

# Insights into case-study: A discussion on forgotten aspects of case research

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**Abstract-** Case-study as a qualitative research is a strongly debatable research strategy among all academicians and particularly practitioners. Therefore, in order to provide some up-to-date insights into this controversial issue, the current paper seeks to investigate and document some aspects of case-study research. In fact, after reviewing some literatures in order to define, clarify and classify case-study research, the paper tries to consider and trade-off this qualitative strategy from different philosophical perspectives and approaches. Then, by relying on some recently outstanding papers and other highly recognized written resources, the paper gets into the appropriateness of case-study including Generalizability, Validity, Construct validity, Internal validity and Reliability. Next, the role of case-study to build a social theory is investigated that leads to preset a step-by-step process to achieve this visionary goal. At the end, a brief comparison between case-study, as a common representative of qualitative research, and survey, an indicator of opposite view, is done. This paper contributes to research method's development used by scholars looking to establish a case research by improving the level of understanding regarding the discussed issues.

**Index Terms-** case-study appropriateness, case-study classification, case-study approaches.

## I. INTRODUCTION

One of them main question in research is that what is most appropriate approach in order to get into a problem. Sometimes, students know what they want, but they do not exactly know how to face with the proposed problem. Case study, which is known as one of the most appreciated qualitative methods, is a kind of research approach in order to investigate and go into a complex issue. In fact, by choosing case study as our research approach, the research is going to understand and explore a phenomenon (i.e. case) deeply. A case study of a single, or a small number, of such entities can provide a great deal of, largely qualitative, data which can be written up as a case study, offering insights into the nature of the phenomena.(Easton,2010) Mostly, case study is chosen as research approach whenever there is not a clear picture regarding the research problem.As a case in point, case study is highly appreciated by practitioners in the field of industrial marketing because its nature.

In social study, case study is recognized as an important research methodology as well(Zainal,2007) specially when research is conducted to study some issues such as education,

sociology and community based problems including poverty, unemployment, drug addiction and illiteracy. One the main reason to choose case study is that quantitative methods have limitation to provide in-depth explanations of social and behavioral problems which shape the huge proportion of social studies. On the other hand, case study is even employed in other field of knowledge such as medical care, law and management. As a case in point, in medical body of knowledge, after developing a medicine, scientists are trying to understand and explore its side effects by adopting a case study, or in organizational management, case study is a routine method in order to explain all aspects of organization as a whole.

Although case study is an appropriate method in social studies, Flyvbjerg (2006) believes that case study is a useful method in the first steps of research that could bring an insight into the research problem, but it should be elaborated with hypothesis-based methods. It is exactly in the line with Sanders et al. (2007) quotation that the most appropriate method in social studies is the combination of both qualitative and quantitative methods. It seems that the reliability of qualitative is the main issue that these researchers emphasis on a combined method and take more positivist position. A case study is not able to provide reliable information about the broader case (Abercrombie et al., 1984, 34).

Yin (1994) classified case-study research into three main categories including:

- *Exploratory:* exploratory case studies set to explore any phenomenon in the data which serves as a point of interest to the researcher. In this case study also, prior fieldwork and small scale data collection may be conducted before the research questions and hypotheses are proposed. A pilot study is considered an example of an exploratory case study.
- *Descriptive:* descriptive case studies set to describe the natural phenomena which occur within the data in question. For instance, understanding strategies are used by a reader and how the reader uses them. The challenge of a descriptive case study is that the researcher must begin with a descriptive theory to support the description of the phenomenon or story.
- *Explanatory:* Explanatory case studies try to explain a phenomenon in both surface and deep level. Based on explanatory case studies, researchers first form a theory and then tries to test the theory.

In order to recognize the appropriateness of 'case study' the first stage is defining all aspects of case study and determining its

characteristics, then exploring different perspectives and approaches to case studies.

## II. CASE STUDY CHARACTERISTICS

- Case study is employed when the aim of research is to closely examine the data within a specific context.
- A case study method selects a small geographical area or a very limited number of individuals as the subjects of study.
- Investigating a phenomenon within its real-life context.
- Case study is a longitudinal examination to provide a systematic way of observing the events, collecting data, analyzing information, and reporting the results over a long period of time.

As it is discussed above, in case study, the reliability of research which is recognized as the level of justification is highly controversial among supporters and critics. Eason(2010) claims that the only way to increase reliability of case-study is considering this kind of research from pragmatic point of view.

To establish a research based a specific case or phenomenon there are three initial tasks that should be done before any particular action. Firstly, the boundaries of subject should be clearly determined in order to narrowly concentrate on subject. Then, research questions should accurately target what determinates associated with the phenomenon to occur. Finally, the last task is to identify entities which involve into the phenomenon being studied.

