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The case study as a type of qualitative research

Abstract: This article presents the case study as a type of qualitative research. Its aim is to give a detailed description of a case study – its definition, some classifications, and several advantages and disadvantages – in order to provide a better understanding of this widely used type of qualitative approach. In comparison to other types of qualitative research, case studies have been *little understood* both from a methodological point of view, where disagreements exist about whether case studies should be considered a research method or a research type, and from a content point of view, where there are ambiguities regarding what should be considered a case or research subject. A great emphasis is placed on the disadvantages of case studies, where we try to refute some of the criticisms concerning case studies, particularly in comparison to quantitative research approaches.

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Introduction

Case studies were one of the first types of research to be used in the field of qualitative methodology.[1] Today, they account for a large proportion of the research presented in books and articles in psychology, history, education, and medicine, to list just a few of the fundamental sciences. Much of what we know today about the empirical world has been produced by case study research, and many of the most treasured classics in each discipline are case studies[2] (Flyvbjerg 2011, p. 302).

Case studies have been largely used in the social sciences and have been found to be especially valuable in practice-oriented fields (such as education, management, public administration, and social work). But despite this long history and widespread use, case study research has received little attention among the various methodologies in social science research. According to the authors of the *Encyclopedia of Case Study Research* (Mills et al. 2010), only a few texts deal directly with case studies as a central subject and no encyclopaedic reference provides a thorough overview of the design and methods in case study research as a guidance for students, researchers, and professionals who are trying to incorporate case studies into a rigorous research project or program (ibid., p. xxxi). D. A. de Vaus (in Thomas 2011, p. 511) stated, "Most research methods texts either ignore case studies or confuse it with other types of social research." From this, we can conclude that in spite of their widespread use and popularity, case studies are characterized by ambiguities and inconsistencies in understanding their definition, subjects of investigation, and methodological choice (Verschuren 2003, p. 121). Case studies are therefore misunderstood as a type, as well as a method, of qualitative research (Gerring 2004, p. 341).

[1] Case studies, in the field of psychology, for example, date back to the middle of the 19th century. In social work, they have been in use since 1920, referred to as case works (Mills et al., 2010, p. 109); based on the groundbreaking work of S. B. Merriam in *Case Study Research in Education* (Merriam 1988), there has been significant progress in the field of qualitative research in general, and thus advances have also been made in the standardization of case studies in the field of education.

[2] The most famous case studies in psychology are those of Piaget, Freud, Money, and other famous psychologists (Case study in psychology… n.d.). The use of case studies in the field of education is described in the *Journal of Case Studies in Education*.

Are case studies a qualitative research type or a qualitative research method?

Before delving further into this investigation, it is important to make a distinction in how case studies are viewed; some authors see them as a qualitative research type (Baxter and Jack 2008; Flyvbjerg 2006, 2011; Sagadin 2004; Simons 2009; Stake 2005; Sturman 1997; Verschuren 2003), while others perceive them to be a qualitative research method (George and Bennett 2005; Gerring 2004). In this article, we will demonstrate that case studies are more than just a methodological choice; therefore, we choose to define case studies as a qualitative research type.

Although case studies have often been considered to be part of qualitative research and methodology, they may also be quantitative or contain a combination of qualitative and quantitative approaches. Qualitative research is characterized by an interpretative paradigm, which emphasizes subjective experiences and the meanings they have for an individual. Therefore, the subjective views of a researcher on a particular situation play a vital part in the study results. Another characteristic of qualitative research is its idiographic approach[3] (Vogrinc 2008, p. 14), which emphasizes an individual's perspective on the investigative situation, process, relations, etc. (ibid., p. 19). The interpretative paradigm, phenomenological approach, and constructivism[4] as a paradigmatic basis of qualitative research are closely linked to the definition and characteristics of case studies. A case study is therefore more qualitative than quantitative in nature, but not exclusively, for it can be qualitative, quantitative, or a combination of both approaches (with both represented equally or one approach prevailing and the other supplementing). Qualitative and quantitative results should complement each other to create a meaningful whole according to the object and purpose of the investigation (Sagadin 2004, p. 89).

We should also clarify some other terms, such as "comparative methods," "case study methods," and "qualitative methods." Comparative methods (comparing a small amount of cases and exploring facts, relations, or processes in order to find differences or similarities) differ from case studies in that a case study covers investigation within individual cases, while the comparative method does not. Qualitative methods are closely linked to case studies. A case study is considered by some researchers to be a part of qualitative research – a type and, sometimes, a method or scientific approach. In this article, case studies are placed within the qualitative field and viewed as a qualitative research type, although the fact that they can contain some quantitative elements, especially regarding research questions and goals, is also taken into account.

