

Case Study Research: Foundations and Methodological Orientations

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Key words: case study; method; methodology; nursing research; qualitative; research design; research

Abstract: Over the last forty years, case study research has undergone substantial methodological development. This evolution has resulted in a pragmatic, flexible research approach, capable of providing comprehensive in-depth understanding of a diverse range of issues across a number of disciplines. Change and progress have stemmed from parallel influences of historical transformations in approaches to research and individual researcher's preferences, perspectives, and interpretations of this design. Researchers who have contributed to the development of case study research come from diverse disciplines with different philosophical perspectives, resulting in a variety of definitions and approaches. For the researcher new to using case study, such variety can create a confusing platform for its application. In this article, we explore the evolution of case study research, discuss methodological variations, and summarize key elements with the aim of providing guidance on the available options for researchers wanting to use case study in their work.

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1. Introduction

Case study research has grown in reputation as an effective methodology to investigate and understand complex issues in real world settings. Case study designs have been used across a number of disciplines, particularly the social sciences, education, business, law, and health, to address a wide range of research questions. Consequently, over the last 40 years, through the application of a variety of methodological approaches, case study research has undergone substantial development. Change and progress have stemmed from parallel influences from historical approaches to research and individual researcher's preferences, perspectives on, and interpretations of case study research. Central

to these variations is the underpinning ontological and epistemological orientations of those involved in the evolution of case study research. Researchers who have contributed to the development of case study research come from diverse disciplines and their philosophical underpinnings have created variety and diversity in approaches used. Consequently, various designs have been proposed for preparing, planning, and conducting case study research with advice on key considerations for achieving success. As a result, while case study research has evolved to be a pragmatic, flexible research approach, the variation in definition, application, validity, and purposefulness can create a confusing platform for its use. [1]

In this article, we examine each of these issues in turn, with the aim of improving our understanding of case study research and clarifying the requisite tenets to consider when designing a case study. We begin with an overview of the history and evolution of case study research, followed by a discussion of the methodological and philosophical variations found within case study designs. We end with a summary of the common characteristics of case study research and a table that brings together the fundamental elements that we found common in all case study approaches to research. [2]

2. History and Evolution

Case study research as a strategy for methodological exploration, according to FLYVBJERG (2011) "has been around as long as recorded history" (p.302). Contemporary case study research is said to have its origins in qualitative approaches to research in the disciplines of anthropology, history, psychology, and sociology (MERRIAM, 1998; SIMONS, 2009; STEWART, 2014). Historical examples of case study stem as far back as the early nineteenth century with the biography of Charles DARWIN (STEWART, 2014). Most attribute the origins of case study research to studies undertaken in anthropology and social sciences in the early twentieth century when lengthy, detailed ethnographic studies of individuals and cultures were conducted using this design (JOHANSSON, 2003, MERRIAM, 2009; SIMONS, 2009; STEWART, 2014). Sociologists and anthropologists investigated people's lives, experiences, and how they understood the social and cultural context of their world, with the aim of gaining insight into how individuals interpreted and attributed meaning to their experiences and constructed their worlds (JOHANSSON, 2003; SIMONS, 2009). Such investigations were conducted in the natural setting of those experiences with results presented descriptively or as a narrative (MERRIAM, 2009). The most notable case studies include THOMAS and ZNANIECKI's (1958 [1918-1920]) study of Polish peasants in Europe and America and, the ethnographic work by MALINOWSKI (1913) in the Trobriand Islands in Melanesia that spanned over several years (CRESWELL, HANSON, PLANO CLARK & MORALES, 2007; JOHANSSON, 2003; STEWART, 2014). [3]

With the emergence and dominance of positivism in science in the late 1940s and 1950s, quantitative methods became a popular focus for the social sciences. As a result, surveys, experiments, and statistical methods anchored in

quantitative approaches were favored and considered more rigorous than qualitative designs (JOHANSSON, 2003). The dominance of research using experimental designs continued through the 1960s and 1970s with quantitative empirical results considered to be gold standard evidence. Case studies continued to be used during this time, however usually as a method within quantitative studies or referred to as descriptive research to study a specific phenomenon (MERRIAM, 2009). At the same time, case study research was often criticized for its inability to support generalizability and thus considered to provide limited validity and value as a research design (JOHANSSON, 2003; MERRIAM, 2009; STEWART, 2014). This context led to a philosophical division in research approaches: those supporting positivism and quantitative approaches and those aligned with qualitative methods embedded in constructivist and interpretivist paradigms. [4]