The advantage of case studies is classified as;

- The examination is conducted in the context in which activity takes places.(Zainal,2007)
- Variations in terms of intrinsic, instrumental and collective approaches to case studies allow for both quantitative and qualitative analyses of the data.(Zainal,2007)
- It allows researchers to learn a lot from a particular case(Lanthier,2002)
- Provides a detailed qualitative description of a phenomenon(Zainal,2007;Lanthier,2002)
- Case studies can be accomplished conductively and inductively(Easton,2010)

In contrast, the disadvantages of case studies would be listed as;

- The sample size in no case study is going to be enough to statistically generalize the findings into other contexts.(Easton,2010)
- There is no standard to judge findings and procedure(Easton,2010)

## III. PERSPECTIVES AND APPROACHES TO CASE-STUDY

Having compared moderate constructionism with realist, critical realist, and relativist approaches to case studies, Järvensivu and Törnroos (2010) addressed abduction and its relations with induction and deduction and even clarified the role of abduction in case studies with moderate constructionist orientation.

Table 1: Comparing different perspectives (Järvensivu and Törnroos, 2010)

	<b>Naïve realism</b>	<b>Critical realism</b>	<b>Moderate constructionism</b>	<b>Naïve relativism</b>
<b>Ontology</b>	Only one, true reality exists; universal truth claims apply	There is a reality; specific local, contingent truth claims apply	There may be a reality; specific local, contingent truth claims apply	There is no reality beyond subjects
<b>Epistemology</b>	It is possible to know exactly what this reality is through objective, empirical observations	It is possible to move closer to local truths through empirical observation, bounded by community-based critique/ consensus	It is possible to understand local truths through community-based knowledge creation and empirical observations bounded by subjectivity	It is possible to form an understanding of the subjective reality through analysis of the subject's account of knowledge
<b>Methodology</b>	Direct empirical observation	Empirical observations bounded by subjectivity and community-based critique/consensus	Community-based knowledge creation through empirical	Analysis of knowledge structures and processes by observing texts
<b>Research process</b>	Deductive; theory testing	Abductive; theory generating and testing	Abductive; theory generating and testing	Inductive; theory generating

A clear conclusion from their research shows an epistemological similarity between moderate and critical realism, despite the fact that critical realism employs a more realist and triangulation-based concept of truth, while moderate constructionist orientation

needs to employ a community-based, multifaceted conception of knowledge.

Inevitably, all case studies deal with multiple constructed, community-bounded realities, but in the context of case studies,

these realities are being taken into account by moderate constructionism.

Generalizability and validity of moderate constructionist orientation in researches using case studies has been conceptualized by Järvensivu and Törnroos (2010) as being contingent on both community-bounded critical dialogue and empirical evidence.

Critically, in the other hand, abduction perspective can be criticized as being middle-of-the-ground approach between deduction and induction. On the other hand, it has benefits such as:

- Being based on a true dialogue between conceptual and empirical inquiry,
- Vulnerability to unintentional blindness towards unexpected empirical evidence and unconventional theoretical visions.

Collection and analysis of data, and therefore overturning the generation of new theories can be directed from the researcher's initial theoretical insights.

Moreover, according to Järvensivu and Törnroos (2010), the abductive researcher must exhibit openness and clearness in the research process, because any researcher may accidentally pursue theoretical frameworks that fit their empirical observations and therefore neglect offline frameworks.

Choosing one viewpoint at a time by researchers and looking at reality through that perspective and crystallizing different viewpoints with a critical and open mind can be very useful for scholars to conduct case research.

Moving closer to the different knowledge perspectives of studies of communities with moderate constructionism approach can built on the dialogue between the subjects and researchers which allows the researcher to clearly develop the studied phenomena rather than triangulation.

There are suggestions made from Järvensivu and Törnroos (2010) for network researchers to be more unambiguous in their implemented view, because it seems that scholars often continue to be mute about these issues and there is no particular way to determine the validity of the case study results however their researches should be examined if they are transferable from one to another context.

The moderate constructionism approach is influential as a case study approach because it rests on consensus and consensus rests on clearness and communication.

Paying special attention to choose the case study method and its appropriateness is a crucial step in any case research. For instance, by describing five years of past methodological failures, Cutler (2004) weakened the potential of case research to contribute to the development of the public relations body of knowledge. He concluded that the failure of case method is not related to the method itself but the reason behind is the application of scholars.

According to Cutler (2004), use of quasi-experimental research methods by scholars can contribute to develop a body of knowledge and theoretical propositions that are being tested in a systematic manner.

If any researcher, author or scholar fails to meet the basic methodological standards needed to achieve tests of validity for a case study, most of their efforts in developing the research body and data gathering and further analysis would be wasted.

As Cutler (2004) mentions, researchers should apply Yin's (1994) comprehensive research strategy to their case study research and failure to do so may lead to disconnection between theory and method and limitation in research value.

