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CASE STUDY RESEARCH METHODS FOR LEARNING HOW EXECUTIVES AND CUSTOMERS THINK, DECIDE, AND ACT

Synopsis

This chapter provides a new definition for case study research (CSR). Achieving a deep understanding of processes and other concept variables, such as participants' self perceptions (an "emic view" of what's happening and "why I did what I did") of their own thinking processes, intentions, and contextual influences, is identified as the principal objective of CSR. Using multiple methods to "triangulate" (i.e., confirm and deepen understanding by using multiple sources all focusing on the same process/event) within the same case is described. This chapter outlines the core criticisms made by case study researchers of large sample surveys. A need exists for a paradigm shift in research on organizational behavior (including modeling the history of new product performance). The chapter outlines the significant weaknesses of CSR as seen by other researchers. The chapter examines Senge's (1990) core propositions related to the "mental models" of decision participants. Details illustrate the use of specific research methods for case studies to achieve different research objectives and the combination of objectives. Finally, the chapter illustrates basic concept variables in case studies and twelve propositions are reviewed briefly. This report reviews classic and recent contributions to the literature of CSR.

INTRODUCTION: ACHIEVING A BROAD PERSPECTIVE WHEN DEFINING CASE STUDY RESEARCH

CSR is an inquiry that focuses on describing, understanding, predicting, and/or controlling the individual (i.e., process, animal, person, household,

organization, group, industry, culture, or nationality). This definition is intentionally broader than the definition that Yin (1994, p. 13) proposes:

> A *case study* is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident.

For a given study, focusing the research issues, theory, and/or empirical inquiry on the individual (n = 1) is the central feature of CSR. As Skinner notes (1966, p. 21), "... instead of studying a thousand rats for one hour each, or a hundred rats for ten hours each, the investigator is likely to study one rat for a thousand hours." This view is not intended to imply that CSR is limited to a sample of n = 1. The reporting of several case studies in one inquiry is possible when the inquiry is to estimate the size of an effect (i.e., the strength of a relationship between two variables) rather than to generalize to a population. For example, meta-analyses (e.g., Hunter, Schmidt, and Jackson, 1982) provide tools for estimating strengths of relationships (i.e., effect sizes). Also, reports of multiple case studies are available in organization science (e.g., Nutt, 1998) involving business-to-business contexts. In the marketing literature, Howard and Morgenroth (1968) illustrate transforming the research context in one supply chain from n = 1 to n > 30 by examining alternative thought/action routes taken in separate, but seemingly similar, decisions that include five principal parties: a senior decision-maker, a regional manager, a local distributor, and two sets of competitors.

A key point to our definition is that CSR is not limited to contemporary phenomenon or real-life contexts, especially when boundaries between phenomenon and context are not clearly evident. Digging up the bones of U.S. President Zachary Taylor in 1996 to determine if he was assassinated is an example of CSR; B.F. Skinner's experiments in controlling the behavior of his infant daughter are an example of CSR. The defining feature of CSR lies in the supreme importance placed by the researcher on acquiring data resulting in describing, understanding, predicting, and/or controlling the individual case.

WHY CASE STUDY RESEARCH IS USEFUL, PARTICULARLY IN INDUSTRIAL MARKETING

A substantial portion of research in industrial marketing focuses on the decisions and the behaviors by individuals and groups within and between organizations (Woodside, 1992; Woodside and Wilson, 2000). The most frequently used research method in the field involves sending a mail survey of mostly closed-ended questions covering 10 to 20 research constructs. The request usually made is that the questionnaire be completed by one person per firm, without comparison to any other person's answers. The reported response rates for such studies typically range from eight to thirty percent.

This dominant logic assumes that the responding individual is willing to report her own thinking process, the thinking processes of others involved in the decision process, and the sequence of events that occurred over several days, weeks, months, or years. The dominant research paradigm assumes that the research constructs (e.g., role ambiguity, trust, closeness of supervision) measured on fixed-point scales provide the nuance necessary for capturing the thinking/doing processes under study.

Yet the scientific literature on thinking concludes that about 95 percent of thought is subconscious (Wegner, 2002; Zaltman, 2003) and that people have only limited access to their own thinking processes, not to mention the thinking processes of others. Consequently, research methods attempting to measure ongoing thinking (e.g., van Someren, Baranrd, and Sandberg, 1994) and thinking by the same person using multiple interviews over several weeks (e.g., Cox, 1967; Cyert, Simon, and Trow, 1956; Witte, 1972; Woodside and Wilson, 2000), methods to bring up subconscious thinking (e.g., Schank, 1999; Fauconnier, 1997), and interviewing the multiple participants involved in the thinking/doing under study (e.g., Biemans, 1989) not only are particularly useful steps, they become mandatory if we really want to achieve deep understanding in research on thinking/doing processes in industrial marketing.

