PRODUÇÃO CIENTÍFICO-TECNOLÓGICA NA ÁREA DE ADMINISTRAÇÃO 2

CLAYTON ROBSON MOREIRA DA SILVA
(ORGANIZADOR)

Atena Editora
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contato@atenaeditora.com.br

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APRESENTAÇÃO

A obra “Produção Científico-Tecnológica na Área de Administração 2”, publicada pela Atena Editora, compreende um conjunto de dezessete capítulos que abordam diversas temáticas inerentes ao campo da administração, promovendo e ampliando o debate científico-tecnológico nesta área. Dessa forma, esta obra é dedicada àqueles que desejam ampliar seus conhecimentos e percepções sobre diferentes assuntos que permeiam a literatura sobre administração. A seguir, apresento os estudos que compõem os capítulos deste volume, juntamente com seus respectivos objetivos.

O primeiro capítulo é intitulado “Dilemas Éticos na Perspectiva de Discentes de Graduação em Administração de uma Universidade Pública: a ambiguidade moral em cena” e objetivou investigar o ponto de vista de discentes de graduação em administração acerca da noção de moral e de ética. O segundo capítulo tem como título “Uma Análise dos Fatores Determinantes do Desempenho dos Alunos dos Cursos Superiores em Administração do Distrito Federal” e teve como objetivo principal a identificação dos fatores determinantes do desempenho dos discentes dos cursos de administração do Distrito Federal. O terceiro capítulo, intitulado “Análise da Competência Docente em uma Instituição de Ensino Superior”, objetivou investigar o impacto das dimensões da competência docente de uma Instituição de Ensino Superior (IES) localizada na região nordeste do estado do Rio Grande do Sul/RS.

O quarto capítulo é intitulado “Impacto do Estágio Pós-Doutoral Percebido nas Atividades da Pós-Graduação: desenvolvimento e validação de questionário escalar de aferição” e relata a experiência de construção de um questionário. O quinto capítulo tem como título “Recomendações sobre o Método donEstudo de Caso para Pesquisadores Iniciantes” e aborda questões-chave na condução de um estudo de caso de qualidade. O sexto capítulo é intitulado “Panorama das Dimensões de Avaliação de Desempenho no Contexto da Inovação Social” e buscou identificar as principais abordagens utilizadas nos estudos sobre avaliação de desempenho no contexto da Inovação Social.

O sétimo capítulo tem como título “Assédio Moral em uma Instituição do Poder Judiciário do Norte do País” e é parte de um estudo que buscou caracterizar quantitativamente os casos de assédio moral, tipos, formas, frequência, duração e se o adoecimento da vítima está ligado a este fenômeno em um órgão do Poder Judiciário de um Estado no Norte do País. O oitavo capítulo é intitulado “Fatores Intervenientes no Trabalho em Equipe: um estudo de caso com colaboradores da administração de um shopping no Sul do Brasil” e objetivou identificar se os colaboradores de um shopping, no sul do Rio Grande do Sul, se sentem inseridos em um grupo ou em uma equipe no setor administrativo em que atuam. O nono capítulo tem como título “Planejamento Estratégico: desafios de implementação e habilidades fundamentais dos gestores” e objetivou identificar a origem do planejamento estratégico, suas diferenças com a metodologia anterior, plano de longo prazo, os desafios para sua implementação e as

habilidades fundamentais que o gestor organizacional deve possuir para assegurar o sucesso da implementação do plano estratégico.

O décimo capítulo é intitulado “Consequências da Crise Hídrica na Produção de Leite dos Produtores Rurais e os Impactos Causados ao Laticínio Bimbo da Cidade de Afonso Cláudio-ES” e objetivou determinar a influência da crise hídrica na bacia leiteira da cidade de Afonso Cláudio no estado do Espírito Santo, avaliando a entrega do produto no laticínio Bimbo. O décimo primeiro capítulo tem como título “Os Desafios da Indústria 4.0 para o Brasil” e teve como objetivo buscar na literatura estudos que possam trazer contribuições para o enfrentamento de alguns desses desafios. O décimo segundo capítulo tem como título “Energia Solar: uma fonte de energia alternativa e sustentável para uso privado no Brasil” e objetivou avaliar se a energia solar pode ser utilizada como fonte de energia alternativa e sustentável para uso privado e residencial no Estado de São Paulo.

