity. Researchers must attempt to keep pure observations separate from their interpretation of those observations.
- Analyzing field notes uses a coding process similar to that used for analyzing interviews.



## UNOBTRUSIVE RESEARCH

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### 2.1 INTRODUCTION

Are female and male athletes at the professional and college levels treated equally? It would be reasonable to think after 40 years since the passing of Title IX (the civil rights law that prohibits sex discrimination in education including athletics) and with the growing visibility of women athletes in sports such as golf, basketball, hockey, and tennis, that the answer would be an easy yes. But Professor Michael Messner's [29] unobtrusive research shows otherwise, as does Professors Jo Ann M. Buysse and Melissa Sheridan Embser-Herbert's [10] content analysis of college athletics media guide photographs. In fact, Buysse and Embser-Herbert's unobtrusive research shows that traditional definitions of femininity are fiercely maintained through colleges' visual representations of women athletes as passive and overtly feminine (as opposed to strong and athletic). Unobtrusive research made it possible to clear up misconceptions about changes for women athletes over the past 40 years.



#### Objectives

- Define “Unobtrusive Research.”
- Describe the strengths and weaknesses of unobtrusive research.
- Describe methods used for unobtrusive data collection and analysis.
- Describe how data collected by others can be used.
- Discuss reliability in unobtrusive research.

### 2.2 WHAT IS UNOBTRUSIVE RESEARCH?

This chapter explores unobtrusive methods of collecting data, which are methods that do not interfere with the subjects under study. Both

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Photo by Jeffrey F Lin on Unsplash

qualitative and quantitative researchers use unobtrusive research methods. Unobtrusive methods share the unique quality that they do not require researchers to interact with the people they are studying. It may seem strange that business, a discipline dedicated to understanding human purchasing behavior, would employ a methodology that requires no interaction with human beings. But humans create plenty of evidence of their behaviors—they write letters to the editor of their local paper, they create various sources of entertainment for themselves such as movies and television shows, they consume goods, they walk on sidewalks, they lie on the grass in public parks. All these activities leave something behind—worn paths, trash, recorded shows, and printed papers. These are all potential sources of data for the unobtrusive researcher.

Unobtrusive research methods include content analysis, indirect measures, and using data collected by others. All of these methods are similar in that they do not require direct interaction between researchers and their human subjects but each has its unique qualities. This chapter also considers how data gathered unobtrusively can be analyzed and how reliability in that data can be improved.

### 2.2.1 *Strengths of Unobtrusive Research*

Researchers who seek evidence of what people actually do, as opposed to what they say they do (as in survey and interview research), might wish to consider using unobtrusive methods. Field researchers may also claim this advantage over interview and survey research, but field researchers cannot be certain about what effect their presence in the field may have on the people and the interactions that they observe. While unobtrusive research projects, like all research projects, face the risk of introducing researcher bias into the work, researchers employing unobtrusive methods do not need to be concerned about the effect of the research on their subjects. This effect, known as the [Hawthorne](#) effect, is not a concern for unobtrusive researchers because they do not interact directly with their research participants. In fact, this is one of the major strengths of unobtrusive research.

Another benefit of unobtrusive research is that it can be relatively low-cost compared to some of the other research methods. Because “participants” are generally inanimate objects as opposed to human beings, researchers may be able to access data without having to worry about paying participants for their time (though certainly travel to or access to some documents and archives can be costly).

Unobtrusive research is also relatively forgiving. It is far easier to correct mistakes made in data collection when conducting unobtrusive research than when using any other method. Imagine the challenge, for example, if researchers realized at the end of conducting

50 in-depth interviews that they had accidentally omitted two critical questions from the interview guide. What options would they have? Re-interview all 50 participants? Try to figure out what respondents might have said based on their other responses? Re-frame the research question? Scratch the project entirely? Obviously none of these options are ideal. The same problems arise if a mistake is made in survey research. For field researchers, the consequences of “messing up” during data collection can be even more disastrous. Imagine discovering after tagging along on a political candidate’s campaign that a “do-over” is needed. In this case, that simply is not an option. The campaign is over, and the researcher would need to find a new source of data. Fortunately for unobtrusive researchers, going back to the source of the data to gather more information or correct some problem in the original data collection is a relatively straightforward prospect.

Finally, unobtrusive research is well suited to studies that focus on processes that occur over time. While longitudinal surveys and long-term field observations are also suitable ways of gathering such information, they cannot examine processes that occurred decades before data collection began, nor are they the most cost-effective ways to examine long-ranging processes. Unobtrusive methods, on the other hand, enable researchers to investigate events and processes that have long since passed. They also do not rely on retrospective accounts, which may be subject to errors in memory, as some longitudinal surveys do.

### 2.2.2 *Weaknesses of Unobtrusive Research*

While there are many benefits to unobtrusive research, this method also comes with a unique set of drawbacks. Because unobtrusive researchers analyze data that may have been created or gathered for purposes entirely different from the researcher’s goal, problems of validity sometimes arise in such projects. It may also be the case that data sources measuring whatever a researcher wishes to examine simply do not exist. This means that unobtrusive researchers may be forced to tweak their original research interests or questions to better suit the data that are available to them. Finally, it can be difficult in unobtrusive research projects to account for context. In a field research project, for example, the researcher is able to see what events lead up to some occurrence and observe how people respond to that occurrence. What this means for unobtrusive research is that while it can be difficult to ascertain why something occurred, we can gain a good understanding of what has occurred.

### 2.3 UNOBTUSIVE DATA COLLECTION

This section focuses on unobtrusive data collection and what to do with those data once they have been collected. There are two main ways of gathering data unobtrusively: conducting a content analysis of existing texts and analyzing physical traces of human behavior, both explored here.

#### 2.3.1 *Content Analysis*

One way of conducting unobtrusive research is to analyze texts, which come in all kinds of formats. At its core, content analysis addresses the questions of “Who says what, to whom, why, how, and with what effect?”[1]. Content analysis is a type of unobtrusive research that involves the study of human communications. Another way to think of content analysis is as a way of studying texts and their meaning. This is a more liberal definition of “text” than may be found in a dictionary. The text that content analysts investigate includes such things as actual written copy (e.g., newspapers or letters) and content that might be seen or heard (e.g., speeches or other performances). Content analysts might also investigate more visual representations of human communication such as television shows, photographs, advertisements, or movies.

As an example of content analysis, Braunsberger and Buckler [8] investigated why people participate in consumer boycotts. They analyzed comments submitted to an online boycott petition concerning Canadian Seafood. As a result of analyzing a sample of 1200 of the 17,496 boycott pledges, the researchers concluded that 70.1% of the pledges wished the target to discontinue its egregious behavior and 29.67% wanted to send a message to the target that the boycott would impact the company’s bottom line. (Note, these two groups overlapped.)

As a second example, Cheyne, Dorfman, and Bukofzer [12] analyzed the websites of 16 different cereals marketed to children, such as *Apple Jacks*, *Cocoa Puffs*, and *Lucky Charms*, and found that the sites used various progressive levels of presence to encourage children to engage with their products. The more successful sites, as measured by traffic data, featured activities with deeper “levels of immersion,” like advergames.

Both of these examples used unobtrusive techniques to measure phenomena.

Content analysis is the systematic analysis of the content of a text (e.g., who says what, to whom, why, and to what extent and with what effect) in a quantitative or qualitative manner. Content analysis is typically conducted as follows.

- 1.

2. When there are many texts to analyze (e. g., newspaper stories, financial reports, blog postings, online reviews, etc.), the researcher begins by sampling a selected set of texts from the population of texts for analysis. This process is not random, but instead, texts that have more pertinent content should be chosen selectively.
3. The researcher identifies and applies rules to divide each text into segments or “chunks” that can be treated as separate units of analysis. This process is called unitizing. For example, assumptions, effects, enablers, and barriers in texts may constitute such units.
4. The researcher constructs and applies one or more concepts to each unitized text segment in a process called coding. For coding purposes, a coding scheme is used that is based on themes discovered as the text is classified.
5. The coded data are analyzed, often both quantitatively and qualitatively, to determine which themes occur most frequently, in what contexts, and how they are related to each other.

A simple type of content analysis is sentiment analysis which is a technique used to capture people’s opinion or attitude toward an object, person, or phenomenon. Reading online messages about a political candidate posted to an online forum and classifying each message as positive, negative, or neutral is an example of such an analysis. In this case, each message represents one unit of analysis. This analysis will help identify whether the sample as a whole is positively or negatively disposed or neutral towards that candidate. Examining the content of online reviews in a similar manner is another example. Though this analysis can be done manually, for very large data sets (millions of text records), natural language processing and analytics programs are available to automate the coding process and maintain a record of how sentiments fluctuate with time.

A frequent criticism of content analysis is that it lacks a set of systematic procedures that would allow the analysis to be replicated by other researchers. Schilling[34] addressed this criticism by organizing different content analytic procedures into a spiral model. This model consists of five levels or phases in interpreting text:

1. convert recorded tapes into raw text data or transcripts for content analysis
2. convert raw data into condensed protocols
3. convert condensed protocols into a preliminary category system
4. use the preliminary category system to generate coded protocols

5. analyze coded protocols to generate interpretations about the phenomenon of interest.

Content analysis has several limitations. First, the coding process is restricted to the information available in text form. For instance, if a researcher is interested in studying people's views on capital punishment, but no such archive of text documents is available, then the analysis cannot be done. Second, sampling must be done carefully to avoid sampling bias. For instance, if the population is the published research literature on a given topic, then researchers have systematically omitted unpublished research or recent work that is yet to be published.