[3] The examination of individual cases.

[4] The interpretive paradigm, the phenomenological approach, and constructivism are particularly interested in individual experiences of reality. Objective reality and truth, according to constructivists and phenomenologists, does not exist, but is rather always a construct. It is therefore the *idea* that people have of reality that is important for researchers, not the reality itself (Vogrinc 2008, p. 27).

In this paper, we will first provide various definitions of case studies, ranging from very general to more specific, and will describe the main advantages and different classifications of case studies. Later on, we will focus on a detailed description of case studies' disadvantages and criticisms in order to achieve a better understanding of this type of qualitative research and to create a clearer picture of what case study is, when it is applicable to research, and what a researcher should pay attention to when conducting a survey using a case study.

Definitions and classifications of a case study

Gerring (2004) notes that the efforts of many authors to clarify the concept of a case study have often lead to a definitional jumble because every time someone tries to clarify the confusion using definitions, it only makes it more confusing (ibid., p. 342). Flyvbjerg (2011) therefore believes that if a definition of a case study is needed, it is better that it is more general and does not contain a plethora of meticulous descriptions (ibid., p. 302). However, we cannot say that the definition of a case study is unnecessary because it is the definition that places the case study within its own space and gives it its own characteristics in comparison to other types of qualitative research. Several researchers have provided general definitions of case studies.

According to Sturman (1997), "[a] case study is a general term for the exploration of an individual, group or phenomenon" (ibid., p. 61). Therefore, a case study is a comprehensive description of an individual case and its analysis; i.e., the characterization of the case and the events, as well as a description of the discovery process of these features that is the process of research itself (Mesec 1998, p. 45). Mesec offers a definition of a case study within the field of social work, but it could also be applied to the field of education: A case study "is a description and analysis of an individual matter or case […] with the purpose to identify variables, structures, forms and orders of interaction between the participants in the situation (theoretical purpose), or, in order to assess the performance of work or progress in development (practical purpose)" (ibid., p. 383). He adds that one case study could serve both purposes at the same time (ibid.).

For more detailed definitions of a case study, Sagadin (1991) states that a "case study is used when we analyse and describe, for example each person individually (his or her activity, special needs, life situation, life history, etc.), a group of people (a school department, a group of students with special needs, teaching staff, etc.), individual institutions or a problem (or several problems), process, phenomenon or event in a particular institution, etc. in detail. If we remain in such analyses on the descriptive level, then a case study is considered as a form of descriptive method, but if we climb to the causal level, case study proceeds towards causal-experimental method" (ibid., p. 31). Further, case studies highlight a developmental factor, which means that the cases are generated and evolve over time, often as a series of specific and interrelated events that occur in "that particular time and that particular place." Holistically speaking, this constitutes *the case*. Finally,

case studies focus on the environment; i.e., the context. Outlining the borders of individual units within the survey establishes what counts as a case and what becomes its context[5] (ibid., p. 301).

Simons (2009) created the following definition of a case study based on a critical review that sought commonalities of various case study definitions: "Case study is an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a 'real life'" (ibid., p. 21). She also emphasized that a case study should not be seen as a method in and of itself. Rather, it is a design frame that may incorporate a number of methods. Stake agrees; he stated that a case study is not a methodological choice, but rather a choice of what is to be studied – by whatever methods we choose to study *the case*. In so doing, we can study it analytically, holistically, hermeneutically, culturally, and by mixed methods, but we concentrate, at least for the time being, on the case (Stake 2005, p. 443). Choice of method, then, does not define a case study. It is the analytical eclecticism that is essential[6] (Thomas 2011, p. 512). Flyvbjerg (2011) shares a similar opinion, saying that if we decide to use a case study in our research, this does not mean the selection of a method, but rather a selection of what will be explored (ibid., p. 301). An individual case can be studied from different perspectives – both qualitative and quantitative.[7]

If we analyse these definitions in terms of differences and similarities, we would reach a conclusion in agreement with Simons (2009); that is, they all share commitment to the examination of complexity in a variety of real-life situations and they do not include various methods of data acquisition, for their focus is elsewhere. As for the differences among the definitions, we can attribute them to the different epistemological bases that various researchers lean upon (Thomas 2011, p. 512), such as the purpose (Mesec 1998), level (Sagadin 2004), timeframe (Flyvbjerg 2011), or context (ibid.; Thomas 2011) of the research.

