## CASE STUDY RESEARCH: Core Skill Sets in Using 15 Genres

Second Edition

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# CASE STUDY RESEARCH: Core Skill Sets in Using 15 Genres

Second Edition

by

Arch G. Woodside

Boston College, Chestnut Hill, MA, USA



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## **Preface**

This expanded edition of *Case Study Research* (CSR) includes three new chapters that offer additional depth of coverage in case-based theory, method, and applications. The three additional chapters supplement the book's general theme of building and testing case-based theory in describing, explaining, predicting, and controlling outcomes. The titles of the three additional chapters indicate the additional coverage in this expanded edition:

- Chapter 10: Exchange (Talk) Behavior in Natural Settings: An Exposition of Variable Based Analysis of Case Studies
- Chapter 18: Visualizing·Matching·Generalizing: Case Identification Hypotheses and Case-Level Data Analysis
- Chapter 20: Constructing Cased-Based Macro Models: Cultures' Consequences on Entrepreneurship, Innovation, and Quality-of-Life.

Chapter 10 deepens the theory and findings on personal exchanges appearing in Chapter 9. Reading Chapters 9 and 10 may stimulate your interest in implementing additional studies on real-life face-to-face exchanges in management/marketing contexts. A substantial literature in anthropology is available on the study of talk that is usually ignored — a particularly strange phenomenon given the fields of management and marketing build from the foundational premise that two or more persons interact before, during, and post engagements in actions. "DEPC" (describing, explaining, predicting, and controlling) naturally occurring talk in management and marketing is worthy of a lifetime of research.

Chapter 18 explains the need and enables the move away from the bad practice of null hypothesis statistical testing (NHST). NHST is the biggest bad practice that dominates research practice in management today (late second decade, 21st century). Hubbard (2016) for an in-depth coverage on just how bad NHST is in management research. Problems with using NHST include its focus on an issue of little relevance to the theory understudy; NHST findings focus on the probability (e.g., p < .05) of an observed finding given that the null hypothesis that the true finding is equal to zero. If the observation provides p < .05, the researcher rejects the prior belief that the null hypothesis is true. Such testing is faulty on several grounds. A study's sample size influences the probability for an observed finding when the null is true; with very large sample sizes ( $n \ge 1000$ ), most NHSTs result in p < .05 findings. More

importantly, researchers using NHSTs rarely focus on the accuracy of model predictions for additional samples. Almost all researchers report only fit validity (e.g., the multiple regression model comes with an adjusted  $R^2 < 0.00$ , p < .05); they do not test the accuracy of the model in predicting scores for cases in new samples — samples not used in constructing the model in the first place. Testing regression models for predictive validity indicate that regression models do poorly in comparison to algorithm models (Gigerenzer & Brighton, 2009) in the accuracy they achieve in predicting outcome scores for cases in additional samples.

Another telling problem, nearly all researchers using regression models ignore cases in their data sets that are contrary to the directional relationships of terms that they report in their models. Contrarian cases are observable almost always in large data sets  $(n \ge 100)$ . For example, most very frequent (top-quintile by visits) casino gamblers have high incomes relative to middle-quintile casino visitors; however, some of the top-quintile casino visitors are in the bottom-quintile by income. Cross-tabbing casino gamblers by their income and visits (in quintiles for both income and visits) indicates that cases appear in all 25 resulting cells (Woodside & Zhang, 2012). Consequently, just finding and reporting a positive income-andcasino visit relationship (b coefficient > 0.00, p < .05 in a regression model) represents shallow analysis. Additional models are necessary and useful to identify and explain the low-income (bottom quintile) casino visitors who are in the top-quintile of cases by visits as well as to identify the contrarian cases in the top-quintile of income who are in the bottom quintile of visits. Moving away from variable-based regression and NHSTs to case-based algorithms and statistical sameness testing (SST) deepens and enriches explanation and model usefulness. Rather than asking if a significant relationship between an independent (X) and a dependent (Y) variables occurs in a study, case-based modeling asks what configurations of ingredients that include high (low) scoring cases for X consistently indicate high scores in Y. The researcher moves beyond variable-based theory-analytics to embrace case theoryanalytics by reframing if questions to what and when questions. Chapter 19 offers details on how researchers can release the embrace of NHST and adopt statistical sameness testing (SMT). SMT indicates how consistently a case-based model achieves the same outcome (i.e., a case-based model should indicate high scores in an outcome condition for 9 of 10 cases with high scores in the complex model statement). SST is leap up-and-beyond NHST.

Chapter 20 describes how to use configural analysis in comparative cultural research. Rather than testing the singular impact of cultural values as done in 99 percent plus studies on culture (Hofstede, 2003), Chapter 21 describes how to write complex, configurational statements as empirical models that express cultures as complex wholes. "Culture" by definition refers to a complex whole and examining the impacts of individual cultural values is not the study of culture. Chapter 21 describes and applies complexity theory and SST analytics, tools useful in many research studies beyond comparative cultural research.

