

CASE STUDY METHODOLOGY. FEW CONCEPTUAL CONSIDERATIONS

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Abstract:

The article contributes to the wide debate on the research methodology with case studies application. We describe particular paradigms and contexts that best argue the usage of case studies methodologies, putting special emphasis on the usage of cases for training and teaching purposes. This article contributes to the state of art, by setting a novel approach for case study preparation, ensuring some methodological rigors. Our approach combines usage of qualitative and quantitative methods, we focus on role of environment with determining specific process and their dynamics, completing the study with multi-level analysis of data.

Keywords: case study, methodology, innovation, qualitative research, case study structure.

1. Introduction

Case study approach as research methodology is broadly recognized as a useful tool of in-depth problem analysis, allowing for contextual thinking, combining both qualitative and quantitative methods, shedding light on the issues discussed (Fleetwood, S., Ackroyd, 2004; Easton, 2010). By some the adoption of case study as research method is criticized for its lack of conceptual background and theory-based approaches; however, on the contrary, many claim that this approach may be analogously rigorous, satisfy fundamental assumptions made in the analytical framework, finally providing essential implications for further analysis (Guba and Lincoln, 1994). This article is purely conceptual and is intended to provide basics of the case study as research method, situating it in a broader context of various scientific fields, analytical frameworks and empirical procedures. It briefly discusses the case study as a tool of research, giving the general idea of advantages of using this approach and giving the justification of its effective adoption on a variety of fields.

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2. Case study approach – conceptualization

From historical perspective, the first rise to case study approach as empirical method can be observed back to 30s of the XX century (Platt 1992). After the “silent” period right after the World War II, the consequent revival of the idea was coming back, being described as a useful method existing on the edge of qualitative and quantitative research, encompassing the logic of experimental kind. Presently, for approximately last 30–35 years, since 1980s, usage of different case studies is of growing interest on the fields on distinct disciplines, like i.e. medicine, economics, management, political sciences or urban planning. As the interest of case studies implementation has been brought by many disciplines and the importance of bringing clarity to the generic concept was urgent (Yin, 2003b). On that needs, there emerged a massive literature on conceptualization and clarification of the case study idea. However, the literature on the issue is numerous, a kind of ambiguity of concepts still stays. Lack of large consensus on the structure, building methods or i.e. units of analysis (see Winegarder 1998, Yin 1994, Simons 1996). It is widely thought that this is mainly to some unique features of case studies, their multifunctionality and multidimensionality. On the field of economic sciences, the definition of case study appears to be fuzzy. It relies on assumed axioms, researcher’s perception and discipline. In literature we can find a wide approach for case study identification. “(...) we have an “anything goes” approach as long as it is static by nature and as long as it cannot be characterized by an experiment, a survey, or a historic study” writes Merriam (Merriam 1998)². By others, case study is perceived as a unique research strategy, which allows for deep and detailed understanding of the problem (Eisenhardt 1989, Yin 1989). According to Yin (2010), a case study can be defined as “an experimental inquiry that investigates a contemporary phenomenon within its real-life context”. Yin (Yin 2010), also underlines that the boundaries of the phenomenon does not have to be clearly set, and the use of multiple sources of information for case study building is highly desirable. Another seminal author on case studies, Eisenhardt (Eisenhardt 1989, 1991), stress that case study is “an intensive study of a single case where the case consists of individuals, groups and social structure (...)” (Eisenhardt 1989, p. 534). He also notifies that case study as research method is highly valuable when a researcher aims to capture the dynamics of some process within and among set environments (Eisenhardt, 1989). He proposes that case study shall employ a multi-level data collection method, including interviews, reports, archival data analysis, observations.

Case studies as research method are designed to fulfill wide array of aims. According to Yin, the case studies can be classified as exploratory, explanatory and descriptive ones. Again Eisenhardt (Eisenhardt 1989), stresses the role of case stud-

² Cited from Grünbaum N.N. (2007). Identification of ambiguity in the case study research typology: what is a unit of analysis? *Qualitative Market Research: an International Journal*, Vol. 10, No. 1, Emerald.

ies on building or testing already existing theories. In works of Glaser and Strauss (1967), Stake (1994), Kjellén and Söderman (1980), we find additional role of case studies i.e. in projects evaluation, examining the company's condition, or assessing implemented strategies. Yin (Yin 2003a) concludes on special usefulness of case studies in social sciences, sociology, community studies, marketing, innovation change, strategic planning etc.

