Single case studies vs. multiple case studies: A comparative study

Johanna Gustafsson
Academy of Business, Engineering and Science
Halmstad University
Halmstad, Sweden

Keywords: Case study, single case study, multiple case studies

Paper type: Literature review

ABSTRACT

There are several different definitions and kinds of case studies. Because of different reasons the case studies can be either single or multiple. This study attempts to answer when to write a single case study and when to write a multiple case study. It will further answer the benefits and disadvantages with the different types. The literature review, which is based on secondary sources, is about case studies. Then the literature review is discussed and analysed to reach a conclusion. The conclusion is that there are several different opinions if a single case study or a multiple case study is the best choice. Different causes to consider in the choice to make a single case study or a multiple case study are presented. Some causes are that the amount depends on the context, upon how much is known and how much new information the cases bring. Another conclusion from the case studies I looked among is that it is generally more number of pages in the multiple case studies than in the single case studies.

1. Introduction

Despite the on-going discussion about case studies limitations in association with other methods and its credibility, the case study method is progressively popular among researchers (Thomas, 2011; Hyett, Kenny & Dickson-Swift, 2014). The design and content of case studies can look very various from each other and on this basis, this literature review will compare single case studies with multiple case studies.

2. Method

This study is based on qualitative material and therefore secondary sources. This includes scientific articles, case studies and other literature. To find out what the differences are between single- and multiple case studies, these subjects are defined in the literature review. The relevant scientific articles about case studies have been located by using the databases Science Direct, Scopus, Web of Science and Google Scholar. The articles are also peer-reviewed which means that two or more experts in the relevant topic area have
evaluated them. The experts are doing this at the request of the journal editor to see if the articles have potential to be published (Rowland, 2002). The literature I used was founded at the Halmstad University library and on Google Scholar. The literature is also referenced after the method APA (American Psychological Association). The design of this study is elaborated to review and operate variables that require an answer to the research question (Kallet, 2004). To answer the question I did some research among case studies to see how they were structured and if there were any patterns in the structure between single case studies and multiple case studies. The case studies were chosen randomly from the Halmstad University collection of databases, Summon. I searched for ten single case studies and ten multiple case studies to see if there were any similarities and differences.

3. Literature review

3.1 Case studies

It is not easy to describe what a case study is because there is no easy explanation (Solberg Seilen & Huber, 2006). A case study can be defined as an intensive study about a person, a group of people or a unit, which is aimed to generalize over several units. In a case study the focus is based on a specially unit (Jacobsen, 2002). Another, similar, definition is that a case study is an analyse of systems that are studied with a comprehensive view by either one or several methods (Thomas, 2011). The case study method is not aimed to analyse cases, but it is a good way to define cases and to explore a setting in order to understand it (Cousin, 2005).

“The case study method “explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information... and reports a case description and case themes” (Creswell, 2013, p. 97).

The qualitative case study method is, although it’s widely used, not completely understood. Due to conflicting epistemological hypotheses and the intricacy characteristic in qualitative case studies, scientific thoroughness can be difficult to prove, and any resulting findings can be difficult to validate (Baškarada, 2014). The case studies also usually have a double function, which is that case studies are studies of its own unit, as well as case studies of a larger group of units. The conclusion that is aimed by a case study can be either illustrative or confirmable. These issues confuse the design of a case study and will further do so because they are inherent in the company (Gerring, 2004). The qualitative case study method requires tools so the scientists can study the comprehensive view within their contexts. If the method is applied rightly, the method will be advantageous when you study
science, evaluate programs and develop theories and involvements (Baxter & Jack, 2008).

3.1.1 Format of a case study

Except to identify the case and the specific type of a case study that shall be implemented, the researchers have to consider if it’s wisely to make a single case study, or if it’s better to do a multiple case study, for the understanding of the phenomenon. Another important thing to take under consideration is the context (Yin, 2003). When a study includes more than one single case, a multiple case study is needed. This is frequently associated with several experiments. A difference between a single case study and a multiple case study is that in the last mentioned, the researcher are studying multiple cases to understand the differences and the similarities between the cases (Baxter & Jack, 2008; Stake, 1995). Another difference is that the researcher is able to analyse the data both within each situation and across situations (Yin, 2003). Multiple case studies can be used to either augur contrasting results for expected reasons or either augur similar results in the studies (Yin, 2003). In this way the author can clarify whether the findings are valuable or not (Eisenhardt, 1991). When the case studies are compared to each other the researcher also can provide the literature with an important influence from the contrasts and similarities (Vannoni, 2014; 2015). An all-embracing fact is that the evidence created from a multiple case study is measured strong and reliable (Baxter & Jack, 2008). Other advantages with multiple case studies are that they create a more convincing theory when the suggestions are more intensely grounded in several empirical evidence. Thus, multiple cases allow wider exploring of research questions and theoretical evolution (Eisenhardt & Graebner, 2007).