Antecedents of modern day case study research are most often cited as being conducted in the Chicago School of Sociology between the 1920-1950s (STEWART, 2014). Here, anthropologists practiced their methods on university cultures or by conducting lengthy case studies involving field-based observations of groups with the aim of understanding their social and cultural lives (CRESWELL et al., 2007; JOHANSSON, 2003; STEWART, 2014). Parallel to the use of case studies in anthropology, medicine and disciplines in the social sciences such as sociology, education and political science also embraced case study as a form of inquiry (ANTHONY & JACK, 2009; BROWN, 2008; CRESWELL et al., 2007; GEORGE & BENNETT, 2005; GERRING, 2004; SIMONS, 2009; YIN, 2014). [5]

A second generation of case study researchers emerged with the advent of grounded theory methodology (GLASER & STRAUSS, 1967). Grounded theory "merged qualitative field study methods from the Chicago School of Sociology with quantitative methods of data analysis" (JOHANSSON, 2003, p.8), resulting in an inductive methodology that used detailed systematic procedures to analyze data. This renewed interest in qualitative methodology led to a revival in the use of case study in a number of disciplines (ANTHONY & JACK, 2009; GEORGE & BENNETT, 2005; JOHANSSON, 2003; MERRIAM, 2009; STAKE, 1995). According to JOHANSSON (2003), Robert YIN followed this progress, and drawing on scientific approaches to research gained from his background in the social sciences, applied experimental logic to naturalistic inquiry, and blended this with qualitative methods, further bridging the methodological gap and strengthening the methodological quality of case study research. He presented a structured process for undertaking case study research where formal propositions or theories guide the research process and are tested as part of the outcome, highlighting his realist approach to qualitative case study research. While still qualitative and inductive, it was deterministic in nature with an emphasis on cause and effect, testing theories, and an apprehension of the truth (BROWN, 2008; YIN, 2014). [6]

Similarly, the uptake of case study research in the political sciences, particularly during the 1980's and 1990's, led to a more integrated methodological approach

with the aim of theoretical development and testing (GEORGE & BENNETT, 2005). The integration of formal, statistical, and narrative methods in a single study, combined with the use of empirical methods for case selection and causal inference, demonstrated the versatility of case study design and made a significant contribution to its methodological evolution (ibid.). Similarly, case studies in international relations integrated rigorous, standardized methods with statistical and formal methods, including qualitative comparative analysis and process tracing to improve understanding of world politics (BENNETT & ELMAN, 2007; GERRING, 2004; LEVY, 2007). According to GEORGE and BENNETT (2005) "scholars have formalized case study methods more completely and linked them to underlying arguments in the philosophy of science" (p.6). The continued use of case study to understand the complexities of institutions, practices, processes, and relations in politics, has demonstrated the utility of case study for researching complex issues, and testing causal mechanisms that can be applied across varied disciplines. [7]

Corresponding with these developments, in the 1970's, educational research embraced case study as a way to evaluate curriculum design and innovation (MERRIAM, 2009; SIMONS, 2009; STAKE, 1995). Methods were required that could be used to explore factors such as participants' perspectives and the influence of socio-political contexts on curriculum successes and failures (SIMONS, 2009). Development of case study research in education, focused on the need to determine the impact of educational programs and provide relevant evidence for policy and practice decisions that supported social and educational change in the United Kingdom and the United States (ibid.). The most significant contributors to this field were STAKE (1995, 2006) and MERRIAM (1998, 2009). STAKE (1995), an educational psychologist with an interest in developing program evaluation methods, used a constructivist orientation to case study. This resulted in placing more emphasis on inductive exploration, discovery, and holistic analysis that was presented in thick descriptions of the case. Similarly, MERRIAM (1998, 2009) used case study research to explore and evaluate educational programs. MERRIAM's approach emphasized defining and understanding the case through the products of inquiry and drew on the work of both YIN and STAKE. MERRIAM (2009) described case study research by its characteristics: particularistic, descriptive and heuristic, highlighting the purpose and qualitative nature of case study research, the focus on a specific entity and, the motivation to understand and describe the findings. Similar to STAKE (1995, 2006), MERRIAM (1998, 2009) was not as structured in her approach as YIN (2014), but promoted the use of a theoretical framework or research questions to guide the case study and organized, systematic data collection to manage the process of inquiry. [8]