When discussing a definition of a case study, many researchers focus on the individual case (or multiple cases) at hand rather than on case studies as a type of research. According to Verschuren (2001, p. 137), this is exactly the reason for the many definitions of case studies from a methodological point of view, since, in his opinion, disagreements appear among definitions with a tendency to classify case studies as a study of one (or more) cases instead of viewing case studies as a research approach.

Various classifications: Case study types and categories

Case study definitions are usually rather general and do not contain various classifications or types of case studies, as it is almost impossible to cover all types of studies in one definition. Furthermore, authors offer a variety of complementary or distinguishing classifications according to classification type. Sagadin (2004) has already made a transparent and comprehensive contribution regarding the

[5] Also called *the object*, more in continuation.

[6] For example, taking over and merging different systems, views, findings.

[7] See p. 2.

various classifications of case studies[8] that will be supplemented in this paper with some additional classifications.

Classification according to the time dimension

In a case study, one or more cases can be investigated. When examining one case, we refer to a singular case study, and a multiple or plural case study is used to describe a study examining several cases. In multiple case studies, each case is studied as if it is a singular study and is then compared to other cases. The analysis of each following case is built on the knowledge obtained in the analysis of previous cases (Mesec 1998, p. 384). For singular and multiple case studies, Thomas suggests an additional classification, according to the type of time dimension. The types of singular case studies, regarding time dimension, are as follows (Thomas 2011, p. 517):

– *Retrospective* case studies: The simplest type of study; it involves the collection of data relating to a past phenomenon of any kind. The researcher is looking back on a phenomenon, situation, person, or event and studying it in its historical integrity.
– *Snapshot* studies: The case is being examined in one particular period of time, such as a current event, a day in the life of a person, a diary, etc. Whether a month, a week, a day, or even a period as short as an hour, the analysis is aided by the temporal juxtaposition of events. As the snapshot develops, the picture presents itself as a Gestalt over a tight timeframe.
– *Diachronic* studies: Change over time and are similar to longitudinal studies.

Examples of multiple case studies are as follows (ibid.):

– *Nested* studies: Involve the comparison of elements within one case (nested elements). With nested studies, the breakdown is *within* the principal unit of analysis. A nested study is distinct from a straightforward multiple study in that it gains its integrity – its wholeness – from the wider case. For example, a researcher might observe three wards within one hospital. The only significance about them is their physical housing at the hospital. Such a case would not be considered to be nested, as the elements are nested only in a sense that they form an integral part of a broader picture. In this case, that means the wards are observed in order to provide a broader picture of, for example, how they affect the patients' well-being, what the hospital's agenda is like, and the relationships and attitudes among the wards, patients, staff, etc.

[8] For the conceptual and methodological criteria, see Bogdan and Biklen (1982) and Stenhouse (1985); for the purpose, see Stake (1994); for the the segmentation/integrity, see Creswell (in Sagadin 2004).

- *Parallel* studies: The cases are all happening and being studied concurrently.
- *Sequential* studies: The cases happen consecutively, and there is an assumption that what has happened at one time point or in an intervening period will in some way affect the next incident.

Classification according to the theory formation

George and Bennett (2005) present six types of case studies classified according to whether they contribute to theory building (ibid., pp. 75–76):

- *Atheoretical / configurative idiographic* case studies: Illustrative case studies that do not accumulate or contribute directly to theory.
- *Disciplined configurative* case studies: Use established theories to explain the case.
- *Heuristic* case studies: Identify new, unexpected paths; for such studies, marginal, deviant, or outlier cases may be particularly useful.
- *Theory-testing* case studies: Studies that assess the validity and scope conditions of single or competing theories.
- *Plausibility probes:* Preliminary studies used to determine whether further examination is warranted.
- "*Building Block*" studies: Studies of particular types or subtypes of a phenomenon, that, when put together, contribute to a more comprehensive theory.

In this article, we only list a few classifications in order to present various types of case studies according to what we want to explore, for what purpose, what we want to achieve, and how. Some classifications are mutually complementary. The more classifications we are familiar with, the better and easier we can categorize our own case study. However, at some point, we have to draw a line, because being too focused on detail when classifying a case study could conceal the general importance of the study. Therefore, classifications can be helpful when placing our case study within a context, within which we will explore a certain topic.

