Hans-Gerd Ridder:

Case Study Research Approaches, Methods, Contribution to Theory

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This book outlines the richness of case study approaches in their contribution to theory. It offers master and doctoral students a systematic overview of how to conduct case study research considering the variety of its approaches.

A continuum of theory is outlined in order to clarify the contribution of research designs to theory. Research topics, research questions, and the role of the theoretical and empirical state of the art are discussed. The conceptual framework is displayed as an orientation, guiding the study theoretically as well as methodologically.

The core of the book is the investigation into the main approaches of case study re-search. Exploratory, explanatory, constructivist, and extended case study approaches are outlined and compared. Commonalities and differences in data collection and data analysis within case study research are deepened.

Key words: Qualitative research, case study research, theory continuum, exploratory case study, explanatory case study, constructivist case study, extended case study

HANS-GERD RIDDER holds the Chair in Human Resource Management at the Leibniz Universität Hannover. His research focuses on strategic HRM in Profit and Non Profit Organizations.

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Hans-Gerd Ridder

Case Study Research

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Preface

This book is an introduction into case study research. Why do we need such a book?

First, case study research is mostly part of textbooks in qualitative research, but the richness of case study research with regard to the variety of its approaches and its various contributions to theory is often underestimated. Second, this is mirrored by my observation that textbooks and scientific papers often treat case study research as an exploratory tool, but case study research has more options esp. in extending, modifying, and testing theory. Third, the description of the methodological steps in case study research articles is seldom precisely elaborated, and it seems to be that the quotation of some classic authors is accepted as a sufficient ritual to legitimate the publication of a descriptive or an exploratory case study.

These tendencies undervalue the rich diversity in case study research. On the one hand, there are approaches which strictly meet classic goals of a case study through rich descriptions of a case. On the other hand, there are approaches which condense and aggregate data with high standards of data processing. By that, case study research provides various contributions to theory.

This book aims to outline this richness of case study approaches in their contribution to theory. It offers master and doctoral students a systematic overview of how to conduct case study research considering the variety of its approaches and their theory contributions:

- I start with a chapter about what a theory is with regard to the generation, extension, modification, or testing of theories (chapter 1). The purpose of the chapter is to outline a continuum of theory and to clarify the contribution of research designs to theory.
- In the next chapters (2-3) I elaborate the development from a research topic to research questions and discuss the role of the theoretical and empirical state of the art. The role of a conceptual framework is displayed as an orientation, guiding the study theoretically as well as methodologically.
- The following chapters investigate into the main approaches of case study research and their theory contribution. I start with central characteristics about

qualitative research and case study research (chapter 4), followed by different approaches of Eisenhardt (5), Yin (6), Stake (7) and Burawoy (8), and a comparison of these designs (9).

- The final three chapters deal with commonalities and differences in data collection (10) and data analysis (chapter 11-12) of case study research.

It is an honor to thank persons who contributed to the book in valuable ways. I thank Kamille Schneider who accurately managed the literature and precisely revised and proof read the manuscript. I thank Christina Linke who supported the management of the book in her usual professional manner and carefully designed the layout of the manuscript. I thank Hans-Jürgen Bruns, Simon Schrader, and Max Roehl who discussed with me an earlier version of the manuscript and provided constructive critique and recommendations.

I dedicate the book to Annemarie Ridder. She convinced me to write this book and never became bored discussing methodological issues. Thank you for your trust and encouragement.

Hannover, September 2016

Hans-Gerd Ridder

Contents

1. Theory

What do we expect from scientists? Is it the collection and analysis of facts, conduction of experiments and statistics, development of theories and explanations, and proof of accumulated knowledge? Contrary to common beliefs, dealing with information, collecting and analyzing data, and providing theories about what has been identified is not the single domain of a scientist. Most of these terms can be adapted to the profession of a (good) reporter (Colquitt & Zapata-Phelan, 2007; Dubin, 1978). Imagine that a TV reporter is delivering a story about an economic phenomenon. Hopefully, he will give a sound description of the problem providing facts that were unknown before. The reporter has gathered information and condenses this information into an exciting oral introduction. Next, the reporter is looking for explanations and asks an expert to provide informed experiences and explanations. After that, the reporter may ask a man on the street what his explanation is, and this man will probably provide his “theory” as to what has caused the economic event. Finally, a scientist will deliver his or her explanation about the phenomenon in a complicated language that we hardly understand.