O décimo terceiro capítulo, intitulado “O Comércio de *Food Trucks* como Oportunidade de Negócio em Tempos de Crise”, objetivou analisar as práticas de controles contábeis e financeiros dos microempreendedores que estão localizados na cidade de Rondon do Pará. O décimo quarto capítulo é intitulado “Os Indicadores Contábeis como Ferramenta de Análise Gerencial: um estudo das empresas revendedoras de combustíveis na cidade de Santa Margarida/MG” e objetivou demonstrar a importância de estabelecer um planejamento nas entidades, como também adotar mecanismos de controle viabilizando seu melhor desempenho, além de expor como tais métodos influenciam nos resultados encontrados através da Análise das Demonstrações Contábeis. O décimo quinto capítulo tem como título “Fatores Determinantes para Formação e Sobrevivência de um Cluster de Conhecimento: um estudo de caso a partir das pequenas empresas de base tecnológica” e buscou ampliar a compreensão a respeito dos fatores que afetam o processo de desenvolvimento e sustentação de um cluster de conhecimento, com o intuito de contribuição para identificação de novos constructos que possam colaborar para o melhor entendimento da dinâmica desse processo.

O décimo sexto capítulo é intitulado “A Administração Eclesiástica: estudo de caso da primeira Igreja Batista de Jaciara/MT” e buscou pesquisar se a gestão administrativa no contexto da Primeira Igreja Batista em Jaciara/MT preenche positivamente sua vocação organizacional numa perspectiva gerencial visto que a Igreja é, ao mesmo tempo, organização e organismo. O décimo sétimo capítulo tem como título “A Influência da Hospitalidade e das Diretrizes Organizacionais no Atendimento da Hotelaria” e objetivou analisar as influências da Hospitalidade e Diretrizes Organizacionais sobre o Atendimento na hotelaria.

Assim, agradecemos aos autores pelo empenho e dedicação que possibilitaram a construção dessa obra de excelência, e esperamos que este livro possa contribuir para a discussão e consolidação de temas relevantes para a área de administração, levando pesquisadores, docentes, gestores, analistas, técnicos, consultores e

estudantes à reflexão sobre os assuntos aqui abordados.

Clayton Robson Moreira da Silva

SUMÁRIO

CAPÍTULO 5

RECOMMENDATIONS ON THE CASE STUDY METHOD FOR BEGINNER RESEARCHERS

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João Henrique Lopes Guerra
Faculdade de Gestão e Negócios – Universidade Federal de Uberlândia (UFU)
Uberlândia – MG
http://lattes.cnpq.br/8082203656060484

ABSTRACT: The qualitative researches are growing in relevance and diffusion, especially case studies. But an important concern on this research strategy has been discussed in the literature: the lack of rigor. Aiming to assist the beginner researchers and based on a comprehensive literature review supported by recognized journals and researchers, this chapter addresses key issues in conducting a quality case study. More experienced researchers must advise the beginners on the importance of rigor in conducting a scientific research. It is hoped that the issues addressed in the text can contribute to the understanding of the beginner researchers about the method and foster in them the concern to put these issues into practice, as well as the desire to deepen the knowledge on the subject.

KEYWORDS: Case study. Research rigor. Qualitative research.

RECOMENDAÇÕES SOBRE O MÉTODO DO ESTUDO DE CASO PARA PESQUISADORES INICIANTES

RESUMO: As pesquisas qualitativas estão crescendo em relevância e difusão, especialmente os estudos de caso. Entretanto, uma preocupação importante sobre essa estratégia de pesquisa tem sido discutida na literatura: a falta de rigor. Visando auxiliar os pesquisadores iniciantes e baseado em uma extensa revisão da literatura suportada por periódicos e pesquisadores reconhecidos, este capítulo aborda questões-chave na condução de um estudo de caso de qualidade. Os pesquisadores mais experientes devem aconselhar os iniciantes sobre a importância do rigor na condução de uma pesquisa científica. Espera-se que as questões abordadas no texto possam contribuir para a compreensão dos pesquisadores iniciantes sobre o método e fomentem neles a preocupação em colocá-las em prática, bem como o desejo de profundar o conhecimento sobre o assunto.

PALAVRAS-CHAVE: Estudo de caso. Rigor da pesquisa. Pesquisa qualitativa.

1 I INTRODUCTION

As the case study method has “no particular disciplinary orientation”, its scope of application is broad: social science, applied science, business, fine arts and humanities, among others (VanWYNSBERGHE; KHAN, 2007, p.81). Its importance is recognized in different areas (EISENHARDT, 1989; MEREDITH, 1998; EISENHARDT; GRAEBNER, 2007; BARRATT *et al*., 2011; THOMAS, 2011; TSANG, 2014).

Csillag, Martins and Primo (2012) highlight the growth of this method in some of the leading international journals, such as the Journal of Operations Management (JOM) and the International Journal of Operations and Production Management. Paiva and Brito (2013, p.62) seem to share the same opinion: “recently, a movement has been identified by leading American academic journals to publish research using qualitative methodologies including case studies”.

