Tutorial 1.1

More on Defining "Case Study"

In *Case Study Research and Applications* (6th ed.), a "case study" means a particular kind of research method. The term parallels those used to refer to other kinds of social science methods, such as an "experiment," a "survey," and a "history." "Case study research" is then the broader mode of inquiry (again, parallel to "experimental research," "survey research," and "historical research"), and doing case study research is the topic of the entire book.

The definition of case study in Chapter 1 of the sixth edition retains the essence stated in the book's first edition (1984). The definition has two parts:

(a) *The scope of a case study*: Investigating a contemporary phenomenon (the "case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident and

(b) *A case study's features*: The situation where there will be many more variables of interest than data points, thereby relying on multiple sources of evidence and benefiting from the development of theoretical propositions to guide data collection and analysis.

Communicating a clear definition is difficult. Some reference works (e.g., Abercrombie, Hill, & Turner, 2006; Schwandt, 2015) give short but incomplete definitions. Other works may use several pages and still not attain clarity (e.g., David, 2006b; Mills, Durepos, & Wiebe, 2010b). The two-part definition can also be enhanced to avoid misinterpretations that have arisen with the earlier editions of *Case Study Research and Applications*. The enhancements are as follows:

1. The lack of sharpness between *phenomenon* and *context* does not minimize the need to identify a "case" and its singularity as the essential feature of a case study; on the contrary, Chapter 2 (see pp. 28-31) discusses the challenge of defining the "case" in great detail.

2. The term *in-depth*, especially when studying a *contemporary phenomenon*, implies the likely need for some kind of fieldwork, to get you up close to the case being studied.

3. The term *contemporary phenomenon* embraces a broad notion of studying the present that also includes the recent past—just not a study limited entirely to those events in the "dead" past, where no direct observations can be made and no people are alive to be interviewed (doing a history would be the relevant method under those conditions).

4. Having *more variables of interest than data points* arises from the complexity of the case and its context—hence, many variables (Appendix A of the sixth edition explains how the multiplicity of variables can arise in psychology case studies), with the case being the only "data point." The use of this language does not mean that case studies are variable-based; on the contrary, the multiplicity of variables raises doubts about the usefulness of conventional variable-based methods in analyzing case study data, thereby favoring holistic approaches.

As a final clarification, the sixth edition's discussion of when to use case study research focuses on its "niche," compared to other modes of social science inquiry. The discussion was not intended to be used as the definition of "case study." Similarly, the use of "case study" as a research method differs from other uses of the same term when a "case study" is not necessarily following any explicit research procedures, such as the case studies in the

popular literature and media (“popular case studies”) or the case studies in professional training settings (“teaching and practice case studies”)—see “nonresearch” case studies, pp. 18-20, as well as the preface.

Briefly Annotated References for Tutorial 1.1

Abercrombie, N., Hill, S., & Turner, B. S. (2006). *The Penguin dictionary of sociology* (5th ed.). London: Penguin. Presents a pocket dictionary, with references, of terms used in sociology.

David, M. (2006b). Editor’s introduction. In M. David (Ed.), *Case study research* (pp. xxiii–xlii). London: Sage. Contains nearly 100 reprints of source materials for case study research.

Mills, A. J., Durepos, G., & Wiebe, E. (2010b). Introduction. In A. J. Mills, G. Durepos, & E. Wiebe (Eds.), *Encyclopedia of case study research* (pp. xxxi–xxxvi). Thousand Oaks, CA: Sage. Introduces a two-volume encyclopedia devoted to case study research.

Schwandt, T. A. (2015). *The Sage dictionary of qualitative inquiry* (3th ed.). Los Angeles: Sage. Defines terms, with references, used in qualitative research.

Tutorial 2.1

More on Defining "Analytic Generalization"

An analytic generalization consists of a carefully posed theoretical statement, theory, or theoretical proposition. The generalization can take the form of a lesson learned, working hypothesis, or other principle that is believed to be applicable to other situations (not just other "like cases"). Thus, the preferred analytic generalization is posed at a conceptual level higher than that of the specific case (presumably, your interest in this higher level justified the importance of studying the chosen case in the first place).

Though not using the same terminology, other prominent works have devoted attention to analytic generalization, also distinguishing it from statistical generalization: (1) Mitchell's (1983) contrast between *logical inference* and *statistical inference*; (2) Bromley's (1986) discussion of *case inference* compared with *statistical inference* (pp. 290–291); and (3) Donmoyer's (1990) *schema.* A fourth work, by Burawoy (1991, pp. 271–280; 2009), covers the *extended case method*—his way of describing how a generalization "extends" a narrow case to some broader significance.