Simple in theory yet complex in nature, the planning, preparation and execution of case study research has developed to a point where the continued application of case study research across a number of professions particularly education, health, and social sciences, has provided a unique platform for credible research endeavors. Case study research has grown in sophistication and is viewed as a valid form of inquiry to explore a broad scope of complex issues, particularly

when human behavior and social interactions are central to understanding topics of interest (ANTHONY & JACK, 2009; FLYVBJERG, 2011; GEORGE & BENNETT, 2005; LUCK, JACKSON & USHER, 2006; MERRIAM, 2009; STAKE, 2006; YIN, 2014). [9]

In Figure 1, developed by JOHANSSON (2003) and adapted for this discussion, a summary of the evolution of case study across a timeline dating back to 1600 is displayed. Key contributors to case study research and major contextual influences on its evolution are included. As the figure highlights, early case studies were conducted in the social sciences. With the dominance of logical positivism from the 1940's through to the 1960's and 1970's case study methodology was viewed with skepticism and criticism. The development of grounded theory in the 1960's led to a resurgence in case study research, with its application in the social sciences, education, and the humanities. Over the last 50 years, case study has been re-established as a credible, valid research design that facilitates the exploration of complex issues.

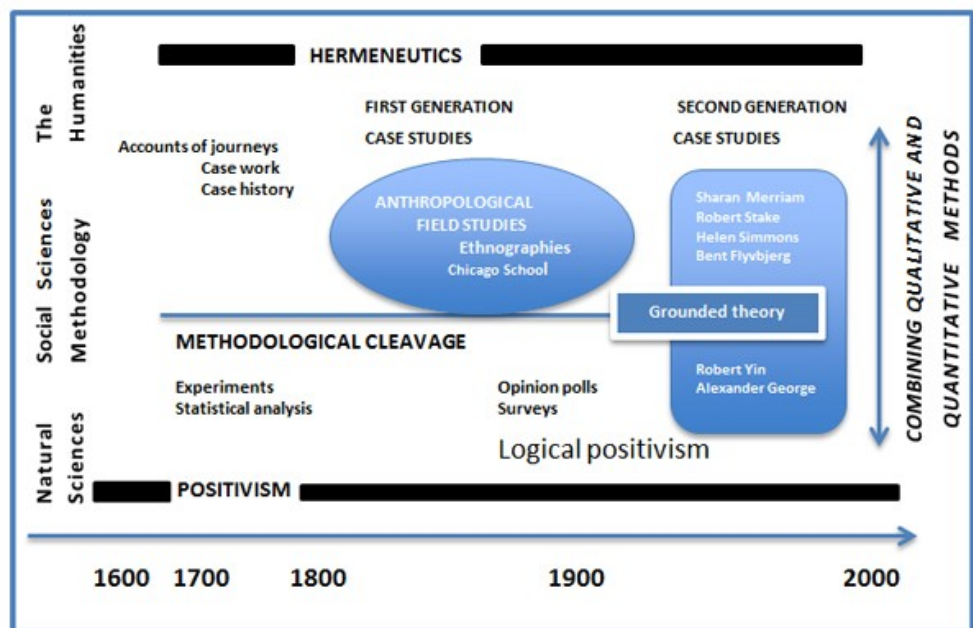


Figure 1: The history and evolution of case study research (JOHANSSON, 2003, p.7) [10]

3. Foundational Concepts

While over time the contributions of researchers from varied disciplines have helped to develop and strengthen case study research, the variety of disciplinary backgrounds has also added complexity, particularly around how case study research is defined, described, and applied in practice. In the sections that follow, the nature of this complexity is explored. [11]

3.1 Definitions and descriptions

There are a number of definitions and descriptions presented across the literature, which can create confusion when attempting to understand case study research. The most common definitions come from the work of YIN (2014), STAKE (1995), and MERRIAM (2009). YIN's two-part definition (2014) focuses on the scope, process, and methodological characteristics of case study research, emphasizing the nature of inquiry as being empirical, and the importance of context to the case. On the other hand, STAKE (1995) takes a more flexible stance and while concerned with rigor in the processes, maintains a focus on what is studied (the case) rather than how it is studied (the method). For STAKE case study research is "the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (p.xi). MERRIAM (2009) includes what is studied and the products of the research when defining case study as: "... an in depth description and analysis of a bounded system" (p.40). Like STAKE, MERRIAM emphasizes the defining feature of case study research as being the object of the study (the bounded system; i.e., the case) adding that case study research focuses on a particular thing and that the product of an investigation should be descriptive and heuristic in nature. In discussing the proliferation of definitions (and subsequent confusion), FLYVBJERG (2011) contends that using a simple definition might be a more useful approach, citing the MERRIAM-WEBSTER DICTIONARY's (2009) definition, as an example that captures the key requisites in the context of research: "an intensive analysis of an individual unit (as a person or community) stressing developmental factors in relation to environment" (p.103). These varied definitions stem from the researchers' differing approaches to developing case study methodology and often reflect the elements they emphasize as central to their designs. The diversity of approaches subsequently adds diversity to definition and description. [12]