The growing number of case studies published in high impact journals should be celebrated by qualitative researchers and is a source of motivation for beginner researchers. However, an important concern has been discussed in literature: the case study rigor. For Csillag, Martins and Primo (2012), it is undeniable the importance of qualitative research, especially the case studies; but researchers who adopt this method need to invest in more rigorous methodological procedures. The editor of the renowned JOM, Professor Tom Choi, notes that “there is still little rigor in applying the case study method” (see CSILLAG; MARTINS; PRIMO, 2012, p.381). Barratt *et al*. (2011) have observed in many papers adopting this method that insufficient information is provided on research design, data collection and analysis.

Several other researchers discuss the concern about the quality of case-based study (see: MEREDITH; SAMSON, 2002; DUBOIS; ARAUJO, 2007; SEURING, 2008; PIEKKARI; PLAKOYIANNAKI; WELCH, 2010). It is important to recognize, however, that this concern is not restricted to the external context or the most influential journals. For example, the results of the study by Cesar *et al*. (2010, p.42) revealed that “the case study method has been used without methodological rigor, especially in Brazil”. Lima *et al*. (2012, p.127) state that the quality of the case study method “has been discussed because of the lack of methodological rigor and research design, which reduces the advantages of this strategy and the validity of the study”.

Care with research rigor must follow the researcher from the beginning of his/her career. Aiming to contribute to beginner researchers, this text addresses key issues in conducting a quality case study. A literature review on qualitative research and the case study method is presented in the next section. Section 3 addresses the method. The key issues related to conduct a case study are discussed in section 4. Next, some final considerations are presented, followed by references.

2 I QUALITATIVE RESEARCH AND THE CASE STUDY METHOD

Ketokivi and Choi (2014, p.233) affirm that it is common for qualitative research to be defined by negation, that is, as what quantitative research is not: “whatever is not quantitative is qualitative”. Another undue way to differentiate these researches is to assert that the quantitative deals with numbers, whereas the qualitative deals with speeches and texts. Given that it is possible for a qualitative study to use quantification, it is not the nature of the data that determines whether a study is qualitative or quantitative, but its “theoretical orientation” (KETOKIVI; CHOI, 2014, p.233): while quantitative research “examines concepts in terms of amount, intensity or frequency”, the qualitative “examines concepts in terms of their meaning and interpretation in specific contexts of inquiry”.

Qualitative research is particularly suitable for understanding the “open systems” existing in the social sciences: systems that are influenced by their context and are not easily reproduced in a controlled environment, such as a laboratory (DUBOIS; ARAUJO, 2007). “Qualitative studies take place in a real social world and can have real consequences in people’s lives” (MILES; HUBERMAN; SALDAÑA, 2014, p.311).

The case study is one of the qualitative approaches available. This method has its roots in the field of social sciences (VOSS; TSIKRIKTSIS; FROHLICH, 2002) and over the last decades has received many definitions (VanWYNSBERGHE; KHAN, 2007), among which the following: “a case study is 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” (YIN, 2009, p.18).

The case can be a person, a classroom, an institution, a program, a policy, a system, a process (SIMONS, 2009). In studying a case it is necessary to consider the “temporal and contextual aspects” because they are necessary “to understand the how and why elements of the phenomenon” under investigation (MEREDITH, 1998, p.443). A striking feature of the method is its flexibility to combine different sources (McCUTCHEON; MEREDITH, 1993; VanWYNSBERGHE; KHAN, 2007) and types of data (EISENHARDT, 1989; DUBOIS; GIBBERT, 2010) and even use other methods within the same study (MEREDITH, 1998; SIMONS, 2009; THOMAS, 2011).

Case studies can be classified in different ways (see THOMAS, 2011), depending on their characteristics: if the study considers one (single case) or more cases (multiple cases), if the case is analyzed in a specific period (cross-sectional) or over time (longitudinal) (for more details, see: YIN, 2009; HERMANOWICZ, 2013; TSANG, 2014). An additional classification takes into account the research objective: although the most common is to generate or test theory, there may be other objectives (SEURING, 2008; YIN, 2009; KETOKIVI; CHOI, 2014).

An important difference between quantitative and qualitative methods involves the concept of generalization (DUBOIS; ARAUJO, 2007), that is, “(...) the extent to which

findings drawn from studying one group are applicable to other groups or settings (...)" (McCUTCHEON; MEREDITH, 1993, p.246). There are two types of generalization. "For empirical generalization, a large, random sample often justifies generalizing from the sample to the population from which the sample was drawn" (TSANG, 2014, p.372).

> A common type of empirical generalization is statistical generalization, which occurs when a researcher observes a characteristic of a sample of a population (say, that 25% from a sample of foreign firms in Tokyo hire local Japanese as their CEOs) and then infers that the population itself has that characteristic (say, that 25% of all foreign firms in Tokyo hire local Japanese as their CEOs, within a margin of error). (TSANG, 2014, p.371)

This type of generalization is widely used in quantitative research. In qualitative studies, the "analytical generalization" (or "theoretical generalization", TSANG, 2014) is used: "(...) a process separate from statistical generalization in that it refers to the generalization from empirical observations to theory, rather than a population (...)" (DUBOIS; GIBBERT, 2010, p.132). In the example about foreign firms in Tokyo, the researcher could develop a theory to explain this phenomenon based on a set of variables; the theory would try to explain what happens in Tokyo or even in Japan (TSANG, 2014).