### 2.3.1.1 *Hermeneutic Analysis*

**Hermeneutics** is a special type of content analysis where the researcher attempts to "interpret" the subjective meaning of a given text within its socio-historic context. Unlike grounded theory or content analysis, which ignores the context and meaning of text documents during the coding process, hermeneutic analysis is a truly interpretive technique for analyzing qualitative data. This method assumes that written texts narrate an author's experience within a socio-historic context, and should be interpreted as such within that context. Therefore, the researcher continually iterates between singular interpretation of the text (the part) and a holistic understanding of the context (the whole) to develop a fuller understanding of the phenomenon in its situated context, which German philosopher Martin Heidegger called the *hermeneutic circle*.

More generally, hermeneutics is the study of interpretation and the theory and practice of interpretation. Derived from religious studies and linguistics, traditional hermeneutics, such as biblical hermeneutics, refers to the interpretation of written texts, especially in the areas of literature, religion, and law. In the 20th century, Heidegger suggested that a more direct, non-mediated, and authentic way of understanding social reality is to experience it, rather than simply observe it, and proposed philosophical hermeneutics, where the focus shifted from interpretation to existential understanding. Heidegger argued that texts are the means by which readers can not only read about an author's experience, but also relive the author's experiences. Contemporary or modern hermeneutics, developed by Heidegger's students such as Hans-Georg Gadamer, further examined the limits of written texts for communicating social experiences, and went on to propose a framework of the interpretive process, encompassing all forms of communication, including written, verbal, and non-verbal, and exploring issues that restrict the communicative ability of written texts, such as presuppositions, language structures (e.g., grammar, syntax, etc.), and semiotics (the study of written signs such as

symbolism, metaphor, analogy, and sarcasm). The term hermeneutics is sometimes used interchangeably and inaccurately with exegesis, which refers to the interpretation or critical explanation of written text only and especially religious texts.

Following are examples of research projects that used content analysis.

- Shen and Bissell[36] analyzed the marketing of beauty products on Facebook using content analysis of the product advertising. They found a significant difference in the way beauty products manufacturers and department stores marketed the products. The manufacturers tend to use entertainment like surveys and games in their Facebook ads while department stores tend to use promotions like coupons and free samples in their ads.
- Park[30] completed a meta-analysis of published research related to travel destination marketing with websites. Nine success factors were identified for websites that market travel: 1) Information Quality; 2) Ease of Use; 3) Security/Privacy; 4) Visual Appearance; 5) Personalization; 6) Responsiveness; 7) Interactivity; 8) Trust; and, 9) Fulfillment. However, it was also determined that some of the factors were more or less important on travel web sites than non-travel, but the importance may shift as web technologies change.
- Davis, Piger, and Sedor[14] completed an analysis of about 23,000 press releases of quarterly earnings statements between 1998 and 2003. They found that “...levels of net optimistic language in earnings press releases are predictive of firm performance in future quarters.” In other words, if managers use optimistic language when they release their quarterly earnings reports it portends future earnings increases.

One thing of note about the above examples is that the data sources represent both primary and secondary sources. Primary sources are original research like both Shen and Davis who reported the results of research they conducted themselves. Secondary sources, on the other hand, are those that have already been published and analyzed by others like Park’s analysis of published reports about effective website marketing. The distinction between primary and secondary sources is important for many aspects of business research, but it is especially important to understand when conducting content analysis. While there are certainly instances of content analysis in which secondary sources are analyzed, it is safe to say that it is more common for content analysts to analyze primary sources. In those instances where secondary sources are analyzed, the researcher’s focus is usually on the process by which the original analyst or presenter of data



reached conclusions or on the choices that were made in terms of how and in what ways to present the data.

Sometimes students new to research methods struggle to grasp the difference between a content analysis of secondary sources and a review of literature. In a review of literature, researchers analyze secondary materials to try to understand what is known, and not known, about a particular topic. The sources used to conduct a scholarly review of the literature are typically peer-reviewed sources, written by trained scholars, published in some academic journal or press, and based on empirical research that has been conducted using accepted techniques of data collection for the discipline (scholarly theoretical pieces are included in literature reviews as well). These sources are culled in a review of literature in order to arrive at some conclusion about the overall knowledge about a topic. Findings are generally taken at face value.

Conversely, a content analysis of scholarly literature would raise questions not raised in a literature review. A content analyst might examine scholarly articles to learn something about the authors (e.g., Who publishes what, where?), publication outlets (e.g., How well do different journals represent the diversity of the discipline?), or topics (e.g., How has the popularity of topics shifted over time?). A content analysis of scholarly articles would be a “study of the studies” as opposed to a “review of studies.” Perhaps, for example, a researcher wishes to know whether more men than women authors are published in the top-ranking journals in the discipline. The researcher could conduct a content analysis of different journals and count authors by gender (though this may be a tricky prospect if relying only on names to indicate gender). Or perhaps researchers would like to learn whether or how various topics of investigation go in and out of style. They could investigate changes over time in topical coverage in various journals. In these latter two instances, the researcher is not aiming to summarize the content of the articles but instead is looking to learn something about how, why, or by whom particular articles came to be published.

Content analysis can be qualitative or quantitative, and often researchers will use both strategies to strengthen their investigations. In qualitative content analysis the aim is to identify themes in the text being analyzed and to identify the underlying meaning of those themes. Brown[9] conducted content analysis of 500 randomly-sampled news stories about welfare reform from 1993 to 1997. She compared welfare reform in California and Arizona and found that California tended to look at welfare reform as a legal issue while Arizona tended to see it as a racial issue. Quantitative content analysis, on the other hand, involves assigning numerical values to raw data so that it can be analyzed using various statistical procedures. Chavez, Whiteford, and Hoewe[11] conducted a quantitative content analysis of United



States newspaper reporting about Mexican immigration. They found, for example, that 41.3% of the stories they analyzed were between 501 – 1000 words long and the greatest number of stories (50.6%) were about crime.

### 2.3.2 *Indirect Measures*

Texts are not the only sort of data that researchers can collect unobtrusively. Unobtrusive researchers might also be interested in analyzing the evidence that humans leave behind that tells us something about who they are or what they do. This kind evidence includes the physical traces left by humans and the material artifacts that tell us something about their beliefs, values, or norms. Physical traces include such things as worn paths across campus, the materials in a landfill or in someone's trash (a data source Reilly used[32], indentations in furniture, or empty shelves in the grocery store. Examples of material artifacts include video games and video game equipment, sculptures, mementos left on gravestones, housing structures, or even kitchen utensils.

The National Museum of American History in Washington, D.C. has an exhibit displaying chef Julia Child's home kitchen (See <http://amhistory.si.edu/juliachild/jck/html/textonly/visiting.asp>), where she filmed many of her famous cooking shows. Seeing the kitchen may help researchers understand how cooking has changed over the decades since Child's shows were on air. For example, they can learn how the layout of kitchens, utensils, and appliances they contain influenced how guests are entertained, how much time is spent preparing meals, and how much time is spent cleaning up afterward. The use of particular kitchen gadgets and utensils might even indicate something about the homeowner's social class. Answers to these questions have bearing on regular human norms and interactions and are the sorts of questions researchers using unobtrusive methods might be interested in answering.

One challenge with analyzing physical traces and material artifacts is that researchers generally do not have access to the people who left the traces or created the artifacts under analysis. It can be especially tricky to analyze meanings of these materials if they come from some historical or cultural context other than the researcher's own. Situating the traces or artifacts under analysis both in their original contexts and in the researcher's own is not always easy and can lead to problems related to validity and reliability. How can researchers know that they are viewing an object or physical trace in the way that it was intended to be viewed? Do they have the necessary understanding or knowledge about the background of its original creators or users to understand their motivations when they created it?

Imagine an alien trying to understand some aspect of Western human culture simply by examining our artifacts. Cartoonist Mark Parisi demonstrates the misunderstanding that could ensue in his drawing featuring three very small aliens standing atop a toilet. One alien says, “Since water is the life-blood on this planet, this must be a temple of some sort... Let’s stick around and see how they show their respect” (1989) (See <https://www.offthemark.com/cartoon/leisure-hobbies/home-garden/2006-05-30>). Without a contextual understanding of Western human culture, the aliens have misidentified the purpose of the toilet, and they will be in for quite a surprise when someone shows up to use it!

The point is that while physical traces and material artifacts make excellent sources of data, analyzing their meaning takes more than simply trying to understand them from the researchers’ own contextual position. They must also be aware of who caused the physical trace or created the artifact, when they created it, why they created, and for whom they created it. Answering these questions will require accessing materials in addition to the traces or artifacts themselves. It may require accessing historical documents or, if a contemporary trace or artifact, perhaps another method of data collection such as interviews with its creators.

### 2.3.3 *Analysis of Unobtrusive Data*

Once the set of texts, physical traces, or artifacts that to be analyzed are identified, the next step is to figure out how to proceed with the analysis. This step requires that procedures for coding are developed, the difference between manifest and latent content is understood, and patterns across the coded data are identified.

Coding procedures were introduced in connection with analyzing interview data. While the coding procedures used for written documents obtained unobtrusively may resemble those used to code interview data, many sources of unobtrusive data differ dramatically from written documents or transcripts. For example, how are sculptures, worn paths, or perhaps kitchen utensils, coded? The idea of conducting open coding and focused coding on these sources as for a written document seems impossible. So how are patterns across the sculptures or worn paths or utensils identified? One option is to take field notes and then code patterns in those notes. For example, imagine analyzing kitchen utensils. Taking field notes might be a useful approach for observations of people using utensils on a television program. Keep in mind that if the observation is in person then the method is no longer unobtrusive.

If rather than observing people in television shows the data include a collection of actual utensils then note taking may not be the most effective way to record observations. Instead, a code sheet could be

developed to record details about the utensils in the sample. A code sheet, sometimes referred to as a tally sheet in quantitative coding, is the instrument an unobtrusive researcher uses to record observations.