The more difficult and contrary position—that the studied case should be construed as an instance, example, or sample of some larger group of cases—undesirably returns to statistical generalization (and the relationship between a sample and its population—e.g., Gomm, Hammersley, & Foster, 2000, pp. 99–103). That position dwells on the fact that a "case" seems to be an instance or example of other "like cases." However, such a claim is inappropriate when thinking about analytic generalization, where the findings from a case study can have implications going well beyond the same kind of case and extend to a whole

host of other unlike situations (see BOX 7, p. 43, in *Case Study Research and Applications*, 6th ed., for three examples). Moreover, unless a case study has included a large number of cases—typically dozens or scores if not hundreds of cases (see Tutorial 5.3)—a case study with even a modest number of cases will still face an uphill battle by invoking the sample to population analogy and its concomitant need to employ statistical analyses to assess the strength of any relationship.

Small (2009) provides two excellent examples and an insightful discussion of analytic generalization, also citing the same key works as referenced above. To him, the preferred logic represents "a different perspective and language of inquiry" (p. 18). He further notes the importance of starting with a substantive proposition (e.g., a conjectured relationship or process) rather than a numeric one (e.g., the conjectured representativeness of a case) to make analytic generalizations work.

Briefly Annotated References for Tutorial 2.1

Bromley, D. B. (1986). *The case-study method in psychology and related disciplines*. Chichester, England: Wiley. Provides comprehensive guidance on case study research in psychology.

Burawoy, M. (1991). The extended case method. In M. Burawoy, A. Burton, A. A. Ferguson, K. J. Fox, J. Gamson, N. Gartrell, et al. (Eds.), *Ethnography unbound: Power and resistance in the modern metropolis* (pp. 271–287). Berkeley: University of California Press. Presents the extended case method for analyzing participant-observation data.

Burawoy, M. (2009). *The extended case method: Four countries, four decades, four great transformations, and one theoretical tradition*. Berkeley, CA: University of California Press.

Donmoyer, R. (1990). Generalizability and the single-case study. In E. W. Eisner & A. Peshkin (Eds.), *Qualitative inquiry in education: The continuing debate* (pp. 175–200). New York: Teachers College Press. Offers a way of generalizing from single studies, not based on sampling and statistical significance.

Gomm, R., Hammersley, M., & Foster, P. (2000). Case study and generalization. In R. Gomm, M. Hammersley, & P. Foster (Eds.), *Case study method* (pp. 98–115). London: Sage. Highlights use of the case study method for generalizing, rather than merely studying a case for its own sake.

Mitchell, J. C. (1983). Case and situation analysis. *Sociological Review, 31,* 187–211. Emphasizes case study research as a method for preserving the unitary character of the social object being studied and discusses the challenge of generalizing from the case(s).

Small, M. L. (2009). “How many cases do I need?” On science and the logic of case selection in field-based research. *Ethnography, 10,* 5–38. Poses a thoughtful article on key issues in designing field-based research, including the challenge of generalizing from field situations.

Tutorial 3.1

More on Review by Institutional Review Boards (IRBs)

Gaining approval from an institutional review board (IRB) has become a standard part of doing any research involving human subjects. However, the approval process can be anything but standard. For instance, if an IRB raises important questions about your research, you may have to undertake multiple submissions before gaining approval, and the time consumed by these submissions may affect your schedule for doing the research.

As a general matter, you will want to prepare carefully for the IRB's review. Every university and research organization has its own IRB, usually consisting of five or more senior colleagues who volunteer to serve on a rotating basis. You can obtain a sound understanding of your local IRB's expectations by first checking to see whether your IRB has its own website. Most such websites will provide detailed guidance about your particular IRB's review procedures, experiences, and expectations.

Adding to this information, you might want to review previous submissions to your IRB that have covered research projects like the one you are proposing. Similarly, your literature review might highlight previous studies with highly similar topics and methods. If your study has an innovative flavor much less methodology, prepare ahead of time for the inevitable questions that the IRB might raise.