3.2 Methodology or method

A further challenge to understanding case study research relates to it being referred to and used as both a methodology and a method. MILLS (2014) distinguishes methods as procedures and techniques employed in the study, while methodology is the lens through which the researcher views and makes decisions about the study. Given the variation in definitions and descriptions, referring to case study research as a methodology and/or a single method can be perplexing, misleading, and at times counterproductive (ANTHONY & JACK, 2009; BOBLIN, IRELAND, KIRKPATRICK & ROBERTSON, 2013; FLYVBJERG,

2011). Furthermore, advocates of case study encourage the use of both quantitative and qualitative methods within their designs adding further obscurity to the question of methodology (MERRIAM, 1998; STAKE, 1995; STEWART, 2014; YIN, 2014). [13]

The ambiguity about case study being either or both a methodology and method, is compounded by the terminology used in discussions about case study. Across the literature, case study is referred to as a methodology and a method, an approach, research and research design, research strategy, and/or a form of inquiry (ANTHONY & JACK, 2009; BROWN, 2008; CRESWELL, 2014; GERRING, 2004; MERRIAM, 2009; SIMONS, 2009, STAKE, 1995, 2006; STEWART, 2014; YIN, 2014). Often these terms are used interchangeably without definitional clarity. For example, YIN (2014) discusses case study research and in the context of presenting case study, refers to it as a research method while emphasizing the procedures used. He does not use the terms methodology or strategy. CRESWELL (2014) refers to case studies as a qualitative design, while others use the term case study (FLYVBJERG, 2011; STAKE, 1995, 2006; STEWART, 2014), qualitative case study (MERRIAM, 2009), or describe case study as an approach (SIMONS, 2009). This mixed use of terminology is confusing given the definitional separations between methodology and methods and the varied application of case study in research endeavors. [14]

Prominent case study researchers do however emphasize that an overarching methodology shapes a case study design and that multiple sources of data and methods can be used (MERRIAM, 2009; STAKE, 2006; YIN, 2014), thus providing the distinction between the two. This distinction accentuates the need for researchers to describe the particular underpinning methodology adopted and to clarify the alignment of chosen methods used with their philosophical assumptions and their chosen approach. Exploring the philosophical orientation of case study research and variations in different case study approaches can help to clarify these differences, and promote a better understanding of how to apply these principles in practice. [15]

3.3 Philosophical orientation

Many methodologies are aligned with specific philosophical positions that guide the research process. Case study, however, has a practical versatility in its agnostic approach whereby "it is not assigned to a fixed ontological, epistemological or methodological position" (ROSENBERG & YATES, 2007, p.447). Philosophically, case study research can be orientated from a realist or positivist perspective where the researcher holds the view that there is one single reality, which is independent of the individual and can be apprehended, studied and measured, through to a relativist or interpretivist perspective. A relativist or interpretivist perspective adopts the premises that multiple realities and meanings exist, which depend on and are co-created by the researcher (LINCOLN, LYNHAM & GUBA, 2011; YIN, 2014). This philosophical versatility provides the researcher with the opportunity to decide the methodological orientation used in

the conduct of the case study (STEWART, 2014; YIN, 2014). Examples of this choice are discussed later where the philosophical variations of MERRIAM (2009), STAKE (1995), and YIN (2014) are explicated. [16]