In the example of kitchen utensils, perhaps the research goal is how utensils have changed over time. If researchers had access to sales records for utensils over the past 50 years, then those records could identify the top-selling utensil for each year. To do so, researchers would make some notes about each of the 50 utensils included in the sample. For each top-rated utensil, they might note its name, purpose, and perhaps price in current dollar amounts. They might also want to make some assessment about how easy or difficult the utensil is to use or some other qualitative assessment about its use or purpose. To rate the difficulty of use, researchers could devise a 5-point scale, with 1 being very easy to use and 5 being very difficult to use. They could even record other notes or observations about the utensils that may only come to light after they actually see the utensils being used. The following table may be similar to a code sheet developed for a kitchen utensil study.

	1960	1970	1980	1990	2000
Utensil name					
Utensil purpose					
Price (in 1960 dollars)					
Ease of use (1-5 scale)					
Other notes					

It becomes evident that the code sheet contains both qualitative and quantitative data. The “ease of use” rating is a quantitative assessment so statistical analysis of the patterns can be calculated, perhaps noting the mean value on ease of use for each decade that was observed. Other data are qualitative and would need to be analyzed using both open and focused coding to identify patterns. In both cases, whether the data being coded are quantitative or qualitative, the aim is to identify patterns across the coded data.

The “Purpose” row in the sample code sheet provides an opportunity for assessing both *manifest* and *latent* content. Manifest content is the observed content that is most apparent; it is the surface content. This is in contrast to latent content, which is less obvious. Latent content refers to the underlying meaning of the observed surface content. In the example of utensil purpose, a utensil’s manifest content may be the stated purpose of the utensil while the latent content may be the researchers’ assessment of why that utensil is top rated. Perhaps after coding the manifest content patterns may emerge that indicate something about the meanings of utensil purpose. Perhaps researchers would conclude, based on the meanings of top-rated utensils across five decades, that the shift from an emphasis on utensils

designed to facilitate entertaining in the 1960s to those designed to maximize efficiency and minimize time spent in the kitchen in the 2000s reflects a shift in how (and how much) people spend time in their homes.

Kathleen Denny's[16] study of scouting manuals offers another excellent example of the differences between manifest and latent content. Denny compared Boy Scout and Girl Scout handbooks to understand gender socializing among scouts. By counting activity types described in the manuals, Denny learned from this manifest content that boys are offered more individual-based and more scientific activities while girls are offered more group-based and more artistic activities. Denny also analyzed the latent meaning of the messages that scouting handbooks portray about gender; she found that girls were encouraged to become "up-to-date traditional women" while boys were urged to adopt "an assertive heteronormative masculinity."

## 2.4 ANALYZING OTHERS' DATA

One advantage (or disadvantage, depending on which parts of the research process researchers enjoy most) of unobtrusive research is that researchers may be able to skip the data collection phase altogether. Whether they wish to analyze qualitative data or quantitative data sources, there are a number of free data sets available to researchers.

There are hundreds of free data sources available for research. For example, the United States Census Bureau makes both raw data and reports available from their website. Researchers can find information about population demographics down to the city block level in some cases, economic indicators like income and rent, education levels, country or origin, and a wide variety of other data.

The following list contains only a few of the more commonly-used public data sources for business research. Note that the following URLs are for government (.gov) or education (.edu) domains since those organizations would be more likely to post unbiased data. The only exceptions are two .org sites that belong to the United Nations and the World Bank since those would also post unbiased data.

### 2.4.1 Public Databases

- **Agency for Healthcare Research and Quality.** This is a compendium of health systems in the United States. A "health system" is defined as an activity that includes at least one hospital and one group of physicians providing comprehensive care at that hospital. This database provides information about those systems, like the name of the system, number of physicians, and number that serve children.

<https://www.ahrq.gov/chsp/data-resources/compendium.html>

- **Bureau of Justice Statistics.** This site contains more than 60 databases covering many aspects of the United States criminal justice system. Included are databases like “Annual Probation Survey and Annual Parole Survey,” “Census of Jail Inmates,” and “Recidivism of State Prisoners.” The site is well-organized and it is easy to find data of interest.  
<https://www.bjs.gov/index.cfm?ty=dca>
- **Bureau of Labor Statistics.** This bureau makes data about labor available to researchers. Included are databases about inflation and prices, employment, unemployment, projections, pay and benefits, spending and time use, productivity, workplace injuries, occupational requirements, and regional and international resources.  
<https://www.bls.gov/>
- **Bureau of Economic Analysis.** This is the Department of Commerce’s economic analysis databases. Using this site, researchers can find data about topics like the gross domestic product, fixed assets, and personal income.  
<https://www.bea.gov/>
- **Census Bureau.** The United States Census Bureau has a huge wealth of data about the US population dating back to the 1700s. While most researchers know that the Census Bureau collects data about the number of people who live in a region, they also have data about race, education level, income, and other demographic factors.  
[https://data.census.gov/cedsci/?intcmp=aff\\_cedsci\\_banner](https://data.census.gov/cedsci/?intcmp=aff_cedsci_banner)
- **Data.Gov.** This site is an aggregator of more than 200,000 public data sets. It is well organized and contains data from governmental and educational sources. In general, this should be the first stop for researchers seeking public data for research projects.  
<https://www.data.gov/>
- **Department of Agriculture.** The United States Department of Agriculture provides 50 data files along with apps, charts, and maps to tell the story of agriculture. Examples of the data files include aquaculture, dairy data, and bioenergy statistics.  
<https://www.ers.usda.gov/>
- **Department of Education.** This site contains data about education in the United States, including both K-12 and post-secondary. The data sets available include the National Student Loan Data System, College Scorecard, Integrated Postsecondary Education Data System, and School Survey on Crime and Safety.  
<https://www2.ed.gov/rschstat/landing.jhtml?src=pn>

- **Dept of Housing and Urban Development.** The HUD posts data sets concerning housing in the United States. Included in these data sets are the American Housing Survey, Fair Market Rents, and Geospatial Data Resources.  
[https://www.huduser.gov/portal/pdrdatas\\_landing.html#dataset-title](https://www.huduser.gov/portal/pdrdatas_landing.html#dataset-title)
- **United States International Trade Administration Exports Data** concerning international trade that originates in the United States. The data sets are divided into national, state, and metro sections.  
<https://www.export.gov/Trade-Data-and-Analysis>
- **Federal Bureau of Investigation Crime Data.** The FBI makes crime data available for researchers. The various categories are Assaults on Law Enforcement Officers, Police Employee Data, Hate Crime, Human Trafficking, Uniform Crime Reporting Program Participation Data, Cargo Theft, U.S. Territory Data, and Arrest Data. Researchers can also find the “Summary (SRS) Data with Estimates” that includes the data used by the FBI’s annual publications.  
<https://crime-data-explorer.fr.cloud.gov/>
- **Federal Housing Finance Agency.** This agency tracks data related to housing in the United States. Included in the data sets are the house price index, market data, and the National Mortgage Database.  
<https://www.fhfa.gov/DataTools/Downloads>
- **Federal Reserve.** The federal reserve makes data about banking, finance, and exchange rates available for researchers. Included in these data sets are the Survey of Small Business Finances, Mortgage Debt Outstanding, and Industrial Production and Capacity Utilization.  
<https://www.federalreserve.gov/data.htm>
- **Foreign Assistance.** The United States offers more than \$25 billion in foreign aid to many countries around the world. Data files can be downloaded by country, U.S. agency, or program.  
<https://www.foreignassistance.gov/>
- **Harvard Dataverse.** Students at Harvard University conduct thousands of research projects every year. They submit their raw data to the Harvard Dataverse and those data can be downloaded by researchers anywhere. The dataverse has more than 85,000 datasets organized into 13 different subjects, like business and management, law, and social science.  
<https://dataverse.harvard.edu/>

- **Department of Health and Human Services Health Data.** This site includes more than 3,000 data sets related to health and wellness that are provided by various governmental agencies.  
<https://healthdata.gov/>
- **Inter-university Consortium for Political and Social Research (ICPSR).** The University of Michigan has made more than 11,000 social science-related data sets available. As an example of the data available, the “500 Family Study” includes “...in-depth information on middle class, dual-career families living in the United States.” The data are divided into four data sets, the Cortisol Data that examines psychological stress, the Experience Sampling Method Data the examines how individuals spend their time, the Parent Data the examines parents’ occupations and other information, and the Adolescent Data that examines the family relationships from and adolescent perspective.  
<https://www.icpsr.umich.edu/icpsrweb/ICPSR/>
- **National Center for Health Statistics.** This site posts data from the Centers for Disease Control concerning health statistics. It includes data like birth and death rates, the Longitudinal Studies of Aging, and the National Survey of Children’s Health.  
[https://www.cdc.gov/nchs/data\\_access/ftp\\_data.htm](https://www.cdc.gov/nchs/data_access/ftp_data.htm)
- **National Centers for Environmental Information.** This site posts data provided by the National Oceanic and Atmospheric Administration about the environment. It includes historic weather information, satellite radiance data, and paleoclimatology.  
<https://www.ncdc.noaa.gov/data-access>
- **United Nations Statistics Division.** The UN provides data sets that include information about population, national accounts, education, labor, price indices, and many other factors for every nation and geographical area (like Northern Africa).  
<http://data.un.org/>
- **World Bank Open Data.** The World Bank posts data related to banking and monetary policy for countries around the world. The data can be browsed by country/region, time, or geospatial values.  
<https://datacatalog.worldbank.org/>

#### 2.4.2 Public Document Repositories

In addition to the above, the following list contains a few of the many repositories for reports and other published documents.

- **CIA World Factbook.** The CIA Factbooks are detailed reports that would be valuable to anyone who needs background infor-



mation about a country.

