

An Investigation in to the Assessment of the Quality of Case Study in Social Research

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Abstract. Case study has been a mainstream research approach widely used in various social research areas. The paper focused on the assessment of the quality of case study in social search. The paper discussed the definition and the research areas that case study is appropriate for. The criteria for assessing the quality of case study in social research were also discussed. Employing a published academic paper, the researcher discussed the quality of case study employ in a specific area in river basin management.

1. Introduction

Case study, providing in-depth method of inquiry, using a variety of sources, and trying to generate multi-faceted understanding of a single case or multiple cases in a real life context ^[1,2], is a valid research approach been adopted by a variety of profession, including: business management, education, sociology, and experimental psychology^[3]. In each instance, a case could be a person, a group, an organization, a process, a social phenomenon.

The present work focuses on the quality of case study employed by social research. The paper is organized as follows: section 2 discusses the definition, main principles of case study methodology. Section 3 critically analyzed the quality of case study methodology employed by the presented article. Finally, section 4 provides a brief conclusion.

2. Case study as an research approach

2.1 What is case study?

Case study first emerged as a research approach in the famous life histories of Chicago School of sociology during 1920s and 1930s ^[4]. But case study had been mainly regarded as an important research tool rather than a distinct research approach ^[5] till 1970s. It is Donald Campbell's subsequent writings ^[6,7] which pave the way for the revival of interests on case study as research methodology. Case study methodology has been renewed by Yin's continuous work^[8,9,10], which focuses case study on research design not merely fieldwork, single and multiple case designs, the role of theories and rival theories etc. Platt demonstrated that only since 1990s case study had been one part of the methodological mainstream ^[5].

Yin's work has been especially influential in defining the case study approach. Yin ^[10] has defined case study as an empirical inquiry that "investigates a contemporary phenomenon in depth and within its real life context, especially when the boundaries between phenomenon and context are not clearly evident". This definition highlights case study as a research approach whose intensive focus is on a single phenomenon within a real life context. In relating to Yin's findings ^[11], case study approach is most suitable where the number of variables of interest is much more than the number of the data points. A number of textbooks regard case study as a descriptive and exploratory or merely explorative methodology ^[12], and in practice, case study is primarily applied for the purposes which are descriptive and explorative ^[13]. But recent advances in case study have identified it as a valid

methodology not only in describing and exploring concepts, but also establishing casual relationships, building and supporting theories. There exist three kinds of qualitative case study: descriptive, explorative and explanatory. Descriptive case study provides a full description of a phenomenon, while exploratory case study explores situations where there is no single outcome, and explanatory case study explains causal relationship. Bassey (1999) has found that not only theory-seeking and theory-testing but also story-telling can be roles case study can plays by mechanism it provided. He also asserted that the approach can enable evaluation of a situation^[14].

Stake (1995) is another key developer in case study researcher, who has defined case study as not only the process of learning about the case but also the process of learning about the product of our learning^[15]. Base on the Louis Smith's identification of a case as a bounded system, stake (1998) has demonstrated that the object of the study is a specific, unique, and bounded system^[16]. In terms of different purposes when different researchers carrying out case studies, Stake (1995, 1998) has characterized three main types of case study: intrinsic, instrumental and collective. Briefly, intrinsic case study focuses on the understanding of a unique phenomenon and its uniqueness, "*the case is studied for its own sake*"^[17]. In contrast, in instrumental case study, the primary interest of researcher is not the case itself. The case study acts as a supportive function, which help deepen or broaden the understanding of something else. Collective case study involves learning of multiple cases in order to generate broader apprehension of a particular phenomenon, and the study of cases can be either simultaneous or sequential^[18].