Key differences within these definitions refer to the criteria from which the various classifications were drawn. While some authors divide case studies according to the number of cases that will be studied, to which degree an individual case will be analysed, or whether it will be covered holistically, others refer to the criteria according to the purpose, time dimension, or theory/nontheory building.

After looking at the various definitions of case studies, we draw the conclusions that the different classifications are derived from different theoretical positions. Choosing a particular type or kind of a case study depends on the research purpose. For example, do we want to describe a particular case and thus remain at the descriptive level or do we want to explore it on the causal level as well? Do we want to compare several cases? What counts as a "case" in a case study and how can it be properly selected? Do we want to check an existing hypothesis or do we want to discover new ones? Do we perhaps even want to develop a new

theory? In the following section, we will present a more detailed discussion of these platforms.

The case (subject), research field (object), and case selection

To be able to debate a case study, it has to be defined within an analytical framework or object in the constitution of the study (Thomas 2011, p. 512), or as George and Bennett put it (2005, p. 69), the investigator should clearly identify the research field; that is, the "class" or "subclass" of events within which a single case or several cases are instances to be studied. The subject of the study is thus an instance of some phenomenon, and the phenomenon comprises the analytical frame; that is, the object (ibid.).

Case studies as a research type might appear a bit vague. Their looseness and emphasis on the case (subject) may be why researchers, students, etc. (especially those who are inexperienced), neglect the importance of defining an object in their exploration. Identifying only a subject leads to a shortage of a broader description and interpretation and instead only offers a simplified description of a research piece. Therefore, the object consists of an analytical framework within which the case (subject) is understood and illustrated. It is not necessary, however, for the object to be defined at the beginning of the study; this often occurs later in the exploration process (Thomas 2011, p. 515).

A case study is about determining what the investigated case may be; it is not about defining populations and selecting appropriate samples (Sagadin 1991, p. 34). A case study is usually a study of a single case or a small number of cases. The idea of representative sampling and statistical generalizations to a wider population should be rejected, and analytical induction should be chosen instead. Some authors believe that the case in a case study counts as a research unit, while others disagree. The use of the term "unit" can cause confusion. Some authors believe that it relates to the case or research subject (e.g., Wieviorka in Thomas 2011, p. 513; Mesec 1998), while others use it to describe the object with the understanding that the unit (object) and the case influence each other mutually (VanWynsberghe and Khan in Thomas 2011, p. 513). In this article, the term unit is associated with the case (subject).

Mesec suggests selecting such case for a research unit (an individual, family or other group, organization, or community) where a practical problem that we are interested in exists. We may also examine several individual cases that are selected in such a way that their analysis provides us with the most diverse information that we are able collect. We should select interesting cases (e.g., contrasting, extreme, exceptional cases) instead of typical, average cases (Mesec 1998, p. 55). The subject (the case) is not selected based upon a representative sample, but rather is selected because it is interesting, unusual, striking, and may cause changes in the characteristics and specificities of the object (Thomas 2011, p. 514). Similar to Mesec, Thomas also suggests choosing an atypical case, where the subject and object interact in a dynamic relationship.

On the other hand, Yin recommends selecting a representative or typical case (Yin 2009, p. 48) because in so doing, we may find new hypotheses and deeper layers that previous theory has missed. Each case has its advantages and disadvantages, but the selection of cases and should mostly depend upon the research problem.

Case selection has also targeted by some case study critics. Their criticism mainly focuses on possible subjective case selection, the so-called selection bias (i.e., the impact of a researcher's prior knowledge about the case and his possible favouritism toward certain hypotheses) that can impact the case selection (George and Bennett 2005, p. 24). However, the selection of a case based on prior knowledge leads to a better research plan. Cases selected on the basis of prior knowledge are most likely crucial for enabling the development of a strong theoretical base for the research, which makes the procedure of theory testing more rigorous. In addition, there are several methodological provisions to protect a study from the influence of researcher bias, such as diligence and consistency in the tracking process (ibid.). This includes an accurate and comprehensive description of the data collection procedures and documentation of every piece of information in order to achieve reliability of a case study (ibid., p. 10).

Case study advantages

Case studies are generally strong precisely where quantitative studies are weaker (ibid., p. 19). George and Bennett have identified four advantages of case studies in comparison to quantitative methods[9]: Their potential to achieve high conceptual validity, strong procedures for fostering new hypotheses, usefulness for closely examining the hypothesized role of causal mechanisms in the context of individual cases, and their capacity for addressing causal complexity (ibid.).