The need for a source offering broad and deep coverage of theory, methods, and practice in case study research is the central premise for the original and this

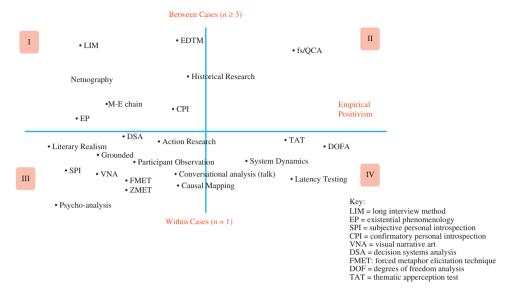


Figure 1: Four quadrants mapping case study research methods.

expanded edition of CSR. See Figure 1 for a quick scan of methods and how to classify CSR theories-methods on two dimensions: within and between cases and interpretive versus empirical positivistic stances.

CSR's principal objectives include offering nitty-gritty details of processes (steps) in building theory and designing, implementing, and evaluating a broad range of case study research methods — coverage and depth that you will not find elsewhere in one source. CSR includes comparing the criticisms and strengths of case study research with theory and methods that rely on matrix-algebra-based hypotheses testing in NHSTs. CSR includes introductions and details within lengthy examples of using qualitative comparative analysis (QCA) with available software (fsqca.com) as well as an in-depth treatment on building in degrees-of-freedom (DOF) in case study research. OCA is a Boolean-algebra-based approach for formal testing of the accuracy of complex statements of contingent relationships among recipes of antecedent conditions in predicting outcome conditions. Building in DOF analysis is often discussed in case study research but not to the depth that you find in this book — formal tests of hypotheses are possible in case studies using DOF analysis as well as other methods (e.g., latency response methods and system dynamics modeling). Students and scholars — recognizing the limited ability of informants to accurately report their own (mostly unconscious) thinking and doing processes — and the problems relating to self-editing biases of informants while answering questions — and the biases in the questions that researchers frame frequently seek alternatives to using fixed-point survey response instruments and collecting verbal-only responses. Case study researchers worry about (insist on)

achieving high accuracy in understanding, explaining, and predicting thinking and doing processes. Substantial evidence supports the view:

- Most thinking occurs unconsciously
- Humans have limited access to their own thinking-doing processes
- More than one person affects the process under examination.

Consequently, case study researchers frequently find the use of one-shot interviews with one person for each of 50–300 organizations (firm, family, or government organization) to be too low grade in accuracy and information to be acceptable. Too much nuance is missing, too much reality remains unknown, in studies that rely on one-shot interviews. Chris Rock's (American comedian and commentator) insight automatically comes-to-mind here, "When you meet someone for the first time, you are not meeting that person, you are meeting his representative." Explicit consideration of four dimensions is relevant for theory building and testing of processes involving humans:

- Time: micro-seconds, minutes, hours, days, weeks, months, decades, centuries
- Thinking: unconscious only, unconscious and conscious, complex problem-solving
- People: one person, group; intergroup, nation, East—West, and native cultures
- Context: home, work, travel; first-time versus repeat; weather, noise level, odors.

Figure 1 shows two of these four dimensions: time and thinking. Figure 1 includes superimposing several prevalent case-study research methods in these methods most relevant time-thinking locations. For example, according to Jung's (1916/1959) archetypal theory, human memory include genetic primal forces that affect automatic responses to different context without conscious thought — behavioral and thinking outcomes of responses learned over thousands of years. Gigerenzer (2008) may be the most insightful scholar currently working on examining meta-thinking issues. Note that Figure 1 attempts to show communication flows between the various levels of thinking. While recognizing that conscious and unconscious thinking and thoughts occur separately is useful theoretically, much thinking likely includes some bits of both conscious and unconscious thoughts (Evans, 2008). "Go deep!" Go deep by both going into the field — real-life contexts and by learning a variety of case study theories and methods is the advice and direction that this book directs you to follow. This suggestion is a corollary to Weick's (1979) famous suggestion, "Complicate yourself!"

The complicated individual can sense variations in a larger environment, select what need not be attended to, what will not change imminently, what won't happen, and by this selection the individual is able to amplify his control variety. He safely (that is, insightfully) ignores that which will not change, concentrates on that which will, and much like the neurotic psychiatrist is able to anticipate significant

environmental variation when and where it occurs. Complicated observers take in more. They see patterns that less complicated people miss, and they exploit these subtle patterns by concentrating on them and ignoring everything else. (Weick, 1979, p. 193, italics in the original)

This expanded CSR book offers deep coverage of 16 case research methods; the closing chapter offers 12 specific principles to implement to increase accuracy of what is happening and what will happen in real-life contexts-processes involving thinking and behavior by humans. Useful tools for going deep and for complicating yourself!

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## **Building Theory from Case Study Research**

## **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 describes 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 briefly reviews twelve propositions relevant in many case research studies. This chapter 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, & 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 separately, 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 the 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

A substantial amount of psychological, management, and marketing research focuses on the decisions and the behaviors by individuals and groups within and between organizations (Woodside, 1992; Woodside & Wilson, 2000). The most frequently used research method in the field involves sending a mail survey of mostly closed-ended questions covering 10–20 research constructs. The request usually made is that the questionnaire be completed by one person per firm, without comparing any other person's answers. The reported response rates for such studies typically range from 8 to 30 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 approximately 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, Barnard, & Sandberg, 1994) and thinking by the same person using multiple interviews over several weeks (e.g., Cox, 1967; Cvert, Simon, & Trow, 1956; Witte, 1972; Woodside & 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, but also 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 the author 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 consumer, business, and industrial marketing usually focus on only one of five mental processes, that is, verbalized thoughts. Figure 1 depicts such thoughts as Level 1 thinking. The other four levels shown in Figure 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