<https://www.cia.gov/library/publications/the-world-factbook/geos/us.html>

- **Google Scholar.** This resource can be used to search for papers published in thousands of different scholarly journals, along with dissertations and thesis that may not have been published in a journal. It is the “go-to” source for searches for scholarly publications.  
<https://scholar.google.com>
- **National Archives.** The National Archives are familiar to people researching their ancestry, but the archives includes documentation about businesses, foundations, countries, governmental contracts, and even time spans, like 1800-1900.  
<https://www.archives.gov/research>
- **Public Library of Science.** PLOS is a nonprofit publisher of more than 215,000 peer-reviewed science articles in many different fields.  
<https://www.plos.org/>
- **US Congress.** This is the official site for the United States Congress. It includes the text of all Senate and House bills along with a daily digest of congressional activities.  
<https://www.congress.gov/>

Keep in mind that the resources mentioned here represent just a snapshot of the many sources of publicly available data that can be easily accessed via the web.

## 2.5 RELIABILITY IN UNOBTRUSIVE RESEARCH

This final section of the chapter investigates a few particularities related to reliability in unobtrusive research projects that warrant attention (See Krippendorff [25]). These particularities have to do with how and by whom the coding of data occurs. Issues of stability, reproducibility, and accuracy all speak to the unique problems—and opportunities—with establishing reliability in unobtrusive research projects.

Stability refers to the extent to which the results of coding vary across different time periods. If stability is a problem, it will reveal itself when the same person codes the same content at different times and comes up with different results. Coding is said to be stable when the same content has been coded multiple times by the same person with the same result each time. Researchers who discover problems of instability in their coding procedures should revise their coding rules so they are less ambiguous. Ambiguities in the text itself might also



contribute to problems of stability. While the original text documents cannot be altered, simply being aware of possible ambiguities in the data may help reduce the likelihood of problems with stability. It is also possible that problems with stability may result from a simple coding error, such as inadvertently jotting a 1 instead of a 10 on the code sheet.

Reproducibility, sometimes referred to as intercoder reliability, is the extent to which one's coding procedures will result in the same results when the same text is coded by different people. Cognitive differences among the individuals coding data may result in problems with reproducibility, as could ambiguous coding instructions. Random coding errors might also cause problems. One way of overcoming problems of reproducibility is to have coders code together. Resolving coding ambiguities as a team leads to a shared understanding of how to code various bits of data.

Finally, accuracy refers to the extent to which one's coding procedures correspond to some preexisting standard. This presumes that a standard coding strategy has already been established for whatever text is being analyzing. It may not be the case that official standards have been set, but perusing the prior literature for the collective wisdom on coding in a particular area is time well spent. Scholarship focused on similar data or coding procedures will no doubt help clarify and improve the coding procedures.

## 2.6 SUMMARY

### Summary

- Unobtrusive research uses methods that do not interfere with the subjects under study.
- The strengths of unobtrusive research include less bias introduced than in field research, low cost, forgiving of error, and is particularly well-suited for longitudinal types of studies.
- The weaknesses of unobtrusive research include a mismatch between the data used and the research goals and the inability to account for context in the data.
- Data collection methods include content (and hermeneutic) analysis and indirect measures.
- Data collected with unobtrusive methods are analyzed with coding manuals, similar to that used for interviews.
- There are hundreds of public databases available for researchers who are willing to use existing data.



**Objectives**

- Define “Interpretive Research.”
- Data collection for interpretive research.
- Case research.
- Action research.
- Ethnography.
- Rigor in interpretive research

**3.1 INTRODUCTION**

This chapter explores interpretive research. Recall that [positivist](#) or [deductive research](#) methods, such as laboratory experiments and survey research, are those that are specifically intended for [theory](#) (or [hypothesis](#)) *testing*, while [interpretive research](#) or [inductive research](#) methods, such as [action research](#) and [ethnography](#), are intended for *theory building*. Unlike a positivist method, where researchers start with a theory and test theoretical postulates using empirical data, in interpretive methods, researchers start with data and try to derive a theory about the phenomenon of interest from the observed data.

The term [interpretive research](#) is often used loosely and synonymously with [qualitative research](#), although the two concepts are quite different. Interpretive research is a research paradigm that is based on the assumption that social reality is not singular or objective, but is rather shaped by human experiences and social contexts ([ontology](#)) and is therefore best studied within its socio-historic context by reconciling the subjective interpretations of its various participants ([epistemology](#)). Because interpretive researchers view social reality as being embedded within and impossible to abstract from their social settings, they “interpret” the reality through a “sense-making” process rather than a hypothesis testing process. This is in contrast to the positivist or functionalist paradigm that assumes that the reality is relatively independent of the context, can be abstracted from their contexts, and studied in a decomposable functional manner using objective techniques such as standardized measures. Whether a researcher should pursue interpretive or positivist research depends on paradigmatic considerations about the nature of the phenomenon under consideration and the best way to study it.

However, qualitative versus quantitative research refers to empirical or data-oriented considerations about the type of data to collect and how to analyze them. Qualitative research relies mostly on [qualitative data](#), such as interviews and observations, in contrast to quantitative research which employs [quantitative data](#) such as scores and metrics. Hence, qualitative research is not amenable to statistical procedures such as regression analysis, but is coded using techniques like content analysis. Sometimes, coded qualitative data is tabulated quantitatively as frequencies of codes, but this data is not statistically analyzed. Many puritan interpretive researchers reject this coding approach as a futile effort to seek consensus or objectivity in a social phenomenon which is essentially subjective.

Although interpretive research tends to rely heavily on qualitative data, quantitative data may add more precision and clearer understanding of the phenomenon of interest than qualitative data. For example, Eisenhardt [18], in her interpretive study of decision making in high-velocity firms collected numeric data on how long it took each firm to make certain strategic decisions (which ranged from 1.5 months to 18 months), how many decision alternatives were considered for each decision, and surveyed her respondents to capture their perceptions of organizational conflict. Such numeric data helped her clearly distinguish the high-speed decision making firms from the low-speed decision makers, without relying on respondents' subjective perceptions, which then allowed her to examine the number of decision alternatives considered by and the extent of conflict in high-speed versus low-speed firms. Interpretive research should attempt to collect both qualitative and quantitative data pertaining to their phenomenon of interest, and so should positivist research as well. Joint use of qualitative and quantitative data, often called "mixed mode designs", may lead to unique insights and are highly prized in the scientific community.

Interpretive research has its roots in anthropology, sociology, psychology, linguistics, and [semiotics](#), and has been available since the early 19th century, long before positivist techniques were developed. Many positivist researchers view interpretive research as erroneous and biased, given the subjective nature of the qualitative data collection and interpretation process employed in such research. However, the failure of many positivist techniques to generate interesting insights or new knowledge have resulted in a resurgence of interest in interpretive research since the 1970s, albeit with exacting methods and stringent criteria to ensure the reliability and validity of interpretive inferences.

### 3.2 DISTINCTIONS FROM POSITIVIST RESEARCH

In addition to fundamental paradigmatic differences in ontological and epistemological assumptions, interpretive and positivist research differ in several other ways. First, interpretive research employs a theoretical sampling strategy, where study sites, respondents, or cases are selected based on theoretical considerations such as whether they fit the phenomenon being studied (e. g., sustainable practices can only be studied in organizations that have implemented sustainable practices), whether they possess certain characteristics that make them uniquely suited for the study (e. g., a study of the drivers of firm innovations should include some firms that are high innovators and some that are low innovators, in order to draw contrast between these firms), and so forth. In contrast, positivist research employs random sampling (or a variation of this technique), where cases are chosen randomly from a population, for purposes of generalization. Hence, convenience samples and small samples are considered acceptable in interpretive research as long as they fit the nature and purpose of the study, but not in positivist research.

Second, the role of researchers receives critical attention in interpretive research. In some methods such as ethnography, action research, and participant observation, researchers are considered part of the social phenomenon, and their specific role and involvement in the research process must be made clear during data analysis. In other methods, such as case research, researchers must take a “neutral” or unbiased stance during the data collection and analysis processes, and ensure that their personal biases or preconceptions do not taint the nature of subjective inferences derived from interpretive research. In positivist research, however, researchers are considered to be external to and independent of the research context and are not presumed to bias the data collection and analytic procedures.

Third, interpretive analysis is holistic and contextual, rather than being reductionist and isolationist. Interpretive interpretations tend to focus on language, signs, and meanings from the perspective of the participants involved in the social phenomenon, in contrast to statistical techniques that are employed heavily in positivist research. Rigor in interpretive research is viewed in terms of systematic and transparent approaches for data collection and analysis rather than statistical benchmarks for construct validity or significance testing.

Lastly, data collection and analysis can proceed simultaneously and iteratively in interpretive research. For instance, researchers may conduct an interview and code it before proceeding to the next interview. Simultaneous analysis helps researchers correct potential flaws in the interview protocol or adjust it to capture the phenomenon of interest better. Researchers may even change their original research question if they realize that their original research questions are unlikely to

generate new or useful insights. This is a valuable but often understated benefit of interpretive research, and is not available in positivist research, where the research project cannot be modified or changed once the data collection has started without redoing the entire project from the start.

### 3.3 BENEFITS AND CHALLENGES OF INTERPRETIVE RESEARCH

Interpretive research has several unique advantages. First, it is well-suited for exploring hidden reasons behind complex, interrelated, or multifaceted social processes, such as inter-firm relationships or inter-office politics, where quantitative evidence may be biased, inaccurate, or otherwise difficult to obtain. Second, it is often helpful for theory construction in areas with no or insufficient *a priori* theory. Third, it is also appropriate for studying context-specific, unique, or idiosyncratic events or processes. Fourth, interpretive research can also help uncover interesting and relevant research questions and issues for follow-up research.

At the same time, interpretive research also has its own set of challenges.

