Qualitative Research Methods In Business

Techniques for Data Collection and Analysis

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Foreword

I received, with great pride, the invitation to write this Foreword. *"Qualitative Research Methods In Business"* is a work that delves deeply into the universe of qualitative research, bringing to light a holistic perspective aimed at expanding our understanding of this often underestimated method. Authored by Professor Doctor José Osvaldo De Sordi, this book invites us to explore the complexities and riches that permeate qualitative research in a world dominated by the quantitative approach.

At the beginning of this intellectual journey, the author presents us with a scenario in which quantitative methods have enjoyed a long and robust presence in academic research and culture in general. However, Dr. José Osvaldo De Sordi reminds us that the human world is intrinsically subjective, full of nuances, feelings and perceptions that escape simplistic quantification. From this reflection, he guides us through a comparison between the quantitative scientific approach and the qualitative one, highlighting the reasons why researchers often turn to qualitative methods to achieve their objectives.

This book also intensely addresses the challenges inherent to qualitative research projects and the strategies developed to face them. By highlighting the subjective nature of human experience, Dr. De Sordi emphasizes the importance of collecting qualitative data when dealing with complex issues that do not easily fit into the dichotomy of refuting or corroborating hypotheses.

History and evolution intertwine as we are led through the development of qualitative techniques throughout the twentieth century. From the earliest practices of participant observation to the consolidation of grounded theory and the widespread adoption of qualitative research in the social sciences, the author shows us how these methods have shaped and enriched our understanding of the social world.

However, this book is not limited to the academic realm. It recognizes that qualitative techniques have applicability in a wide range of professional fields, from advocacy to psychology, empowering practitioners to deepen their understanding of human actions and the narratives that support them.

As we delve into the pages of this work, we are invited to explore a research method that goes beyond numbers and graphs, embracing the complexity and richness of human experiences. The holistic perspective that Prof. Dr. José Osvaldo De Sordi offers is an invitation to broaden our academic and professional horizons,

exploring the many ways in which qualitative research can help us make sense of the world around us.

This work is, without a doubt, a special and essential guide for all those who wish to embrace qualitative research in a comprehensive and enriching way. It challenges established norms and encourages us to adopt a broader and more open view of research, where subjectivity is valued and human voices are heard with clarity and respect.

May this book inspire all readers to embrace a more holistic and compassionate approach to research, exploring the depths of human experience and enriching our understanding of the world we share.

Enjoy the reading and may this qualitative journey illuminate the path to a more complete and enriching research.

Spring, 2023

Fernanda Mesquita Serva
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Brazil

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Part I

Introduction to Qualitative Research Approach

Not everything that can be counted counts, and not everything that counts can be counted.

William Bruce Cameron
American sociologist

Overview of Qualitative Research

1

Reading Guide: Due to the much longer lifespan of quantitative research methods compared to qualitative ones, we have the predominance of the quantitative method not only in scientific texts, but also in culture as a whole. Movies, commercials and literature as a whole convey actions and behaviors typical of researchers who apply the quantitative method. Thus, the common sense of society and most readers is more geared toward the techniques of collection, analysis and writing of the quantitative method. Because of this, we developed in this first chapter the discussion of some of the main attributes of the scientific method, comparing the reality of the qualitative method with the reality of the quantitative method. For a quicker read, Table 1.1 summarizes the main characteristics of a scientific approach, contrasting these characteristics for the two contexts, that of the quantitative method and that of the qualitative method. This chapter also points out the main reasons why researchers often need to apply qualitative methods to achieve their research objectives. It also addresses the points of uncertainty associated with qualitative research projects, as well as the way found by qualitative methods to deal with these points of uncertainty.

When conducting research, we often come across the need to collect data from people. This is because they are the subject of interest of the research or because they are somehow associated with an entity that is the central object of interest of the research. It is important to note that the human being is characterized by its subjectivity, especially when we consider its state of mind, behaviors and feelings. Although a person has objective and quantifiable attributes, such as weight and height, often the researcher is interested in perceptions, for example, in the feelings attached to an experience. These subjective aspects are not the most privileged by the first scientific methods that were based on the hypothetical-deductive rationality of the positivist research paradigm. Subjective aspects do not fit well in the binarity of the answers—refute or corroborate—for the formulated hypotheses.