3 I METHOD

Based primarily on Scopus and Web of Science scientific databases, a comprehensive literature review was performed. Although more recent articles were considered, the main focus was (due to the objective of this study) the most recognized and cited articles on the case study method, obtained from relevant academic journals. After selecting articles based on this criterion, a content analysis was then carried out aiming to identify, understand and organize the information. Some key issues related to the case study method were identified. After that, the information was coded (CORBIN; STRAUSS, 2015) according to these issues. The comparison of the information of a same code allowed to capture its meaning, generating interpretations. Other interpretations were obtained by comparing the codes. The next section was divided into parts and each contained a set of these interpretations.

4 I IMPORTANT ISSUES TO CONDUCT A CASE STUDY RESEARCH

This section brings some very important questions that a qualitative researcher should consider when conducting a case study.

About the researcher (or team)

"(...) Case-based research is not for everyone" (STUART *et al.*, 2002, p.427-428). This method requires researchers to have some skills that include knowing how to interview people, analyzing qualitative data *etc*. (MASON, 2002; STUART *et al.*, 2002). Before starting the study, the researchers should carry out a self-criticism and evaluate if they already have the necessary competences or if they should ask for help from other researchers. This is an ethical question (MILES; HUBERMAN; SALDAÑA, 2014) that represents a commitment to the research quality.

The budget issue often imposes restrictions on the allocation of resources for the development of a study, but the literature recognizes the advantages of using more than one researcher at different research steps, such as collection (McCUTCHEON; MEREDITH, 1993), coding (WESTON *et al.*, 2001; CRESWELL, 2007) and data analysis (GIOIA; CORLEY; HAMILTON, 2012; BOEIJE; WILLIS, 2013; WILLIS; BOEIJE, 2013). This strategy is a form of data triangulation, a concept discussed later. Eisenhardt (1989) defends that multiple investigators enhance the creative potential of the study (because they represent different analysis perspectives and often have complementary insights) and the convergence of observations enhances confidence in the findings (while conflicting perceptions prevents premature closure). Of course, they must have a common understanding of various aspects of the study (the research problem, objectives and steps) and adopt standardized procedures (for data collection and analysis, for example).

The research database

A case study usually encompasses a large volume of data (EISENHARDT, 1989; McCUTCHEON; MEREDITH, 1993). Therefore, as soon as possible, it is recommended (STUART *et al.*, 2002; YIN, 2009; GIBBERT; RUIGROK, 2010) to use a database to store and organize all data. This will facilitate the access of the persons involved and, at the same time, preserve secrecy and confidentiality when necessary or required. A portable external hard drive is a good option. Risks should be avoided through the routine of backing up data with a regular frequency.

The theory and the research question

One of the study starting points is the selection (and understanding) of the theory that will underpin the research. "(...) All research is based on theory" (FLYNN *et al.*, 1990, p.250); "there is always some relevant literature to refer to" (VOSS; TSIKRIKTSIS; FROHLICH, 2002, p.216). In a study aimed at theory testing, the researcher selects the theory that will be tested or from which the hypotheses to be tested will be derived (JOHNSTON; LEACH; LIU, 1999; BITEKTINE, 2008; KETOKIVI; CHOI, 2014; TSANG, 2014). In a research aimed at theory generation, existing theories

will provide, for example, the initial constructs and frameworks (WESTON *et al.*, 2001; DUBOIS; GIBBERT, 2010). When conducting a study, the researcher must expand their boundaries: other fields can provide relevant theories to the study (McCUTCHEON; MEREDITH, 1993; STUART *et al.*, 2002).

Even at the beginning of the study, it is important to define the research question, although it may be revised later (as new information or insights arise); this flexibility is an advantage of the case study method. An initial question helps to establish a well-defined focus for research. Without this focus, the researcher runs the risk of being overwhelmed by the volume of data (EISENHARDT, 1989). The research question can be derived from existing theories (JOHNSTON; LEACH; LIU, 1999; WESTON *et al.*, 2001), from literature (EISENHARDT; GRAEBNER, 2007) or from a conceptual framework (VOSS; TSIKRIKTSIS; FROHLICH, 2002), for example. In the beginning, it is also important to determine whether the problem under investigation will involve theory testing or generation (FLYNN *et al.*, 1990). If the intention is to publish the study, it is essential to assess the originality and potential contribution of the question and the research objective. For example: to be convincing and worthy of interest, a study that simply seeks "little more than the description of a particular phenomenon" should involve "*a talking pig*" (that is, an essential and remarkable phenomenon) (SIGGELKOW, 2007, p.20).