- This type of research tends to be more time and resource intensive than positivist research in data collection and analytic efforts. Too little data can lead to false or premature assumptions, while too much data may not be effectively processed by the researcher.
- Interpretive research requires well-trained researchers who are capable of seeing and interpreting complex social phenomenon from the perspectives of the participants and reconciling the diverse perspectives of these participants without injecting their personal biases or preconceptions into their inferences.
- All participants or data sources may not be equally credible, unbiased, or knowledgeable about the phenomenon of interest, or may have undisclosed political agendas, which may lead to misleading or false impressions. Inadequate trust between participants and researcher may hinder full and honest self-representation by participants, and such trust building takes time. It is the job of the interpretive researcher to “see through the smoke” (hidden or biased agendas) and understand the true nature of the problem.
- Given the heavily contextualized nature of inferences drawn from interpretive research, such inferences do not lend themselves well to replicability or generalizability.
- Interpretive research may sometimes fail to answer the research questions of interest or predict future behaviors.

### 3.4 CHARACTERISTICS OF INTERPRETIVE RESEARCH

All interpretive research adheres to a common set of principles.

**NATURALISTIC INQUIRY.** Social phenomena must be studied within their natural setting. Because interpretive research assumes that social phenomena are situated within and cannot be isolated from their social context, interpretations of such phenomena must be grounded within their socio-historical context. This implies that contextual variables should be observed and considered in seeking explanations of a phenomenon of interest, even though context sensitivity may limit the generalizability of inferences.

**RESEARCHER AS INSTRUMENT.** Researchers are often embedded within the social context that they are studying, and are considered part of the data collection instrument in that they must use their observational skills, their trust with the participants, and their ability to extract the correct information. Further, their personal insights, knowledge, and experiences of the social context is critical to accurately interpreting the phenomenon of interest. At the same time, researchers must be fully aware of their personal biases and preconceptions, and not let such biases interfere with their ability to present a fair and accurate portrayal of the phenomenon.

**INTERPRETIVE ANALYSIS.** Observations must be interpreted through the eyes of the participants embedded in the social context. Interpretation must occur at two levels. The first level involves viewing or experiencing the phenomenon from the subjective perspectives of the social participants. The second level is to understand the meaning of the participants' experiences in order to provide a "thick description" or a rich narrative story of the phenomenon of interest that can communicate why participants acted the way they did.

**USE OF EXPRESSIVE LANGUAGE.** Documenting the verbal and non-verbal language of participants and the analysis of such language are integral components of interpretive analysis. The study must ensure that the story is viewed through the eyes of a person, and not a machine, and must depict the emotions and experiences of that person, so that readers can understand and relate to that person. Use of imageries, metaphors, sarcasm, and other figures of speech is very common in interpretive analysis.

**TEMPORAL NATURE.** Interpretive research is often not concerned with searching for specific answers, but with understanding or "making sense of" a dynamic social process as it unfolds over time.

Hence, such research requires an immersive involvement of the researcher at the study site for an extended period of time in order to capture the entire evolution of the phenomenon of interest.

**HERMENEUTIC CIRCLE.** Interpretation is an iterative process of moving back and forth from pieces of observations (text) to the entirety of the social phenomenon (context) to reconcile their apparent discord and to construct a theory that is consistent with the diverse subjective viewpoints and experiences of the embedded participants. Such iterations between the understanding/meaning of a phenomenon and observations must continue until “theoretical saturation” is reached, whereby any additional iteration does not yield any more insight into the phenomenon of interest.

### 3.5 INTERPRETIVE DATA COLLECTION

Data are collected in interpretive research using a variety of techniques. The most frequently used technique is interviews (face-to-face, telephone, or focus groups). Interview types and strategies are discussed in detail elsewhere in this book. A second technique is observation. Observational techniques include direct observation, where researchers are a neutral and passive external observer and are not involved in the phenomenon of interest (as in case research), and participant observation, where researchers are an active participant in the phenomenon and their inputs or mere presence influence the phenomenon being studied (as in action research). A third technique is documentation, where external and internal documents, such as memos, electronic mails, annual reports, financial statements, newspaper articles, websites, may be used to cast further insight into the phenomenon of interest or to corroborate other forms of evidence.

### 3.6 INTERPRETIVE RESEARCH DESIGNS

#### 3.6.1 *Case research.*

Case research is a method of intensively studying a phenomenon over time within its natural setting in one or a few sites. Multiple methods of data collection, such as interviews, observations, prerecorded documents, and secondary data, may be employed and inferences about the phenomenon of interest tend to be rich, detailed, and contextualized. Case research can be employed in a positivist manner for the purpose of theory testing or in an interpretive manner for theory building. This method is more popular in business research than in other social science disciplines.



### Case Research vs. Case Description

It is important to recognize that case research is different from case descriptions such as Harvard case studies discussed in business classes. While case descriptions typically describe an organizational problem in rich detail with the goal of stimulating classroom discussion and critical thinking among students, or analyzing how well an organization handled a specific problem, case research is a formal research technique that involves a scientific method to derive explanations of organizational phenomena.

Case research has several unique strengths over competing research methods such as experiments and survey research. First, case research can be used for either theory building or theory testing, while positivist methods can be used for theory testing only. In interpretive case research, the constructs of interest need not be known in advance, but may emerge from the data as the research progresses. Second, the research questions can be modified during the research process if the original questions are found to be less relevant or salient. This is not possible in any positivist method after the data are collected. Third, case research can help derive richer, more contextualized, and more authentic interpretation of the phenomenon of interest than most other research methods by virtue of its ability to capture a rich array of contextual data. Fourth, the phenomenon of interest can be studied from the perspectives of multiple participants and using multiple levels of analysis (e. g., individual and organizational).

At the same time, case research also has some inherent weaknesses. Because it involves no experimental control, internal validity of inferences remain weak. Of course, this is a common problem for all research methods except experiments. However, as described later, the problem of controls may be addressed in case research using “natural controls.” Second, the quality of inferences derived from case research depends heavily on the integrative powers of the researcher. An experienced researcher may see concepts and patterns in case data that a novice researcher may miss. Hence, the findings are sometimes criticized as being subjective. Finally, because the inferences are heavily contextualized, it may be difficult to generalize inferences from case research to other contexts or other organizations.

Case research is a difficult research method that requires advanced research skills on the part of the researcher, and is therefore, often prone to error. Benbasat[3] describe five problems frequently encountered in case research studies.

- Many case research studies start without specific research questions, and therefore end up without having any specific answers or insightful inferences.

- Case sites are often chosen based on access and convenience, rather than based on the fit with the research questions, and are therefore cannot adequately address the research questions of interest.
- Researchers often do not validate or triangulate data collected using multiple means, which may lead to biased interpretation based on responses from biased interviewees.
- Many studies provide very little details on how data was collected (e.g., what interview questions were used, which documents were examined, what are the organizational positions of each interviewee, etc.) or analyzed, which may raise doubts about the reliability of the inferences.
- Despite its strength as a longitudinal research method, many case research studies do not follow through a phenomenon in a longitudinal manner, and hence present only a cross-sectional and limited view of organizational processes and phenomena that are temporal in nature.

#### 3.6.1.1 *Key Decisions in Case Research*

Several key decisions must be made by a researcher when considering a case research method.

- Is this the right method for the research questions being studied? The case research method is particularly appropriate for exploratory studies for discovering relevant constructs in areas where theory building at the formative stages, for studies where the experiences of participants and context of actions are critical, and for studies aimed at understanding complex, temporal processes (why and how of a phenomenon) rather than factors or causes (what). This method is well-suited for studying complex organizational processes that involve multiple participants and interacting sequences of events, such as organizational change and large-scale technology implementation projects.
- What is the appropriate unit of analysis for a case research study? Since case research can simultaneously examine multiple units of analyses, researchers must decide whether they wish to study a phenomenon at the individual, group, and organizational level or at multiple levels. For instance, a study of group decision making or group work may combine individual-level constructs such as individual participation in group activities with group-level constructs, such as group cohesion and group leadership, to derive richer understanding than that can be achieved from a single level of analysis.

- Should researchers employ a single-case or multiple-case design? The single case design is more appropriate at the outset of theory generation, if the situation is unique or extreme, if it is revelatory (i. e., the situation was previously inaccessible for scientific investigation), or if it represents a critical or contrary case for testing a well-formulated theory. The multiple case design is more appropriate for theory testing, for establishing generalizability of inferences, and for developing richer and more nuanced interpretations of a phenomenon. Yin[39] recommends the use of multiple case sites with replication logic, viewing each case site as similar to one experimental study, and following rules of scientific rigor similar to that used in positivist research.
- What sites should be chosen for case research? Given the contextualized nature of inferences derived from case research, site selection is a particularly critical issue because selecting the wrong site may lead to the wrong inferences. If the goal of the research is to test theories or examine generalizability of inferences, then dissimilar case sites should be selected to increase variance in observations. For instance, if the goal of the research is to understand the process of technology implementation in firms, a mix of large, mid-sized, and small firms should be selected to examine whether the technology implementation process differs with firm size. Site selection should not be opportunistic or based on convenience, but rather based on the fit with research questions through a process called “theoretical sampling.”
- What techniques of data collection should be used in case research? Although interview (either open-ended/unstructured or focused/structured) is by far the most popular data collection technique for case research, interview data can be supplemented or corroborated with other techniques such as direct observation (e. g., attending executive meetings, briefings, and planning sessions), documentation (e. g., internal reports, presentations, and memoranda, as well as external accounts such as newspaper reports), archival records (e. g., organization charts, financial records, etc.), and physical artifacts (e. g., devices, outputs, tools). Furthermore, the researcher should triangulate or validate observed data by comparing responses between interviewees.

### 3.6.1.2 *Conducting Case Research*

Most case research studies tend to be interpretive in nature. Interpretive case research is an inductive technique where evidence collected

from one or more case sites is systematically analyzed and synthesized to allow concepts and patterns to emerge for the purpose of building new theories or expanding existing ones. For positivist case research, some of the following stages may need to be rearranged or modified; however sampling, data collection, and data analytic techniques should generally remain the same.