Hence, some questions arise: What is the difference between these several types of information, opinions, and explanations we received? We can assume that the reporter provides us with facts; however, we have to consider that these facts are condensed and that the reporter made sense out of these facts with regard to audience expectations. We are sure that the expert provides facts and explanations from his or her point of view, while the man on the street derived his “theory” from individual information and experience. Where does the scientist get his or her facts and explanations from, and how do they differ from explanations provided by reporters, experts, and the man on the street?

We all have theories in our mind. They stem from education, observation, learning, positive or negative experiences, and drawing conclusions. We are not neutral observers of the world, rather we know that an understanding of the world is necessary to behave and organize our life in a way we desire. This “informed knowledge” and “experience framework” (Lynham, 2002, p. 222) is practiced because we want to understand, anticipate, act, and react in a more or less predictable way following our plans for a good or better life. We know from attribution theory that we shape these theories according to our needs, desires, selected choice, comprehension of information, and experience. Imagine, for example, a man making a mistake in a given situation with drastic consequences. The man can see the cause for such a failure differently; either it is the fault of himself or the attribution of situational circumstances. Guess what most people do? Regardless of the actual reason for the mistake, according to the chosen attribution, future behavior will be different.

Of course, often a phenomenon is taken for granted and accepted by repetition. Take, for example, a long living and commonly shared “theory” of managers that pay is the main motivator for performance. Many managers (as experts) bought into this assumption, and this knowledge was accepted as a fact. Managers transferred this “theory” from one generation to another, while workforce behavior seemed to prove the explanation. Managers, at this time, still agree that pay motivates performance.

Scientists tested this common theory by shifting the taken for granted assumption into alternative relationships of variables. They defined performance as a dependent variable and tested, through observations and experiments, which (independent) variables influenced performance. As a result, they identified different and sometimes contradicting empirical findings. For example, if organizations offered an interesting work design, performance increased and workers accepted less income. Further studies analyzed the importance of intrinsic motivation, group dynamics, leadership, and work life balance perspectives. All of these were identified as important motivators as well. As a result, scientists found out that pay is one and not always the most important motivator for performance. Scientific theories emerged and assumed that people have different needs, expectations, and reactions which have to be considered when aiming for high performance. In a second step, scientists started to test these theories logically and empirically. The results were published and now other scientists are able to repeat, criticize, modify, advance, or reject these theories by new empirical studies.

This example demonstrates, scientists do not trust taken for granted theories. They create, develop, and test scientific theories by observing not or less understood phenomena. They want to know how and why things happen. They do this systematically by accepting scientific methods to conduct their studies. The findings are published and other scientists are able to evaluate these theories.

This chapter provides the core of such a theory. First, a theory consists of components which have to be systematically identified. Second, a theory identifies relationships between these components and aims to explain these relationships. Third, researchers want know whether these relationships are valid for many people in many places or whether the theory has boundaries. The following table provides an initial overview of what a theory is and what it consists of:

Components and Relationships	Which components (concepts, constructs, and variables) logically should be part of the theory? How are the components related? Why does this relationship exist? What is the underlying explanation? Does the theory have limitations, e.g. with regard to values, time, or space?
Component: Concepts	Abstractly representing broader generalizations of objects, properties, processes, or phenomena Derived from existing theory (more quantitatively orientated) Generated out of data (more qualitatively orientated)
Component: Constructs	Aggregation of phenomena Empirically approximated but not directly observed
Component: Variables	Observable units Empirically measured
Relationships: Understanding	Is one phenomenon (concepts, constructs, variables) in a direct or indirect relationship to another phenomenon (concepts, constructs, variables)? Is that relationship linear, recursive, deterministic, teleological, or causal? Does the investigation provide a mechanism that is valid beyond the sample under investigation?
Relationships: Prediction	Propositions can be the result of an empirical study Components and their proposed relationships stem from empirical observation and analysis of the data building theory Propositions can be derived from theory Outcomes of a proposed relationship are predicted Hypotheses predict relationships between components (variables) with empirical indicators
Boundaries	Values-laden assumptions Spatial boundaries Temporal factors The lower the boundaries, the higher the generalizability
Definition of Theory	"It is a collection of assertions, both verbal and symbolic, that identifies what variables are important for what reasons, specifies how they are interrelated and why, and identifies the conditions under which they should be related or not related" (Campbell, 1990, p. 65).
Directions of Theory Building	Induction goes from the particular to general theoretical statements Deduction goes from existing theories to specific theoretical statements
Methodological Fit	Nascent theory: building theory out of data (mostly qualitative methods) Intermediate theory: theoretical refinement, theoretical extension (mostly hybrid methods) Mature theory: verification or falsification of theory (mostly quantitative method)