Selection of method(s)

There must be consistency among the research question, the method selection and the data collection and analysis processes. In this context, Woodside (2010) draws attention to the so-called "law of the instrument", which refers to the tendency of researchers to select the tools they dominate most. Therefore, a question researchers should ask themselves (following the recommendation of MASON, 2002), at the beginning of a new study is: Am I certain the case study method is the most appropriate for the question under investigation? If you are sure of that, consider taking advantage of the case study flexibility and combining methods in the same study, including qualitative and quantitative (MEREDITH, 1998).

Selection of cases

One of the most important methodological decisions is the selection of cases that will be part of the study (DUBOIS; ARAUJO, 2007). Imagine a researcher who wanted to analyze the problems surrounding the relationship between telecommunication companies (mobile telephony) operating in Brazil and their suppliers. The researcher would almost instantly know which companies could be studied if the objective was to look at this question from the point of view of telecommunication companies (there are few such companies in the country). However, the same question examined from the suppliers' point of view would expand the possibilities for a universe of hundreds or

thousands of organizations very different from each other and geographically dispersed. To avoid this obstacle, the researcher would have to adopt some criteria to select one or more suppliers.

Note that the study focus directs the selection of cases: the analysis point of view and the criterion for choosing the firms would depend on the research question and objectives. Therefore, when the research has a clear and well-defined focus, the selection of cases is facilitated. Then, notice that the researcher should opt for a single case study or multiple cases. If the researcher decided to develop the study from the point of view of the telecommunication companies, the research would probably still be of great interest if a single case were studied, considering the importance and singularities of this type of company. Yin (2009, p.47-49) calls these special cases, which alone justify a research, as “critical”, “unique”, “representative” or “revelatory” cases. However, while it is possible to generate theory or test a hypothesis through a single case (FLYNN *et al*., 1990; STUART *et al*., 2002), in general the use of more than one case will strengthen the results and conclusions of the study (EISENHARDT, 1991; EISENHARDT; GRAEBNER, 2007; MILES; HUBERMAN; SALDAÑA, 2014; TSANG, 2014). Furthermore, multiple cases favor the generalization of findings. In research that tests hypotheses (TSANG, 2014): “cases that contradict the hypotheses derived from the theory constitute a result of falsification, which helps to establish the boundary conditions of the theory” (p.379); “(...) a multiple-case design is in a better position than a single-case design to show how far a disconfirming finding is a widespread phenomenon” (p.376).

In research that generates theory, multiple cases allow the findings obtained in a case can be compared with other cases. This process involves replication and extension: “replication simply means that individual cases can be used for independent corroboration of specific propositions. (...) Extension refers to the use of multiple cases to develop more elaborate theory” (EISENHARDT, 1991, p.620). Therefore, it is possible to identify more clearly what represents a pattern among cases, separating from what is simply an idiosyncrasy of any of the cases (EISENHARDT, 1991; EISENHARDT; GRAEBNER, 2007; TSANG, 2014). Of course, this separation becomes more difficult when analyzing a single case. “(...) Theory building from multiple cases typically yields more robust, generalizable, and testable theory than single-case research” (EISENHARDT; GRAEBNER, 2007, p.27); “(...) a multiple case design provides a stronger basis for theoretical generalization than a single-case design. (...) When a finding is observed in more than one case, its generalizability is enhanced” (TSANG, 2014, p.374).

Considering that multiple case studies are generally more advantageous than single case studies, the question is how to choose cases in situations in which it is possible and desirable to study more than one case. It is imperative not to adopt a biased position, selecting cases because they support a particular theory or choosing a theory because it is supported by certain cases (BITEKTINE, 2008), for example.

At the same time, cases cannot be randomly selected (as they would in statistical generalization); in analytical generalization (see section 2) cases are chosen taking into account their theoretical relevance (DUBOIS; ARAUJO, 2007) and potential to contribute to the research objectives (STUART *et al*., 2002). Therefore, some cases are selected because they predict similar results (favoring the generalization of findings) while others are selected because they predict contrasting results based on anticipatable (known) reasons (establishing the boundary conditions of findings) (YIN, 2009; TSANG, 2014).

The researcher concerned about the research quality should consider some types of cases. The "negative (deviant) cases" are those that do not fit the pattern (CORBIN; STRAUSS, 2015), in which some outcome predicted by theory does not occur (EMIGH, 1997). The "polar types" represent extreme examples, such as cases of success and failure (EISENHARDT; GRAEBNER, 2007). These cases allow contrasting the patterns in the data (EISENHARDT; GRAEBNER, 2007), enriching the findings and leading to alternative explanations (McCUTCHEON; MEREDITH, 1993; CORBIN; STRAUSS, 2015). Identifying these cases at the beginning favors the research efficiency, but it is possible that they are not identified in the initial steps. One recommendation: as the association with a negative image (failure, for example) is undesirable for many companies, an alternative is to present anonymous data (SEURING, 2008).