In response to this initial inadequacy of the traditional scientific method to subjective issues, qualitative methods emerged. Historically, the first documented qualitative analyses are associated with the beginning of the twentieth century, when

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anthropologists began to practice the technique of participant observation to collect data. More organized qualitative techniques in the form of a method, composed of a set of techniques, emerged from 1925 with the research developed by the psychologist, sociologist and professor Paul Felix Lazarsfeld. His techniques were of great relevance to the current status of qualitative research, his students wrote several hundred books and articles on the subject. Among these, Barney Glaser stands out, one of the proponents of the grounded theory strategy, which is characterized by a quite broad and consistent set of qualitative techniques. The recognition of qualitative research as a research paradigm occurs from the 1960s and 1970s, with its adoption by researchers in the field of social sciences.

Just as we can associate the development of exact science with the evolution of quantitative methods, we can associate the maturation and evolution of social sciences with the evolutionary history of qualitative methods. Qualitative techniques are applied not only in the development of scientific knowledge in the field of social sciences, but also as a working tool for professionals trained in these areas. Lawyers, for example, can apply qualitative techniques to demonstrate to judges and jurors the essence of events that occurred with their clients. Similarly, psychologists apply some of the fundamentals of qualitative techniques for analysis and understanding of their patients' behaviors. In short, the qualitative approach, as well as the application of this book, goes beyond the primary and more perceptible audience composed of researchers. Such techniques can also be useful to professionals who require, to a greater or lesser degree, to make sense of and understand human actions. We will discuss next some of the many needs that may require the collection and analysis of qualitative data. Before, however, we conclude this first unit defining the qualitative method.

Qualitative method: composed of a set of techniques for collecting and analyzing evidence associated with behaviors and feelings of people that assist in understanding their reaction to certain situations, that is, they help to give meaning to human subjectivity.

1.1 Motivators for the Application of Qualitative Data Collection and Analysis Techniques

There are many motivations for the application of qualitative techniques for the collection and analysis of evidence associated with emotion, perception, feelings and other subjective aspects associated with human beings. We highlight in this subsection four of these reasons: understanding of social groups, understanding of experiences, understanding of reactions to experiments and promotion of social groups. These reasons can be of scientific, business or public interest (public management). After the description of each of the motivations, we indicate their priority actors, whether associated with the scientific, business or public context.

Understanding of social groups—members of social groups interact among themselves and with other groups from a dynamic motivated by multiple factors,

often configuring a complex phenomenon. We can understand it as a multifaceted kaleidoscope encompassing multiple dimensions of different nature, such as political, social, cultural, religious, geographical, technological, among others. The qualitative techniques help those interested in these social groups to identify and analyze their nuances, their specific characteristics, that is, they help to bring greater understanding about these groups. This motivation is present and evidenced both in the actors of the scientific context and in the business and public context. As an example of application in the public area, we can consider public security agents analyzing the interaction between different groups of drug traffickers, terrorist cells or other forms of criminal organizations.

Understanding of experiences—there are various experiences of interest for investigation, either because they cause pain and suffering or the opposite, because they cause well-being and joy. These experiences can be from the past, working with people's memory, as well as following the facts, the experiences of the present time. The motivations for investigating negative feelings lie in the desire for understanding to prevent or even inhibit their undesirable effects. As for the positive feelings, associated with well-being and joy, the motivation lies in understanding their essence with the purpose of replication and intensification of their occurrence. The understanding of experiences goes beyond the scientific audience, it also covers the actors of the business context, for example, for a better understanding of marketing professionals and product/service development regarding the needs of a certain audience.

Understanding of reactions to experiments—we can intentionally subject people to some situations of research interest in order to understand people's reaction to certain events. In these situations we want to identify and describe the different forms of reaction, aiming to extract meanings that allow us to understand the essence of the relationship between trigger and subsequent acts. This motivation is more present and evidenced among actors in the scientific context, but it is also present in the business context, for example, by its application by marketing professionals and product/service development.

Promotion of social groups—qualitative research has also been applied with strong involvement of the subjects studied, in a participatory way, aiming at the promotion and empowerment of the subjects who are central elements of the research interest. In this type of research, associated with the transformative paradigm, there is a deliberate intention of generating knowledge that promotes a group of individuals. This motivation is more present and evidenced among actors in the public and scientific context.