In the context of healthcare research and specifically nursing, LUCK et al. (2006) describe case study research as "a bridge across paradigms" (p.103). As a result, some case study approaches are either quantitatively or qualitatively orientated while others encompass both qualitative and quantitative aims and methods (MERRIAM, 2009; MILES, HUBERMAN & SALDANA, 2014; YIN, 2014). DENZIN and LINCOLN (2011) emphasize the qualitative essence of case study, while acknowledging its evolution and fluidity with regard to accommodating varied ontologies, epistemologies, methodologies, and methods. This ability to accommodate a range of philosophical positions is seen as an advantage whereby case study enables the opportunity to design research that can be specifically tailored to the inherent complexity of the research problem (ANTHONY & JACK, 2009; CASEY & HOUGHTON, 2010; FLYVBJERG, 2011; FARQUHAR, 2012; LUCK et al., 2006; MERRIAM, 2009; STAKE, 2006; YIN, 2014). [17]

Case study research is most often described as qualitative inquiry (CRESWELL, 2014; DENZIN & LINCOLN, 2011; MERRIAM, 2009; MILES et al., 2014; STAKE, 2006). Qualitative paradigms are broad and can encompass exploratory, explanatory, interpretive, or descriptive aims. Examples include narrative research, phenomenology, grounded theory, and ethnography (DENZIN & LINCOLN, 2011). Each methodology is unique in approach depending on the ontological and epistemological stance, however all stem from the motivation to explore, seek understanding, and establish the meaning of experiences from the perspective of those involved (ibid.; see also MERRIAM, 2009). For this purpose, qualitative researchers can employ a broad scope of methods and interpretative practices in any one study, although they typically include observations, interviews, and analysis of participants' words (DENZIN & LINCOLN, 2011; MERRIAM, 2009). DENZIN and LINCOLN (2011, pp. 8-10) summarize the characteristics of qualitative research into five key attributes:

1. reducing the use of positivist or post positivist perspectives;
2. accepting postmodern sensibilities;
3. capturing the individual's point of view;
4. examining the constraints of everyday life;
5. securing rich descriptions. [18]

These attributes are commonly exemplified in case study research. The fundamental goal of case study research is to conduct an in-depth analysis of an issue, within its context with a view to understand the issue from the perspective of participants (MERRIAM, 2009; SIMONS, 2009; STAKE, 2006, YIN, 2014). Like other forms of qualitative research, the researcher will seek to explore, understand and present the participants' perspectives and get close to them in their natural setting (CRESWELL, 2013). Interaction between participants and the

researcher is required to generate data, which is an indication of the researcher's level of connection to and being immersed in the field. Because of this, constructivism and interpretivism commonly permeate the implementation of this research design. Methods used in case study to facilitate achieving the aim of co-constructing data most often include observations, interviews, focus groups, document and artifact analysis (MERRIAM, 2009; SIMONS, 2009; STAKE, 1995; 2006; STEWART, 2014; YIN, 2014). The researcher's perceptions and interpretations become part of the research and as a result, a subjective and interpretive orientation flows throughout the inquiry (CRESWELL, 2014). Subjectivity is openly acknowledged and to manage this, the researcher embraces a reflexive stance within the study, adopting methods such as memoing and journaling that support this position (DENZIN & LINCOLN, 2011; MILES et al., 2014, STAKE, 2006; YIN, 2014). [19]

3.4 Philosophical variation

In choosing a methodological position, careful consideration of the different case study approaches is required to determine the design that best addresses the aim of the study, and that aligns with the researcher's worldview. The goal of this alignment is to engender coherence between the researcher's philosophical position, their research question, design, and methods to be used in the study (FARQUHAR, 2012; LUCK et al., 2006; STEWART, 2014; YIN, 2014). To assist in understanding and achieving this alignment, the qualitative case study approaches developed by YIN (2014), STAKE (1995) and MERRIAM (1998, 2009) are explored in the following sections. Examples are provided of how these researchers' philosophical orientation influences the application of case study in practice. [20]

3.4.1 YIN: *Realist—postpositivist*

YIN (2014) conceptualizes case study research as a form of social science. Post-positivism is evident in how he defines "case study as a form of empirical inquiry" (p.16). YIN himself describes his approach to case study as using a "realist perspective" (p.17) and focuses on maintaining objectivity in the methodological processes within the design. [21]

Postpositivist qualitative researchers conduct research that embraces the ideals of objectivity and the generalizability of results (ELLINGSON, 2011). The goal of a postpositivist researcher is to use science as a way to apprehend the nature of reality while understanding that all measurement is imperfect. Therefore, emphasis is placed on using multiple methods with triangulation to circumvent errors and understand what is happening in reality as close as possible to the "truth" (LINCOLN et al., 2011). The researcher will often categorize qualitative data to create quantitative data that can then be analyzed using statistical methods. Validity of research results are verified through the scrutiny of others and, as such, adherence to mechanisms that ensure rigor in data collection and analysis is vital. Furthermore, postpositivists accept that everyone is inherently biased in worldviews, which ultimately influence how the methods used are

deployed. Interaction with research subjects therefore needs to be minimized and subjectivity managed to avoid biasing the results (ibid.). [22]