**DEFINE RESEARCH QUESTIONS.** Like any other scientific research, case research must also start with defining research questions that are theoretically and practically interesting, and identifying some intuitive expectations about possible answers to those research questions or preliminary constructs to guide initial case design. In positivist case research, the preliminary constructs are based on theory, while no such theory or hypotheses should be considered *ex ante* in interpretive research. These research questions and constructs may be changed in interpretive case research later on, if needed, but not in positivist case research.

**SELECT CASE SITES.** Researchers should use a process of “theoretical sampling” (not random sampling) to identify case sites. In this approach, case sites are chosen based on theoretical, rather than statistical, considerations, for instance, to replicate previous cases, to extend preliminary theories, or to fill theoretical categories or polar types. Care should be taken to ensure that the selected sites fit the nature of research questions, minimize extraneous variance or noise due to firm size, industry effects, and so forth, and maximize variance in the dependent variables of interest. For instance, if the goal of the research is to examine how some firms innovate better than others, researchers should select firms of similar size within the same industry to reduce industry or size effects, and select some more innovative and some less innovative firms to increase variation in firm innovation. Instead of cold-calling or writing to a potential site, it is better to contact someone at executive level inside each firm who has the authority to approve the project or someone who can identify a person of authority. During initial conversations, researchers should describe the nature and purpose of the project, any potential benefits to the case site, how the collected data will be used, the people involved in data collection (other researchers, research assistants, etc.), desired interviewees, and the amount of time, effort, and expense required of the sponsoring organization. Researchers must also assure confidentiality, privacy, and anonymity of both the firm and the individual respondents.

**CREATE INSTRUMENTS AND PROTOCOLS.** Since the primary mode of data collection in case research is interviews, an interview protocol should be designed to guide the interview process. This is essentially

a list of questions to be asked. Questions may be open-ended (unstructured) or closed-ended (structured) or a combination of both. The interview protocol must be strictly followed, and the interviewer must not change the order of questions or skip any question during the interview process, although some deviations are allowed to probe further into respondent's comments that are ambiguous or interesting. The interviewer must maintain a neutral tone, not lead respondents in any specific direction, say by agreeing or disagreeing with any response. More detailed interviewing techniques are discussed in the chapter on surveys. In addition, additional sources of data, such as internal documents and memorandums, annual reports, financial statements, newspaper articles, and direct observations should be sought to supplement and validate interview data.

**SELECT RESPONDENTS.** Select interview respondents at different organizational levels, departments, and positions to obtain divergent perspectives on the phenomenon of interest. A random sampling of interviewees is most preferable; however a snowball sample is acceptable, as long as a diversity of perspectives is represented in the sample. Interviewees must be selected based on their personal involvement with the phenomenon under investigation and their ability and willingness to answer the researcher's questions accurately and adequately, and not based on convenience or access.

**START DATA COLLECTION.** It is usually a good idea to electronically record interviews for future reference. However, such recording must only be done with the interviewee's consent. Even when interviews are being recorded, the interviewer should take notes to capture important comments or critical observations, behavioral responses (e.g., respondent's body language), and the researcher's personal impressions about the respondent and his/her comments. After each interview is completed, the entire interview should be transcribed verbatim into a text document for analysis.

**CONDUCT WITHIN-CASE DATA ANALYSIS.** Data analysis may follow or overlap with data collection. Overlapping data collection and analysis has the advantage of adjusting the data collection process based on themes emerging from data analysis, or to further probe into these themes. Data analysis is done in two stages. In the first stage (within-case analysis), the researcher should examine emergent concepts separately at each case site and patterns between these concepts to generate an initial theory of the problem of interest. The researcher can interview data subjectively to "make sense" of the research problem in conjunction with using her personal observations or experience at the case site. Alternatively, a coding strategy like a grounded theory approach, using techniques such as open coding,

axial coding, and selective coding, may be used to derive a chain of evidence and inferences. Homegrown techniques, such as graphical representation of data (e.g., network diagram) or sequence analysis (for longitudinal data) may also be used. Note that there is no predefined way of analyzing the various types of case data, and the data analytic techniques can be modified to fit the nature of the research project.

**CONDUCT CROSS-CASE ANALYSIS.** Multi-site case research requires cross-case analysis as the second stage of data analysis. In such analysis, researchers should look for similar concepts and patterns between different case sites, ignoring contextual differences that may lead to idiosyncratic conclusions. Such patterns may be used for validating the initial theory, or for refining it (by adding or dropping concepts and relationships) to develop a more inclusive and generalizable theory. This analysis may take several forms. For instance, researchers may select categories (e.g., firm size, industry, etc.) and look for within-group similarities and between-group differences (e.g., high versus low performers, innovators versus laggards). Alternatively, they can compare firms in a pair-wise manner listing similarities and differences across pairs of firms.

**BUILD AND TEST HYPOTHESES.** Based on emergent concepts and themes that are generalizable across case sites, tentative hypotheses are constructed. These hypotheses should be compared iteratively with observed evidence to see if they fit the observed data, and if not, the constructs or relationships should be refined. Also researchers should compare the emergent constructs and hypotheses with those reported in the prior literature to make a case for their internal validity and generalizability. Conflicting findings must not be rejected, but rather reconciled using creative thinking to generate greater insight into the emergent theory. When further iterations between theory and data yield no new insights or changes in the existing theory, “theoretical saturation” is reached and the theory building process is complete.

**WRITE CASE RESEARCH REPORT.** In writing the report, researchers should describe very clearly the detailed process used for sampling, data collection, data analysis, and hypotheses development, so that readers can independently assess the reasonableness, strength, and consistency of the reported inferences. A high level of clarity in research methods is needed to ensure that the findings are not biased by the researcher’s preconceptions.

### 3.6.2 *Action research.*

Action research is a qualitative but positivist research design aimed at theory testing rather than theory building. This is an interactive design that assumes that complex social phenomena are best understood by introducing changes, interventions, or “actions” into those phenomena and observing the outcomes of such actions on the phenomena of interest. In this method, the researcher is usually a consultant or an organizational member embedded into a social context (such as a unit within the organization), who initiates an action in response to a social problem, and examines how that action influences the phenomenon while also learning and generating insights about the relationship between the action and the phenomenon. Examples of actions may include organizational change programs, such as the introduction of new organizational processes, procedures, people, or technology or replacement of old ones, initiated with the goal of improving an organization’s performance or profitability in its business environment. The researcher’s choice of actions must be based on theory, which should explain why and how such actions may bring forth the desired social change. The theory is validated by the extent to which the chosen action is successful in remedying the targeted problem. Simultaneous problem solving and insight generation is the central feature that distinguishes action research from other research methods (which may not involve problem solving) and from consulting (which may not involve insight generation). Hence, action research is an excellent method for bridging research and practice.

There are several variations of the action research method. The most popular of these methods is the participatory action research, designed by Susman and Evered[19]. This method follows an action research cycle consisting of five phases: (1) diagnosing, (2) action planning, (3) action taking, (4) evaluating, and (5) learning (see Figure 2). Diagnosing involves identifying and defining a problem in its social context. Action planning involves identifying and evaluating alternative solutions to the problem, and deciding on a future course of action (based on theoretical rationale). Action taking is the implementation of the planned course of action. The evaluation stage examines the extent to which the initiated action is successful in resolving the original problem, i. e., whether theorized effects are indeed realized in practice. In the learning phase, the experiences and feedback from action evaluation are used to generate insights about the problem and suggest future modifications or improvements to the action. Based on action evaluation and learning, the action may be modified or adjusted to address the problem better, and the action research cycle is repeated with the modified action sequence. It is suggested that the entire action research cycle be traversed at least twice so that learning from the first cycle can be implemented in the second cycle. The

primary mode of data collection is participant observation, although other techniques such as interviews and documentary evidence may be used to corroborate the researcher's observations.

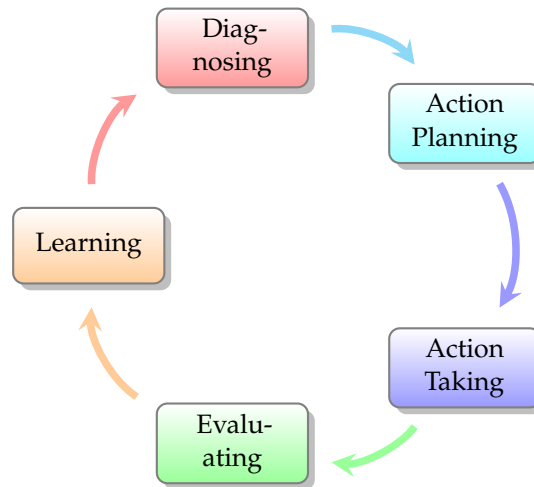


Figure 2: Action Research Cycle

### 3.6.3 *Ethnography*

The ethnographic research method, derived largely from the field of anthropology, emphasizes studying a phenomenon within the context of its culture. Researchers must be deeply immersed in the social culture over an extended period of time (usually eight months to two years) and should engage, observe, and record the daily life of the studied culture and its social participants within their natural setting. The primary mode of data collection is participant observation, and data analysis involves a “sense-making” approach. In addition, researchers must take extensive field notes and narrate their experiences in descriptive detail so that readers may experience the same culture. In this method, researchers have two roles: rely on their unique knowledge and engagement to generate insights (theory), and convince the scientific community of the trans-situational nature of the studied phenomenon.

The classic example of ethnographic research is Jane Goodall’s study of primate behaviors, where she lived with chimpanzees in their natural habitat at Gombe National Park in Tanzania, observed their behaviors, interacted with them, and shared their lives. During that process, she chronicled how chimpanzees seek food and shelter, how they socialize with each other, their communication patterns, their mating behaviors, and so forth. A more contemporary example of ethnographic research is Myra Bluebond-Langer’s[6] study of decision making in families with children suffering from life-threatening illnesses, and the physical, psychological, environmental, ethical, legal, and cultural issues that influence such decision-making. The reg-



searcher followed the experiences of approximately 80 children with incurable illnesses and their families for a period of over two years. Data collection involved participant observation and formal/informal conversations with children, their parents and relatives, and health care providers to document their lived experience.