These four contexts demand actions of collection and analysis of emotions and feelings, understanding of social and cultural meanings, among other subjective aspects, which naturally directed the various actors, whether they are researchers, product and service developers or public agents, to adopt and apply qualitative techniques.

1.2 Current Scenario of the Qualitative Approach

1.2.1 Publications and Adoption of the Approach by the Various Areas of Science

After the widespread use of qualitative techniques by professionals in the field of social science, which occurred during the second half of the twentieth century, we witnessed at the beginning of the twenty-first century a more intense adoption of this approach by researchers in the field of health sciences. Doctors, nurses and other health professionals began to observe and research the emotions, feelings and reactions of their patients from the application of qualitative techniques. The current use of the approach in a more widespread way by most areas of science indicates that there is no need for a punctual analysis for each of the subareas of science, being more prudent to indicate the most preponderant factors for this expansion movement in recent decades.

Among the factors of the first two decades of the twenty-first century that contributed to the proliferation of the qualitative approach among researchers and professionals from different areas of science, stand out:

i. The advancement of the holistic and interdisciplinary vision of science. This brought the human dimension as a point of attention for many of the areas, incorporating subjective demands in areas until then exclusively concerned with objective issues;
ii. Proliferation of articles and books discussing the qualitative method in different contexts. It is very common to have articles describing qualitative research strategies for journals from different areas of knowledge. This brought the knowledge of possible ways to approach human subjectivity;
iii. Proliferation of tools in the form of software that facilitated the operationalization of qualitative analysis techniques. Here stand out both the analytical tools, called Computer-Assisted Qualitative Data Analysis Software (CAQDAS), and those directed for data collection, covering software for recording and transcription of voice, software for capturing brain electrical activity (electroencephalography or EEG device), platform for collection via Internet either individually or in group (crowdsourcing), among other digital resources for other types of input;
iv. Continuous study, expansion, improvement and integration of recent techniques for collection and analysis of qualitative data. The quantitative methods are centuries old, originating in the scientific revolution of the seventeenth century, while qualitative methods are much more recent. Thus, after the initial moment of proposition and conception of the approach, we have recently witnessed advances in terms of consolidation and integration of concepts, techniques and tools (software) that facilitate the understanding of the qualitative approach as a whole, as well as evidenced the robustness and quality of the qualitative approach. In short, any prejudice or uncertainty about the capacity of the qualitative approach has been dispelled;

v. Achieved results excite readers and young researchers. Although articles published with a qualitative approach are still much less numerous than those published with an approach quantitative (less than 15%), they represent almost half of the articles recognized as Best Paper. Numbers calculated for the area of Administration according to Gioia (2022).

1.2.2 Challenges and Opportunities

In this subsection, we will explore the challenges and opportunities for the application of the qualitative method within two perspectives, those of developed countries and developing countries, also referred to as emerging economies. The former already have a tradition in the development and consumption of scientific knowledge, while the developing countries face many difficulties in the production and consumption of scientific knowledge. Unfortunately, the difficulties of this second group extend to many other areas beyond science, encompassing serious economic, health and well-being of the population, transportation, among many other difficulties.

1.2.2.1 Context of Developing Countries

Considering the fact that the mainstream of scientific thought is based on literature developed historically and predominantly by researchers from developed countries, we have that a good part of the scientific literature distinct from the areas of natural science needs to be discussed according to the nuances and demands of developing countries. Let's take as an example the marketing, logistics and sales actions of a multinational enterprise with a focus on developed countries that intends to expand its operations to developing countries. Do the theoretical foundations of their premises and practices of marketing, logistics and sales need to be rethought and rediscussed for the specific context of developed countries? Qualitative research brings many alternatives and opportunities for this review, assisting in the identification of local issues, as well as possible theoretical and even pragmatic inadequacies for the context of developing countries.

For the context of developing countries, there is a demand not only to discuss possible adaptations of theories produced for the context of the scientific mainstream, but also to discuss specific problems of these countries. The idea goes beyond validating and adapting theories, but developing new scientific knowledge aimed at specific problems of these countries and unheard of for the international research community that has been developing and working in the mainstream of various areas of science. Qualitative research is a powerful tool for exploring new problems, seeking understanding of the multifaceted subjectivity of economic, political, religious, cultural, among other dimensions. The qualitative approach allows not only to identify and characterize problems, but also solutions. It allows us to investigate people's perceptions of experiments, the use and/or results of new technological artifacts, to the promotion of groups or communities of individuals in need.