It is important to take under consideration that when the researcher does a multiple case study it comes with both advantages and difficulties. Multiple case studies can be enormously expensive and time consuming to implement (Baxter & Jack, 2008). According to Siggelkow (2007), the existence of phenomenon can opulently be described by single case studies. For creating high-quality theory, Dyer & Wilkins (1991) argue that single case studies are better than multiple cases because a single case study produce extra and better theory. Also, the more case studies a scientific article has, the less observation time the writer has studied the case studies. But the more likely it is, that the case studies are confident in their representativeness (Gerring, 2004). If the researcher only wants to study one single thing (for example a person from a specific group) or a single group (for example a group of people), a single case study is the best choice (Yin, 2003). When a single case study is used, the researcher can question old theoretical relationships and explore new ones because of that a more careful study is made. This makes
also the researcher to get a deeper understanding of the subject (Dyer & Wilkins, 1991).

The researcher can choose to make a single case study with embedded units. This means that the researcher is able to explore the case with the ability to analyse the data within the case analysis, between the case analyses and make a cross-case analysis. This gives the researcher the power of ability to look at subunits that are located within a larger case (Yin, 2003). According to Eisenhardt (1991), the amount of a case study depends upon how much new information the cases bring and how much is known. And Dyer & Wilkins (1991) writes that the page length, the number of cases or the length of the researchers’ stay in the field per se, is not the key issue. The important issue is instead if the researcher is capable to describe and understand the context of the scene in question so well that the context can be understandable to the reader and to produce theory in relationship to that context. Further, Dyer & Wilkins explains that it is not a guarantee that rich theoretical insights will be produced when studying a single case study in detail, and it is neither a guarantee that multiple case studies will produce this kind of insight.

3.1.2 Presentation of a case study

It can be a tough job for a researcher to report a case study because of the tricky type of the approach. The hard part is to present the findings in a specific way so the case study is easy to understand by the reader. A vision for the researcher is that the readers can understand the findings so well that they can implement the study in their own situation (Stake, 1995). Some ways to report a case study are by deliver a chronological report, telling the readers a story or by attending each intention. In the last example, the case study ensures to be focused and deals with the research questions. To avoid the information that is superfluous to the research question, the researcher needs to focus on the propositions or the issues. Further, the researcher should compare the results to facts in published literature and existing data. In this way it is easier to fully understand the findings and the results are more reliable (Baxter & Jack, 2008; Eisenhardt 1989). The literature ties together those similarities that not normally are associated with each other (Eisenhardt 1989). The researcher also has to identify the specific audience of the study and therefore also understand their specific needs (Yin, 2009).

3.1.3 Why and how to write a case study

Case studies are used by scientists to test theories (Anderson, 1983; Pinfield, 1986), to render description (Kidder, 1982) and to develop theory about several topics (Eisenhardt & Graebner, 2007; Eisenhardt 1989; Solberg Søilen & Huber 2006; Harris & Sutton, 1986; Gersick, 1988; Mintzberg, 1979). The topics can be internal organisation (Gilbert, 2005; Galunic & Eisenhardt, 2001), group process (Edmondson, Bohmer & Pisano, 2001) and strategy
J. Gustafsson (Mintzberg & Waters, 1982). Bartunek, Rynes & Irland (2006) are meaning that articles where the theory is build from cases often are considered as the most interesting research. Further, qualitative case study research is a flexible method (Merriam, 2009; Mayer, 2001, Stake, 1995) and presented qualitative case study methodologies are formed by study design, epitome and selection of methods. As a result of this, case studies varies in the published literature (Hyett, Kenny & Dickson-Swift, 2014). According to Solberg Søilen & Huber (2006) the purpose with case studies are to produce background material to a discussion about a concrete problem. Case studies are also open ended and often used in those situations where it is hard to find a precise solution.