"I Hate Lying Like That"

The operational constructs using closed-ended responses developed by researchers fail to uncover the deep nuances and dynamic interactions between thoughts and actions within and between individuals that occur within industrial marketing contexts. The following story illustrates such nuances that CSR can capture in ways unlikely to be captured by closed-ended mail survey responses. The story involves a sales call made by a representative of an industrial distributor of copiers and printing equipment (this sales call was overheard by one of the authors who rode in the same vehicle with the sales rep). During the selling/buying discussion involving the new purchase requirements, the customer mentioned that the copier purchased recently from the sales rep was broken again. Both the sales rep and the customer mentioned that the copier had needed a service technician to repair it almost every week since it was installed six weeks before. The sales rep responded to the customer's concern by saying, "I'm sorry you've experienced so many problems with your new copier. We will get to the bottom of the situation. It's a fine piece of equipment and we will solve the problem so it doesn't keep coming up." After getting back in his car, the sales rep remarked to the researcher, "The copier is a piece of shit; I really hate lying like that [to a customer]. It's really going to hurt my relationship with the guy." The sales rep elaborated that a competing distributor carried a line of copiers that were far superior in performance and reliability compared to his product line.

Three-Person and Five-Way Mental Processing in Industrial Marketing

Most studies in business and industrial marketing usually focus on only one of five mental processes, that is, verbalized thoughts. Figure 2-1 depicts such thoughts as Level 1 thinking. The other four levels shown in Figure 2-1 include the following mental processes.

Level 2 mental processing includes conscious editing of thoughts surfacing from unconscious processing, spreading, and combining of thoughts held in conscious processing. These thoughts include thoughts heard by both the person verbalizing and hearing thoughts from another person. Level 2 processing requires much more cognitive effort because of the attempt to handle three-way incoming thoughts from the unconscious, the person's own verbalizations, and the thoughts being received from the other person. "How do I know what I think until I hear what I've said?" (see Weick, 1995) is a question that reflects the idea that a person interprets her own thoughts after verbalizing them.

Level 3 mental processing is the surfacing of unconscious thoughts into conscious processes (i.e., "spreading activation" of concepts held in "working
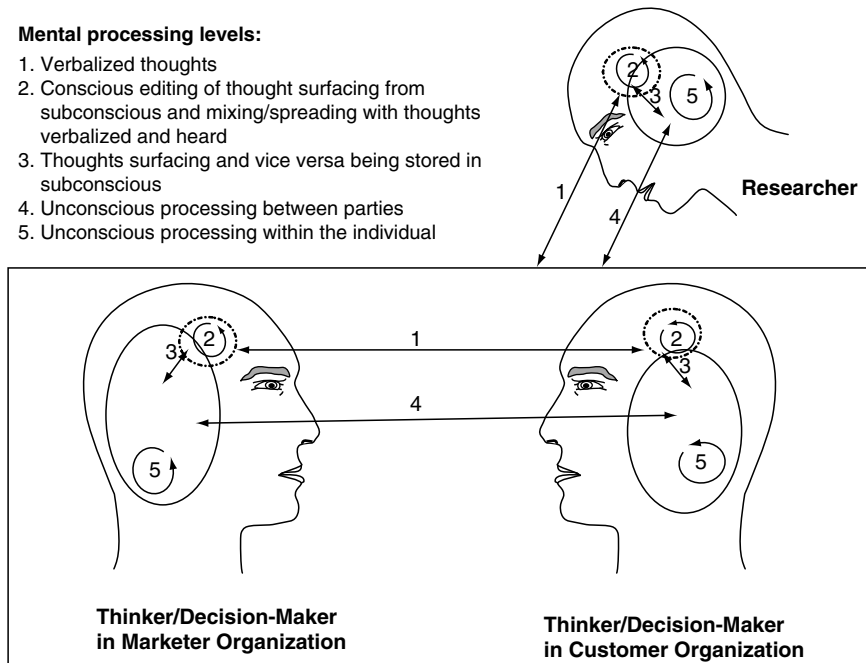

Mental processing levels:

1. Verbalized thoughts
2. Conscious editing of thought surfacing from subconscious and mixing/spreading with thoughts verbalized and heard
3. Thoughts surfacing and vice versa being stored in subconscious
4. Unconscious processing between parties
5. Unconscious processing within the individual

Researcher

Thinker/Decision-Maker in Marketer Organization

Thinker/Decision-Maker in Customer Organization

FIGURE 2.1   The multiple mental processes in research on industrial marketing–buying thinking.

memory" as well as moving of some thoughts involved in conscious process-ing into unconscious storage). Level 3 processing is automatic. An individual is often unaware of how the thoughts came to the surface or what process occurred that moved her conscious mind to focus on a new topic.