In the field of promoting less privileged individuals and social groups, transformative research projects are quite spectacular as they simultaneously promote research, scientific knowledge, actions and direct results to the subjects and participants of the research. Public policy development programs are a good example when well structured and operationalized, they can promote significant changes to marginalized groups in society. As developing countries present many social order problems, there are many possibilities for conducting transformative research.

By seeking to understand people, the qualitative approach is also prodigious in the development and training of people. By focusing on the subjectivity of individuals, this approach can help to develop researchers and practitioners in various fields of action in developing countries. In the field of people's formation (education), there is already a culture of applying qualitative techniques to recognize the specific difficulties of different groups of students, as well as to evaluate propositions of educational systems and artifacts aimed at teaching. Considering the scarcity of professionals in developing countries, we have that the qualitative approach presents a lot of potential in collaborating with the training of specialized labor for these countries.

Despite the great scientific and social potential of the application of the qualitative approach to developing countries, there are some challenges to be observed by these countries, especially regarding the application of research strategies of the transformative paradigm. There are reports of merely ideological-party actions promoted among social groups and marginalized populations that were disguised as actions and transformative scientific endeavors. Educational and research institutions must be very attentive to the structure proposed by these projects, especially regarding the alleged social promotion agenda. What is the social problem to be addressed? What is the current status and what is the goal to be achieved? If there is not a clear and objective statement of the transformation to be achieved, there is a risk of misusing the few resources available for the development of science in these countries.

The problems caused by pseudo transformative paradigm projects are not limited to the image of the researchers and the institutions involved, but cause losses to science as a whole, especially for the image and credibility of science in society. Given the possible impacts, it would be interesting to adopt governance practices in these projects, not only in the institutions promoting these researches, but also in supra-institutional spheres. This is justified when we consider the feeling of impunity in many developing countries, the little respect for laws, facilitated by the embryonic or weakened state of democracy in most of these countries. The possibility of bringing "liberating ideas" with the backing, with the notoriety of science is something quite tempting for many groups interested in power.

1.2.2.2 Context of Developed Countries

Although the benefits of applying the qualitative approach in the context of developing countries, as highlighted in the previous subsection, are quite noticeable, we cannot say that they do not apply or do not contribute to developed countries. We

can say that the benefits are repeated, but with less intensity in terms of demand and, consequently, social importance.

For developed countries, an important challenge for the application of the qualitative approach is breaking the habit, the centuries-old scientific tradition deeply rooted in the post-positivist research paradigm, of hypothetical-deductive rationality. An example of this strong positivist culture, which hinders the implementation of the qualitative approach, is in the structuring and writing style of texts that present the results of these researches. It is very common to observe scientific articles developed with a writing style and structure of sections and subsections in the mold of traditional research developed with the post-positivist research paradigm. Thus, a challenge for developed countries to adopt and better utilize the qualitative approach lies in changing the culture and behavior of their researchers.

1.3 Dealing with Uncertainties

1.3.1 The Moments of Ending Data Collection and Analysis Activities

The subjectivity of qualitative research implies uncertainty even in relation to the number of subjects or cases to be investigated. It is not like in quantitative research, where from the number of questions and the structure of answers we can use an algorithm to define the sample size, that is, the number of entities to have their data collected. In qualitative research we work with the concept of "theoretical saturation", that is, we continue to collect information from entities of interest as long as we are discovering, learning something about our topic of interest. Thus, the moment to stop conducting interviews, observations or other forms of field collection will occur when we observe a disadvantageous cost and benefit relationship between collection and learning. We stop when the collection efforts are no longer bringing return and are no longer enriching our mental model of understanding about that topic of interest (Glaser & Strauss, 1967).

