Briefs

These “briefs” provide expanded discussions of some of the key items in the Glossary of the Sixth Edition. Each brief also points to the location in the main text where the item is discussed more fully.

**1. Analytic Generalization** (generalizing from a case study); see “**analytic generalization**” in the 6e glossary.

One of the greatest challenges in doing case study research is understanding whether—and how—to generalize findings from a small number of case studies, much less from a single-case study. The typical concern is that the “sample” of cases is too small for any generalizing to take place. However, any notion that the cases serve as a sample (of some known and larger universe) is the beginning of the wrong way to think about this challenge.

Instead, the findings from case studies can be generalized, but on analytic rather than statistical grounds. The analytic grounds emanate from the theoretical significance of a case study’s findings—for example, the importance of a *public health model* of drug prevention in **Application #11** in the main text. The findings showed how successful prevention can sometimes occur only when changes are made to a person’s environment. Such a public health theory contrasts with individual-based theories that call for people to change their behavior, when in fact the individuals may be the victims rather than the root causes of the public health problems.

In **Application #11**, the coalition’s strategy (directed at reducing the overabundance of poorly monitored liquor stores) represents an instance of the application of the public health model. The findings can be used to generalize to other similar efforts—such as eradicating stagnant pools of water (to prevent the spread of mosquito-driven diseases), cleaning up tainted water supplies (as in the mid-2015 problem in Grand Rapids, MI), eliminating cigarette vending machines in places easily accessible to underaged youths, or even stopping the sales of cold beer at gas stations to reduce auto accidents. These analytic (rather than statistical) parallels all identify other situations to which **Application #11**’s findings might be generalized.

(For more information, see Yin, 6e, Chapter 2, discussion on generalizing from case studies.)

**2. Archival Sources of Data**; see “**multiple sources of evidence**” in the 6e glossary.

The case study of a military base closure in **Application #7** shows the invaluable nature of archival sources of data. Although the case study included evidence from the author’s own fieldwork and interviews with participants at and around the military base, the bulk of his data came from economic records maintained by a variety of sources, including the local chamber of commerce (these sources are detailed and fully cited in the case study as it was originally published but have not been included in the briefer rendition in **Application #7**).

One clear benefit of using these archival data is to permit a case study to extend its reach over a longer period of time. With the military base closure, relevant annual trends were presented over a 5-year period. Such a period may go well beyond the reasonable commitment of time for doing the fieldwork for a case study, and in this sense archival data can help elongate the time perspective and provide a firmer basis for drawing the conclusions from a case study.

(For more information, see Yin, 6e, Chapter 4, section on “Archival Records.”)

**3. Case Studies as Part of a Mixed Methods Study**; see “**mixed methods study**” in the 6e glossary.

Mixed methods research consists of single studies that employ two or more different methods (e.g., a survey and a case study as part of the same overall study). The single-case study presented in **Application #**4 was part of a fuller, multiple-case study that was a mixed methods study.

First, the study included 32 case studies, such as the one in **Application #4**,covering citizen patrols across the country. Second, the research team conducted phone interviews with the patrol leaders of 100 other patrols. All this information became part of a cross-case synthesis and then the basis for drawing conclusions about the workings of citizen patrols.

(For more information, see Yin, 6e, Chapter 2, section on “Mixed-Methods Designs.”)

**4. Case Study Databases**; see “**database**” in the 6e glossary.

The question-and-answer format in **Application #6** about a neighborhood organization is not just a way of presenting a case study report. The format also may be used to organize a database from which a more interesting and compelling case study can be composed. Thus, the format could have been used as either the basis for the final case study (as presented in **Application #6**) or as the database for a separate case study to be composed afterward.

Preserving the database in a question-and-answer form that reflects the questions from the case study protocol is analogous to the assembling of a survey database and can strengthen any subsequent case study. The most formal version of a case study database would contain numerous citations, indicating the specific source of the data, such as a particular document, interview, archive, or date and place of a field observation.

(For more information, see Yin, 6e, Chapter 4, section on “Create a Case Study Database.”)