More broadly, you can familiarize yourself with the principles underlying the need to protect human subjects by reviewing other works that cover the procedures in greater depth, especially relying on sources reflecting your own substantive subject area (e.g., for business research, see Eriksson & Kovalainen, 2008, pp. 62–76; for social work and sociology, see

Grinnell & Unrau, 2008, pp. 30–59; and for public health, see Speiglman & Spear, 2009). Likewise, you can consult the formal guidances issued by the various social science professions, selecting the one that you most identify with (e.g., see the citations to the several professional associations' documents listed under the heading "Conducting Research Ethically" in Chapter 3, pp. 86-87 of *Case Study Research and Applications*, 6th ed.).

Remember that an IRB's specific concerns may vary from institution to institution and from IRB to IRB as its membership turns over. Do not hesitate to speak with a member or two of your own IRB ahead of time, to gain direct insight into the review process and its expectations.

Briefly Annotated References for Tutorial 3.1

Eriksson, P., & Kovalainen, A. (2008). *Qualitative methods in business research.* London: Sage. Treats case study research as one of nine methods in qualitative business research.

Grinnell, R. M., & Unrau, Y. A. (Eds.). (2008). *Social work research and evaluation: Foundations of evidence-based practice*. New York: Oxford University Press. Serves as a comprehensive textbook on research and evaluation in social work.

Speiglman, R., & Spear, P. (2009). The role of institutional review boards: Ethics: Now you see them, now you don't. In D. M. Mertens & P. E. Ginsberg (Eds.), *The handbook of social research ethics* (pp. 121–134). Thousand Oaks, CA: Sage. Describes the role of institutional review boards.

Tutorial 5.1

More on Using CAQDAS Software to Analyze Case Study Data

Chapter 5 of *Case Study Research and Applications* (6th ed.) already should have provided sufficient support but also forewarning about using CAQDAS tools. If you plan to use these tools, distinguishing among three CAQDAS functions can be helpful (Yin, 2016): (1) *compiling data* (retrieving and tallying specific words and terms from your notes); (2) *disassembling data* (moving methodically to a higher conceptual level by assigning codes to like words and terms); and (3) *reassembling data* (interpreting the relationships among codes, their combinations, and conceptually higher patterns). Regarding the three functions, different tools have different strengths. However, beware that, although most tools can help you to compile and to disassemble your data (e.g., Saldaña, 2009), you are likely to have to closely direct the tools in reassembling the data. Also be aware that the final result may not justify the extensive time and effort you spend in compiling or disassembling the data.

To preview possible problems, you might take a portion of your data and practice the three functions manually, before using any software tool. If you then decide to use a CAQDAS tool (especially if you have a lot of data), closely consult a comprehensive guide (e.g., Hahn, 2008; Silver & Lewins, 2014) that can help you to select a specific software tool and use it efficiently. Then check specialized guidances covering the more popularly used tools (e.g., Friese, 2012).

Possibly inflated expectations about CAQDAS tools come as a result of everyone's experiences with computer-assisted *quantitative* analysis. In those situations, computer routines follow complex and preestablished statistical algorithms, with the analyst providing

a set of input data and the computer arriving at the output or result. In contrast, with CAQDAS tools, you must define the complex algorithms yourself, including the level of granularity (e.g., whether to code single words, utterances, sentences, or paragraphs), the combinations worthy of attention, and the analytic routine for compiling the final results (Fielding & Warnes, 2009, p. 278). Without your explicit guidance and contrary to the experience with quantitative analysis, the computer alone cannot arrive at any usable output.

Briefly Annotated References for Tutorial 5.1

Fielding, N., & Warnes, R. (2009). Computer-based qualitative methods in case study research. In D. Byrne & C. C. Ragin (Eds.), *The Sage handbook of case-based methods* (pp. 270–288). London: Sage. Provides a conceptual overview—but not specific steps as in the following four works—on how CAQDAS tools and functions apply to case study data.

Friese, S. (2012). *Qualitative data analysis with ATLAS.ti.* London: Sage. Covers *ATLAS.ti*.

Hahn, C. (2008). *Doing qualitative research using your computer: A practical guide.* Thousand Oaks, CA: Sage. Gives step-by-step guidance for using three common tools: *Word, Excel, and Access.*

Saldaña, J. (2009). *The coding manual for qualitative researchers.* London: Sage. Presents a wide array of coding choices and practices.

Silver, C., & Lewins, A. (2014). *Using software in qualitative research: A step-by-step guide* (2nd ed.). London: Sage. Discusses three leading CAQDAS packages individually: *ATLAS.ti 5, MAXQDA2,* and *NVivo7.*

Yin, R. K. (2016). *Qualitative research from start to finish* (2nd ed.). New York: Guilford.