2.2 What is case study used for?

Case study is much more powerful when researched phenomenon occurs in a complex, real-life context, where it is hard to distinguish the phenomenon from the context easily, and once the context has to be incorporated in to the study, the number of variables of interest will soon outstrip the number of data points. Case study, characterized by its ability of systematic analysis of multiple forms of data, is good at generating holistic and deep understanding of a given context and individuals live in it. Stake (1998) has also claimed that the more the object of study is a specific, unique, integrated system, the greater the usefulness of case study as a research approach with its unique epistemological rationale^[16]. Furthermore, case study has been view as a 'paradigm bridge' because it is not bound to a fixed ontology, epistemology or methodology^[19]. In other words, it is up to researcher's epistemological standpoint which decides the specific methodology selected. It means the researcher can select the most appropriate method, even more than one method in case study. It highlights one important aspect of case study that it is programmatic rather than paradigmatic, which means the methodological flexibility when carrying out case study.

Three conditions should be well considered when researchers have to make a choice between alternative methodologies, which are (a) the type of the specific research question, (b) the ability of the researcher to control the events and context, (c) the degree of emphasis on the contemporary events. Yin (1999) has identified that case study is much more suitable when the type of research questions begin with how and why, and when the researcher has little control over behavioral events^[11]. The case study approach is also preferred to examine contemporary events rather than historical ones. Case study permits the "*detailed, extensive study of a particular contextual and bounded phenomenon that is undertaken in real life situation*"^[19].

2.3 How to enhance quality of case study?

There is a living debate about the validity, trustworthiness and rigor of qualitative research^[20,21]. Case study as a qualitative research approach is also criticized for its lack of rigor and difficulty in the generalization of findings (Yin, 1999).

In terms of generalization, stake (1995) defined case study as "study of particular". From this kind of perspective, the main emphasis of case study is to generate in-depth understanding of the complexity and uniqueness of a certain phenomenon. Generalization of findings from specific case

study to large population is not necessary or relevant to case study (Fisher and Ziviani, 2004). According to Stake, generalization should not be necessarily relevant to all research (Stake, 1998).

Yin (2009) maintained that generalization of finding of case study shares the same logic of generalization findings of experiments. Each case study (or multiple case studies) can be seen as equivalent to a single experiment (multiple experiments) (Yin, 1999). Theory or hypotheses will be a vehicle which makes generalization available. In case study, it is the theories or hypotheses which could be expanded or generalized. It is a kind of analytic generalization rather than statistical generalization (Yin, 2009).

Denscombe (2010) has argued that, each case in case study has its uniqueness, but it also a single example of broader things^[22]. The extent to which findings in a single case study can be generalized to others depends on the similarity between cases. He maintained that it is the researches' responsibility to include details of case in case study report in order to help readers to decide the degree of relevance between the case and other instance.

Specific techniques can be employed to realize generalization in case study. Hammersley (1992) has provided three methods to generalize findings from a single case study^[23]. First, the comparative method, which means to obtain as much as information about relevant characters of populations of cases, and then compare our case to them. Second, using survey research on cases selected randomly. Third, Peräkylä (2004, pp.296) has suggested that "*the comparative approach directly tackles the question of generalizability by demonstrating the similarities and differences across a number of settings*"^[24]. This is a simple method only involves reading relevant studies and comparing ours to others^[25]. Crowe et al (2011) have suggested that deep understanding of theoretical and empirical literature would help investigators to justify the case they selected, and in turn would make theoretical generalization much more possible.

In relation to rigor in case study, clear ways and appropriate procedures to maintain rigor in case study have been variously developed (Rosenberg and Yates, 2007). For example, based on the contributions of previous studies, Crowe et al (2011) have identified ways like triangulation, respondent validation, the use of theoretical sampling, transparency throughout the research process can be used to establish trustworthy in case study. Yin (1994) has claimed that if certain quality criteria be followed during the conducting of the research, case study can be fully recognized as a scientific method lead to valid qualitative research.

The quality criteria for valid case study are (Kyburz- Graber, 2007, pp.58):

- a. *A theoretical basis including research question is described.*
- b. *Triangulation is ensured by using multiple sources of evidence.*
- c. *A chain of evidence is designed with traceable reasons and arguments.*
- d. *The case study research is fully documented.*
- e. *The case study report is compiled through an iterative review and rewriting process*^[26].