Level 4 mental processing includes unconscious processes between two or more persons that do not surface into conscious processes. Each person's nonverbal communications influence, and may attract or repel, the other per-son in ways unrecognized by both. "I don't know why, but I don't trust that guy" is a verbal commentary of level 4 processing.

Level 5 processing reflects a spreading activation within the unconscious of an individual. This includes completing automatic thought and action routines without surface recognition of the process. Level 5 mental process-ing may lead to behaviors that the individual is unable to recognize or report performing (Bargh, 2002; see Bargh, Chen, and Burrows, 1996, for an empir-ical study that relates to this observation), and behaviors not done that the individual reports doing (see Woodside and Wilson, 2002).

Figure 2-1 depicts that the five mental processes also occur for the researcher as the researcher attempts to observe and interpret the mental processes involved between the two principals. Figure 2-1 illustrates the researcher's limited ability to understand all five processes occurring for the two principals, as well as within the researcher herself.

Thus, the researcher's perspective of her five mental processes would ben-efit from explicit discussion and surfacing efforts in the form of introspec-tions (see Wallendorf and Brucks, 1993, for recommendations on how to improve introspection studies in consumer research). The dominant theory-in-use for research on industrial marketing/buying processes relies on the assumption most likely held implicitly, and not explicitly, by researchers that a deep understanding of such processes can be acquired using answers from direct questioning across many firms of one respondent per firm within a marketing or buying organization. Researchers rarely stop to ask introspec-tively, what are my unconscious processes that are influencing the design and execution of my study? How can I surface unconscious thoughts held by me? Is acquiring informants' answers to closed-ended questions enough for a deep understanding of the thinking and doing processes that I am studying?

The process of answering questions always involves a degree of intro-spection and "autodriving" (see Heisley and Levy, 1991) by an informant. The person answering questions must retrieve some bits of information stored in long-term memory, organize and edit the bits, and create a verbal or written response in a form that she believes that the researcher is able to understand. If the findings from research in the mental processing literature are accurate that most mental processing is unconscious and informants have very limited ability in surfacing unconscious thoughts, then acquiring a deep understanding of industrial marketing/buying processes from conscious

responses to direct questions from one respondent using a single question-naire must be supplemented by using alternative data collection methods.

Autodriving indicates that the interview is "driven" by informants who are seeing and hearing their own behavior. Autodriving addresses the obtru-siveness and reactivity inherent in consumer behavior research by explicitly encouraging consumers to comment on their consumption behavior as "...photographs and recordings represent it" (Heisley and Levy, 1991, p. 257). However, autodriving relates implicitly to all informants' attempts to retrieve, organize, edit, and report answers to questions. Asking the informant to col-lect, organize, and describe photographs of themselves or to use other pic-tures (e.g., via Zaltman's metaphor elicitation technique, ZMET) to describe a context or themselves embodies explicit autodriving tools that can be use-ful for bringing up unconscious processes (e.g., Christensen and Olson, 2002). The researcher observing a marketer/buyer meeting, and subsequently asking one of these two parties to describe the meeting that just occurred, is another example of autodriving.

DEEP UNDERSTANDING: THE PRINCIPAL OBJECTIVE OF CASE STUDY RESEARCH

Any combination of the following purposes may serve as the major objective of CSR: description, understanding, prediction, or control. However, we pro-pose that *deep understanding* of the actors, interactions, sentiments, and behaviors occurring for a specific process through time should be seen as the principal objective by the case study researcher. Deep understanding in CSR includes: (1) knowledge of "sensemaking" processes created by individuals (see Weick, 1995) and (2) systems thinking, policy mapping, and systems dynamics modeling (e.g., Hall, 1991)—what might be labeled appropriately as meta-sensemaking.

Sensemaking is how the individual (i.e., person, group, and/or organiza-tion) make sense of stimuli. Sensemaking foci include: (1) focusing on what they perceive; (2) framing what they perceive; (3) interpreting what they have done, including how they solve problems and the results of their enactments (including the nuances and contingencies in automatic and controlled think-ing processes). Because gaining "thick description" (see Geertz, 1973, pp. 5-6; Sanday, 1979; and Arnould and Wallendorf, 1994) can be restricted to varying levels of depth and detail, thick description alone is not enough. The resulting data and information from a thick description may focus on surface details only, for example, describing the physical characteristics of the envi-ronments, actors, and their conversations. To learn (1) the subjective signifi-cance of persons and events occurring in a case study, and (2) the linkages and underlying (or, influence) paths among concept variables identified in a case requires deep understanding.