Gives operational guidance for compiling, disassembling, and reassembling qualitative data.

Tutorial 5.2

Depicting a Nonlinear Logic Model

The logic models in Chapter 5 of *Case Study Research and Applications* (6th ed.) all depict linear sequences of events. However, real-world events vacillate and intertwine in a more complex manner. The linear logic model may still have merit, because a sequence can be linear in the long run, smoothing over any short-term vacillations. However, Figure 5.A might help if you want to depict the nonlinear complexity explicitly (Yin & Davis, 2006, 2007).

The figure has four panels, each with a title at the top and a time interval, *t1* to *t4*, in the lower right-hand corner. In each panel, the group of concentric circles represents the same organization but whose reform status fluctuates vertically from panel to panel. Thus, at *t1*, the circles are at their lowest, representing the organization at its lowest reform status, whereas *t3* shows the organization at its highest status. The flexibility along the vertical dimension permits the reform status to be represented nonlinearly, so for illustrative purposes, a regressive reform status is shown at *t4*. In this manner, the progressive and regressive shifts can be depicted over any amount of time and even shown in motion, graphically.

In this example, the organization is a school system. The various elements within the school system appear as lettered objects within each group of concentric circles (the lettered objects are decoded in the "key" at the bottom of Figure 5.A). The theory of education reform posits that system reform will advance as the elements become aligned (depicted by their shifting from the periphery to the center of the concentric circles over time). The vertical scale is student performance, with the theory claiming greater reform to be associated with improved student performance. As a result, the theory also stipulates that the desired

reform needs to affect an increasing number of units within the organization, in this case the schools (represented by the flags) within the school system.

A similar nonlinear logic model can represent a business or any other organization undergoing coordinated operational changes aimed at transforming the organization and its culture—and in business, even its name (see Yin, 2012, chaps. 9 and 12 for a case study of a single firm and then the cross-case analysis of a group of transformed firms).