A common criticism of case studies as research method is because case studies are broadly perceived as atheoretical (Stoecker 1991, Platt 1992, Gerring 2006, Stake 2013), area-specific and not following strictly defined procedures (Yin 1981). It constitutes a significant weakness of case studies as research method. According to Gilgun (Gilgun 1994), Ghauri and Grønhaug (Ghauri, Grønhaug 2005) case studies are classified as weak approach in empirics, which contain un-confirmable conclusions.

As case study approach, for years has been criticized and treated as the research method of "last resort" (Xiao, Smith, 2006), it has caught the attention of methodologist. Following Stoecker (Stoecker 1991), the case study as research method was unnecessary maligned. Also in the works of i.e. Campbell (1975), Yin (1981), Gummesson (1991) or Rose (1991), valuable notes on case study importance as research method can be found. Also Gilgun (1994) defends case study as research method, underlying its "undoubted theoretical and methodological qualities" (Xiao, Smith 2006).

In the light of the previous, the methodological rigor in case study building methodology is of crucial importance. At a time there is a need to define priorities for general aims and scopes in case study building methodology. Developed case studies shall be of high quality, and need to have a few crucial advantages like "novelty, testability and empirical validity" (Cutler 2004). The reliability of empirical evidence of that kind especially matters when we assume that selected case studies shall constitute solid ground for future theory building, or alternatively be used in training and education process.

On the ground of social sciences, general four types of case studies can be clearly distinguished. The most popular and widely used are "teaching cases" (Yin, 1994), which are build strictly for training and educational purposes. These are usually a kind of "positive" cases and could also be classified as "good practices". Teaching cases are run among students mainly to enhance further discussion, and promote creative thinking and finding innovative solutions. Another type of case studies can be identified as "case histories", which are commonly applied for a wide array of purposes on the fields of law, or i.e. medicine (Cutler, 2004). The third type of case studies, defined by Merriam (Merriam, 1985), are "case work", which are designed to describe "management of therapies following diagnosis" (Cutler, 2004). Finally, we meet the last type of case study – this would be "research case". The last type of case, is relatively commonly used by professionals and scholars. Research cases are generally prepared to investigate a whole set of distinct activities, to seek

for complex relations among actors, networks etc. That kind of cases requires high professional skills to be properly designed and accomplished. Methodological framework in preparation and usage of research cases seems to be of crucial importance. While preparing the “good” research case study, one should keep in mind, that the case shall be easily to evaluate by the following criteria (Yin, 1994): construct validity (requires usage of multiple resources of data, establishing causal chains among process and/or phenomenon), internal validity (shall encompass well-documented pattern matching, explain the process), external validity (shall appear to be useful for multiple receivers, shall be replicable) and reliability (shall contain full datasets applied in the study). The four criteria listed above, in the literature are often treated as four principle for preparation valuable and reliable research case study.

From scientific perspective, certain methodology of case study design and structure is fully associated with epistemological foundations and research approaches. The scientific foundations for investigations are base on four general theoretical paradigms. These are: positivism, critical theory, constructivism and realism. Following the Easterby-Smith and Remenyi et al. (see Easterby-Smith, 1991; Remenyi et al., 1998), the positivist approach for doing research using case study methodology, assumes adoption of qualitative methods in the study. Data are usually collected being remote from the natural phenomenon and its environment, the researcher’s aim it is not to seek for causal relationships. According to the approach, the case study shall rather show the process or phenomenon objectively, and shall not be judged by subjective views. From social science perspective, the criticism approach does not suit well its requirements and does not fulfill its expectations. Contrariwise, the following three approaches seem to meet these assumptions. The critical theory approach fits social realities, seeks for long-term causalities, determinants of social transformations, putting the emphasis on history, socio-economic structures, organizational process. Constructivism paradigm (Anderson et al., 2003) does not seek for external reality in relation to the phenomenon, but it rather concentrates on the “inner” side of it. It is based on individual perceptions, at a time putting special stress on detecting interactions among individuals. Finally, the realism approach (see Susman and Evered, 1978; Perry, 2000), alternatively named interpretative approach, is based on the assumption that each process or phenomenon they are caused by some external causes which shall be tracked, identified and described. Such approach is used to let us for deeper and better understanding of broadly perceived environment, encompassing features of both positivism and constructivism approaches. Bhaskar (2013) argues that the main advantage of the realism approach is that thought the latter we gain better and deeper understanding of external world, on mechanisms, realities it faces.