The type of the article reflects the determination of the studies (American Psychological Association, 2001). Wells (2004) says that a good paper should have a narrative composition, which are leading from one finding to another. If the build-up of facts is random there will not be a good paper. “Remember throughout that everyone, even a scientist, thinks in narrative. Science is a story. Tell it” (Wells, 2004). Wells also talks about that it is important to not hesitate when to write an article because the scientific literature is blowing up in magnitude even if it stands still in literary magnitude.

The composition of the case study should be identified during the design of the case study (Yin, 2009). In Table 1 and Table 2, there is a compilation of randomly selected case studies in scientific journals, one for single case studies and one for multiple case studies. Case studies are often criticized in not to be sufficient scientific, since they not develop testable generalizations (Encyclopedia Britannica, II, 1979). To extenuate the criticism it’s important to have a precise language through the report and a thoughtful research design. If the case study contains rich presentation of evidence in tables and figures, the case is more reliable. It is also more dependable if it contains appendixes with specific information and has a theoretical sampling of the case or cases (Eisenhardt & Graebner, 2007).

<table>
<thead>
<tr>
<th>STUDY</th>
<th>JOURNAL</th>
<th>CASE-TYPE</th>
<th>LENGTH</th>
<th>DIVISIONS</th>
<th>FIGURES &amp; TABLE’S</th>
<th>APPENDIX</th>
</tr>
</thead>
</table>
Table 1 compare the study design and content of ten randomly selected single case studies.

<table>
<thead>
<tr>
<th>STUDY</th>
<th>JOURNAL</th>
<th>CASE-TYPE</th>
<th>LENGTH</th>
<th>DIVISIONS</th>
<th>FIGURES &amp; TABLES</th>
<th>APPENDIX</th>
</tr>
</thead>
</table>

Table 2 compare the study design and content of ten randomly selected multiple case studies.
4. Analysis

A case study can be described in several different ways. According to Baškarada (2014) the case study method is not completely understood though it is widely used. The resulting findings can be difficult to validate and the scientific thoroughness can be difficult to prove. According to Jacobsen (2002) a case study is an intensive study aimed to generalize over several units, where the focus is based on a specially unit. Cousin (2005) says that the case study method also is a good way to define cases for an easier understanding. Thomas (2011) says that a case study is an analyse of systems studied with a wide-ranging view where either one or several methods are used. And Baxter & Jack (2008) explains that the case study method give the scientists tools to study this wide-ranging view within their contexts. Another use of a case study is according to Creswell (2013) “The case study method explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information... and reports a case description and case themes”.

According to Baxter & Jack (2008) the case study method will be helpful when to study science, develop theories and involvements and when to evaluate programs, but only if the method is applied rightly. Gerring (2004) writes that case studies have a double function, which means that they are studies of its own unit as well as a larger group of units. Gerring also writes that the conclusion from a case study can either be confirmable or illustrative. This can confuse the design of the case study and will further do so because they are inherent in the company. The purposes with case studies are according to Solberg Søilen & Huber (2006) to generate background material to a discussion about a concrete problem. Case studies are also often used when it is hard to find a precise solution.

According to Yin (2003) the researcher has to identify the case and the specific type of the case that shall be implemented. One more important thing for the writer to take under consideration is the context. Stake (1995) tells that a case study can have a tricky type of approach and therefore it can be a tough job for the researcher to report the study. But when the findings are presented in a specific way the case study is easy to understand by the reader. Stake also writes that the researcher has a vision about the understanding of the case study for the readers. This include that the readers can understand the findings so well that they can implement the study in their own situation. According to Baxter & Jack (2008) and Eisenhardt (1989) the researcher should compare the results to facts in the published literature and existing data to fully understand the findings and make the results more reliable. To avoid superfluous information the researcher also needs to focus on the propositions or the issues. Baxter & Jack and Eisenhardt also writes that a case study can be reported by deliver a chronological report, telling the
J. Gustafsson

readers a story or by attending each intension. Eisenhardt (1989) writes that those similarities that not normally are associated with each other, then ties together by the literature. According to Yin (2009) the researcher also has to understand and identify the specific audience of the study.