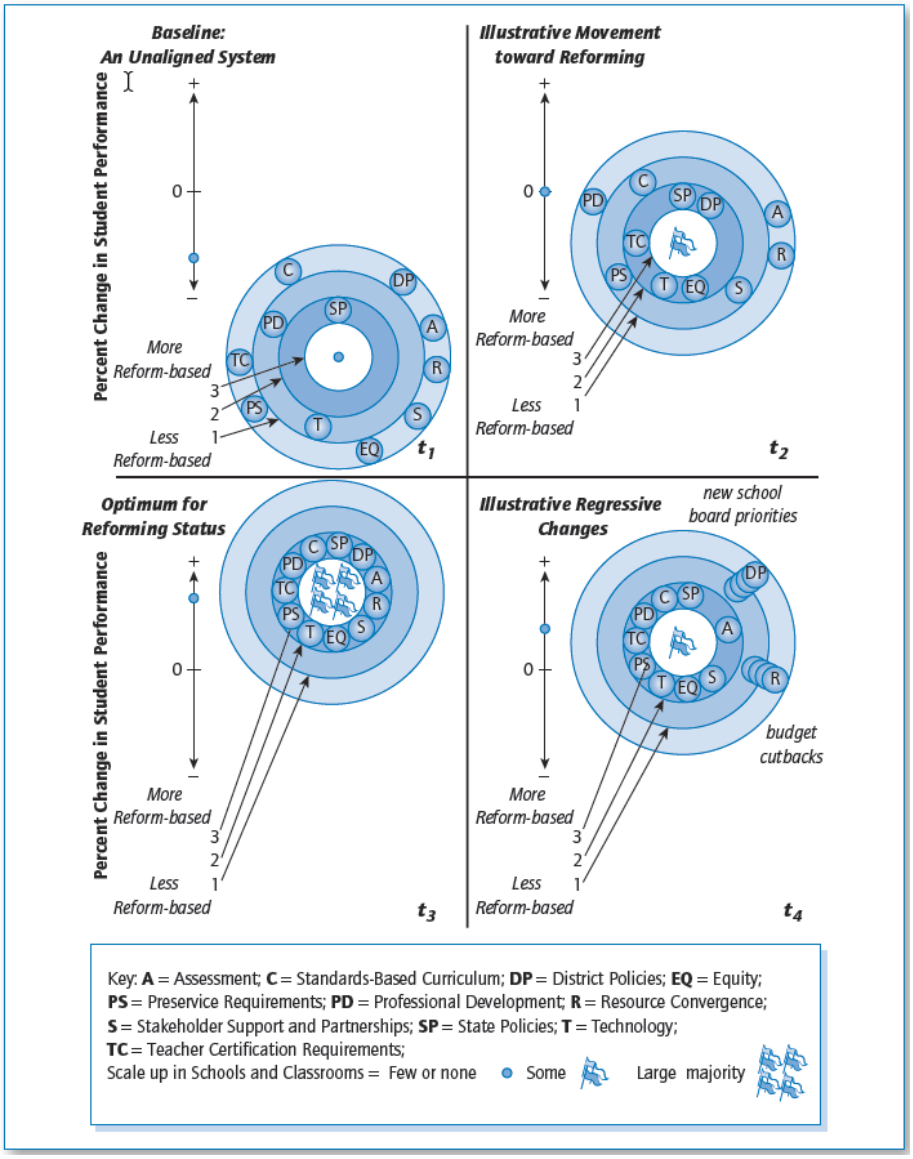

Figure 5.A Hypothetical States of an Education K-12 Reforming System. *Source*: Yin and Davis (2007).

Briefly Annotated References for Tutorial 5.2

Yin, R. K. (2012). *Applications of case study research* (3rd ed.). Thousand Oaks, CA: Sage. Contains case studies on comprehensive transformation within business firms.

Yin, R. K., & Davis, D. (2006). State-level education reform: Putting all the pieces together. In K. Wong & S. Rutledge (Eds.), *Systemwide efforts to improve student achievement* (pp. 1–33). Greenwich, CT: Information Age Publishing. Describes comprehensive education reform.

Yin, R. K., & Davis, D. (2007). Adding new dimensions to case study evaluations: The case of evaluating comprehensive reforms. In G. Julnes & D. J. Rog (Eds.), *Informing federal policies for evaluation methodology* (New Directions in Program Evaluation, No. 113, pp. 75–93). San Francisco: Jossey-Bass. Discusses the education issues related to the illustrative nonlinear logic model.

Tutorial 5.2

Two Additional Ways of Synthesizing Across Cases

Most case studies will only have a few or even a single case, leading to the analytic choices discussed in Chapter 5 of *Case Study Research and Applications* (6th ed.). However, two other techniques deserve passing mention.

The first technique assumes the availability of a large number of cases—usually more than 100 case studies. They are likely to have been previously conducted by different researchers and then retrieved by you from various archival sources (e.g., Wolf, 1997; Yin, Bingham, & Heald, 1976; Yin & Yates, 1975). The analytic method follows a variable-based (not case-based) path, thereby reverting to a conventional quantitative approach. The result mimics a "survey" of the case studies—or a "case survey" (Yin & Heald, 1975).

The case survey requires you to develop and use a formal questionnaire. You query each case study to produce coded, closed-ended responses, a procedure that can readily be subjected to reliability checks by having multiple coders. In using the method, you then analyze the coded data as you would any other survey database. The procedure therefore ignores the in-depth, holistic character of any given case study, much as you would not try to render in detail any given individual respondent in a survey. Of course, as with the conventional survey, you always could complement your survey analysis with a separate inquiry into a small number of the cases, but this inquiry would not be your main analysis.

The second technique also extracts variables from each case, but starts by amassing each single case's entire *pattern* of variables. The patterns express the component variables in dichotomous, zero–one terms, effectively creating a within-case analysis before moving to

any cross-case synthesis. The analytic technique is known as "qualitative comparative analysis" (QCA) and was developed by Charles Ragin (2014). Unlike a regression or other multivariate statistical analysis, in which the data are first decomposed into individual variables before being reconstituted into any quantitative model, the QCA array preserves the integrity of each case and its potentially unique combination or pattern of variables—including ones that were not necessarily part of the common set of variables.

The technique has its own software, originally developed by Ragin (Befani, 2013; Rihoux & Lobe, 2009; Rihoux & Ragin, 2009). The procedure assists in tracking the within-case pattern of variables, and each case's combination of variables can be tallied, ultimately leading to a cross-case synthesis wherein the cases can be grouped and examined according to the differences and similarities among their patterns. Using a replication logic, each case can sequentially build support (or not) for the appropriate theoretical propositions (e.g., Small, 2009).