#### 3.6.3.1 *Phenomenology.*

Phenomenology is a research method that emphasizes the study of conscious experiences as a way of understanding the reality around us. It is based on the ideas of German philosopher Edmund Husserl in the early 20th century who believed that human experience is the source of all knowledge. Phenomenology is concerned with the systematic reflection and analysis of phenomena associated with conscious experiences, such as human judgment, perceptions, and actions, with the goal of (1) appreciating and describing social reality from the diverse subjective perspectives of the participants involved, and (2) understanding the symbolic meanings (“deep structure”) underlying these subjective experiences. Phenomenological inquiry requires that researchers eliminate any prior assumptions and personal biases, empathize with the participant’s situation, and tune into existential dimensions of that situation, so that they can fully understand the deep structures that drives the conscious thinking, feeling, and behavior of the studied participants.

Some researchers view phenomenology as a philosophy rather than as a research method. In response to this criticism, Giorgi and Giorgi[20] developed an existential phenomenological research method to guide studies in this area. This method can be grouped into data collection and data analysis phases.

- Data Collection
  - Interview participants regarding phenomenon of interest
  - Transcribe interviews for analysis
- Data Analysis
  - Read transcripts to get a sense of the whole
  - Identify units of significance (establish parts)
  - Assign values to units of significance by reliving participants’ subjective experience
  - Develop themes to tie together the units of significance into layered meanings
  - Identify and reconcile “deep structure”

In the data collection phase, participants embedded in a social phenomenon are interviewed to capture their subjective experiences and

perspectives regarding the phenomenon under investigation. Examples of questions that may be asked include “can you describe a typical day” or “can you describe that particular incident in more detail?” These interviews are recorded and transcribed for further analysis.

During data analysis, researchers read the transcripts to: (1) get a sense of the whole, and (2) establish “units of significance” that can faithfully represent participants’ subjective experiences. Examples of such units of significance are concepts such as “felt space” and “felt time,” which are then used to document participants’ psychological experiences. For instance, did participants feel safe, free, trapped, or joyous when experiencing a phenomenon (“felt-space”)? Did they feel that their experience was pressured, slow, or discontinuous (“felt-time”)? Phenomenological analysis should take into account the participants’ temporal landscape (i.e., their sense of past, present, and future), and researchers must transpose themselves in an imaginary sense in the participant’s situation (i.e., temporarily live the participant’s life). The participants’ lived experience is described in form of a narrative or using emergent themes. The analysis then delves into these themes to identify multiple layers of meaning while retaining the fragility and ambiguity of subjects’ lived experiences.

### 3.7 RIGOR IN INTERPRETIVE RESEARCH

While positivist research employs a “reductionist” approach by simplifying social reality into parsimonious theories and laws, interpretive research attempts to interpret social reality through the subjective viewpoints of the embedded participants within the context where the reality is situated. These interpretations are heavily contextualized, and are naturally less generalizable to other contexts. However, because interpretive analysis is subjective and sensitive to the experiences and insight of the embedded researcher, it is often considered less rigorous by many [positivist](#) researchers who espouse [functionalism](#). Because interpretive research is based on different set of assumptions from [ontology](#) and [epistemology](#) concerning social phenomenon, the positivist notions of rigor, such as reliability, internal validity, and generalizability, do not apply as they would in a positivist study. However, Lincoln and Guba[27] provide an alternative set of criteria that can be used to judge the rigor of interpretive research.

**DEPENDABILITY** Interpretive research can be viewed as dependable or authentic if two researchers assessing the same phenomenon using the same set of evidence independently arrive at the same conclusions or the same researcher observing the same or a similar phenomenon at different times arrives at similar conclusions. This concept is similar to that of reliability in positivist research, with agreement between two independent researchers

being similar to the notion of inter-rater reliability, and agreement between two observations of the same phenomenon by the same researcher akin to test-retest reliability. To ensure dependability, interpretive researchers must provide adequate details about their phenomenon of interest and the social context in which it is embedded so as to allow readers to independently authenticate their interpretive inferences.

**CREDIBILITY** Interpretive research can be considered credible if readers find its inferences to be believable. This concept is akin to that of internal validity in functionalistic research. The credibility of interpretive research can be improved by providing evidence of the researcher's extended engagement in the field, by demonstrating data triangulation across subjects or data collection techniques, and by maintaining meticulous data management and analytic procedures, such as verbatim transcription of interviews, accurate records of contacts and interviews, and clear notes on theoretical and methodological decisions, that can allow an independent audit of data collection and analysis if needed.

**CONFIRMABILITY** Confirmability refers to the extent to which the findings reported in interpretive research can be independently confirmed by others (typically, participants). This is similar to the notion of objectivity in functionalistic research. Since interpretive research rejects the notion of an objective reality, confirmability is demonstrated in terms of "inter-subjectivity", i.e., if the study's participants agree with the inferences derived by the researcher. For instance, if a study's participants generally agree with the inferences drawn by a researcher about a phenomenon of interest (based on a review of the research paper or report), then the findings can be viewed as confirmable.

**TRANSFERABILITY** Transferability in interpretive research refers to the extent to which the findings can be generalized to other settings. This idea is similar to that of external validity in functionalistic research. The researcher must provide rich, detailed descriptions of the research context ("thick description") and thoroughly describe the structures, assumptions, and processes revealed from the data so that readers can independently assess whether and to what extent are the reported findings transferable to other settings.

### 3.8 SUMMARY

Chapter 13 concerns Interpretive research methods and the following topics were explored.

### Summary

- Distinctions from positivist research.
- Benefits and challenges of interpretive research.
- Characteristics of interpretive research.
- Data collection for interpretive research.
- Interpretive research designs: case, action research, and ethnography.
- Rigor in interpretive research.

## Part IV

### MIXED METHODS

All quantitative and qualitative research methods have certain strengths and weaknesses. Mixed methods are an attempt to use more than one research method on a given project to utilize the strengths of each method while mitigating their weaknesses.



## Part V

### REPORTING

After a research project is completed, the investigator must report the results of the project, often in both written and oral forms. This chapter concerns the reporting process.





SANDBOX

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This is just a place to try out stuff.

This is a conditional sentence. It is only printed if the jobname matches the detokenize word. While this works, it doesn't seem to get me closer to the solution I need. The jobname is readonly as "ResearchMethods"

**Question: What did Hochschild study?**

If researchers wanted to know who conducts more of the housework in households, how could they find the answer? One way might be to interview people and simply ask them. That is exactly what Arlie Hochschild did in her study of the second shift, her term for the work that goes on in the home after the day's work for pay is completed. Hochschild interviewed 50 heterosexual, married couples with children to learn about how they did, or did not, share the work of the second shift. Many of these couples reported to her that they shared the load of the second shift equally, sometimes dividing the house into areas that were "her responsibility" and those that were "his." But Hochschild was not satisfied with just people's personal accounts of second-shift work. She chose to observe 12 of these couples in their homes as well, to see for herself just how the second shift was shared.



## GLOSSARY

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action research	A research method where actions are taken during the research project with the goal of correcting problems rather than developing a theory. Action research is commonly found in education where a teacher may “try out” some new teaching method with the aim of improving a lesson rather than developing a theory or publishing a peer-reviewed paper. <a href="#">41</a>
ANOVA	A test used to analyze the difference in three or more groups of samples that are normally distributed. <i>see</i> <a href="#">t-test</a>
applied research	Research that is intended to be applied to a situation rather than further the knowledge of some topic. For example, if a researcher completes a project designed to increase the sales of bottled water in a small town it would be considered applied research. <i>see</i> <a href="#">basic research</a>
basic research	Research that is intended to be further the knowledge of some topic rather than be applied to a specific situation. For example, if a researcher completes a project designed to refine some aspect of the Law of Supply and Demand it would be considered basic research. <i>see</i> <a href="#">applied research</a>
bivariate	A type of analysis involving two variables. Examples of bivariate analysis include finding a correlation and regression. <i>see</i> <a href="#">univariate</a>
concurrent validity	The degree that a measure relates to an outcome that is presumed to occur simultaneously. For example, the results of a new employee attitude test would be the same as an older test if those tests have high concurrent validity. <i>see</i> <a href="#">predictive validity</a>

construct validity	The degree to which a test measures what it claims to measure. For example, if a research project purports to investigate some aspect of local farmers' markets, does the project actually research that aspect? Construct validity is sometimes thought to be the overarching type of validity since research projects that do not address the construct of interest can have no other validity. <i>see</i> <a href="#">validity</a>
content validity	A determination of whether a measure correctly assesses the construct's content. For example, if a research project is attempting to determine the drivers for total sales in a store but only measured the price of the merchandise being sold then ignoring factors like advertising, competition, and even the general economy of the region would call into question the content validity of the study. <i>see</i> <a href="#">validity</a>
continuous data	Continuous data are a type of quantitative data that can represent any measured value, including fractions and decimals. In mathematics terms, continuous data are members of the real number system. <i>see</i> <a href="#">quantitative data</a>
convergent validity	The closeness that two measures relate to, "converge on," a single construct. For example, if a research project measures the amount of sales of carbonated drinks, fruit juices, and bottled water in a store it would be expected that those would converge on a construct of "drink sales." <i>see</i> <a href="#">discriminant validity</a>
criterion validity	The degree to which a measure is related to an outcome. <i>see</i> <a href="#">validity</a>
cross-sectional	A type of research that is conducted in a single point in time that crosses multiple analytical units. This is most often in reference to a survey but could be applied to other research methods. For example, a survey of several different small business owners in a single city would be cross-sectional. <i>see</i> <a href="#">longitudinal</a>