Table 1: Overview Theory

A theory is not a final product, but rather always in flux. In the second part of this chapter I outline how theories can be built, modified, extended, and tested on a continuum of theory development. For each of these phases adequate methods have to be conducted.

Components and Relationships of a Scientific Theory

Having stated that scientists aim to systematically create theories about the world, the term theory is not easily definable. For a start, many scientists try to explain empirical phenomena. For example, we are impressed that the theory of gravity explains why things fall down. Knowing this law, we understand how and why things fall down and under which circumstances things do (temporarily) not fall down (for example arrows, airplanes, balloons, rockets, birds). This understanding allows predictions and the testability of these predictions. It has inspired numerous subsequent theories and applications. In social science, learning theories, motivation theories, problem solving theories, group theories, and theories of organizational behavior concern empirical phenomena and help us to understand what happens in organizations and why. Again, this is not only knowledge that serves academic interests, but the revealed patterns provide implications for practical applications as well.

Sometimes students and managers complain that scientific results are "theoretical", in a sense, that they are meaningless for business education or direct application. The core problem is that theory cannot mirror reality. Theory is an abstraction or an abstract representation of reality. Having chosen a topic or a domain, we cannot catch the complex phenomenon as a whole due to our limited capabilities (Dubin, 1978, p. 41). In order to understand a phenomenon, it is not necessary to consider everything that happens in reality. The researcher has to make a decision about which components of the phenomenon are essential for the understanding of the phenomenon and which parts can be neglected. If, for example, researchers are working on relationships between leadership and performance then they conceptualize, for example, traits or behaviors of leaders. Other aspects of leaders are not of interest. In similar vein, they conceptualize what kind of performance is likely to be the result of leadership. Some performance measures are under investigation while others are not. Reality is not mirrored, but a certain level of abstraction is seen as necessary. This makes sense, as the researcher is not interested in every single detail of what leaders are doing (e.g., playing the violin) or thinking (e.g., about religion). The researcher wants to have general explanations that go beyond the leaders under investigation in the study. Generality is reached if the explanation is valid for many leaders in different situations and many places. As soon as theory building starts, reality becomes abstracted:

> “A theory is a model of some segment of the observable world. Such a model describes the face appearance of the phenomenon in such terms as structures, textures, forms, and operations. In order that such a model be considered dynamic, it also describes how the phenomenon works, how it functions. All scientific models, then, are the imaginative recreation of some segment of the observable world by a theorist interested in comprehending the forms and functions of selected segments of the world around him” (Dubin, 1978, p. 216).

Such segments of the observable are systematically identified, chosen, and investigated by the researcher. **Components and their relationships** are the abstracted basis of theory. If we want to build a theory, we want to know what the phenomenon is, which components the phenomenon consists of, and we want to know how these components are related and why. In addition, it might be of interest to investigate what effects the phenomenon has under specific circumstances. Therefore, the basic questions in recreation of the components and their relationships are (Alvesson & Kärreman, 2007; Bacharach, 1989; Weick, 1989, 1995; Whetten, 1989):

What: Which **components** (concepts, constructs, and variables) logically should be part of the theory?

How: How are the components **related**? The answer to that question is often displayed in figures where boxes are related by arrows.

Why: Why does this relationship exist? What is the underlying **explanation**?

Who, Where, When: Does the theory have **limitations**, e.g. with regard to values, time, or space?

To answer the “what” question the researcher wants to know what components are necessary to explain a phenomenon. Sometimes “rich descriptions” of the components are necessary in order to understand a phenomenon. It is particularly useful for researchers who are investigating into new phenomena to conduct interviews and observations in order to get as much data as possible in order to understand what is happening.