Although resource availability and time constraints force researchers to plan the number of cases in advance (EISENHARDT, 1989), an accurate estimate can be difficult to obtain before data collection (but the following researchers provide some general information or guidance: EISENHARDT, 1989; MEREDITH, 1998; STUART *et al*., 2002; BARRATT *et al*., 2011). Therefore, an initial estimate should not be considered a goal: in the field, the researcher may find that more or fewer cases will be required, compared to what was originally planned. When to stop adding cases to research is a relevant question in this discussion. For Voss, Tsikriktsis and Frohlich (2002, p.210), "(...) the time to stop is when you have enough cases and data to satisfactorily address the research questions". The concept of "theoretical saturation" is a useful indicator: it is achieved when no new information or themes is gathered once additional cases or interviewees are included in the study (GUEST; BUNCE; JOHNSON, 2006; BOEIJE; WILLIS, 2013).

Data triangulation

Triangulation is a key concept that favors the quality of research (GIBBERT; RUIGROK, 2010). The term has its origin in navigation, military strategy and surveying (see BLAIKIE, 1991) and its use in the scientific field is linked to the "modus operandi" of detectives, doctors and other professionals. For example: to strengthen an accusation, the detective must gather different evidence pointing to the same suspect (MILES; HUBERMAN; SALDAÑA, 2014). In qualitative research, triangulation means that the

researcher should seek to diversify the sources of evidence and compare them with each other. The more convergence (corroboration) among them, the more robust the findings will be (EISENHARDT, 1989).

In a research, triangulation can be put into practice through the adoption of different researchers, theories, methods and data sources. The advantages of using more than one researcher in the same study were discussed earlier. Consideration of different theories can result in different interpretations of the same phenomenon, allowing the researcher to select those that are closest to the collected evidence (DENZIN, 1989). By combining methods the researcher can achieve the advantages of each and avoid their specific deficiencies (DENZIN, 1989).

Selection of data sources

The choice of cases that will be part of the study influences the selection of data sources. This selection is also influenced by the research focus: the sources should be able to provide evidence for the questions included in the questionnaire (JOHNSTON; LEACH; LIU, 1999) and ultimately answer the research question. One of the case study advantages is to accommodate a wide variety of data sources: interviews, academic literature, observations, documents, historical records, production statistics, survey data etc. (EISENHARDT; GRAEBNER, 2007; BITEKTINE, 2008; BARRATT *et al.*, 2011). Additionally, it allows adjustments (the addition of data sources, for example) when appropriate (EISENHARDT, 1989; BARRATT *et al.*, 2011). Data can be quantitative or qualitative, obtained from primary or secondary sources (McCUTCHEON; MEREDITH, 1993). When following a line of inquiry, the researcher must be supported by reliable data sources.

Selection of interviewees

It is not uncommon for a researcher to assume instinctively that the study will involve certain types of data, such as interviews (MASON, 2002). Therefore, in selecting data sources, it is critical that researchers be aware of their choices and gather arguments to support them. But, it is a fact that the interview is one of the main methods of data collection in qualitative research (MASON, 2002; GIOIA; CORLEY; HAMILTON, 2012; DENHAM; ONWUEGBUZIE, 2013). “Interviews are a highly efficient way to gather rich, empirical data, especially when the phenomenon of interest is highly episodic and infrequent” or “intermittent and strategic” (EISENHARDT; GRAEBNER, 2007, p.28).

The commitment to triangulation also influences the choice of interviewees: whenever possible, people from different areas and hierarchical levels should be selected from different organizations (McCUTCHEON; MEREDITH, 1993; WESTON *et al.*, 2001; EISENHARDT; GRAEBNER, 2007; PIEKKARI; PLAKOYIANNAKI; WELCH, 2010). Voss, Tsikriktsis and Frohlich (2002, p.206) recommend that “(...) the researcher

should be seeking multiple viewpoints particularly where there is likely to be subjectivity and bias, but be wary of committing too much time and resources" (so, there is a trade-off between richness of data and efficiency). A relevant question: if there is any kind of relationship between the researcher and the interviewee, this should be explained in the case study report.