RESEARCH STEPS REQUIRED TO ACHIEVE DEEP UNDERSTANDING

Achieving deep understanding in CSR usually involves the use of multiple research methods across multiple time periods (i.e., triangulation; see Denzin, 1978). Triangulation often includes: (1) direct observation by the researcher within the environments of the case, (2) probing by asking case participants for explanations and interpretations of "operational data" (Van Maanan, 1979), and (3) analyses of written documents and natural sites occurring in case environments (see Figure 2-2).

The category of operational data includes spontaneous conversations of participants in a case, activities engaged in and observed by the researcher, and documents written by the participants. "Presentational data" are the appearances and answers to inquiries that informants strive to establish and maintain "in the eyes of the fieldworker, outsiders and strangers in general, work colleagues, close and intimate associates, and to varying degrees, themselves" (Van Maanan, 1979, p. 542).

> Data in this category [presentational] are often ideological, normative, and abstract, dealing far more with a manufactured image of idealized doing than with the routine, practical activities actually engaged in by members of the studied organization. In short, operational data deal with observed activity (the behavior per se) and presentational data deal with the appearances put forth by informants as these activities are talked about and otherwise symbolically projected with the research setting. (Van Maanan, 1979, p. 542)
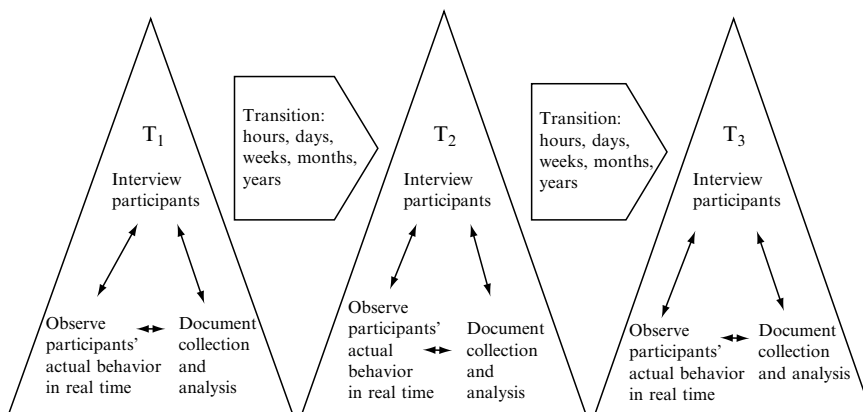

FIGURE 2.2 Triangulation in case study research. Showing only three time periods is arbitrary; the key point is that the case study researcher often prepares narratives of his or her interviews, direct observations, and document analyses, and then these narratives are presented to selected participants in the following time period to verify that the narratives include the details reported, observed, and found in the previous time period. For examples, see Nutt (1993) and Howard and Morgenroth (1968).

Gaining deep understanding often includes research to learn the "mental models" (Senge, 1990; Huff, 1990) of the participants. A mental model is the set of propositions a participant in a case understands to be reality—that is, an accurate portrayal of the causes, events, and outcomes relevant in the case. Each person studied in a case has a set of related but unique mental models describing

(1) The "typical" steps (i.e., persons, conversations, behaviors, and events) that occur in the process being studied by the researcher.
(2) The steps that should occur in the typical process (i.e., the participant's normative mental model).
(3) What actually occurred in a given process, for example, the most recent process completed or a completed process "strategically" important for the organization.
(4) The participant's perceptions of how another specific person or others in the organization, in general, understand the details of the process being examined.

Senge (1990) makes a number of telling points about decision-makers' mental models. Here are three of his points particularly worth noting for CSR. First, the mental model of any one person interviewed in a case study often fails to match closely with the direct observations made by the researcher or other persons interviewed (taken individually); the perceptions and beliefs expressed both by the interviewee and formed by the researcher from direct observation are likely to miss important details and depth of understanding. Second, mental models are rarely made explicit and tested by participants in the case; they are formed tacitly; participants often assumed their mental models to accurate views of: (1) what has occurred and (2) why it has occurred (or what should and should not occur) and why. Third, important feedback relationships among variables (i.e., "loops," such as increases in variable A leads to decreases in variable B that leads to further increases in variable A) go unrecognized by the participants in the case being studied. Hall (1978; 1984) provides detailed illustrations of all three of these points.

The mental model of a participant in a case study is an emic representation of reality. For example, an emic report is the verbatim "sensemaking" comments made by the individual under study in a case. The interpretation of the same process provided by the case study researcher is an etic representation of reality.

Etic representation in CSR often includes description and explanation of emic meaning as well as building composite accounts of the process based on data from triangulation. Thus, the collection of emic mental model accounts from interviews represents one set of data for the case study researcher.