On the contrary, sometimes it is even better not to dig into every detail in order to understand the core phenomena and their relationships. Not every part of these components is important to understand these phenomena. The researcher has to decide which aspects of the phenomenon should be explained in detail and are important for theory building.

As a result, the following questions have to be addressed: which components have to be included, how are they to be conceptualized (comprehensiveness), and which components are not to be considered (parsimony) because they have no meaning for the explanation of the phenomenon (Bacharach, 1989, p. 512)?

Several names are used for the components of theory considering different purposes. Due to different methodological assumptions, terms can have various meanings and can be located at several stages within theory building or theory testing. Most often, concepts, constructs, and variables are distinguished.

Components of a Theory

Concepts

At the most abstract level the components of a theory are often named "concepts". According to Berg and Lune (2012, p. 20), concepts are components of the theory abstractly representing **objects, properties, phenomena, or processes**. To conceptualize is to bring single information into broader generalizations. Corbin and Strauss (2015) define concepts as follows: "Words used by analysts to stand for interpreted meaning" (p. 57). The term "motivation" is such a concept. It is an abstract representation of, for example, abilities, intentions, actions, and states of satisfaction. When using such a concept, this single term is a shared representation of a range of attributes. The concept is not directly observable and the meaning changes according to its use in practice or in various scientific realms. Laymen have different concepts than scientists, and even scientists vary in their concepts in light of their own theories. The concept of "motivation", for instance, differs from context to context and has alternative meanings in economics when compared to psychology.

The term concept is used in various ways according to different methodological orientations. In quantitatively-oriented methodology theories are empirically tested most often by statistical tests or by experiments. Therefore, concepts and their relationships are **derived from existing theory** and operationalized into subunits of constructs and variables. Constructs coming from concepts are the pre-specified lenses for the observation of the phenomenon (Suddaby, 2010). In this orientation, the relationship of concepts and constructs are carefully scrutinized as well as the relationship amongst constructs (construct validity).

In qualitatively-oriented methodologies the aim is to **generate concepts out of data** (e.g., grounded theory). The term **"**concept**"** is used as a more value neutral term in place of the term construct (Gioia et al., 2013; Suddaby, 2010, p. 354). It develops concepts from data containing rich and complex insights into the observed phenomenon instead of deriving concepts out of theory. The researcher groups and organizes information from the research site (issues, action, and interaction). By identifying common characteristics out of data, the researcher builds categories. Categories become concepts if they gain explanatory power and can be related to other categories (Charmaz, 2014, p. 247).

In further analysis the researcher is looking for meaning and the concept is finally a theoretical term, representing the highest aggregation and interpretation of the collected data. Concepts then represent understandings of a phenomenon, and relationships between concepts constitute the theory.

Take, for example, an observation by researchers that a broad range of feelings influence motivation and that these feelings have not been considered so far in motivation theory. Observations and interviews may reveal that these feelings can be described by the participants and grouped and analyzed by the researcher (lower level concept). Further categorization and aggregation leads to higher-level concepts of “emotions”.

Constructs

Alternatively, constructs can stem from existing theories in order to develop, extend, or test theories. Constructs can be a means of theory building (a-priori constructs) or a means of theory testing. If it is aimed to test theories constructs are subdivided from theory (or concepts). They represent **aggregations of phenomena**. They are usually “constructed” to delineate a number of attributes about the phenomenon under investigation. Therefore, these constructs are carefully gauged with regard to their connectivity to the concept and their inter-correlation. Definitional and operational clarity of constructs is a foundation to test theories, as clear constructs are easier to operationalize and to compare. As a result, precise quality standards regarding the definition, scope conditions, and coherence of constructs (Suddaby, 2010) are aimed (construct validity). Quantitative researchers then propose relationships between constructs. If constructs are operationalized into variables, the relationships between variables are hypothesized (Boyd et al., 2013). Consider, for example, the concept “motivation” which can be subdivided into the constructs, “intention” and “effort”. It has to be demonstrated that the two terms are appropriate components of “motivation”. In addition, both terms require careful definition.