**5. Case Study Protocols** (aimed at the investigator, not interviewees); see “**protocol**” in the 6e glossary.

A case study protocol serves as an essential tool for collecting case study data. The protocol contains questions that your case study will address.

Because most social science instruments contain questions for interviewees (or respondents), a frequent misconception is that a case study protocol has the same property. However, the case study protocol is, in fact, entirely different. It itemizes questions to be addressed by you as the case study investigator. The protocol also can describe the field procedures that you are to follow. In other words, a case study protocol serves as your own agenda.

The data collection in **Application #6** followed just such a protocol. The protocol was developed prior to the fieldwork, and its questions were addressed by obtaining data from multiple sources—that is, by reviewing documents, making direct observations, and conducting interviews. A well-designed protocol will cover the questions of a case study in a systematic manner. As a result, a good protocol also can lead directly to the outline for the case study report.

(For more information, see Yin, 6e, Chapter 3, section on “The Case Study Protocol.”)

**6. Common Preparation and Training When Doing a Multiple-Case Study**; see “**training (to do a case study)**”in the 6e glossary.

Many multiple-case studies may be conducted by multiple investigators serving on the same research team. Each investigator collects and analyzes the data from one or more of the case studies. Under these circumstances, having a common case study protocol and common preparation is essential.

Unlike the situation where a solo investigator may be doing an entire case study (whether a single- or a multiple-case study), a team of investigators must ensure that it will use parallel procedures and methods. Otherwise, the resulting multiple-case study can produce uneven results, with the variations introduced by the multiplicity of team members wrongly being mistaken for variations in the substance of the cases.

The role of protocols and formal preparation may be less important if you are a single investigator doing an entire case study. However, as a single investigator, you still must be concerned about unwanted variations in your data collection procedures, either from case to case (if you are doing a multiple-case study yourself) or from time period to time period (when doing a single-case study). Therefore, even for solo investigators, using a case study protocol still may be a desirable procedure.

(For more information, see Yin, 6e, Chapter 3, section on “Preparation and Training for a Specific Case Study.”)

**7. Cross-Case Synthesis**; see “**cross-case synthesis**” in the 6e glossary.

Cross-case syntheses bring together the findings from individual case studies and are the most critical parts of a multiple-case study. The desired synthesis will initially treat each individual case study as if it had been an independent study. The technique, therefore, does not at first differ from other research syntheses.

If large numbers of case studies are part of the same multiple-case study, the synthesis can use quantitative techniques common to other research syntheses, as described in **Tutorial 5.3**. However, in the more common situation, a multiple-case study will have only a small number of component case studies, requiring alternative analytic procedures. Under this circumstance, you should be careful to follow a “case-based” rather than “variable-based” approach. This means that the assembling of word tables (displaying the data from the individual case studies) or the searching for patterns across the case studies all need to respect the integrity or holistic-ness of each individual case study rather than simply extracting and arraying the component variables from each case study.

(For more information, see Yin, 6e, Chapter 5, section on “Cross-Case Synthesis.”)

**8. Exemplary Case Designs**; see “**single-case study**” in the 6e glossary.

The case in **Application #9** was chosen to be the subject of a case study because the firm was believed, ahead of time, to have transformed itself successfully. The case selection criterion represents an example of an exemplary case design.

This design can be used in doing a single-case or multiple-case study. In the multiple-case situation, the use of the exemplary case design means that all the cases in the case study will reflect strong, positive examples of the phenomenon of interest. The rationale suits a replication logic well because the overall investigation then may try to determine whether similar explanatory events within each case produced these positive outcomes.

The use of the exemplary case design, however, also requires you to determine beforehand whether a specific case indeed has produced exemplary outcomes. Extensive case screening may be needed, and you must resist permitting the case screening process to become a study in itself.

(For more information, see Yin, 6e, Chapter 2, section on “What Are the Potential Single-Case Designs?”)

**9. Explanation Building**; see “**explanation building**” in the 6e glossary.

As an analytic technique, you need to recognize that explanation building involves making a set of claims that readers can challenge. Among other cautions, you will need to show the credibility and worthiness of your explanation by citing convincing evidence that has been fairly presented, not arbitrarily selected because the evidence happened to support the explanation.