Conceptual validity

Conceptual validity refers to the identification and measurement of the indicators that best present the theoretical concepts that a researcher wants to measure. Many of the variables that social scientists are interested in, such as democracy, power, etc., are difficult to measure, so the researcher has to carry out a "contextualized comparison," which automatically searches for analytically equivalent phenomena even if they are expressed in different terms and contexts. This requires a detailed consideration of contextual factors, which is extremely difficult to do in quantitative research but is very common in case studies. Whereas quantitative research runs the risk of "conceptual stretching" by throwing together dissimilar cases to get a larger sample, case studies allow for conceptual refinements with a higher validity level over fewer number of cases (ibid., p. 19).

[9] The authors define case study as a *method* of qualitative research; this is why they compare it to quantitative methods.

Deriving new hypotheses

Case studies are very suitable for serving the heuristic purpose of inductively identifying additional variables and new hypotheses. Quantitative studies lack procedures for inductively generating new hypotheses. Moreover, case studies can analyse qualitatively complex events and take into account numerous variables precisely because they do not require many cases or a limited number of variables. Case study researchers are not limited to readily quantified variables or pre-existing, well-defined datasets (ibid., p. 45).

Quantitative research can be used to identify deviant cases that may lead to new hypotheses but, in and of themselves, lack any clear means of actually identifying new hypotheses. Without additional examination, such as open-ended interviews, it is not possible to find inductive means of identifying omitted variables (ibid., p. 21).

Exploring causal mechanisms[10]

Case studies examine the operation of causal mechanisms in individual cases in detail. Within a single case, they look at a large number of intervening variables and inductively observe any unexpected aspect of the operation of a particular causal mechanism or help identify what conditions are present in a case that activate the causal mechanism, while quantitative studies in their correlations lack such causality (ibid., p. 21). However, one must keep in mind that it is not entirely true that quantitative research does not include any causality. We are referring to quantitative research's inability to take into account contextual factors other than those that are codified within the variables being measured; in this situation, many additional variables that might also be contextually important are missed.

Modelling and assessing complex causal relations

Case studies are able to accommodate complex causal relations, such as equifinality,[11] complex interaction effects, and path dependency.[12] This advantage is relative rather than absolute. Case studies can allow for equifinality by producing generalizations that are narrower and more contingent. Notwithstanding this advantage (more about generalization in continuation), others who prefer quantitative methods appreciate theories that are more general even if this means that they are more vague and more prone to counterexamples (ibid., p. 22).

[10] Causal mechanism: "Y happened because of A, in spite of B," whereas *A* means a set of participative causes and *B* means a potentially empty space of opposite causes (*A* cannot be empty; otherwise, it would not be able to explain *Y*). For example, the car drove off the road due to inappropriate speed and sand on the road despite good road visibility and the driver's alertness (Salmon in George and Bennett 2005, p. 145).

[11] Equifinality means that the same end result can be obtained in different ways (Institute of the Slovenian Language … n.d.)

[12] Historical heritage essentially defines the developmental possibilities of future evolution (e.g., of each nation) (Vehovar 2005, p. 309).

The use of case studies has some additional advantages as well. The connectedness to everyday life and case studies' abundance of individual elements and details are important for researchers from two viewpoints. First, a case study is important for developing different views of reality, including the awareness that human behaviour cannot be understood merely as an act that is driven by a rule or a theory. Second, case studies can contribute to the professional development of a researcher, as case studies can provide concrete, context-dependent experience that increases their research skills (Flyvbjerg 2006, p. 223).

Paradox, misunderstandings, and criticism

In the introduction, we noted that case studies are widely used but underrepresented. Based on these findings, Gerring has identified a paradox in which he correctly states that a case study exists in a strange, curious methodological limbo, which, he believes, is due to a lack of understanding of this method (Gerring 2004, p. 341). Flyvbjerg has therefore sought to resolve this paradox and, in so doing, to achieve a wider acceptance and application of research using case studies. He has identified five misunderstandings about case studies that undermine the credibility and application of this research type. These misunderstandings refer primarily to the theory, reliability, and validity (Flyvbjerg 2006; 2011):

1. General, theoretical (context-independent) knowledge is more valuable than concrete, practical (context-dependent) knowledge.
2. It is impossible to generalize on the basis of an individual case; therefore, the case study cannot contribute to scientific development.
3. The case study is most useful for generating hypotheses (that is, in the first stage of a total research process), whereas other methods are more suitable for hypotheses testing and theory building.
4. Case studies contain a bias toward verification; that is, a tendency to confirm the researcher's preconceived notions.
5. It is often difficult to summarize and develop general propositions and theories on the basis of specific case studies.