Differentiating between constructs and concepts is not that simple. Constructs partially resemble the empirical world through the aggregation of variables, events, or actions and are more related to observational meaning. Concepts can be based on constructs, and have more explanatory meaning. A theoretical concept is finally a more abstract term (Kaplan, 1998, p. 46).

Take, for instance, the construct “team psychological safety” which Edmondson (1999) newly defined as “… a shared belief that the team is safe for interpersonal risk taking. For the most part, this belief tends to be tacit-taken for granted and not given direct attention either by individuals or by the team as a whole" (p. 354). Edmondson developed this construct from previous theories and hypothesized that the new construct is related to learning behavior in organizational work teams.

In the long run such constructs can become canonical. Colquitt & Zapata-Phelan (2007, pp. 1295-1296) analyzed articles from five decades and identified such powerful constructs, for example:

Example: Constructs in Management Research

"Citizenship behavior (Bateman & Organ, 1983)

Those gestures (often taken for granted) that lubricate the social machinery of the organization but that do not directly inhere in the usual notion of task performance.

Affect- and cognition- based trust (McAllister, 1995)

Trust grounded in reciprocated interpersonal care and concern (affect-based) and individual beliefs about peer reliability and dependability (cognition-based)

Employee deviance (Robinson & Bennett, 1995)

Voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization.

Relational demography (Tsui & O'Reilly, 1989).

The comparative demographic characteristics of members of dyads or work groups who are in a position to engage in regular interactions."

Source: Colquitt & Zapata-Phelan, 2007, p. 1295

Colquitt & Zapata-Phelan (2007) emphasize that not all new and modern constructs are developed from scratch: "A related concern is construct redundancy, whereby 'new' constructs actually represent older concepts with new labels" (p. 1295).

Variables

Constructs, as broader configurations, are not to be confused with variables (Bacharach, 1989, p. 500). If, for instance, we want to know whether reward leads to satisfaction, we have two broad constructs from which variables can be derived in order to conduct an empirical investigation. While constructs are still abstract representations, variables are **observable units** that can be **measured empirically**. Dubin (1978) defines a variable as a "… property of a thing that may be present in degree. There may be some of the property present or a lot of it. We may express the degree of presence of the variable property of a thing by either a cardinal or an ordinal scale" (p. 44). Variables represent operational terms which specify that an observation of activities or events is possible. *Direct observation* is simply recognizing an event or an action. Kaplan (1998) characterized this direct observation as, "I saw it myself" (p. 55). Such variables can have values (e.g. high/low), and the aim is to measure or to quantify these variables. *Indirect observations* contain a further step of inference. We infer the existence of a phenomenon through conclusions. It is a causal connection from the observation of an event or an action and the term under investigation. Referring to the constructs "effort" and "intention", it might be possible to measure "effort" directly by counting physical activities, while "intention" has to be concluded indirectly by verbal expressions. If there are many variables, similar events or persons can be sorted into **categories**.

In quantitative methodology the basic structure is to measure the values of two variables and their correlation. For example, if there is pay, it is assumed there is performance, and if pay increases, performance increases. Another way to investigate the effects of a variable in a given group is through experiment. Here, it is of importance whether a distribution of variables differs between two groups. In an experimental group the effects of increasing pay on performance would be measured and compared with a control group where pay is held constant.

In the following example Van de Ven (2007) provides a good role model regarding the interrelatedness of variables, constructs, and concepts:

Example: Interrelatedness of Concepts, Construct, and Variables

"At the most abstract conceptual level an organization's social structure might be defined as the formal (not informal) configuration of roles and authority relationships existing among participants within (not outside of) an organization. A role refers to the expected set of behaviors of a person occupying an organizational position, and authority refers to the formally prescribed power relationships among roles in an organization.
At a construct level, organizational social structure might be analytically separated into three components of authority relationships among roles: (1) centralization of decision making authority; (2) formalization of rules, policies, and procedures; and (3) complexity, or the number and interdependence of role relationships.
At a concrete level, the formalization of rules (one construct of the social structure concept) might be observed by measuring the number and specificity of rules in job manuals for various role positions in the organization."

Source: Van de Ven, 2007, p. 114

The terms are more empirical at the level of variables. By abstraction, constructs and concepts become increasingly theoretical.