According to Bartunek, Rynes & Irland (2006) articles where theory is build from case studies often are reflected as the most interesting research. Anderson (1983) and Pinfield (1986) mean that scientists’ uses case studies to test theories. Kidder (1982) means that they are used to render description and Eisenhardt & Graebner (2007), Eisenhardt (1989), Solberg Søilen & Huber (2006), Harris & Sutton (1986), Gersick (1988) and Mintzberg (1979) mean that case studies are used to develop theory about different topics. The topics are according to Gilbert (2005) and Galunic & Eisenhardt (2001) internal organisation, group process according to Edmondson, Bohmer & Pisano (2001) and strategy according to Mintzberg & Waters (1982).

Hyett, Kenny & Dickson-Swift (2014) mean that qualitative case study approaches are shaped by epitome, study design and the selection of methods. This makes a variation of different case studies in the published literature. Merriam (2009), Mayer (2001) and Stake (1995) mean that the case study research is seen as a flexible method. Further, to write a good case study, Wells (2004) mean that the paper should have a chronicle composition that leads from one finding to another and therefore cannot be randomly. Wells also writes, “Remember throughout that everyone, even a scientist, thinks in narrative. Science is a story. Tell it”.

Since case studies not develop testable generalizations, they are often criticized in not to be enough scientific according to Encyclopedia Britannica, II (1979). Yin (2009) writes that during the design of the case study, the structure should be identified. To identify the structure and to extenuate the criticism the writer should have a thoughtful research design and a precise language through the report according to Eisenhardt & Graebner (2007). Another thing to take under consideration is that tables and figures make the case more reliable because of the rich presentation of evidence. If the case study also contains appendixes with extra information or/and theoretical sampling of the case or cases the case study become more dependable according to Eisenhardt & Graebner.

Yin (2003) writes that a case study can contain either a single study or multiple studies. The researcher therefore have to consider if it is wisely to make a single case study or if it is more wisely to make a multiple case study for the understanding of the phenomenon. There are several different opinions if a single case study or a multiple case study is the best choice. Yin (2003) explains that when the researcher chooses to do a multiple case study he is
able to analyse the data within each situation and also across different situations, unlike when a single case study is chosen. According to Baxter & Jack (2008) and Stake (1995) another difference between a single case study and a multiple case study is that in a multiple case study the researcher studies multiple cases to understand the similarities and differences between the cases. Therefore the researcher can provide the literature with important influences from its differences and similarities according to Vannoni (2014;2015). Baxter & Jack (2008) and Stake (1995) writes that when a study includes more than one single case a multiple case study is needed. This is commonly associated with several experiments. Eisenhardt (1991) writes that the amount of cases instead depends upon how much is known and how much new information the cases bring.

According to Baxter & Jack (2008) the evidence that is generated from a multiple case study is strong and reliable. Yin (2003) says that when augur similar results in the studies or when augur contrasting results for expected reasons, multiple case studies can be used. Eisenhardt (1991) argue that the writer then can clarify if the findings from the results are valuable or not. Multiple case studies allow a wider discovering of theoretical evolution and research questions. When the suggestions are more intensely grounded in different empirical evidence, this type of case study also create a more convincing theory according to Eisenhardt & Graebner (2007).

When a multiple case study is used it comes with both benefits and difficulties, which is important to take under consideration by the researcher. The researcher may however, according to Baxter & Jack (2008), keep in mind that there can be an expensive and time-consuming process to make a multiple case study. Dyer & Wilkins (1991) writes that single case studies are better when the researcher wants to create a high-quality theory because this type produces extra and a better theory. They also explain that it makes the researcher to have a deeper understanding of the exploring subject. According to Gerring (2004) the more case studies a scientific article has, the more likely it is that it is confident in its representativeness but the less observation time the researcher has studied the cases. Further, Siggelkow (2007) argue that single case studies richly can describe the existence of phenomenon. According to Yin (2003) it is better to make a single case study when the researcher wants to study for example a person or a group of people. Also, the researcher can question old theoretical relationships and explore new ones when a single case study is used. This depends on the fact that a more careful study is made according to Dyer & Wilkins (1991).

Yin (2003) also explains that a single case study with embedded units can be made if the researcher wants to have the ability to study the case with data analysis within case analyses, between case analyses and cross-case analyses.
When the researcher chooses a single case study with embedded units he gets the ability to explore those subunits that are located within larger cases.