To bolster the technique, your ability to state and investigate rival explanations can contribute immensely to the strength of the explanation-building process. You can weave the rival or rival explanations into your analysis, or you can encourage a key participant to offer a rival as part of a supplement to your case study. In either situation, you would then compare and discuss the original and rival explanations. For the explanation building process, the appeal to rival explanations plays an especially important role because the process will likely have been central to your entire case study analysis.

(For more information, see Yin, 6e, Chapter 5, section on “Explanation Building.”)

**10. Exploratory Case Studies**; see “**exploratory case study**” in the 6e glossary.

A major problem with exploratory case studies arises when investigators wrongly use the data collected during the exploratory phase as part of the ensuing case study. You could then be accused of having conducted a case study in which you found what you were looking for. Thus, you should not permit such slippage from the exploratory (pilot) phase into the actual case study to occur.

An exploratory study should be conducted as a separate task. You may have started your exploratory work because you were initially uncertain about some major aspect of your anticipated case study—the questions to be asked, the hypotheses of study, the data collection methods, the access to the data, or the data analytic methods—and, therefore, needed to investigate one or more of these issues. Once investigated, the pilot or exploratory phase should be considered as having been completed. Now, you are ready to start the real case study from scratch with a complete research design, a whole new set of sources of information, and a fresh set of data.

(For more information, see Yin, 6e, Chapter 2, subsection on “Study Propositions.”)

**11. Fieldwork Observations**; see “**fieldwork**” in the 6e glossary.

Doing fieldwork is one of the highly valued aspects of doing case studies, and a key part of the fieldwork is the ability (and need) to make direct observations of field events. In making these observations, the fieldworker is the primary research instrument. Although the observations are genuine, fieldworkers must work hard to avoid tainting them with the premature introduction of concepts and categories. Good fieldworkers nevertheless know that direct observations come with their own methodological challenges.

First, the fieldworker as an instrument will still have some unavoidable cultural and personal perspectives that affect how the field conditions are observed, interpreted, and reported. Second, the fieldworker’s presence may inadvertently affect the participants being observed, so what appears as their routine behavior may contain a reflexive element. Third, the fieldworker cannot observe all locations at every point in time, and choosing where and when to make field observations represents another discretionary decision. For these and other reasons, most case studies do not rely on field observations as their sole source of evidence, as invaluable as they are.

(For more information, see Yin, 6e, Chapter 4, sections on “Direct Observations” and “Participant-Observation.”)

**12. Guidelines for Case Study Evaluations**; no counterpart in the 6e glossary.

The U.S. Government Accountability Office (GAO) has been among the more frequent users of case studies as an evaluation tool. To help its own evaluators, the GAO published a comprehensive methodological report titled *Case Study Evaluations* (1990). The report’s usefulness and detailed operational advice make it an invaluable document for all others in the evaluation field (e.g., studies evaluating interventions in such areas as justice, housing, welfare, environment, education, and foreign aid).

Throughout, the GAO report emphasizes quality control and rigor and, therefore, freely cites many of the procedures and concepts from the earlier editions of this book, now continuing to appear in the 6e, such as the use of multiple sources of evidence, the establishment of a chain of evidence, and the reliance on pattern matching and explanation building as two major analytic strategies. However, the GAO report has the added virtue of citing case study evaluations that were completed by the GAO. (Because of the age of the GAO report, you may want to scan a more contemporary list of current GAO publications to identify more recent evaluations.)

(For more information, see Yin, 6e, Chapter 1, section on “Variations in Case Studies as a Research Method,” as well as Appendix B.)

**13. Interviews**; see “**interview**” in the 6e glossary.

Your case study can present numerous direct quotations of the words spoken by the participants in open-ended interviews. The quoted phrases and sentences help present the participants’ perspectives and thinking. In other case studies, you may want to explore these insights more deeply, adding your interpretation of the quoted materials by expanding the text to cover whole paragraphs or even large portions of a chapter.