The presented above general considerations on the broad usage of case study as research method have clarified several issues associated with the latter, and showed its major advantages and threats that go along with its adoption. The consecutive

section is designed to shed light on few seminal aspects which shall be born in mind when using the case study procedure in the research.

3. How to use effectively case study in analytical procedures?

A case study as may be well defined as a unique and short story telling us more on the special characteristics about events, organizations, companies, individuals or any other entities considered. Case study provides the researcher ‘the story’ which lies behind, giving the deep insight into the processes, causally related issues, creating solid background for drawing valid conclusions and recommendations. Even though that the conclusion derived from a certain case study is poorly generalizable or prone to overgeneralization, and the study itself lacks the rigor, many claim it is the best way for knowledge acquisition (Rees and Porter, 2002; Grünbaum, 2007). However, if case studies are to be a powerful tool of analysis; they should be prepared ensuring its appropriateness, and so it offered the reader an interesting and unique story. Basically the well prepared case study, shall be based on solid and logically structured foundations, combining, inter alia: forming a research question properly, focusing both on historical and contemporary data and information, deriving data from reliable sources (Lehtonen and Seppala, 1997), ensuring its high-quality descriptiveness, being inductive or explanatory (not the combination of both). Additionally a good case study shall validate (Greenawalt, 1994), confirm and eventually falsify a tested theory (Wright, 1996; Yin, 2003a).

The Table 1 (see below) demonstrates different perspectives for preparing a ‘good’ case study, showing its major advantages and constrains.

Table 1. What is a good case study?

Research	Main findings
D. J. Gouws, <i>Research with a View to Implementation</i> and <i>Case Studies in Research with a View to Implementation</i> , Human Sciences Research Council, Pretoria, South Africa, 1994.	<ul style="list-style-type: none"> – the problem of analysis shall be well and precisely defined; – the team work is of great importance, recognizing different abilities and perspectives, as well as knowledge apart from the scientific/technical; – the researcher shall be action-oriented, with continuous monitoring, feedback, and planning based on experience; – the researchers are to take personal initiative and assume personal responsibility for the success of their implementation projects

continued Table 1

Research	Main findings
Gerring J., Kingstone P., Lange M., Democracy, History and Economic Performance: a case –study approach; World Development, Vol. 39, No. 10, 2011	<ul style="list-style-type: none"> – choose the object of analysis adequately; – set the problem well to explain it theoretically; – choose the object that fulfills the criteria, chose the best next company to describe the issues; – try to identify a complex set of criteria to describe the issue; – try to answer the question “why” and “how”
Wilson E., Vlosky R., Partnering Relationship Activities: building theory from case study research; Journal of Business Research 39, 59–70 (1997)	<ul style="list-style-type: none"> – case study as „a research strategy which focuses on understanding the dynamics present within single settings”; – set research questions; – define type of a company we wish to describe
Easton G., Critical realism in case study research, Industrial Marketing Management 39 (2010), p. 118–128	<ul style="list-style-type: none"> – decide what unusual phenomenon the case reveals; – “Indeed the case study is probably best understood as an ideal type rather than a method with hard and fast rules. Yet the fact that the case study is fuzzy round the edges does not mean that it doesn’t have distinctive characteristics” (Gerring, 2004); – deal with the problem that usually a key constraint for case study methodology is the lack of statistical representativeness; – the single case study shall worth on its own and thus shall be prepared adequately ensuring reliability and complexity; – writing case studies shall involve a wide set data, present holistic approach and use iterative research process
Beverland M., Lindgreen A, What makes a good case study? A positivist review of qualitative case research published in Industrial Marketing Management, 1971–2006; Industrial Marketing Management 39 (2010)	<ul style="list-style-type: none"> – perceive case studies as an explanation of the problem set and try to provide the generalization, even it is weak