Gathering variety of data from different sources and campaigns alongside with valid and reliable designs, form a powerful tool for researchers to deal with case research.

Moreover, with the application of appropriate methodology, substantial time and resources being applied to case study research could return far greater results than is evident at present. (Cutler, 2004)

Furthermore, the influence of research on practice can be increased by the application of appropriate case method and influencing the practice can be more appropriate and more useful by using case methods to test and establish theoretical propositions. No wonder that "prematurity" and "inappropriateness" was adjectives being used by Hazelton and Botan (1989) for those researchers that are stick to humanistic or empirical traditions.

*"If, case researchers master their case method, a fruitful source of theory and results would result—and perhaps a different world view."* (Cutler, 2004)

#### IV. CASE-STUDY APPROPRIATENESS

Building on appropriateness of the case study method for different fields of management, there are very interesting and useful academic viewpoints. For instance, scholars such as Järvensivu and Törnroos (2010) tried to discuss the case study method and its role in industrial marketing, especially in business-to-business networks. But their discussion is more related to approaches that allow researchers to select appropriate strategies for looking into case studies used in their research as a method.

Looking further, some methodological issues seem more common in most types of social science research, especially in research with case study methods.

Firstly, the clearness of research methods used to collect data which is called reliability is a common issue. Reliability "is normally known as to be high if two or more researchers, addressing the same subject with the same methods, come up with the same, or very nearly the same outcomes" Halloran (2004).

Basically, reliability needs explanation and descriptions of the research methods used in any study. These explanations can be commonly found in the methodology section of a published research. Also reliability can be described through the use of a particular protocol that defines each step in the research process.

Secondly studies often lack generalizability. This looks clearer while comparing research cases with social science research that practices statistical sampling to attain statistical generalizations. Cases can be used to reach analytical generalizations rather than a statistical generalization because they cannot be reflected as sample units.

Moreover, showing two or more cases to support the same theory might be considered as replication. And according to Yin (1994), empirical results might be more potent if two or more cases upkeep the same theory but do not support an equally reasonable, rival theory

Granting this kind of approach will shift the focus to ensure the procedures by which case research is carried out is sufficiently rough to ensure the validity of outcomes.

Another issue is validity that has been described as being related to the nature of findings, and the degree to which these are a true consideration of what researchers formally state we are dealing with in affirming our goals and objectives. According to Cutler (2004), three tests can be applied to achieve validity.

In the other hand, operationalizing the data-collecting units of analysis and measures is a factor involved to achieve construct validity that leads to avoidance of subjective judgments.

Furthermore, there has been an internal validity issues. Avoiding invalid links is very crucial and it is important for the researcher to consider alternative explanations in his or her research design, and seek out evidences that might disconfirm the link.

According to Cutler (2004), internal validity is important for a subject such as public relations where many factors may have an influence on the outcome of a campaign. The benefit of case method is that if the research design detects a causal link to study, it can engage a range of data collecting methods to ensure internal validity.

In conclusion, appropriateness of case studies can be evaluated using measures below to show the appropriateness of this method used or to be used by a research:

- *Generalizability*

- *Validity*
- *Construct validity*
- *Internal validity*
- *Reliability*

Case study design might be nominated as one measure of case study appropriateness that could be adopted for either a single-case design or multiple-case design. When using multiple cases, each case is treated as a single case. Each case's conclusions can then be used as information contributing to the whole study, but each case remains a single case. (<http://www.gslis.utexas.edu>). The problem of using single-case design is its inability of generalization to other contexts whereas by adopting a multiple-case design, this inability is relatively covered. By replicating the case through pattern-matching—a technique linking several pieces of information from the same case to some theoretical proposition—multiple-case design enhances and supports the previous results. This helps raise the level of confidence in the robustness of the method (Zainal, 2007).

Regardless the classification of research strategies, validity of research is controversial issue among academicians that reflects the degree of accuracy of research. Validity is divided into 4 main categories including construct validity, internal validity, external validity and reliability (De Weerd-Nederhof, 2001). Table below presents some tactics and their occurring times to increase validity of research accomplished in case study format.

Table 2: Validity of case-study (De Weerd-Nederhof, 2001)

Validity	Case-study tactics	Occurring time
Construct validity	-Use of multiple source of evidence -Establish a chain of evidence -Have key information review draft case reports	- Data collection -Data collection -Data collection -Composition
External validity	-Do patter matching -Do explanation building -Do time series analysis	-Data analysis -Data analysis -Data analysis
Internal validity	-Use replication logic in multiple case study	-Research design
Reliability	-Use case study protocol -Develop case study data base	-Data collection -Data collection

Moreover, in correlation with different approaches, generalizability and validity of moderate constructionist orientation in researches using case studies has been conceptualized by Järvensivu and Törnroos (2010) as being contingent on both community-bounded critical dialogue and empirical evidence.