Briefly Annotated References for Tutorial 5.3

Befani, B. (2013). Between complexity and generalization: Addressing evaluation challenges with QCA. *Evaluation, 19*, 269–283. Gives a detailed description of QCA procedures and logic, highlighting their relevance in studying causal relationships and hence usefulness in evaluation research.

Ragin, C. C. (2014). *The comparative method: Moving beyond qualitative and quantitative strategies.* Berkeley: University of California Press. Originally published in 1987; describes qualitative comparative analysis (QCA) as a new and innovative method.

Rihoux, B., & Lobe, B. (2009). The case for qualitative comparative analysis (QCA): Adding leverage for thick cross-case comparison. In D. Byrne & C. C. Ragin (Eds.), *The Sage*

handbook of case-based methods (pp. 222–242). London: Sage. Describes and explains QCA procedures.

Rihoux, B., & Ragin, C. C. (2009). *Configurational comparative methods: Qualitative comparative analysis and related techniques*. Thousand Oaks, CA: Sage. Presents the detailed procedures for performing a QCA analysis.

Small, M. L. (2009). "How many cases do I need?" On science and the logic of case selection in field-based research. *Ethnography, 10,* 5–38. Poses a thoughtful article on key issues in designing field-based research, including the challenge of generalizing from field situations.

Wolf, P. (1997). Why must we reinvent the federal government? Putting historical developmental claims to the test. *Journal of Public Administration Research and Theory, 3,* 358–388. Analyzes 170 case studies of federal agencies.

Yin, R. K., Bingham, E., & Heald, K. (1976). The difference that quality makes. *Sociological Methods and Research, 5,* 139–156. Examines 140 case studies of technological innovation in local services, highlighting the differences between high- and low-quality case studies.

Yin, R. K., & Heald, K. (1975). Using the case survey method to analyze policy studies. *Administrative Science Quarterly, 20,* 371–381. Describes the techniques used in the case survey method.

Yin, R. K., & Yates, D. T. (1975). *Street-level governments: Assessing decentralization and urban services.* Lexington, MA: Lexington Books. Analyzes 269 case studies of neighborhood services.

Tutorial 6.1

Reporting Your Case Study Methodology as an Independent Research Article

As discussed in Chapter 6 of *Case Study Research and Applications* (6th ed.), the formal case study report will include some description of your case study methods. Even if your audience is only likely to want an abbreviated version of this description, you could consider composing a more extended version, which might then appear as an appendix to the report or, better yet, be submitted for publication as a separate research article (e.g., Dasgupta, 2015). Such an effort would produce a welcome benefit, both contributing to the work of other researchers and preserving the detailed procedures for your own future reference. Your reputation for doing quality case study work would not suffer, either.

Along these lines, Christine Benedichte Meyer (2001) produced an illustrative methodological treatise that appeared in the journal *Field Methods*. Meyer embedded a discussion of her own methods—used in a case study of two mergers in the financial industry in Norway—within the broader range of methodological choices and concerns that arise when doing a case study. In other words, she used her case study to illustrate important methodological principles, thereby justifying the work as an independent article.

For instance, Meyer discussed the advantages of using the case study method because it enabled her inquiry to explore issues such as the power struggles between the merging organizations, the complexity of the process of integrating the merging organizations, and the cultural integration occurring over an extended period of time. None of these topics would have been easily addressed by using other methods. She also discussed how she “bounded”

the cases, including her decision to concentrate on the core businesses and her exclusion of the business units that were less affected by the merger, as well as her detailed criteria for defining the persons to be interviewed within the merging firms.

Analytically, Meyer showed how she used analytic generalization to interpret the significance of the findings, also acknowledging that some findings "could not be explained either by the merger and acquisition literature or the four theoretical perspectives" [that had been presented as part of her study] (p. 343). Not overlooked were the problems she encountered, including her inability to gain access to all the documents that she had requested. In all, the general issues raised by the article, along with the concrete illustrative experiences, contribute to a valuable and highly readable methodological article.

Briefly Annotated Reference for Tutorial 6.1

Dasgupta, M. (2015). Exploring the relevance of case study research. *Vision, 19*, 147–160.

Describes her methodological journey in starting and completing an actual case study.

Meyer, C. B. (2001). A case in case study methodology. *Field Methods, 13*, 329–352.

Illustrates the methods used in a case study and the choices that arose and how they were confronted.