continued Table 1

Research	Main findings
M. Barratt, Th. Y. Choi, M. Li; Qualitative case studies in operations management: Trends, research outcomes, and future research implications; <i>Journal of Operations Management</i> 29 (2011)	<ul style="list-style-type: none"> – use a case study when practice does not go along with the theory; – treat case study as preliminary analysis and try to develop new theory based on the latter; – according to data collection methods: “interviews either structured (interview tool remains fixed) or semi-structured (interview tool is updated based on emerging data), observations (e.g., plant tour, attendance at meetings), and archival sources (e.g., documents, historical records, organizational charts, and production statistics).“ – “The case study must begin with an existing theory for the development of research hypotheses; a systematic and logical research design should be followed; and researchers should implement evaluation criteria to independently assess potential biases and to ensure the methodological rigor.“
A. Halinen, J. Å. Törnroos; Using case methods in the study of contemporary business networks; <i>Journal of Business Research</i> 58 (2005)	<ul style="list-style-type: none"> – case study is specific research strategy, and thus shall be implemented carefully; – real life context is needed; – many-sided view and describe the context of the situation, and thus the main value lies in the latter
K. Callan, C. Siemieniuch, M. Sinclair; A case study example of the role matrix technique; <i>International Journal of Project Management</i> 24 (2006)	<ul style="list-style-type: none"> – case studies shall strictly identify human roles; – case studies shall be based on the so-called matrix technique

Source: Author’s compilation

Table 1 explains several claims which have been raised according to the preparation of ‘good and adequate’ case study. The authors underline the importance of well-defined target of the study, emphasizing that the latter determines the consecutive empirical procedures and methods applied. In addition the object of the analysis shall be defined precisely, which allows for setting right questions on how and why in targeting the main aim of the research. Further the material in Table 1, explains more issues to be considered while preparing the case study, which shall ensure its reliability and validity as research method. Obviously, the undefined and unstructured case studies lacking its main logic of analysis and well-defined contents reveal as inadequate and thus useless. Henceforth it is easy and plausible to argue that the case study as research method, being interdisciplinary in nature, provides

broad ground for in-depth analysis proposing novel solutions to the ‘old problems’, only is the elementary coherence of its construction is ensured.

4. Summary

Broad adoption of case study methodology offers the researcher wide perspective of analysis, enriching elementary findings and ensuring the in-depth look at some specific features of the issues examined. Using the case study procedure may contribute essentially to the quality of the research (Wilson and Vlosky, 1997), allowing formulating conclusion based on real-life observations. Case study methodology may be also perceived as additional, or – contrary – alternative research procedure, depending on the base theory and assumed empirical targets. Bearing in mind that case study research may provide the researcher some philosophical aspects, it does not always give the ‘correct answer’, as this approach is based on multiple assumptions at certain level of acceptance. To sum up, the case study methodology is a prevalent method, unveiling interesting results and some usual phenomenon, despite its several shortcomings discussed throughout the article.

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Summary

Artykuł stanowi wkład do debaty prowadzonej w literaturze rozważań metodologiczno-teoretycznych dotyczącej metodologii prowadzenia badań naukowych z wykorzystaniem studium przypadku. Przedstawione zostały poszczególne konteksty oraz paradygmaty związane

z badaną tematyką, które nawiązują do wykorzystania metodologii studium przypadku, ze szczególnym naciskiem na ich zastosowanie w celach szkoleniowych i związanych z nauczaniem. Wkład artykułu w rozszerzenie obecnego stanu wiedzy polega na wyznaczeniu nowatorskiego podejścia do przygotowania studium przypadku, zapewniającego zachowanie określonych wymogów metodologicznych. Prezentowane w artykule podejście łączy wykorzystanie metod jakościowych i ilościowych, ze szczególnym uwzględnieniem roli otoczenia wraz z określeniem specyficznych procesów i ich dynamiki, na poziomach stanowiących tło dla analizy studium przypadku.

Słowa kluczowe: studium przypadku, metodologia, innowacja, badania jakościowe, struktura studium przypadku