Case studies often look different in the published literature but the composition should be identified during the design of the case study according to Yin (2009). Table 1 represent ten single cases and Table 2 represent ten multiple cases. These 20 studies are except case-type, compared in terms of journal, length, divisions, figures & tables and appendixes. By these tables there are an average of 12.4 pages in single case studies. The most pages in a single case study by this research are 22 pages and the least are 6 pages. In multiple case studies there are an average of 20.3 pages. The most pages in a multiple case study are by this research 40 pages and the least are 12 pages. When it comes to divisions it is quite similar between single- and multiple case studies. All have some sort of abstract, introduction, method and discussion or conclusion. In single case studies, all cases do not have literature reviews but many of them have instead a title like “Case study” or “Case description”. In multiple cases all have a conclusion and the most of them have some sort of literature review but not all of them. Several multiple case studies in this research also have a title like “Case studies” but not everyone.

Further, there are figures and tables in eight of ten single case studies, which are 80 % of the surveyed. Of this eight the average is 3.25 figures and tables in each case study. The most figures and tables in a single case study of this research is 6 figures and tables and the least number is 0 figures and tables. In multiple case studies all had figures and tables in this research, which makes it 100 %. Here are the average 5.5 figures and tables in each case study. The highest number of figures and tables in multiple case studies are 14 and the lowest number of figures and tables in this research are 1. Lastly, there were two of ten single case studies that had appendixes, which is 20 %. The one with most appendixes has 2 pages and the case study with the lowest number of appendixes has 1 page of appendix. Only one of ten in multiple case studies has appendixes, which makes it 10 %. In this multiple case study there are 2 pages of appendixes.

According to Dyer & Wilkins (1991) the page length, the number of cases or the length of the researchers’ stay in the field per se is not the big issue. The issue is instead the researchers ability to understand and describe the context of the scene in question in such a way so the reader can understand the context and to produce theory in relationship to the context. Dyer & Wilkins also explains that when doing a single case study, it is not a guarantee that rich theoretical insights will be produced. They also explain that this is neither a guarantee when doing multiple case studies.
5. Conclusion
To conclude, a case study should be easy to understand to fulfil its purpose. The writer must identify the audience of the study and compare it to published facts to make it reliable. The writer then have to decide if to make a single case study or a multiple case study depending on the context. There are several different opinions if a single case study or a multiple case study is the best choice. Benefits with a multiple case study are that the writer is able to analyse the data within each situation and across different situations. The writer studies multiple cases to understand the similarities and differences between the cases and therefore can provide the literature with important influences from its differences and similarities. Other benefits are that the evidence generated from a multiple case study is strong and reliable and the writer can clarify if the findings from the results are valuable or not. It also allows a wider discovering of theoretical evolution and research questions. When the suggestions are more intensely grounded in different empirical evidence, this type of case study then create a more convincing theory.

Benefits with a single case study are that they are not as expensive and time-consuming as multiple case studies. Single case studies are better when the writer wants to create a high-quality theory because this type produces extra and better theory. A single case study also makes the writer to have a deeper understanding of the exploring subject. Other benefits are that single case studies richly can describe the existence of phenomenon and it is better to make a single case study than a multiple case study when the writer wants to study, for example, a person or a group of people. When a single case study is used the writer also can question old theoretical relationships and explore new ones. This is because a more careful study is made.

By studying case studies, which are published in scientific journals, I found that case studies often vary in the published literature. Of the twenty articles I looked among, there was generally more number of pages in the multiple case studies than in the single case studies. When it comes to divisions there were quite similar between single and multiple, but multiple case studies had more often a conclusion than the single case studies. A large amount of the studying cases had tables and figures and only three of twenty had appendixes. According to Eisenhardt (1991) the amount of cases depends upon how much is known and how much new information the cases bring. And Dyer & Wilkins (1991) says that the number of cases or the page length is not the big issue. The important is instead the researchers ability to understand and describe the context of the scene in question in such a way so the reader can understand the context and to produce theory in relationship to the context. Out of this study, I found both similarities and differences between single- and multiple case studies. It is several causes to consider in the choice to make a single case study or a multiple case study.
References


Saldert, C., Johansson, C., Wilkinson, R., Sahlgrenska Academy, University of Gothenburg, Göteborgs universitet, University of Gothenburg Centre for...
J. Gustafsson