We will now attempt to resolve and clarify these misunderstandings.

General, theoretical knowledge is more valuable than concrete, practical case knowledge.

Social sciences do not have much to offer except concrete cases and context-dependent knowledge because researchers have not succeeded in producing general, context-independent theories. Case studies are especially well-suited to producing this exact type of knowledge. The first argument can therefore be revised as this statement (Flyvbjerg 2006; 2011): "Concrete case knowledge is more valuable for social sciences than the vain search for predictive theories and universals."

Generalization upon the basis of an individual case is not possible; therefore, case studies cannot contribute to scientific development.

This is a typical assumption about case studies among proponents of the natural science ideal within the social sciences, yet even researchers without a strong association with this ideal may share this viewpoint. Giddens, for example, states that the traditional small-scale research community of anthropology fieldwork, in and of itself, is not generalizing studies, but can easily become so if carried out in some numbers so that their typical judgements can justifiably be made (Giddens in Flyvberg 2006, p. 225).

In case studies, inference is based on analytical induction (analytic generalization) and not on statistical induction (enumeration). In statistical induction, one is not interested in structural or functional connectivity characteristics within individual units, but only their presence or absence and quantitative significance, frequency, differences, and correlations. However, in analytic induction, we are examining a particular case – the relationships among individual characteristics, processes, or events and how they are connected to each other (Mesec 1998, p. 50). Mesec therefore argues that if the connection exists even in just one single case, it may be theoretically important (ibid.).

Holistics,[13] in particular, believe that generalization may be possible even on the basis of a single case study. Diesing, for example, states that science encounters regularity (i.e., the search for general principles and rules) and creativity (i.e., looking for new, original cases). If the primary focus is on regularity, the creativity will appear, and if the focus is on creativity, then principles eventually show up. Case studies include both the particular and the universal without being mutually exclusive and move between the particular and universal in graded steps (Diesing in Sturman 1997, p. 63).

Stake holds a similar position; he states that a process of naturalistic generalization arrives from the tacit knowledge of how things are, why they are, how people feel about them, and how these things are likely to be later on or in other places this person is familiar with. Generalization is therefore possible by recognizing the similarities of the objects and issues in different contexts and by understanding the changes as they happen (Stake 1980 in Sturman 1997, p. 69). However, for this kind of generalization to be possible, it is essential to ensure that the salient features of the case are documented so that new situations can be illuminated by a very thorough understanding of a known case (Sturman 1997, p. 63).

A case study is ideal for generalizing findings using the type of test that Karl Popper (in Flyvbjerg 2006, p. 228; Flyvbjerg 2011, p. 305) called "falsification"; in social science, this test forms part of critical reflexivity. Popper believes that every true scientific theory allows refutation (Stanford Encyclopedia of Philosophy 2009). Falsification therefore states that a hypothesis is considered to be scientific when its defender is able to determine the conditions under which the hypoth-

[13] Proponents of the holistic approach in the epistemology of science emphasize the study of complexity in terms of the whole. In holism, the whole is more important than the sum of its individual parts. Holism is the opposite of individualism, but they often occur in pairs – in macro and micro perspectives of observing social reality (Mali 2006, p. 131).

esis could be refuted.[14] Falsification is one of the most rigorous tests to which a scientific proposition can be subjected – if just one observation does not fit with the proposition, it is considered to not be valid and must therefore be either revised or rejected (Flyvbjerg 2011, p. 305). Deviant cases and the falsifications they entail are main sources of theory development because they point to the development of new concepts, variables, and causal mechanisms that is necessary in order to account for the deviant case and other cases like it (ibid.).

Flyvbjerg corrects the second misunderstanding as follows: "One can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods" (ibid., p. 305).

Case studies are useful for generating hypotheses (i.e., at the beginning of the research process), while other methods are more suitable for hypotheses testing and theory building.