deductive research	A research methodology that works from a general theory to specific observations. This is sometimes called the “theory-testing” form of research. <a href="#">41</a>
dependent variable	Dependent variables are the outcomes for an observation. For example, if a medical researcher conducts an experiment where a drug is administered and then the patient’s blood pressure is measured, the blood pressure reading is the dependent variable; that is, the blood pressure depends on the drug being administered. <i>see</i> <a href="#">independent variable</a>
descriptive research	Research that is designed to describe observed phenomena. The goal is to improve understanding rather than explore new ideas. <i>see</i> <a href="#">exploratory research</a>
discrete data	Discrete data are a type of quantitative data that can be counted with integers. In mathematics terms, discrete data are integers, though negative values are rather rare. <i>see</i> <a href="#">quantitative data</a>
discriminant validity	The degree that a measure does not measure, “discriminates between,” one of two competing constructs. For example, a measure of the sale of toiletries in a department store would not be related to the construct of “drink sales.” <i>see</i> <a href="#">convergent validity</a>
epistemology	A branch of philosophy that is concerned with the sources of knowledge.. <a href="#">41</a> , <a href="#">56</a>
ethnography	A research method where a culture is studied in depth. Typically, researchers “join” a culture and observe social interactions from within. As a example, a researcher who lives in a commune for several years and then writes about social interactions observed is conducting ethnographic research. <a href="#">41</a>
explanatory research	Research that is designed to explain an observed phenomena or process. <i>see</i> <a href="#">exploratory research</a>

external validity	The degree to which a research project's results can be applied outside the context of the study. For example, if the results of a research project that studied manufacturing firms in the mid-west could be applied to firms in the south then that study would have high external validity. <i>see</i> <a href="#">validity</a>
face validity	A determination of whether an indicator is a reasonable measure of an underlying construct "on its face." For example, is the amount of money spent on live theater tickets a measure social class? <i>see</i> <a href="#">validity</a>
functionalism	A belief in the practical application of a theory. Functionalism is more concerned with how a theory can be used in the real world than conducting research for the sake of increasing understanding. <a href="#">56</a>
grounded theory	A theory based on observation rather than experimentation. Thus, the strength of the theory is dependent on the skill of the researcher and may not be repeatable by a different researcher or at a different time. <a href="#">21</a>
hawthorne	An effect first described in the 1950s when Henry A. Landsberger observed workers in the Hawthorne Works electric company. He noticed that when workers thought that they were being observed they tended to work harder and perform better. Thus, the hawthorne effect is the alteration of peoples' behavior when they think that they are being observed. <a href="#">15</a> , <a href="#">24</a>
hermeneutics	The study of the methodology of interpreting texts. This was originally applied to Biblical studies but now includes most humanities like law, history, and philosophy. <a href="#">28</a>

hypothesis	A proposed explanation for an observed phenomenon. Often, a hypothesis that may be based on incomplete information is the starting point for further investigation. As an example, if a merchant notices that eye-level shelves tend to need restocking more frequently a hypothesis may be proposed that shoppers purchase goods from eye-level shelves first. <a href="#">41</a>
independent variable	Independent variables are those that create an observed effect. For example, if a farmer conducts an experiment where different types of fertilizer are applied to two fields in order to see which is more effective then the type of fertilizer is the independent variable; that is, the type of fertilizer is the variable that is creating the observed effect. <i>see</i> <a href="#">dependent variable</a>
inductive research	A research methodology that works from specific observations to a general theory. This is sometimes called the “theory-building” form of research. <a href="#">41</a>
internal validity	The degree to which a research project avoids confounding multiple variables within the study. A project with high internal validity facilitates selecting one explanation over an alternate since the number of confounding variables are controlled. <i>see</i> <a href="#">validity</a>
interpretive research	Interpretive research explores an observed phenomenon within its social context in an effort to discern the meaning people ascribe to the action. This type of research is firmly grounded in constructivism where it is believed that reality is shaped by perception rather than a knowable “truth.” <a href="#">41</a>

interval data	Interval data are a type of quantitative data that are measured along a scale where each point is an equal distance from the next. It is possible to compare the distance between two points on an interval scale; for example, the difference between 90 and 100 degrees is the same as the difference between 40 and 50 degrees. However, since an interval scale does not have a zero point, stating 100 degrees is twice as hot as 50 is not possible. <i>see</i> <a href="#">quantitative data</a>
IRB	Institutional Review Board. <a href="#">15</a>
longitudinal	A type of research that is conducted over a long period of time. This is most often in reference to a survey but could be applied to other research methods. For example, repeated surveys over a period of five years of small business owners in a single city would be longitudinal. <i>see</i> <a href="#">cross-sectional</a>
meta-analysis	A research method that examines the data collected from many different studies of the same subject in an attempt to detect trends or overall observations. <a href="#">29</a>
nominal data	Nominal data are a type of qualitative data that are grouped but with no order implied in the grouping. As an example, the gender of survey respondents is nominal data. <i>see</i> <a href="#">qualitative data</a>
non-probability sampling	A type of sampling that does not involve a random selection from the population. This is called non-probability sampling since some members of the population have no probability of being selected. <i>see</i> <a href="#">probability sampling</a>



nonparametric	Nonparametric data are data that do not conform to a distribution, are skewed, or are qualitative in nature. Statistical tests that work with nonparametric data are generally less powerful and predictive than tests that work with parametric data. <i>see</i> <a href="#">nonparametric</a>
ontology	The branch of philosophy that is concerned with the nature of reality.. <a href="#">41</a> , <a href="#">56</a>
ordinal data	Ordinal data are a type of qualitative data that are grouped where the groupings have an implied order. As an example, the “satisfaction” rating on a customer survey typically permits respondents to choose from several levels where one level is somehow better than another. <i>see</i> <a href="#">qualitative data</a>
paradigm	A pattern or model of how things work in the world. <i>see</i> <a href="#">theory</a>
parametric	Parametric data are data that conform to a distribution, usually a normal distribution. Statistical tests that work with parametric data are generally much more powerful and predictive than tests that work with nonparametric data. <i>see</i> <a href="#">nonparametric</a>
population	A set of similar items or events of interest to a researcher. For example, the set of small business owners in the United States would be a population. <i>see</i> <a href="#">sample</a>
positivist	A researcher who uses positivist techniques on research projects. <a href="#">41</a> , <a href="#">56</a> , <i>see</i> <a href="#">positivism</a>
predictive validity	The degree to which a measure predicts an outcome. For example, does increasing beer sales (a measure) predict increasing potato chip sales? <i>see</i> <a href="#">concurrent validity</a>

probability sampling	A type of sampling that involves a random selection from a population. It is called probability sampling since every member of the population has a probability to be selected. This is frequently called “random sampling” since members of the population are chosen at random. <i>see</i> <a href="#">non-probability sampling</a>
qualitative data	Qualitative data approximates or describes attributes that cannot be directly measured, like employee morale, customer relationships, and management effectiveness. Typically, qualitative data attempt to answer questions like “why” and “how come.” <a href="#">42</a> , <i>see</i> <a href="#">quantitative data</a>
qualitative research	Qualitative research typically intends to explore observed phenomena with a goal of developing hypotheses and dive deep into a problem. Qualitative data collection involves semi-structured activities like focus groups and ethnographies. <a href="#">41</a> , <i>see</i> <a href="#">quantitative research</a>
quantitative data	Quantitative data are numeric measurements of attributes, like the number of employees, the median value of housing, and total revenue. Quantitative data are gathered and analyzed using statistical methods. <a href="#">42</a> , <i>see</i> <a href="#">qualitative data</a>
quantitative research	Quantitative research typically uses numerical data and statistical analysis to find patterns and generalize results to a large population. Quantitative data collection involves structured activities like surveys, interviews, and systematic observations. <i>see</i> <a href="#">qualitative research</a>

ratio data	Ratio data are a type of quantitative data that are measured along a scale where each point is an equal distance from the next and there is a zero point. An example of ratio data is people's heights, which is measured along a uniform scale, e.g. inches or centimeters. Because there is a true zero point, it is possible to determine that one person is twice as tall as another. <i>see</i> <a href="#">quantitative data</a>
reliability	A descriptor for the consistency of a concept's measure. It is desirable to achieve the same, or nearly same, values for each sampling. For example, if the mean age of the people in one sample is 30 while in another is 50 then this would indicate a problem with reliability of the data. <i>see</i> <a href="#">validity</a>
sample	A subset of a population from which data are drawn in order to make inferences about the entire population. <i>see</i> <a href="#">population</a>
semiotics	The study of signs and symbols and their use or interpretation. <a href="#">42</a>
statistical conclusion validity	The degree to which the conclusions found in a research project are correct. Studies with high statistical conclusion validity minimize the two types of statistical errors: Type I (finding a correlation when there is none) and Type II (failing to find a correlation when one exists). <i>see</i> <a href="#">validity</a>
t-test	A test used to analyze the difference in two groups of samples that are normally distributed. <i>see</i> <a href="#">ANOVA</a>
theory	A system of ideas that is intended to explain phenomena. Theories that are accepted by scientists have been repeatedly tested and can be used to make accurate predictions. Unlike common usage, a scientific theory is a tested, falsifiable explanation for phenomena. <a href="#">41</a> , <i>see</i> <a href="#">paradigm</a>

translational validity	The degree to which a construct has been measured by a research project. Translational validity is divided into two types: face and content. <i>see</i> <a href="#">validity</a>
univariate	A type of analysis involving a single variable. Univariate analysis findings include the central measure, standard deviation, and frequency distributions. Graphic tools include box plots for continuous data and bar plots for discrete data. <i>see</i> <a href="#">bivariate</a>
validity	A descriptor of whether a research project is measuring the variable under question. For example, if a project hypothesis is that older men tend to tip more than younger men then the validity of the study would be in question if the researcher only sampled men under the age of 40. <i>see</i> <a href="#">reliability</a>

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