Collecting operational, as opposed to presentational, data is a core strength of CSR. A core proposition within the mental models of most case study researchers is that operational data often vary widely from presentational data. Thus, case researchers seek a deep understanding by directly observing in "real time" (Arnould and Wallendorf, 1994) and (when possible) asking case participants, "What exactly is happening right now? What were

the triggering events leading up to what happened? What is the meaning of what just happened to the case participants? What is going to happen next because of what has just happened?"

A distinguishing belief embraced by case study researchers (often implicitly) is that participant verbal reports of conversations, behaviors, and events distort and fail to include details necessary for deep understanding of the processes under study. "Rich as I believe these [respondent] interviews are, they are frozen in time, individual statements only vaguely anchored in the social and historical context that created them" (Wolf, 1990, p. 351). As Arnould and Wallendorf (1993) conclude, "Because of the inherent inconsistencies and ellipses in oral reports, verbal data alone are not regarded as sufficient for developing ethnographic interpretation. The preferred corrective for these limitations is combining verbal report data with data from long-term participant observation in cultural context." If long-term participation is impossible, the alternative includes adopting multi-method procedures, for example, interviewing all parties participating in conversations and events under study, and the collection of documents and additional unobtrusive measures (see Webb and Weick, 1979; Webb, Campbell, Schwartz, and Sechrest, 1966).

THE CORE CRITICISMS OF LARGE SAMPLE SURVEY RESEARCH AND CASE STUDY RESEARCH

The core criticisms made by case study researchers of large sample surveys (i.e., n > 100) of one person in a household, informal group, or organization include:

(1) The failure to confirm reported conversations, behaviors, and events, independent from the one person surveyed.

(2) The failure to collect the necessary detail for gaining deep understanding of the mechanics and reasons embedded in the processes examined. These criticisms are countered by critics (i.e., researchers using large samples persons in identified populations) to CSR by a core criticism of their own: CSR results are not generalized to a population, the particular case included in a given case study is so unique that it represents a one-off context.

Briefly, we offer the following observations related to this debate. First, we advocate adopting the view (i.e., mental model) that any one respondent is severely limited in reporting the details necessary to learn to deeply understand the process being studied—some use of triangulation of methods and multiple informants is necessary to confirm and deepen information. Second, the objective of CSR is not to generalize findings to a population but to probe theory (i.e., one or more explicit mental models related to the processes being examined; see Campbell, 1975; Yin, 1994). Third, the criticism can be directed at any one study as being idiosyncratic in its selection of population, data collection procedures, data handling and analysis, and selection of subjects for study from

the population; labeling a study as being idiosyncratic is one step to concluding that the data collection procedures used and findings made can not be replicated—a false conclusion given that no one study can be replicated perfectly. Fourth, several case studies can be completed and fixed samples of cases may be drawn; case studies are not limited to n = 1; multiple cases, or multiple behaviors and events within one case study, can be examined to deepen understanding of patterns and contingencies related to theory (see Nutt, 1993, for an example of a large sample case study and McCracken, 1988, for a defense of multiple case sampling for identifying patterns across cases).

Our objectives do not include attacking large-sample, one person per household or organization, one-time survey research studies. However, the substantial amounts of respondent reporting of events that did not occur, and the absence of reporting events that did occur in such studies (see Farley and Howard, 1975), as well as the absence in such studies of details necessary for deep understanding of processes being studied, are additional motivators for adopting CSR methods.

In an essay on "Organizational Performance as a Dependent Variable," March and Sutton (1997, p. 702) bemoan the fact that the bulk of research on identifying the causes of organizational performance rely on cross-sectional data and retrospective studies: "These studies may actually tell us less about the determinants of performance than about the ways performance information affects memory, cognitive processing, and story telling." Retrospective bias may be the telling weakness of most empirical studies on measuring the performance of new product introductions specifically and, in general, on most studies measuring other areas of organizational performance.

> Performance information itself colors subjective memories, perceptions, and weightings of possible causes of performance. Informants exist in a world in which organizational performance is important. That world is filled with widely believed conventional stories about the causes of good and poor performance. As a result, retrospective reports of independent variables may be less influenced by memory than by a reconstruction that connects standard story lines with contemporaneous awareness of performance results. (March and Sutton, 1997, p. 701)

March and Sutton (1997) also fault theory building that includes not viewing organizational performance as an independent variable: "... the theoretical ideas and analytical models that are normally used [e.g., by the majority of organizational and inter-organizational researchers] ignore a variety of feedback loops that are likely to be important." Organizational behavior as a series of feedback loops is a suggestion stressed by Senge (1990) as one central for shifting research paradigms from linear thinking to system thinking. The importance of building and testing complex models is critical to capture the impact feedback loops on performance demonstrated empirically by Hall (1976; 1984).