Following Van de Ven (2007, pp. 113-117), relationships between the terms, with regard to the level of abstraction, can classify the type of theory that can be reached:

- Relations among abstract and general concepts can be stated grand theories: these relationships are transferred into propositions.
- Relations among theoretical constructs are more specific than concepts and are named middle-range theories: these relationships can be transferred into propositions as well.
- Relations among observed variables can be seen as operational theories: these relationships are termed hypotheses.

The abstraction of data into variables, constructs, or concepts is accompanied by ongoing theoretical reflection. Kaplan (1998, pp. 57-60) demonstrates this by referring to the analysis of direct observables. While few variables may be observed directly, larger numbers of directly observed variables must be grouped or classified. How do we know what to consider and what not to consider? How do we know what to group and how to classify these groups? Without some (theoretical) inferences in such groupings and classifications, we cannot distinguish the relevant from the irrelevant. All inferences imply some sort of theoretical assumption.

In similar vein, the abstraction of constructs and concepts is not easy to grasp. Although constructs contain empirical observations, they are as well "hypothetical" in a way that the chosen term reflects a more abstract inference. Abstracted observations (as a more descriptive term) can, in light of the theory, already be termed explanatory. Therefore, whether a term is descriptive or explanatory depends on the proposed use. Kaplan (1998) provides the example of the concept of "money" (p. 58). It can be observed by counting and classifying transactions (coins, paper, and electronic transactions); this is a descriptive operation. The same term can be more explanatory if we investigate into more abstract beliefs, behavior, and attitudes that are related to money. Which of the observed elements enter into the concept of money depends on the theory chosen for explanatory functions.

Relationships: Understanding and Prediction

Having identified a not or less understood phenomenon, the aim of scientific research is to create, modify, and test theories as an explanation of how and why this phenomenon has occurred (Locke, 2007; Weick, 1989, 1995), and additionally, to understand why the phenomena exist and how they are related. Another possible goal is to predict outcomes of this relationship (Dubin, 1978, p. 216).

Understanding

In order to understand relationships, it is not necessary to consider all of the observed facts, but to concentrate on the phenomena in its pure form. The aggregated concepts, constructs, or variables are analyzed according to whether they are in **indirect or direct relationships** to other aggregated concepts, constructs, or variables. Dubin (1978, pp. 26-29) outlines that scientists mainly focus their model analytically, only upon one realm and excludes other realms (*limited domain*). As such, models of processes are deliberately oversimplified in order to clarify understanding (*simplification*). Since the model is focused on understanding, it may provide imprecise predictions of outcomes (*broad relationships*).

In the chapter about data collection and data analysis we will see how, in empirical research, data is systematically collected, aggregated, clustered, and analyzed, successively eliminating data that is irrelevant for the topic under investigation. This again makes it clear that although a phenomenon is understood, a precise prediction about the reality from which the theory is built is unlikely, due to the restrictions of elimination and abstraction of data in building theories.

Understanding stems from questions and interpretations (Berg & Lune, 2012, p. 19). For example: What exactly is the phenomenon like? Does it regularly occur? Can we identify patterns? Did we expect these patterns? Do these patterns make sense? Can I generalize the patterns? Is there a relationship amongst patterns? Is that relationship **linear, recursive, deterministic, teleological, or causal** (Helfat, 2007)? Is the relationship based on a **mechanism** that is valid beyond the sample under investigation (Bacharach, 1989, p. 510)?

Sometimes students or managers expect the identification and the testability of laws or law like relationships from the business discipline. This is unlikely for several reasons: While physics, biology, or chemistry have (almost) the same structure of their *components* (e.g. water, air, electricity, and gravity), humans and their behavior lack this accepted content. There is no homogeneity in personality (Campbell, 1990, p. 46). While the natural scientists are able to precisely define and measure their objectives, which become canonical in their scientific community, the social scientist deals with subjects and relationships which are vague by definition and measurement, debated in the scientific community, and limited in detail (Weick, 1989, p. 521).

While natural scientists often speak the same *scientific language*, social scientists have multiple languages, different theoretical orientations, and various “lenses” which compete with each other. “Each of these theories may be a reasoned explanation of the phenomenon; none appear to disconfirm the others. All of them may coexist, providing