The source of this argument lays in the previous misunderstanding that it is impossible to generalize from case studies. Generalization is associated with hypothesis testing and is the next step of case selection. But George and Bennett are convinced that case study is especially well-suited for theory development because it tackles the following tasks in the research process even better than other methods (for an example, see George and Bennett 2005, pp. 6–9):

– Process tracing that links causes and outcomes,
– detailed exploration of hypothesized causal mechanisms,
– development and testing of historical explanations,
– understanding the sensitivity of concepts to context, and
– formation of new hypotheses and new questions to study sparked by deviant cases.

The case study contains a bias toward verification; that is, a tendency to confirm the researcher's preconceived notions.

In the section about case selection, we have already discussed some of the concerns regarding a researcher's bias. Doubts and prejudice toward verification in scientific investigation is general, but the alleged deficiency of the case study and other types of qualitative research is that they ostensibly allow more room for the researcher's subjective and arbitrary judgment than quantitative investigation (Flyvbjerg 2011, p. 309; George and Bennett 2005; Mesec 1998; Thomas 2011).

Sturman believes that a case study can achieve its own form of precision (Sturman 1997, p. 65) or, as Wilson calls it, a "disciplined subjectivity" (Wilson in ibid.). The principle of verifiability in a case study (and in qualitative research in general) is realized by describing the entire research process in detail, especially

[14] In Popper's famous example of "all swans are white," he proposed that just one notion of a single black swan (deviation) would falsify this proposition and in this way will have general significance and will stimulate further investigations and theory building. The case study is well-suited for identifying "black swans" because of its in-depth approach (Flyvbjerg 2011, p. 305).

the analysis process in which concepts are shaped and the regularity and patterns of behaviour, interaction, and experience are determined (Mesec 1998, p. 45). To achieve the credibility in a case study, Sturman suggests the following strategies (Sturman 1997, p. 65):

– Procedures for data collection should be explained,
– data collected should be displayed and ready for reanalysis,
– negative instances should be reported,
– biases should be acknowledged,
– fieldwork analyses need to be documented,
– the relationship between assertion and evidence should be clarified,
– primary evidence should be distinguished from secondary evidence and description and interpretation should also be distinguished,
– diaries or logs should be used to track what was actually done during different stages of the study, and
– methods should be devised to check the quality of data.

In general, it is known that more similar results and conclusions are possible when repeating a certain study, which leads to increased reliability of the study. If the experiment is repeated several times and always has the same results, then its reliability is 100%. This is the same for measuring, testing, etc. Case studies cannot be repeated because during repetition, the case is already different. So the above definition of reliability is somewhat mitigated when it comes to a case study. Therefore, a case study is more reliable – as much as we are able to show that we could come to the same conclusions – if we are able to repeat the survey under an unchanged state of circumstances. This requires accurate and detailed description of data acquisition procedures as well as documenting every single piece of information (Mesec 1998, p. 148).

Mesec points out that the findings and results of a case study should be the first, not the last, chapter in a particular research area. Case studies should then be followed by other subsequent case studies in order to reinforce the accuracy of the first study's findings. This should be done with revision of the observations and findings and, most importantly, by spreading the network of newly discovered connections among cases. Case studies are certainly more than just an introduction to quantitative research. If we do not want to count, we do not have to do so in order to learn something (ibid., p. 380).

Conclusion

Quite a few authors have altered their views about case studies as a type of qualitative research type (see, for example, Campbell 1975 and Eysenck 1976 in Flyvbjerg 2006). In consideration about changing his view, Eysenck wrote following: “Sometimes we simply have to keep our eyes open and look carefully at individual cases – not in the hope of proving anything, but rather in the hope of learning

something" (Eysenck 1976 in Flyvbjerg 2006, p. 224). Because of a lack of "hard" theory (theory that contains explanations and predictions) in social sciences, it is difficult to attain strong and commonly valid rules. But this does not mean that social science research has no contribution to science at all – quite the opposite, in fact. There is constant progression toward new discoveries and cognitions! A case study can be helpful when we are eager to answer the questions of "how" and "why," when we cannot influence the behaviour of those involved in a study, and when we want to cover contextual conditions because we believe they are relevant to the phenomenon under study or when the boundaries between the phenomenon and context are not clear (Yin in Baxter & Jack 2008, p. 545).

But we must also recognize that a case study is more than just a type of qualitative research. It is a ticket that allows us to enter a research field in which we discover the unknown within well-known borders while continually monitoring our own performance; scalability; and our own, as well as general, existing knowledge. We hope this article supports and fosters the view of case studies as a type of qualitative research.

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