Using these quality criteria and findings provided above, the presented case study will be closely examined in the following part. The examination will be carried out along the timeline of conducting the case study.

3. The assessment of quality of the case study of the Local Water Planning Process in the Hunter River Catchment (the case study of LWPP)

The paper, focusing on the Local Water Planning Process in the Hunter River Catchment, has discussed the appropriate degree of public involvement in local environmental decision-making process. Case study is employed by the article as the research approach. The case studied is a process used to develop a water sharing plan (WSP) for the Hunter River Catchment, Australia.

The public involvement in the environmental decision making process is a well-recognized research area in which the research phenomenon and the context cannot be separated clearly. Numerous actors and their interests can be involved in this process and in this kind of real life context, such as state actors including local and central government, as well as non-state actors, for example, members of general public, individuals from interest groups, aboriginal communities, business organizations, and non-profit organizations. In this kind of research, the variables clearly outstripped

the data points during conducting study, and the topic focus on contemporary phenomenon, the research questions often begin with how and why. So case study becomes a suitable research approach for this kind of study.

Case study can be seen as a scientific research approach when it is conducted based on a theoretical basis, which can be guidance for data interpretation ^[26]. The theoretical basis for the case study of the appropriate degree of public involvement is presented by the authors: governance involved public participation has been seen as commonplace in local environmental management. It can bring many merits like improved understanding and acceptance of decisions ^[27] etc. But in practice, the benefits of public involvement is hard to realize, based on reasons like unequal power relations, degrees of the willingness of public to participant etc. ^[28] So the appropriate role of state and public actors in managerial process becomes critical and in turn it is necessary to explore the appropriate degree of public involvement in environmental decision making process. Based on review of previous literature, the authors provide three principles, which are: first, the appropriate degree of public participation depends on the specific context. Second, the particular aspects of decision making situation are deterministic actors of appropriate degree of public involvement. Third, the degree of involvement must accompanied by the commensurable amount of influence to be legitimacy. So the authors conclude that there exists “no one size fits all” degree of public involvement, and it is necessary to explore ways to address appropriateness of public involvement. The three principles are the theoretical basis for the authors to develop an analytical framework that highlights the factors that affect the appropriate degree of public involvement in local environmental governance. And then the analytic framework is employed to guide the case study. It is true that the theoretical basis of the case study and the relevant research questions are described by the authors.

3.1 Defining and selecting the case

In the case study of LWPP, based on the literature review and the theoretical framework developed, the authors defined their cases as collective decision making process in environmental governance at a local level. One of the authors’ research methods is to examine the utility of the framework they provided in the study. This kind of case definition is theoretical driven. So the logic replication can be realized, and the analytical generalization in Yin’s (2009) word can be most possible ^[10]. The deep and broad knowledge of theoretical and empirical literature, help the authors to justify the choice of case definition and selection, which also contribute to the theoretical generalization ^[18].

Then the case of Local Water Planning Process has been selected, because the study is an instrumental case study according to Stake’s (1998) categorization of case study ^[16]. The authors have also pointed out that catchment is a well-recognized, formal, and common managerial unit in Australia for decision making involving public participation. The case selected is “typical”, so it helps the authors to come to the finding of not only relevant to the case itself but also to the issue or phenomenon. It seems to be true that the authors have used purposive sampling to select case ^[25].

The authors have provided an overview of the case study setting. They have well defined the boundary of the case, the beginning and ending of the case, the individuals participated in decision making process and other specific actors of context and the case itself. It helps the readers to get as much information as they can, and helps their judgments of whether the findings of this study can be transferred or generalized to other process or context, through comparing similarity and different between different cases ^[22].