Another moment of saturation to highlight in qualitative research refers to the moment to stop interrelating the collected data with the theories. To answer the central question about what we learned from field collection, we have to develop texts and reflections that dialogue with existing theories. At what point do our field findings innovate, contradict, complement or simply ratify existing theories? At some point we will realize that new analyses do not bring anything new, beyond what was already perceived with the last collections. This is the moment of theoretical saturation, time to end the analytical process. Here, the more experienced the researcher, the more he knows about the topic under analysis, the greater will be the theoretical sensitivity about the reach of theoretical saturation, that is, greater precision about the right time to stop the analytical process (Eisenhardt, 1989).

1.3.2 Collection of Inputs and Simultaneous Analysis

The inputs for qualitative research are of a very diverse nature. They can include speeches, documents, texts, figures, images, physical artifacts among many other forms of evidence about our topic of interest. Often they are unexpected inputs that, once in the field, we realize the importance of new evidence for understanding a subject or for a social group. Only by being at the location of the events of interest or interacting with the people associated with these events can we have an expanded view of other possible sources of interest. The qualitative researcher should be attentive to new discoveries in the field, to new relevant inputs, allowing themselves to be surprised by field information. There is no obligation to follow a rigid research protocol, which must be followed exactly as conceived before going to the field, as occurs with the tradition of quantitative research.

As the researcher collects the information, the qualitative evidence in the field, they should already be structuring and recording such contents. This is a very different demand from what occurs with quantitative methods, which work with data. Unlike data, the information is not easily structured, collected and transferred (Martin, 1990). This facilitates the distinction of the collection process of quantitative research from qualitative. In quantitative research, one can adopt the concept of collection by "intelligent automation", using for example software that frees the researcher for other activities while the collection is in progress (Jidoka concept of lean manufacturing, Liker [2004]). A typical example is the application of questionnaires via Google Forms, the researcher sends requests to the group of interest and the software manages the entire collection process with the respondents, creating spreadsheets with the responses in a structured way. In qualitative research, the researcher must be heavily involved in the collection, and it is not possible to delegate this activity to a software or even to subcontracted third parties (research assistants). Going to the field is fundamental to perceive the nuances, the subjectivity of the events that are occurring or that are being described by the people who experienced them.

Technological evolution, especially of information and communication technology resources, in increasingly shorter periods of time and with increasingly significant performance innovations, has further facilitated data collection by researchers. As an example, the research of Chen, Francis, and Miller (2002) is mentioned, who worked with primary data from totally inhospitable locations: readings of water temperature, from various points in the Arctic Ocean, captured by buoys with sensors that transmit the data by satellite. Similarly, at the beginning of the third decade of the twenty-first century, more technological innovations are observed that also benefit the collection of information. Take, for example, artificial intelligence (AI) solutions, such as ChatGPT, which are prodigious in generating information. Just as the Internet of Things (IoT) is for data collection, AI is for information. Thus, we have an increasingly greater perspective of availability not only of data but of information.

The great diversity of inputs, often covering completely unexpected contents (discovered in field action), implies the need for simultaneous actions of collection, recording, classification and drafting about the inputs. This helps to better deal with the complexity of connection between the evidence and our perceptions according to the original context of the field experience. Considering that the act of writing texts, structuring information also ends up being an analytical activity (Huff, 1998), we have here a concomitance between the activities of collection and initial analyses. As Bansal and Corley (2012, p. 512) state, "qualitative research breaks down the boundary between 'researching' and 'writing', so that the two occur simultaneously". Thus, the qualitative researcher already begins the analyses as soon as they obtain their first inputs in the field. This is a very useful demand and recommended by specialists in qualitative methods. As Yin (2014) highlights, the insightful researcher will begin to write the research report before the end of data collection and analysis activities.

Although qualitative research collects both data and information, with more emphasis on the latter, the term most used in articles and research reports is "data gathering". This is more of a matter of custom and tradition of the scientific research development process. Historically, traditional sciences ("hard sciences"), such as physics, chemistry and mathematics, work intensively with data collection within the positivist research paradigm. The qualitative research paradigms are more recent, emerging mainly from the seventh decade of the twentieth century (Creswell, 2014). Thus, the dominant terminology in practice and in literature referring to the methods of scientific research is still imbued with the positivist culture of data collection, with the terms: data gathering, data collection and data analysis being very common, even when it clearly involves information. Thus, by force of habit, many inputs of an informational nature end up being declared as data in most scientific texts.