The crucial point here: deep understanding of the multiple perceived realities that occur through time in organizations and households requires the

use of multiple data collection methods across several time periods. Meta-sensemaking—the researcher's pursuit of a vision of reality lying outside the social beliefs of one person interviewed per organization or household—requires that additional data be collected (e.g., interviews of other persons involved in the behavior being examined; direct observation; and the analysis of documents and other unobtrusive measures).

DATA COLLECTION AND ANALYSIS METHODS USEFUL FOR CASE STUDY RESEARCH

While CSR is often associated in the literature with using qualitative research methods, we advocate viewing CSR as *not* being restricted to one set of research methods. Quantitative methods, including statistical hypotheses testing, are appropriate for many CSR studies. Also, the value of most CSR reports may be enhanced considerably by using multiple tools, both qualitative and quantitative methods, in the same study.

The value of most CSR reports increases with the use of dissimilar, multiple research methods and the inclusion of multiple study objectives (e.g., see Pettigrew, 1995). One of our objectives for this book is to provide insights for achieving useful descriptions and explanations and to go beyond these objectives—to describe the additional, possible objectives of predicting and controlling case study behavior.

THEORY BUILDING AND THEORY TESTING USING CASE STUDY RESEARCH

CSR is often associated in the literature with theory building as opposed to theory testing (Dyer and Wilkins, 1991; Eisenhardt, 1989). However, examples of theory testing reports using CSR are available. The quality of a CSR report often may be increased dramatically by designing the study to include *both* theory building and theory testing (e.g., see Howard and Morgenroth, 1968; Gladwin, 1989). We advocate the broader view: CSR is often appropriate for both theory building and theory testing. Several examples of successfully doing theory building and testing by CSR scholars are described in this book.

THE OBJECTIVES OF CASE STUDY RESEARCH

CSR is appropriate for several research objectives: description, explanation, prediction, and control of the individual process, animal, person, household, group, or organization. Thus, we advocate that CSR is often appropriate for

several research objectives going beyond description and explanation. **Description** in CSR is the attempt to answer who, what, where, when, and how questions. **Explanation** in CSR is the attempt to answer the why question. Sometimes CSR explanations include reports provided by: (1) the direct participants in the case; (2) informed third-party observers to the case; and, (3) the case study researcher. **Prediction** in CSR includes forecasting near-term and/or long-term psychological states, behaviors, or events that will follow within the individual case and/or similar cases. **Control** in CSR includes attempts to influence the cognitions, attitudes, and/or behaviors occurring in an individual case. Control is a relevant objective in experimental studies of single cases (see Hersen and Barlow, 1976), for example, in studying the efficacy of alternative methods for achieving behavioral changes desired by: the participants (e.g., subjects, clients, or patients) in a case; an organization (e.g., a product/service marketer, a government lobbyist); a non-profit organization or society (e.g., a department of social work; a school or university).

Each of these four research objectives can be viewed beneficially as orthogonal to the other three objectives (see Figure 2-3). Thus, we advocate embracing the mental stretch that case description is possible without explanation; and, explanation without description is also possible. Also, every possible four-way combination shown in Figure 2-3 occurs in CSR.

Objectives		Prediction			
		No		Yes	
		Control			
Description	Explanation	No	Yes	No	Yes
No	No	1. Abstract (Art)	2.	3.	4.
No	Yes	5.	6.	7. Building in degrees of freedom	8. Dynamic causal modeling
Yes	No	9. Naïve observation	10.	11.	12.
Yes	Yes	13. Participant observation	14. Action research	15. Ethno-graphic decision tree modeling	16. Clinical (psychology, psychiatry)

FIGURE 2.3   Classifying case study research by research objectives.

Let's concentrate on a few of the cells in the figure to demonstrate the possibilities. Cell 1 is the null CSR report: no information relevant to describing, explaining, predicting, or controlling is included in the study; an abstract artist rendering of a case study is illustrative of Cell 1.

Cell 7 includes attempts to "build-in degrees-of-freedom" (Campbell, 1975) in a theory of behavior that may be relevant to a given category of cases. Creating a set of 10, 20, or 30 propositions that the case study researcher proposes as typical of decision-making and behavior for a given case theory is illustrative of building-in degrees-of-freedom. Such theory building may be content-free of a specific case, that is, the theory may be formed deductively.

