**Theory-based case study design**

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*Literature Review*

**1 Introduction**

Relying on rich qualitative data (Eisenhart,2007), Case study research (CSR) has become much more popular, especially in new topic areas (Eisenhart, 1989), since it can embrace several methods while building, developing or testing procedure, it can attract a wider audience whom may not even be predicted beforehand (Yilkoski, 2019). Eisenhart (1989) named frame-breaking insights, the tests of good theory (e.g., parsimony, logical coherence), and convincing grounding in the evidence as to the key criteria from the evaluation perspective which can be the reasons of high cited (Ridder,2017) of this kind of research.

Most of the reviewed articles (ref?) sorted CSR under the qualitative research due to its association with data collection methods such as archives, interviews, questionnaires, and observations(Eisenhart,1989) but this approach is methodologically flexible (Merriam (1998,2009)) enough to integrate quantitative methods as well for reporting its evidence (Eisenhart,1989) for instance in data sourcing or data analyzing (Ylikoski,2019). Thus we can consider this approach for both types of research (Wiliams, 2007). However, Ridder (2017), discussed that seeing this approach just for two functions of exploring and testing is “oversimplification” of this holistic methodology and he believes that this is a “classic understanding” of CSR.

CSR is highly recommended for in-depth exploratory research (Creswell 2003, Fiss 2009, Yoloski 2019), especially on complex issues (Harrison, 2017) where learning “more about a little known or poorly understood situation” (p.149).+YIN Leedy and Ormrod (2001) is important. In this kind of research not only the interpretive role of the researcher in analyzing the collected data is essential (Stake 1995, 2006) but also the importance of designing the research process should be considered.

Eisenhart (1989) declares the case study is “a research strategy which focuses on understanding the dynamics present within single settings”. Thus, for coming with rigor and valid Analytics, a researcher should recognize what is available and what should be explored. For achieving a better result, this study intends to see the narrated issues from the strategic research design perspective.

Consequently, the guiding research question of this paper is “what is the Theory-based CSR types?” and respectively” How is the application conditions of each one?”

To answer these questions, the remainder of this paper is structured as follows. In section 2 the methodology of this study will be presented. Subsequently, in section 3, all findings will be discussed under the subcategories related to theory-based CSR which will exclusively dedicate a special discussion on the contribution of the Case study types and strategies which will be followed by the theory spectrum of CSR and the design process framework. Finally, in section four, a conclusion of the discussion will summarize the findings.

**2 Methodology**

This study is a literature review followed by the literature search model of Brocke (2009, p10 fig.5) by the querying of scholarly databases on CSR in addition to keywords research with the study interest. The first phases have been done to form the concept and gather the literature outcomes on “case study definitions and elements”.

Although the search review was mostly on the keywords combination, the high cited literature screened mostly by title and abstract in the first step and investigated by the full text after the first relevant literature evaluation. In this phase, forward and backward research (Webster and Watson (2002)) also conducted. Reviewing founded literature’s full text, some of them were decided to be the main influencers of this study.

For conducting this paper, numerous arterials with different philosophical assumptions and orientations of case study research have been reviewed and key elements and characteristics of the different case studies are extracted. Regarding Cooper (1988, pp. 110), this review is conceptual integration of the relevant literature and attempts to have a pivotal coverage toward the topic.

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| --- | --- | --- |
|  | Phase 1 | Phase 2 |
|  | CSR | CSR features |
| Search string or keyword | CSR Design | CS typology |
|  | CSR criteria | Theory-based CSR |
|  | CSR vs … |  |

Table-1 Search review phases

As it mentioned phase 1 was carried out by screening the title, abstracts and keywords of relevant articles to CSR. The ones which had this approach only as their methodology but had no proper explanation for finding out the answer for this study question were excluded. This event happened another time for the next phase iteratively.

**3 Finding and Discussion**

As discussed in the previous section there is a variety of studies in this field which could be referred but the interest of this paper limited them into the bunch of literature which despite their different perspectives can be productive in shaping a framework for decision making of this study reviewers. (Used literature?)

As a result, the contribution to the literature is divided into some sections due to the characteristics of CSR design: the first section is about Case study types (sampling), the second part is about CSR theory spectrum and the final discussion will be on the CSR design process.