Of course, taking quoted words while actively participating in a field setting is a challenge. Without some kind of recording device, the quoted material is likely to be short. To capture longer passages will either require you to use such recording devices or to develop a facile note-taking procedure. An alternative option, also found in many case studies, is to use longer passages but to paraphrase rather than directly quote the participants. Now, however, some of the value of having directly quoted materials is lost because the paraphrasing does not assure that a participant’s exact mood, tempo, attitude, or content have been properly represented.

(For more information, see Yin, 6e, Chapter 4, section on “Interviews.”)

**14. Literal and Theoretical Replications**; see “**replication logic**” in the 6e glossary.

The case study in **Application #9** came from a multiple-case study of manufacturing firms, which included nine that were transformed (direct replications) and five that had not quite become transformed (theoretical replications)—see Yin, 2012a, Chapter 12 for a complete report about this multiple-case study.

In a direct replication, two or more cases are predicted to follow courses of events similar enough that they repeat or replicate each other’s experience—in a conceptual, not literal, sense. In a theoretical replication, two or more cases are predicted to have contrasting experiences, but with conceptually consistent explanations. In the original multiple-case study, the five additional firms fell into this category. As a result, the analysis of how transformation occurs drew from both groups’ experiences.

(For more information, see Yin, 6e, Chapter 2, section on “What Are the Potential Multiple-Case Designs?”)

**15. Logic Models**; see “**logic model**” in the 6e glossary.

The hypothesized sequence of activities and outcomes in a case study meld into a conceptual array known as a logic model. Case study data then can be collected and analyzed to examine the plausibility of the hypothesized sequence, to determine whether the actual sequence of events emulates the hypothesized one.

Articulating the logic model even can be considered an end in itself. For instance, in studying public programs or organizational changes, sometimes the articulation of a logic model ahead of time may reveal that a planned change is illogically related to its desired outcomes on intuitive grounds alone, prior to collecting any empirical evidence (Wholey, 1979). The establishment of a compelling logic model, therefore, is helpful in two ways. First, it can guide the implementation of any planned change. Second, case study teams can establish that a hypothetical logical model makes common sense before committing to data collection and the remainder of a case study.

(For more information, see Yin, 6e, Chapter 5, section on “Logic Models.”)

**16. Multiple Sources of Evidence**; see “**multiple sources of evidence**” in the 6e glossary.

Data for a case study can come from a variety of sources: documents (including media reports), archival records (e.g., computerized records of clients in a service delivery system), interviews, direct observations, participant-observation, and physical artifacts (e.g., the actual condition of the houses in a housing study). Using these multiple sources can strengthen the evidence for your case study. When findings, interpretations, and conclusions are based on such multiple sources, the case study data will be less prone to the quirks from any single source, such as an inaccurate interviewee or a biased document.

(For more information, see Yin, 6e, Chapter 4, section on “Principle 1: Use Multiple Sources of Evidence.”)

**17. Process and Outcome Evaluations**; no counterpart in the 6e glossary.

Producing research proposals, as depicted in **Application #10**, may be considered a process, which should then yield a sequence of outcomes: winning awards and then, ultimately, producing high-quality research. The proposal-producing process, nevertheless, also calls for a complex set of activities and may itself be worthy of study. Such a study would represent a process evaluation.

Processes occur over a period of time. Case studies also traditionally trace events over time. Therefore, the case study method initially was conceived as a strong method for doing process evaluations but not necessarily as useful for studying outcomes or process-outcome relationships. Traditionally, the conduct of a rigorous outcome evaluation was thought to rely on using a different research method and not normally expected to be part of a case study.

The concepts espoused in this 6e book are different. Case study evaluations can cover both processes and outcomes and can include both quantitative and qualitative data. The case study in **Application #10** tends to focus on processes. However, other applications in this book (e.g., see **Applications #6, 7, 8, 9, and 11**) cover both processes and outcomes as well as their relationship.

(For more information, see Yin, 6e, Chapter 5, sections on “Time-Series Analysis” and “Logic Models.”)