1.3.3 Flexible Research Protocol

The fact that the researcher allows himself to be surprised by subjectivity while in the field usually results in the perception of new informational demands and the need to return to the first places and subjects with whom we have already collected information. In practice we have a process of information collection permanently open, or in other words, a flexible collection protocol. New sources and new inputs can be incorporated into the research protocol at any time, considering that discovery is part of all phases of research, especially the collection phase. Thus, returning to the subjects or places already visited serves to complement observations and field collections. Imagine a researcher who has already interviewed three subjects and only in the fourth subject interviewed, from the observed in the field, has an insight of something possibly important for the research. In this situation, the researcher will need to return to the first three interviewees to check their

perception of that new theme. Thus, unlike the quantitative approach, the qualitative research protocol is open and subject to changes throughout the research (Eisenhardt, 1989).

Between the perception of the possible utility of a new field evidence, fruit of the insight occurred in the field and its confirmation as something really useful for the research, a period of time has elapsed. To avoid the risks of forgetting and losing the insight, the use of the memoing resource is recommended. Several authors who discuss qualitative strategies recommend the use of memoing. Memoing is a text or audio (researcher recording his own voice) prepared by the researcher, in which he records his hunch, his initial idea, about a certain perception of what is being observed in the field. For example, how the elements of the process under study relate to each other causing, for example, a variation of the process. The memoing, after a later analysis, can be discarded or become a useful analysis code for the construction of new scientific knowledge. In the latter case, causing the complement of information collection with places and/or people.

1.3.4 Theories for Discussion of Field Findings

Another source of uncertainty for the qualitative researcher is the theories to be used for discussion of field findings. As many of the qualitative strategies are from the constructivist paradigm, which seek to develop theories from field data, they are atheoretical. Thus the existing theories are approached at the end of the qualitative research, not to provide foundation and support for the development of new knowledge, as occurs with quantitative research, but to contrast and integrate with field findings. Compared to quantitative research, it would be an open or undefined flight plan, because in quantitative research the theoretical framework is used from the beginning of the research, for example, for the formulation and presentation of hypotheses. For beginner researchers this characteristic of qualitative research can be quite stressful, as the research progresses amid many unknowns and uncertainties, to be resolved in the second half of the work (Bansal & Corley, 2012).

1.4 Differences from the Traditional Approach (Post-Positivist Paradigm)

To understand the central differences between qualitative and quantitative research, we can point out many attributes, with the most common and noticeable ones described in Table 1.1. These attributes will be extensively discussed throughout the various chapters of the book. At this point in the text, it becomes necessary to define four terms mentioned in Table 1.1: idiographic (qualitative approach), contrasted with the term nomothetic (quantitative); and nominalistic (qualitative), contrasted with the term realistic (quantitative). These dimensions are described in the next two subsections. In the conclusion of this subsection on differentiation

between the two research approaches, we present the differentiating attributes distributed throughout the research phases. Another more linear and operational way to think about and perceive the differences between the two approaches.

1.4.1 Idiographic Versus Nomothetic

Qualitative research differs from quantitative research in many aspects, one of them is in terms of the scope of intentions in terms of the number of entities[1] studied. We call quantitative research nomothetic, as it aims to produce broader, more generalizable knowledge that explains the dynamics of objects or the behavior of an entire group. Therefore, quantitative research works with scientific tests and large quantities of analyzed entities that allow the generalization of the research findings. On the other hand, qualitative research focuses on the details of an individual or a specific group of people, hence the designation of idiographic approach. The idea is to let the individual or individuals reveal themselves to the researcher during the data collection process in the field. Thus, we can summarize the intentions of the quantitative approach as broad generalizations about the world, seeking to understand patterns that occur on a large scale. The qualitative approach aims to discover more detailed information about a more restricted and specific subject, and it does not aim at generalization but at understanding, interpreting some phenomena.

We have witnessed an increasing process of digitization of society. In the 1980s, we called this phenomenon the information society; in the 1990s, pervasive computing; in the 2000s, Internet phase II; more recently, the Internet of Things (IoT). Common to all these movements is the increasing insertion of information and communications technology (ICT) resources for data collection in all areas of society, providing broad and diverse collections of data (big data phenomenon). This will allow greater possibility of cutting and analyzing events associated with a machine, an individual or even a specific group of individuals or machines. In short, the greater availability of data will facilitate the conduct of both nomothetic and idiographic research. Braun et al. (2018, p. 658) emphasized this trend of big data in driving even idiographic research: "organizational researchers will be able to capitalize on the 'big data revolution' to better understand the idiographic, nomothetic, multilevel, and dynamic phenomena that encompass organizational science". Due to technological advances and the wide availability of data, we can soon consider the application of idiographic qualitative research beyond social science researchers, a group with a greater tradition in applying this approach.