#### V. CASE-STUDY AS THE FACILITATOR OF THEORY

Theories of social body of knowledge are not the same as those being matured in pure math territory. Woodside (2010) stated that it is impossible for a theory of social behavior to be simultaneously general, accurate and simple. To develop a theory, generalization of causal relationship is a key factor. Through a case study, when a recognized causal explanation is defensible due to data, it might be claimed that explanation

provides a basis for developing theory beyond that case. In addition, to build a theory based on case study research, researcher should face to issue with neither pre-prepared theory nor consideration in which the ways of developing theory would be limited.

Hence, according to Easton (2010), to develop a theory based on a single case, firstly, identification of networks and events shaping our case should be in line with supposed theory. Secondly, reliability of determines should be hypothetically studied. Thirdly, identified relationships within the case should be confirmed either conductively or inductively. De Weerd-Nederhof (2001) states that case studies should adopt a combination of archives, observations, interviews and questionnaires to achieve this purpose. Finally, preparation of some evidence in favor of recognized mechanisms within the case.

In general, evidence at least must be referred to a loose relationship with an existing theory.

VI. CASE-STUDY VS. SURVEY AS TWO RESEARCH STRATEGIES

Research design as a crucial part of any research requires a choice of research strategy. There are 6 main research strategies namely experimentation, survey, archival analysis, histories or case studies which are chosen based on the necessary of research.

Yin (1984,p.17) claims that there are three conditions enforcing researchers to choose a particular strategy. First, the type of research question; secondly, the degree of investigator control possible; and finally, the degree of focus on contemporary events desired.

Yin (1989,p.17) tried to briefly illustrate the main differences between discussed strategies as below;

Table 3: Survey vs. Case-study (Yin,1984,p.17)

Strategy	Form of research question	Requires over behavioral control	Focus on contemporary events
Survey	Who,what,where,how many, how much	No	Yes
Case study	How,what	No	Yes

Survey and case studies are too closed to each other in terms of question, behavioral control and contemporary events. We shall recognize the main difference between these two research strategies from research question. Case study, indicated by 'How' and 'why' questions, are more explanatory by nature. and are likely to lead to the use of experiments, histories and case studies. These questions tend to deal with operational links which

occur during a span of time, rather than the incidents or phenomena which occur at intervals over time. According to De Weerd-Nederhof (2001), when the aim of research is to answer related to 'how' and 'what', case studies seems to be more appropriate. Woodside (2010) tries to criticize case-study research from survey-oriented point of view and reversed perspective.

Table 4: Criticism of case-study and survey

Criticism of case study	Criticism of survey
Inability to explicit steps to create and test theory	Collected informants have very limited abilities to retrieve implicit thoughts explicitly
Chaotic complexity of case studies	The use of fixed-point measures fails to capture the real-life outcomes of interest in behavioral science research
variability in multiple-person interpretations of verbal data	Symmetrical relationship between independent and dependent variables
inadequate replications to support either generalization or practical relevance to aiding decision-making in other contexts	Inability to report and interpret interaction effects among three or more variables

There are three paradigms including accuracy, generality and simplicity (woodside, 2010) that illustrate the level of appropriateness of a particular research design. Thorngate (1976) demonstrates strength and weakness of these two controversial research designs based on accuracy and generalization of them.

As it is obvious in above figure, the main objective of any kind of survey is to generalize findings of previous research into other contexts while case study is more likely to increase accuracy of research there by relying on a specific context. In fact, results of survey might be generalized into other contexts because of its external reliability whereas findings of case study are in relevance with particular context, and not being easily generalized into other contexts.

VII. CONCLUSION

Briefly, case-study is an accurately qualitative research that is constructed based on realism philosophy of research. It highly depends on context being studied that declines its ability to broadly generalize its findings into other contexts, especially, when the degree of contingency between those contexts is not significant. In line with other research strategies, the appropriateness of case-study is a reflection of scholar's

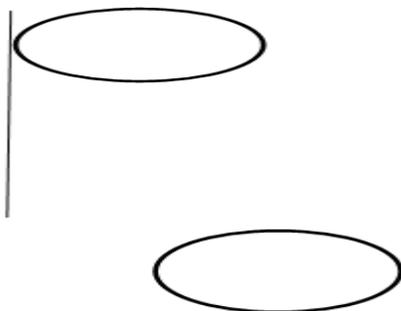


Fig. 1 Method's objectives (Woodside, 2010)

anticipations and intentions of research. In fact, the first step toward accomplishing a great case research is to clearly understand the appropriateness of case-study that will be completed when scholars correctly adjust their philosophical point of view with the reality of cases. Once scholars made sure about the appropriateness of using case-study as this paper explained in their research, they would be able to fluently support their findings thereby firstly, improving their probability of success to develop a theory and secondly, being in line with other works that will eventually lead to build a valuable research.

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