**18. Qualitative and Quantitative Research in Case Studies**; no counterpart in the 6e glossary.

The dichotomy between qualitative and quantitative research has become a longstanding but stereotypic split in social science research. According to the conventional (but misleading) split, qualitative research is characterized as being “soft” social science, dealing with inadequate evidence; in contrast, quantitative research is considered to be hard-nosed, data-driven, outcome-oriented, and truly scientific.

This 6e book takes a different position. The book considers the contrasting characteristics between what is qualitative (categorical and narrative data) and what is quantitative (numeric data) not necessarily as attributes of two competing types of research. Instead, they may be considered attributes of two types of data. And, as with all its previous editions, the 6e book assumes that a case study can call on both qualitative and quantitative data.

Such a focus on the type of data may relieve the unproductive debate between qualitative and quantitative research. Qualitative research also can be hard-nosed, data-driven, and outcome-oriented. Similarly, quantitative research can be soft because of inappropriate sample sizes, poorly specified variables, or the choice of lenient significance levels. These are attributes of good and poor research and not of a dichotomy between two different types of research.

(For more information, see Yin, 6e, Chapter 1, section on “Variations in Case Studies as a Research Method.)”

**19. Replication, Not Sampling, for Multiple-Case Studies**; see “**replication logic**” in the 6e glossary.

The replication logic for case studies borrows directly from the same logic in doing experiments. Neither the number of cases in a case study or the number of experiments in an experimental study are likely to be large. However, if the cases (or experiments) corroborate one another, the multiple-case findings can be considered to be more robust. In contrast, a sampling logic is used when a study is mainly interested in having its findings pertain to a larger population or universe. The sample is chosen according to pre-identified representational criteria—and the sample must be sufficiently large (usually many data points) to satisfy a statistical power analysis.

(For more information, see Yin, 6e, Chapter 2, subsection on “Replication, Not Sampling Logic, for Multiple-Case Studies.”)

**20. Rival Explanations**; see “**rival explanations**” in the 6e glossary.

No concept is more helpful in conducting any kind of research than the concept of rival explanations. Yet, existing social science texts rarely point to the importance of this concept, much less give guidance on how to articulate or investigate such rivals.

The most common rival explanation has been the null hypothesis. A null hypothesis is simply that, in a statistical study, the observed effect or outcome occurred by chance alone and not because of any hypothesized intervention. In doing case studies, the more important rivals are those that point substantively to other plausible conditions or forces that might explain what really happened in a case. When you have identified rival explanations in this sense, you can collect data to examine the competing explanations and compare the results through a pattern-matching process. The better and more numerous the rivals that can be investigated in this manner, the stronger your case study will be—whether you conclude that the evidence supports your original explanation or one of the rivals.

(For more information, see Yin, 6e, Chapter 5, subsection on “Examining Plausible Rival Explanations.”)

**21. Screening Candidate Cases**; no counterpart in the 6e glossary.

Selecting the cases for a case study should not simply be a matter of finding the most convenient or accessible case (or field setting) from which you can collect data. The case selection should be based on a clear, if not strong, substantive rationale. For instance, you may desire to have exemplary instances of the phenomenon being studied, or you may want multiple cases that include contrasting conditions.

Whatever the reasons, the candidate cases should be screened beforehand, and you need to anticipate this as a step in your work plan. The screening process will involve collecting sufficient data to decide whether a case meets your preestablished criteria. The most desirable screening process will identify an array of candidate cases but without actually collecting so much data that the screening begins to emulate the conduct of the actual case studies. In other words, you need to be careful to avoid allowing the screening procedure to become too extensive or too expensive.

(For more information, see Yin, 6e, Chapter 3, section on “Screening the Candidate Cases for Your Case Study.”)

**22. The “Case” as the Unit of Analysis**; see “**case**” in the 6e glossary.

The definition of the “case” in a case study is not always evident. For instance, in a multiple-case study of organizations providing technical assistance to local agencies, the case may be neither the organizations nor the agencies. Rather, each case may focus on *a technical assistance engagement* (which was the actual unit of analysis in a case study presented as Chapter 15 in Yin, 2012a).