A case study researcher should maintain contacts in the sectors of interest. For example: former students and meetings can be vital in finding experts (FLYNN *et al.*, 1990). However, it is important to be aware that identifying a potential informant and convincing him or her to participate in an interview is not always a straightforward, simple or quick process. Some companies do not allow employees to participate in research and employees themselves may decline the invitation because of heavy workload (GATTIKER; PARENTE, 2007). While in some areas the informant may receive financial compensation to participate in the interview (see ANTIN; CONSTANTINE; HUNT, 2015), this is not likely a common situation in all areas. One strategy that can be used to convince a person to contribute is to point out the benefits the research will bring to the academy or organization that will be studied (GATTIKER; PARENTE, 2007). Another strategy is to request the support of an industry group or technical association (FLYNN *et al.*, 1990; VOSS; TSIKRIKTSIS; FROHLICH, 2002). The researcher can also adopt the "snowball method" in which every interviewee provides the names of other people that could contribute to the study (BITEKTINE, 2008; BRAYDA; BOYCE, 2014). The idea is: the researcher takes advantage of the influence of the interviewee who made the indications, using he/she as a bridge to convince others to participate in the research. "An ideal prime contact should be someone senior enough to be able to open doors where necessary, to know who best to interview to gather the data required and to provide senior support for the research being conducted" (VOSS; TSIKRIKTSIS; FROHLICH, 2002, p.206).

How many interviews should be conducted? The concept of theoretical saturation is also a great reference to answer this question. It is important to highlight that in longitudinal studies, besides the selection of interviewees and the number of interviews, there is an additional decision: the frequency of interviews (see HERMANOWICZ, 2013).

Selection of interview type

In addition to selecting the interviewees, the researcher will have to decide on the type of interview. The first decision is whether the interview will be face-to-face or not (in the second case, it will be mediated by a technology). The face-to-face interview, favored by "the more social nature" of the encounter (IRVINE; DREW; SAINSBURY, 2013, p.101), offers many possibilities to create a good interview ambience (OPDENAKKER, 2006). Furthermore, the "social cues" (voice, intonation and body language) of the interviewee can give the interviewer extra information (OPDENAKKER, 2006). On the other hand,

the social cues supplied by the interviewer can play the role of showing attention and interest to an interviewee (IRVINE; DREW; SAINSBURY, 2013). Disadvantages of face-to-face interviews are related to "time and financial constraints as well as other logistical considerations" (DEAKIN; WAKEFIELD, 2014, p.604). Therefore, as the data collection process may undergo refinement (or corrections), the researcher must initiate the interviews with geographically close people, and only after expand the horizon to the sites that may be expensive and time-consuming to get into (STUART *et al.*, 2002). Remember that face-to-face interviews may be with a single interviewee or a group; the latter allows debate, although may be dominated by an influential person (VOSS; TSIKRIKTSIS; FROHLICH, 2002).

Currently available technologies represent really viable options as a complement or replacement to face-to-face interview (DEAKIN; WAKEFIELD, 2014). Synchronous technology (such as telephone) keeps interviewer and interviewee separated in space; asynchronous (such as email) keeps them also separated in time. Interviews using these technologies eliminate or reduce the disadvantages of the face-to-face interview: time (to access the interview site) and cost (for travel, for example). If the interview is mediated by technology, an informant may be more likely to accept the invitation to participate in the research (see DEAKIN; WAKEFIELD, 2014). Asynchronous technologies can facilitate communication between two people located in different time zones (JAMES; BUSHER, 2006). But James and Busher (2006), Irvine, Drew and Sainsbury (2013) and Deakin and Wakefield (2014) have identified (in the literature or as a result of their research) some difficulties that should be considered: the absence of a visual encounter means that the non-verbal cues are lost; it may be harder to achieve rapport (without a handshake or coffee before the interview, for example); requests for clarification of questions can be more frequent; the interviewees can make more explicit checks on whether what they are saying is adequate (sufficient or relevant); the researcher may need to use more verbalized pointers to show interest and attention; interviews may be shorter; technology may fail; researcher and interviewee need to have technological expertise and access to technology; the identify verification can be more difficult; the interviewee may be concerned that responses (via e-mail, for example) are inadvertently passed on to others; and interviewees may be slow to respond (in asynchronous technologies).

Another important decision concerns the rigidity of the interview structure and the freedom that will be given to the interviewee's speech. In a structured interview it is common to use a fixed questionnaire, with closed questions (preestablished questions with a limited set of response categories: the interviewee chooses an alternative or a value in a scale) (MEREDITH *et al.*, 1989). This format facilitates comparison among interviewees, groups or cases (MEREDITH *et al.*, 1989; FLYNN *et al.*, 1990; GIVEN, 2008), but restricts responses (so it may be poor in understanding more complex phenomenon). At the other extreme is the unstructured interview, which utilizes general open-ended questions for the purpose of introducing themes that

will be freely addressed by the interviewee (MEREDITH et al., 1989; GIVEN, 2008). The interviewee's speech may reveal new themes, which in turn can generate new questions. This format is suitable for studying new domains or to interview articulate individuals (GIVEN, 2008). It can also be used in the early steps of a research (for example, when the researcher does not yet have much understanding of the research problem and its context). However, it can be difficult to compare the answers – or there may be nothing to compare (MEREDITH *et al.*, 1989). The semi-structured interview is an intermediate solution: the researcher adopts preestablished open-ended questions and "has more control over the topics of the interview than in unstructured interviews, but in contrast to structured interviews (...) that use closed questions, there is no fixed range of responses (...)" (GIVEN, 2008, p.810). This interview follows "a relatively informal style" (MASON, 2002, p.62) and the researcher may decide to change the order of the questions or add a new question depending on the circumstance.