Weick's (1969; also see Weick, 1979; Bougon and Komocar, 1990) dynamic causal modeling of organization and change is an example of a content-free theory for explaining, predicting, and controlling case behavior without starting with a description of a particular case. Several propositions are included in dynamic causal modeling that these researchers believe useful for achieving effective, long-lasting change (i.e., control) in a social system (i.e., a given case). Here is an example proposition:

> A social system's identity nodes and loops are typically over determined by the pattern of the whole and are almost impossible to change directly (e.g., Warwick, 1975) or in a piecemeal fashion (e.g., Miller, 1982). Thus, within a holistic approach, when the nodes and loops of interest to strategic change coincide with the social system's identity nodes and loops, the solution to strategic [long-lasting] change is indirect. The solution is to focus change efforts on peripheral loops rather than on those directly responsible for system identity. (Bougon and Komocar, 1990)

Cell 9 is a description without explanation, prediction, or control: a naïve report of events in a case by a reporter totally unfamiliar with what is occurring in the case. Andy Griffin's (a U.S. actor/comedian) humorous portrayal of a backwoodsman reporting the first-time observance of an American football game illustrates Cell 9.

Representative of cell 13 CSR, most participant observation studies include the objectives of providing thick descriptions and deep explanation of the processes and events occurring within a specific case; developing models to predict outcomes or future events and designing change strategies to influence (i.e., control) case behavior are not primary objectives in such studies. *Qualitative inquiry* is an example of a scientific periodical with a primary focus on thick description and deep understanding in CSR.

Participatory action research reports are representative of cell 14 CSR because the objectives of such studies include thick description, deep understanding, and attempts to influence the design and outcomes of behaviors occurring in a case, without attempting to build predictive models for estimating values of proposed dependent variables (e.g., see Whyte, 1990; 1991).

Ethnographic decision tree modeling (EDTM) does not include attempts to influence outcomes by the researcher but do include model building to predict estimates of values of specific dependent variables. Thick description and deep understanding provide the foundation for EDTM; thus, EDTM is illustrative of cell 15 in Figure 2-3. The *Journal of Contemporary Ethnography* is an example of a scientific periodical with a primary focus on such research reports.

Applied theory development in social work and clinical psychology/psychiatry illustrates cell 16 CSR—the aims of the researcher include thick description, deep understanding, prediction of outcomes, and control of behavior exhibited in a specific case. The *Journal of Applied Behavioral Analysis,* the *Journal of Clinical Psychology*, and *Behavior Therapy* are scholarly publications related to this category of CSR.

SUGGESTIONS REGARDING SELECTION OF CASE STUDY RESEARCH OBJECTIVES

Our aim does *not* include the claim that moving away from cell 1 toward cell 16 is always best. We do suggest greater awareness of the possibilities of planning to accomplish multiple objectives in CSR. Also, different CSR tools (i.e., research methods) are relevant for achieving different objectives. For example, EDTM is useful in particular for building theory for predicting outcomes occurring naturally in cases and action research is useful in particular in designing strategies to change behaviors and outcomes in cases. Thus, skill building in learning research tools relevant for case studies across a wide range of objectives should complement your training in advanced CSR.

CORE PROPOSITIONS IN CASE STUDY RESEARCH

Several core propositions in CSR are summarized visually in Figure 2-4. Briefly, twelve of these propositions are described here. (1) Time is recognized explicitly in modeling behavioral processes in CSR. For example, in the studies of n = 1, the possibility of variability in responses (i.e., events or outcomes) is built into the study by observing behavior of the respondent across several time periods.

(2) In many case studies, multiple individuals participate in different conversations and behaviors within one time period in the case. Conversational analysis is the primary focus of many case studies. (3) Individuals are members of identifiable households, groups, or organizations. (4) Much like actors appearing in different scenes in a play, different individuals in the same group may participate in conversations and behaviors in different time periods; for example, note in Figure 2-4 that individual 6 is found in conversations in T1 and T3.
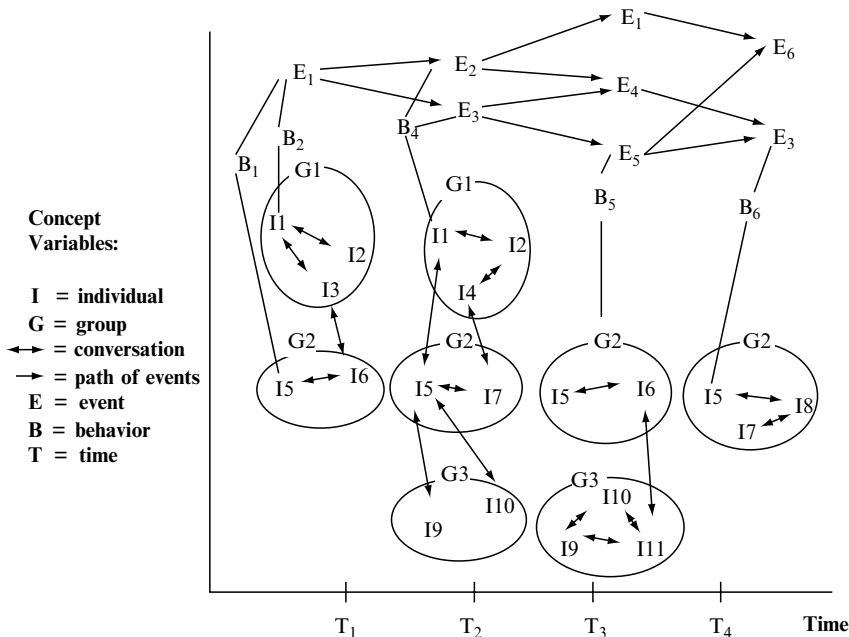
FIGURE 2.4   Concepts and propositions in case study research. Adapted from Calder (1977), Figure 14.2, p. 198.