Careful definition of the case(s) in a case study will help establish the priorities for collecting and analyzing data. For instance, in the case study of technical assistance (TA), the most relevant data were about the TA engagements, and any data about the organizations and agencies served more of a background context. Similarly, the findings from the case study were intended to pertain to related kinds of TA engagements (note that the hypotheses at the end of the case study are about the engagements, not about the organizations and agencies).

(For more information, see Yin, 6e, Chapter 2, subsection on The “Case.”)

**23. The Importance of Multiple-Case Studies**; see “**multiple-case study**”in the 6e glossary.

Some of the applications in this book, though presented as a single-case study, were originally part of a multiple-case study (see **Applications #4, 6, and 9**). If given the choice and the resources, multiple-case designs may be preferred over single-case designs. In particular, if you can even do a two-case study, your chances of producing credible results will be better than using a single-case design. For instance, analytic conclusions independently arising from two cases, as with two experiments, will be more powerful than those coming from a single-case study (or a single experiment) alone. You also can avoid a common criticism about single-case designs—that the choice of the single case reflected some unusual but artifactual condition about the case (for example, that special access to a key informant or special data unknowingly colored the findings).

(For more information, see Yin, 6e, Chapter 2, section on “Single- or Multiple-Case Designs?”)

**24. Theories for Descriptive Case Studies**; see “**descriptive case study**” in the 6e glossary.

References to the use of theory usually involve the formation of hypotheses about cause–effect relationships. These theories would, therefore, be considered relevant to explanatory case studies. However, theories also can be important for descriptive case studies.

The desired descriptive theory should cover the scope and depth of the case being described. If you were to describe an individual, an organization, or some other possible subject of a case study, where should your description start and where should it end, and why? What should your description include, and what might it exclude, and why? The criteria used to answer these questions would represent your “theory” of what needs to be described. This theory should be openly stated ahead of time, should be subject to review and debate, and even may later serve as the design for the descriptive case study.

(For more information, see Yin, 6e, Chapter 2, section on “The Role of Theory in Research Designs.”)

**25. Triangulation**; see “**triangulation**” in the 6e glossary.

Most research investigators know the original derivation of the concept of triangulation: A point in three-dimensional space may be established by specifying the intersection of three vectors (not two or one, and four would be redundant). This concept has been borrowed for dealing with social science evidence: The most robust evidence may be considered to have been established if the data from three independent sources all coincide.

Consider the difficulty of establishing the occurrence of an event if you were unable to observe it directly yourself. You would be more confident in saying that the event had occurred if your study showed that information from interviews, documents, and archival records all pointed in the same direction. This type of triangulation is the most desired pattern for dealing with case study data, and you should always seek to attain it. An important clue when doing fieldwork is to ask the same question of different sources of evidence, as well as asking the same questions of different interviewees. If all sources point to the same answer, you will have successfully triangulated your data.

(For more information, see Yin, 6e, Chapter 4, section on “Principle 1: Use Multiple Sources of Evidence.”)

**26. Using Theory in Case Study Research**; no counterpart in the 6e glossary.

Theoretical considerations can help at many stages in doing case study research. However, how you might develop such theory, especially prior to collecting any data, is sometimes elusive. The desired theory should by no means be considered with the formality of “grand theory” in social science but should simply provide a blueprint for your study, such as developing “a [hypothetical] story about [how and] why acts, events, and structure occur” (Sutton & Staw, 1995, p. 378).

As one example, if you are at the stage of selecting the case(s) to be studied, the emerging theory might be about the (substantive, not logistical) quality of the case(s) that draws attention to itself. How and why the case seems to have special meaning would represent the start of an important theoretical statement. You could then link the statement, if desired, to related literature and thereby increase the potential contribution of even a single-case study.

As a second example, if you are at the stage of trying to generalize from the findings of your case study, having an emerging theory beforehand might point to how and why the eventual findings might be expected to be relevant to other similar situations or conditions. Focusing on the how and why of these and other questions can go a long way toward helping you increase the value of your case study.

(For more information, see Yin, 6e, Chapter 2, section on “The Role of Theory in Research Designs.”)