3.1 CSR Sampling strategy

There is a wide range of sampling types and strategies (Patton, 1990, pp.182-183), being of research interest (Stake 2005), and theoretical relevance (Eisenhardt and Graebner 2007) are just two reasons why a researcher should decide on the sampling type and strategy for his/her CSR. For a better decision which leads to a better CSR design, tow issues are important:

Appropriateness: it should be fit to both the purpose of the research and the phenomenon of inquiry; to fulfill this issue, the researcher has to know how to sample the case studies. (Kuzel, 1999; Miles and Huberman, 1994; Patton, 1990)

Adequacy: it is related to how many cases are enough. In this regard, Kuzel (1999) suggested a flexible selection of the cases in addition to saturated information of evidence and a rich explanation of the cases. Saturation is a subjective concept and from the CSR's view can be interpreted by means of the theoretical framework and the research purpose (Shakir,2002).

Yin (1994) defined selection strategies for the single case and multi case which are referred by number of reviewed literature… Shakir (2002) based on the (Patton, 1990, pp.182-183)) provided a framework of different sampling and their strategies cluster. These strategies will be matched in the framework of this study.

3.2 CSR theory spectrum

In the reviewed literature, there are various views and descriptions of the CSR theory, however, the most abstract but comprehensive one from this study view is declared by (Corley and Gioia 2011: 12). ‘‘… theory is a statement of concepts and their interrelationships that shows how and/or why a phenomenon occurs’’. According to this definition, we can have an imagination of the relationship of each element of the theory and the observed phenomena (image-1).

As it is depicted, theory comprises three basic elements (Alvesson and Ka¨rreman 2007; Bacharach 1989; Dubin 1978; Kaplan 1998; Suddaby 2010; Weick 1989, 1995; Whetten 1989)

Concepts and constructs: “concept” is more general and descriptive while” construct” is more specified and operational. (Gioia et al., 2013; Ridder, 2017)

Relationships between concepts or constructs: the underlying how and whys for explaining or predicting the behavior of a specified set of phenomena (Weick, 1995)

Boundaries /setting (temporal and contextual) which affects the generalizability of the theory.

This theory cycle is described as a continuum than a product (Weick, 1995) or a process than an outcome (Gilbert and Christensen, 2005). This process will start with a careful description of phenomena, then classification in the similar phenomena category. After that, researchers can specify a model for the 3 elements of the theory i.t. what factors drive the phenomena and under what circumstances. The categorization scheme will assist the researchers in their predictions or confirmations. (Gilbert and Christensen, 2005).

Following Ridder (2017), we name this process as the “theory spectrum” since base on the three elements of the theory, the steps can become more inclusive or limited. This spectrum comprises 3statuses: Building, Developing, and Testing.

3.3 CSR theory-based design process

Eisenhardt 1989 illustrated a 6 steps process for CSR which includes: Start point(question), Selecting case (sampling), crafting Instruments and Protocols, Entering the field, Analyzing Data, Shaping Hypotheses, and Enfolding Literature. Although this process from the exploratory view is complete, for this research some of the steps will be omitted and the remainders will rephrase as Input, Sampling/ Research strategy, Data collecting and analytics, and Output.

The combination of the design process and the theory spectrum is depicted in Diagram 1, which is aimed to be a guiding framework for the theory-based CSR design. A researcher can apply a part of this spectrum or the whole parts of it, depending on the phenomenon and theory relations (Ridder, 2017).

Building

In this phase of spectrum, researcher has assumption of the phenomena (yin ) and s/he wants to creat a theory based on his/her interpretention. Respectively, the eliciting of concepts, relationships and priori constructs are crucial in defining the research strategy. Although Eisenhardt (1989) believes researchers should avoid to assume relation between variable and theories, Ridder (2017) admits the assumption defines the research focus area and possible priori construct provides a better grounding of construct measures (Ridder, 2017), (Eisenhart,1989). This exploration is aiming at the generating of the tentative theories. (Ridder, 2017). The research strategy is synced with an investigation of a new phenomenon, so the protocol will be detailed descriptions on the phenomenon existence (how and why) (Ridder, 2017).

The research question may stem from a research gap meaning that the research question is of relevance.

a broad and tentative research question with some preliminary variables at the outset.

. This design avoids any propositions regarding relationships.