(5) When examined deeply, most cases involve three or more informal groups or organizations that affect the process and outcomes under study. The involvement of "third-parties" in interorganizational case studies has been the focus of several studies in supply-chain management (e.g., see Biemans, 1989).

(6) Identifiable individuals and groups engage in identifiable behaviors leading to identifiable events (i.e., outcomes). (7) Specific events influence the occurrence of other events. (8) Some events are repeated, for example, E1 to E2 to E1 in Figure 2-2. (9) The presence of certain events (e.g., E5) changes the influence of another event; for example, E6 occurs in T4 following E1, given that E5 has occurred. Thus, CSR and theory building often includes contingency propositions of complex relationships. (10) Not all members of a group communicates with every other member in the same group; for example, in Figure 2-2 I1 talks with I2 and I3 in Group 1 in T1, but I1 does not talk with I2. (11) Participation in the case of identifiable groups occurs only in a limited number of time periods; for example, G1 is found in T1 and T2, and G3 is found in T2 and T3. (12) Conversational contacts within a group may increase or decrease from one period to the next within a case; for example, witness the increase in contacts in G3 between T2 and T3 in Figure 2-2.

Additional variables described in most case studies are not included in Figure 2-4. For example, the display of emotions, such as showing anger, approval, and trust (see Homans, 1974), is not included. Events shown in Figure 2-4 include decisions, performance outcomes, and revelatory incidents—Figure 2-4 does not include the attempt to distinguish among these three categories of events.

Different streams of CSR focus on different concept variables shown in Figure 2-2. For example, policy mapping is the attempt to diagram, explain, and predict recurring relationships among events in a case study (e.g., Hall, 1976, 1984, 1991; Howard and Morgenroth, 1968). Decision systems analysis is the attempt to diagram and explain (but not to predict) relationships among non-recurring events in a case study (e.g., Howard and Morgenroth, 1968).

The CSR methods appropriate for a given study depend on the nature of the process being examined, as well as the interests of the researcher. For processes being repeated with adjustments, such as managing a newspaper business or pricing gasoline, policy mapping is an appropriate research tool. For one-off processes, such as an individual or organization adopting a new technology, decision systems analysis and EDTM are appropriate research tools. While many different CSR methods are available, all include the recognition of the core concepts summarized in Figure 2-4.

SUMMARY

CSR is an inquiry focused on describing, understanding, predicting, and/or controlling the individual (i.e., process, animal, person, household, organization, group, industry, culture, or nationality). Any combination of the following purposes may serve as the major objective of CSR: description, understanding, prediction, or control. However, we propose that deep understanding of the actors, interactions, sentiments, and behaviors occurring for a specific process through time should be adopted as the principal objective by the case study researcher and that the researcher makes use of explicit autodriving tools to aid in bringing up unconscious mental processes among informants.

A mental model of a process provided by a participant interviewed in a case study is an emic representation of reality. The interpretation of the same process provided by the case study researcher is an etic representation of reality. Etic representation in CSR often includes description and explanation of emic meaning as well as building composite accounts of the process based on data from triangulation. Triangulation includes: (1) direct observation by the researcher within the environments of the case, (2) probing by asking case participants for explanations and interpretations of operational data, and (3) analyses of written documents and natural sites occurring in case environments.

The core criticisms made by case study researchers of large sample surveys consisting of interviews of one person per household, informal group,

or organization include: (1) the failure to confirm reported conversations, behaviors, and events, and (2) the failure to collect the necessary detail for gaining deep understanding of the mechanics and reasons embedded in the processes examined.

The core variables in CSR include individual and group behaviors through time resulting in a sequence of paths of events (decisions, perform-ance outcomes, and revelatory incidents). Beliefs and sentiments held by indi-viduals and groups are additional core variables sometimes studied in CSR. No one CSR method is appropriate for all studies.