Embedded within YIN's (2014) case study design are the hallmarks of a postpositivist approach to research: seeking rival explanations and falsifying hypotheses, the capability for replication with a multiple case study design, the pursuit of generalizations (if required), minimizing levels of subjectivity, and the use of multiple methods of qualitative and quantitative data collection and analysis. While objectivity is a goal, YIN also recognizes the descriptive and interpretive elements of case study. According to YIN what makes case study research distinct from experimental studies is the case study is investigated in context, examined in its "real world setting" (p.16). Selection of cases is based on the purpose of the research and related to the theoretical propositions about the topic of interest. YIN suggests careful screening in the selection of cases to ensure specific relevance to the issues of interest and the use of replication logic: cases are chosen to produce anticipated contrasting findings (theoretical replication) or similar findings (literal replication). Precision, process, and practicality are core attributes of YIN's approach to case study. Design features are sequentially structured and motivated by empirical application. This positioning reflects the axiology of postpositivism where maintaining intellectual honesty, managing bias, and acknowledging limitations, coupled with meticulous data collection and accurate reporting are critical elements in the conduct of research (KILLAM, 2013; YIN, 2014). [23]

3.4.2 MERRIAM: *Pragmatic constructivist*

MERRIAM (1998) maintains a constructivist approach to case study research, whereby the researcher assumes that reality is constructed intersubjectively through meanings and understandings developed socially and experientially. Like YIN (2014), MERRIAM (1998, 2009) asserts that when information is plentiful and concepts abstract, it is important to utilize processes that help interpret, sort, and manage information and that adapt findings to convey clarity and applicability to the results. In this way, MERRIAM's perspective brings forth a pragmatic approach to constructivist inquiry. MERRIAM (2009) acknowledges case study research can use both quantitative and qualitative methods; however, when working on qualitative case studies, methods aimed at generating inductive reasoning and interpretation rather than testing hypothesis take priority. Cases are selected based on the research purpose and question, and for what they could reveal about the phenomenon or topic of interest. The aim is to provide a rich holistic description that illuminates one's understanding of the phenomena (MERRIAM, 1998). Interviews are the most common form of qualitative data collection, although MERRIAM does not stipulate prioritizing a particular method for data collection or analysis, she does emphasize the importance of rigorous procedures to frame the research process. Advocating for careful planning, development, and execution of case study research, MERRIAM (1998, 2009) discusses the pragmatic structures that ensure case study research is manageable, rigorous, credible, and applicable. Processes such as descriptive, thematic and content analysis, and triangulation are significant in ensuring the

quality of a study, therefore, methods of data collection and analysis need to be organized and systematized with a detailed chain of evidence (MERRIAM, 2009). Theoretical frameworks or research questions are used and drawn from the literature or discipline (MERRIAM, 1998). According to BROWN (2008), Merriam's style brings forth a practical application of pluralistic strategies that guide pragmatic constructivist research to derive knowledge about an area of inquiry. [24]

3.4.3 STAKE: *Relativist—constructivist/interpretivist*

STAKE (1995, 2006) has an approach to case study research that is qualitative and closely aligned with a constructivist and interpretivist orientation. While having a disciplined approach to the process and acknowledging that case study can use quantitative methods, STAKE's approach is underpinned by a strong motivation for discovering meaning and understanding of experiences in context. The role of the researcher in producing this knowledge is critical, and STAKE emphasizes the researcher's interpretive role as essential in the process. An interpretive position views reality as multiple and subjective, based on meanings and understanding. Knowledge generated from the research process is relative to the time and context of the study and the researcher is interactive and participates in the study. In terms of epistemology, STAKE argues that situation shapes activity, experience, and one's interpretation of the case. For STAKE (2006), to understand the case "requires experiencing the activity of the case as it occurs in its context and in its particular situation" (p.2). The researcher attempts to capture her or his interpreted reality of the case, while studying the case situationally enables an examination of the integrated system in which the case unfolds. Similar to YIN (2014) and MERRIAM (2009), a case or cases are selected for what they can reveal about topic of interest and depend on the aim and conditions of the study. A case is selected because it is interesting in itself or can facilitate the understanding of something else; it is instrumental in providing insight on an issue (STAKE, 2006). [25]