For sampling, emerging status retains theoretical flexibility(Eisenhart,1989). In single case study researcher will expand constructs and relationships within a distinct setting (in-case analysis) while in multi case cross- analysis, s/he compares similarities and differences among cases case respectively the result of first is creating theory and the second advancing the theory by revealed emerging patterns. (Ridder,2017)In other language, assisting cross-case analysis, researcher can have a comparison on the identified mechanisms from each case to another to shape the theoretical conclusion (Vaughan 1992: 178). (Ridder,2017)

Cases are chosen for theoretical reasons: for the likelihood that the cases offer insights into the phenomenon of interest. Theoretical sampling (Ridder,2017)

multiple-case studies for a “broder exploration of a research question and theoretical elaboration” such as a more accurate or more generalizable theory-building because of stronger base or better grounded. However, for a rich description of a significant phenomenon (Siggelkow, 2007), single-case research can be a better option for exploration in a rare or extreme circumstances and uniqness would be an important option for its selection . ( Eisenhardt 2007)

**research question and possible constructs in this kind of research are tentative and may change during the study. However, the confirmation on the constructs as the research progresses, then researchers have a firmer empirical grounding for the emergent theory.**

**serendipitous findings. In these studies, the research focus emerged after the data collection had begun.** (Eisenhart,1989).

**Replication or** corroboration of propositions (Eisenhardt 1991). (Eisenhart,1989).

Data collection is based on triangulation (Ridder,2017)

Case study researchers usually triangulate data as part of their data collection strategy, resulting

in a detailed case description (Burns 2000; Dooley 2002; Eisenhardt 1989; Ridder 2016; Stake 2005: 454). (Ridder,2017)

The data collection for a case study is extensive and draws from **multiple sources** such as direct or participant observations, interviews, archival records or documents, physical artifacts, and audiovisual materials. (Williams,2007)

CSR is existentially (relating to the epistemological structure) oriented(Meredith et al.,1990). (Steenhuis- building theories)

Although having a controlled contextual conditions for collecting the data is impossible(ref) but the data inevitably is gathered in a specific setting (Walton, 1992, p. 122). (Ylikoski,2019) bounded by time and place during the CSR (Creswell, 1998) (Eisenhart,1989). Leedy and Ormrod (2001) (Williams,2007) . These theories have to be extended by boundaries considering time and space

Qualitative: For within-case and across-case analyses, the emphasis in data collection is on interviews, archives, and (participant) observation (Flick 2009: 257; Mason 2002: 84).

Data analysis is conducted via the search for within-case patterns and cross-case patterns. Systematic procedures are conducted to compare the emerging constructs and relationships with the data, eventually leading to new theory. (Ridder,2017)

data can lead to the identification of patterns and relationships, creating, extending, or testing a theory (Gomm et al. 2000). (Ridder,2017)

Data analysis is inspecting the emerging constructs within the case or across cases. Based on a priory constructs, systematic comparisons reveal patterns and relationships resulting in a tentative theory. (Ridder,2017)

**CSR can involve numerous levels of analysis (Yin, 1984). (** Eisenhart,1989)

We should consider a loop of learning for each case study**(** Eisenhart,1989) Creswell (1998) Wiliams (2007) or The iteration of theory and data (Ridder,2017)

*Conclusion*

Case studies are a valuable way of looking around us while it is capable of investigation a phenomenon in its real life context Yin (1994). So it is unnecessary to undertake this type of study in a laboratory with a specified setting. Ridder (2017)

This study seeks to uncover relevant sources for the aim of providing a literature review on Theory-based CSR types and the application conditions of each one with the intention of the increasing the awareness on this research approach for the interested researchers.

*This articles offers a valuable knowledge on theory building and fine-grained understanding of case studies aims in terms of their differential theory contributions.*

*that sheds light on the diversity of case study research designs*

*in the emerging all condition is explorative and everything from input, problem, to output, theory are tentative*

CSR can be based on any mix of quantitative and qualitative approaches. it uses multiple data sources including two or more of: direct detailed observations, interviews, and documents ((Steenhuis- building theories) or (Rowly,2002)

Although qualitative data are preferred in all of the designs, quantitative data are seen as a possible opportunity to strengthen cases by such data. Nevertheless, in ‘‘social construction of reality’’, there is a strong emphasis on thick descriptions and a holistic understanding of the case. This is in contrast to a more construct- and variable- oriented collection of data in ‘‘no theory first’’ and ‘‘gaps and holes’’. In addition, in contrast to that, the ‘‘anomaly’’ approach is the only design that receives data from dialogue between observer and participants and participant observation.

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