Questions of the questionnaire

In any rigorous case study, there is an important document that guides the researcher in the data collection step: the protocol. Based on Yin (2009), the protocol should include: general information about the study and the selected cases and data sources, data collection procedures (recommendations on how to proceed in the field – before, during and after the interviews), the questions of the questionnaires and guidelines for the case study report.

The questions included in a protocol are fundamental because they represent the bridge between the sources of evidence and the research contributions. There are at least two groups of questions that need to be developed (see YIN, 2009). The first one includes questions addressed to the researcher: questions derived from the research problem and closely linked to the chosen line of inquiry. These questions must always be fresh in the researcher's mind. The other group includes the questions (derived or adapted from the questions of the first group) that will in fact be addressed to the interviewees. Besides the research focus itself (in terms of problem and objectives), there are other typical references to elaborate the questions: previous research, existing theories, literature reviews and pilot studies or interviews (WESTON *et al.*, 2001; GIVEN, 2008; ANTIN; CONSTANTINE; HUNT, 2015).

Recommendations for the case study report

After making the most important decisions about the research project and gathering minimal information about the phenomenon, the researcher can establish a provisional structure for the report. As the study progresses, this initial structure will gradually be perfected and refined. The evolution of the structure reflects the researcher's understanding of the phenomenon and, at the same time, influences the decisions made during the research steps.

The flexibility allowed by the case study method is not an "authorized omission": it is essential to present to the reader the options identified during the research and justify the decisions made (including the choice of method). In scientific articles, the sections that present the data collection and data analysis steps require particular care because they often lack rigor (see: SEURING, 2008; PIEKKARI; PLAKOYIANNAKI; WELCH, 2010; BARRATT *et al*., 2011). Therefore, the researcher should: present the arguments adopted in the selection of information sources and interviewees; describe the data collection process and the difficulties faced; and detail the data analysis so that the findings and conclusions do not appear to have emerged "like magic".

There are other recommendations in the literature. Meaningfully coherent studies "achieve their stated purpose" and "accomplish what they espouse to be about" (TRACY, 2010, p.848). Thus, the researcher must present the research outcomes (concepts, frameworks, models, propositions, descriptive insights, confirmation or falsification of hypotheses, revised hypotheses or frameworks) (EISENHARDT, 1989; BARRATT *et al*., 2011) and the theoretical, heuristic, practical or methodological contributions (TRACY, 2010; DeHORATIUS; RABINOVICH, 2011; MILES; HUBERMAN; SALDAÑA, 2014), compare the findings with the existing literature (DeHORATIUS; RABINOVICH, 2011; MILES; HUBERMAN; SALDAÑA, 2014) and discuss whether the findings are transferable to other contexts (MILES; HUBERMAN; SALDAÑA, 2014). Limitations (PIEKKARI; PLAKOYIANNAKI; WELCH, 2010) and areas of uncertainty (MILES; HUBERMAN; SALDAÑA, 2014) should be highlighted.

In short, the report should be transparent, providing information for the reader to assess the rigor of the research and the confidence in the findings.

5 I FINAL CONSIDERATIONS

The widespread diffusion of the case study method in different areas has recently been confronted with criticism related to the poor quality of the studies that adopt this research strategy. Thus, the more experienced researchers need to advise the beginners on the importance of rigor in conducting scientific research. This concern must exist and be fostered from the most basic studies developed by researchers at the beginning of their careers. Without rigor, the research results have no application.

Flexibility has been indicated (STUART *et al*., 2002; DUBOIS; ARAUJO, 2007; SEURING, 2008; PIEKKARI; PLAKOYIANNAKI; WELCH, 2010) as a striking feature of the case study method. However, this flexibility cannot be confused as an excuse or permission for the researcher not to be rigorous. Methodological procedures are available and must be followed.

This text aimed to contribute to this subject by discussing key issues to conduct a quality case study. Recommendations on data analysis were not included here because the author believes that they justify a specific study (see for example: EISENHARDT,

1989; MILES; HUBERMAN; SALDAÑA, 2014; NEUMAN, 2014; CORBIN; STRAUSS, 2015), considering the great variety of data types used in qualitative research (NEUMAN, 2014) and the different ways of analyzing them (TESSIER, 2012). Despite these limitations, the author hopes that the issues discussed here contribute to the understanding of the beginner researcher and foster in him/her the concern to deepen the knowledge on this subject.

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