For STAKE, multiple sources and methods of data collection and analysis can be used, however, interviews and observations are the preferred and dominant data collection method. In seeking understanding and meaning, the researcher is positioned with participants as a partner in the discovery and generation of knowledge, where both direct interpretations, and categorical or thematic grouping of findings are used. STAKE (1995) recommends vignettes—episodes of storytelling—to illustrate aspects of the case and thick descriptions to convey findings, a further illustration of his constructivist and interpretivist approach to case study research. [26]

BROWN (2007) suggests the three approaches used by these seminal researchers rest along a quantitative-qualitative continuum where the postpositivist methodology of YIN (2014) sits at one end, STAKE's interpretivist design (1995, 2006) sits at the other end and MERRIAM (1998, 2009) who as a pragmatic constructivist draws on the elements of both, rests toward the center. BROWN (2008) sums up the influences of each, saying that "case study research

is supported by the pragmatic approach of Merriam, informed by the rigour of Yin and enriched by the creative interpretation described by Stake" (p.9). While some may argue that mixing qualitative and quantitative methods could threaten the veracity of the research (BOBLIN et al., 2013; SANDELOWSKI, 2011), MERRIAM's approach demonstrates that when the integrity of the design is robust, methodological flexibility can be accommodated. [27]

4. Common Characteristics of Case Study Research

Despite variation in the approaches of the different exponents of case study, there are characteristics common to all of them. Case study research is consistently described as a versatile form of qualitative inquiry most suitable for a comprehensive, holistic, and in-depth investigation of a complex issue (phenomena, event, situation, organization, program individual or group) in context, where the boundary between the context and issue is unclear and contains many variables (CRESWELL, 2014; FLYVBJERG, 2011; MERRIAM, 2009; SIMONS, 2009; STAKE, 2006; YIN, 2014). Case study research can be used to study a range of topics and purposes (SIMONS, 2009; STAKE, 2006; STEWART, 2014) however, the essential requisite for employing case study stems from one's motivation to illuminate understanding of complex phenomena (MERRIAM, 2009; STAKE, 2006; YIN, 2014). Primarily exploratory and explanatory in nature, case study is used to gain an understanding of the issue in *real life settings* and recommended to answer *how and why* or less frequently *what* research questions (FLYVBJERG, 2011; MERRIAM, 2009; SIMONS, 2009; STAKE, 2006; STEWART, 2014; YIN 2014). [28]

Defining the case (unit of analysis or object of the study) and bounding the case can be difficult as many points of interest and variables intersect and overlap in case study research. Developing research questions and/or propositions to select the case, identify the focus, and refine the boundaries is recommended to effectively establish these elements in the research design (MERRIAM, 2009; STAKE, 2006; YIN, 2014). Bounding the case is essential to focusing, framing, and managing data collection and analysis. This involves being selective and specific in identifying the parameters of the case including the participant/s, location and/or process to be explored, and establishing the timeframe for investigating the case (MERRIAM, 2009; STAKE, 2006; YIN, 2014). [29]

The use of multiple methods to collect and analyze data are encouraged and found to be mutually informative in case study research where together they provide a more synergistic and comprehensive view of the issue being studied (FLYVBJERG, 2011; MERRIAM, 2009; STAKE, 2006; YIN, 2014). How the methods are used will vary and depend on the research purpose and design, which is often a variation of a single or multiple case study research design. Interviews and focus groups, observations, and exploring artifacts are most commonly employed to collect and generate data with triangulation of methods and data, however, this is not exclusive. [30]

The fundamental elements of case study research (Table 1) are evident in the approaches of MERRIAM (2009), STAKE (1995, 2006), and YIN (2014) as well as other case study researchers who have contributed to the development and discussion of case study research (CRESWELL, 2013, 2014; FLYVBJERG, 2011; GEORGE & BENNETT, 2007; MILES et al., 2014; SIMONS, 2009). These elements delineate case study from other forms of research and inform the critical aspects of the research design and execution.