3.2 Data collection and analysis

Data collection in the case of LWPP is guided by the framework the authors provided. This helps to avoid generating a large amount of data that are not relevant to the study or data with little value. The abundant data has been seen as a main pitfall of case study approach by Crowe ^[18]. But the close integration with theoretical framework during the stage of data collection and analysis has been criticized by some scholars as only getting data the researcher wanted and having the risk of overlooking some data with true value, and the same criticizes arise when case study researchers

choose thematic analysis to cope with their data ^[11, 12]. In related to the purpose of the case study of LWPP is instrumental, it is appropriate for the authors to collecting data in accordance with the framework provided, and consequential adoption of thematic analysis of data.

There data sources are used in the case of LWPP. The three data sources are well chosen and complementary to each other. Key informants interviews provide critical primary data, while documents and personal observation provides secondary data as supplement. The interviews are conducted during the fieldwork. And information has been collected through semi-structure interview, and the data are coded, transcribed and organized using successive spreadsheet. Thematic data analysis and data comparison have been used as main data analysis tools. The absence of three key informants has been identified by the authors of a limitation of the case study. But this can be mitigated because concerns of the absent informants were reflected by others interviewees and can be revealed during the analysis of documents such as minutes of meeting they attended.

Data cross-checking has been carried out between primary and secondary data. All series of documents, ranging from legislation to personal observation documents relevant to the decision making process, are analyzed in terms of characteristics and sub-characteristics of the framework.

The whole process of interviews has been well documented, field notes and photographs also have been taken during field work. This generated document of data – collecting process, means the process of data collection has been documented. The detailed descriptions of distinct stages of data collection and data analysis, and the reasons for particular tools selected can be seen from the article, which make the whole research process transparent.

The multiple use of data sources and the multiple way to generate interpretation of data in the case of LWPP, constitutes a procedural in case study named triangulation, which help a lot to maintain rigor in case study.

In terms of the case study report, Stake (1995) has developed a checking list for assessing the quality of case study report ^[15]. In accordance with the checking list, the case study report of LWPP case study (the published article) are easy to read, all parts fit together and contribute to the whole, the report provides a conceptual structure, enough attentions have been paid to the context, sufficient raw data have been presented, the report has been validated by informants etc. From most angles of the checking list, the quality of the case study report of LWPP has been maintained. The case study report is well compiled through an iterative reviewing process.

Trustworthy case study must be armed with ethical consideration ^[18]. That is because the participants during data collection process can be relatively easier identified. The authors have not claimed the ethical considerations of the case study partly because the form of the research report is academic article which does not allow length description of ethical consideration and mitigating actions the authors employed. But based on large amount of data derived from the interviews, it seems to be true that the participants are sufficiently informed and their consents have been given to the researchers. And based on the authors' effort to avoid to exposure the names and identities of the participants, it seems to be true that ethical issues are under the authors' consideration during conducting the research and compiling research report.

4. Conclusion

The case study of LWPP analyzed the contextual characteristic which determined the appropriate degree of public involvement in local environmental process. It can be concluded that the case are well defined and selected, triangulation has been ensured by multiple use of data sources and analysis tools, the case study report has been well compelled and reviewed by participants, the research process has been transparent and well documented. The case study of LWPP is a high quality case study in relation to Yin's ^[4] quality criteria.

Crowe et al ^[18] claimed that integration with theoretical framework can be a potential pitfall of case study. In the case study of LWPP, both data collection and data analysis are guided by the theoretical framework provided by the authors. It may be an appropriately methodological decision which derives from the instrumental purpose of this case study. From more general perspective, this kind of

pitfall can be mitigated by ways such as allowing for unexpected issues to emerge, or using flexible or different way to get data ^[18].

The main purpose of the assessment is to critically analysis whether case study is a suitable approach for the authors' research questions, whether the trustworthy or rigor issues related to case study have been maintained. All in all, the analysis is from the perspective of the quality of case study used in the case of LWPP. The more practical and specific issues and relevant assessment of these issues such as how to maintain research quality such as rigor are out of consideration of this article.

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