Element	Description
The case	Object of the case study identified as the entity of interest or unit of analysis Program, individual, group, social situation, organization, event, phenomena, or process
A bounded system	Bounded by time, space, and activity Encompasses a system of connections Bounding applies frames to manage contextual variables Boundaries between the case and context can be blurred
Studied in context	Studied in its real life setting or natural environment Context is significant to understanding the case Contextual variables include political, economic, social, cultural, historical, and/or organizational factors
In-depth study	Chosen for intensive analysis of an issue Fieldwork is intrinsic to the process of the inquiry Subjectivity a consistent thread—varies in depth and engagement depending on the philosophical orientation of the research, purpose, and methods Reflexive techniques pivotal to credibility and research process
Selecting the case	Based on the purpose and conditions of the study Involves decisions about people, settings, events, phenomena, social processes Scope: single, within case and multiple case sampling Broad: capture ordinary, unique, varied and/or accessible aspects Methods: specified criteria, methodical and purposive; replication logic: theoretical or literal replication (YIN, 2014)
Multiple sources of evidence	Multiple sources of evidence for comprehensive depth and breadth of inquiry Methods of data collection: interviews, observations, focus groups, artifact and document review, questionnaires and/or surveys Methods of analysis: vary and depend on data collection methods and cases; need to be systematic and rigorous Triangulation highly valued and commonly employed

Element	Description
Case study design	Descriptive, exploratory, explanatory, illustrative, evaluative
	Single or multiple cases
	Embedded or holistic (YIN, 2014)
	Particularistic, heuristic, descriptive (MERRIAM, 1998, 2009)
	Intrinsic, instrumental, and collective (STAKE, 1995, 2006)

Table 1: Case study elements and descriptors [31]

A final, critical point when conducting case study research is the importance of careful preparation and planning, coupled with the development of a systematic implementation structure (FLYVBJERG, 2011; MERRIAM, 2009; STAKE, 2006; STEWART, 2014; YIN, 2014). As discussed earlier, ensuring the alignment of philosophy and methodology with the research purpose and methods employed underpins a rigorous research process (STEWART, 2014). Clarity in this alignment is fundamental to ensuring the veracity of the research and depends on the design developed. During this process, researchers are encouraged to "logically justify their philosophical position, research design and include a coherent argument for inclusion of varying research methods" (LUCK et al., 2006, p.107). Study propositions, theory, research or issue questions work as a conceptual framework and need to align with the case to guide the design and determine methods of data collection and analysis (STAKE, 2006; STEWART, 2014; YIN, 2014). Maintaining meticulous records and a systematic chain of evidence over the duration of the study is critical; as is being able to access, present and explain procedures supports the ethical integrity and rigor of the research and findings (MERRIAM, 2009; STEWART, 2014; YIN, 2014). Collective alignment of these elements articulates a justifiable framework for the research study and cultivates trustworthiness and the validity, reliability and credibility of the research findings. [32]

Considering these fundamental elements and common approaches to case study research, the definition from CRESWELL et al. (2007) seems to best capture the full depth and breadth of case study concepts and descriptions. The authors describe case study as "a methodology, a type of design in qualitative research, an object of study and a product of the inquiry" (p.245). They conclude with a definition that collates the hallmarks of key approaches and represents the core features of a case study:

"Case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents and reports) and reports a case description and case-based themes" (ibid.). [33]

5. Conclusion

Since the 1980's a broad scope of case study approaches have developed. This range accentuates the flexibility of case study research as a distinct form of inquiry that enables comprehensive and in-depth insight into a diverse range of issues across a number of disciplines. While differences exist in some areas, commonalities are evident that can guide the application of a case study research design. Key contributors to the development of case study agree that the focus of a case study is the detailed inquiry of a unit of analysis as a bounded system (the case), over time, within its context. The versatility of case study research to accommodate the researcher's philosophical position presents a unique platform for a range of studies that can generate greater insights into areas of inquiry. With the capacity to tailor approaches, case study designs can address a wide range of questions that ask why, what, and how of an issue and assist researchers to explore, explain, describe, evaluate, and theorize about complex issues in context. Outcomes can lead to an in-depth understanding of behaviors, processes, practices, and relationships in context. Professions including the social sciences, education, health, law, management, business, and urban planning have embraced case study research, demonstrating these outcomes. Ongoing application of and sound debate about the value, validity, and capability of case study research have strengthened the efficacy of case study approaches as powerful forms of qualitative research. [34]

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Citation

Harrison, Helena; Birks, Melanie; Franklin, Richard & Mills, Jane (2017). Case Study Research: Foundations and Methodological Orientations [34 paragraphs]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 18(1), Art. 19, <http://nbn-resolving.de/urn:nbn:de:0114-fqs1701195>.