1.4.2 Nominalistic Versus Realistic

The terms nominalistic and realistic are central elements of the discussion among educators, more specifically about the understanding of names and words by their students. The student during their stages of life and learning begins to understand the world with a realistic perception, that is, "viewing names as intrinsic properties

Table 1.1 Differentiating attributes between qualitative and quantitative research methods

	Method quantitative[a]	Method qualitative[a]
Input Collection …		
Employed technique:	Closed questions and field measurements	Observation, interview and open questions
Focus:	Horizontal breadth, superficial collection	Vertical breadth, in-depth collection
Input Source …		
Quantity of entity:	Many entities (nomothetic)	One or few entities (Idiographic)
Selection:	Random	Selected based on criteria
Denomination:	Research object	Research subject
Input Characterization …		
Nature:	Data	Information
Format:	Numerical, categorical and ordinal variables	Text, voice, image, video and artifacts
Understanding of People …		
Human nature:	Predominantly deterministic (dependent on the environment)	Predominantly voluntaristic (full autonomy for their choices)
Input Analysis …		
Technique employed:	Statistics or another quantitative method such as Operational Research	Content analysis, discourse analysis, semiotics, …
Analytical strategy:	Quantify variations, predict causal relationships, describe characteristics of populations	Describe variations, explain possible causes, describe individual or group experiences
Scope of the analysis:	Horizontal (many entities, superficially analyzed in their individuality)	Vertical (few entities, but each one analyzed individually)
Epistemologically …		
Order challenge:	Objective, based on facts or evidence	Subjective, based on interpretations
Logic:	Deductive	Inductive
Understanding of the entity:	Realistic	Nominalistic
Research Design …		
Structuring resource:	Hypotheses, research question or problem	Predominance of propositions, interest in a topic/subject
Foundation:	Existing theories, development by accumulation	Atheoretical, stochastic development

(continued)

Table 1.1 (continued)

	Method quantitative[a]	Method qualitative[a]
Conception:	Structured and standard, does not change until the end of the research	Semistructured and flexible, that is, open to changes
Presentation of Knowledge …		
Structure:	Standard (Introduction, Concepts, Method, Results and Discussion)	Diversified
Distribution of texts:	Front end larger (more words) than back end	Back end larger (more words) than front end

[a]The texts of the cells (answers) are all preceded by the word "predominantly"

of objects", then moving on to understand it in a nominalistic way, "understanding names and words as arbitrary social conventions" (Homer et al., 2001, p. 5). Obviously the immutability of objects and, consequently, of their names is more present in topics addressed by the exact sciences, as the very name of the area indicates, the terms are more exact. On the contrary, changes are more associated with people and social groups as a result of changes of various orders, such as economic, political, social, environmental among others. Thus, nominalistic issues are more present in topics addressed by researchers who work in the field of social sciences and humanities.

Let's consider these two terms no longer in the educational context, but in the epistemological context which is a central theme of this book, or in other words, in the way researchers learn, generate and claim new scientific knowledge among their peers. In this process, researchers accept and make use of terms and designations to objects and entities that fit into what we call scientific realism. The realism encompasses shared understandings of what we believe, both observable and unobservable phenomena, that exist independently of our mind, that is, they are objective things. Thus, realism describes and explains things that are universally accepted, regardless of our perception, they are completely objective things and are strongly present in quantitative approaches. On the other end of the scientific understanding spectrum is nominalism, as a counterpoint to the objectivity of realism, linked to qualitative approaches. Nominalism argues that the concepts of the existence of objects are particular to the individual, with the reality of the object being constructed by the individual's perception, that is, it values the subjectivity of things (Garrett & Cutting, 2015).

1.4.3 Differentiating Attributes Discussed in the Process of Scientific Research

Figure 1.1 presents the differentiating attributes between qualitative and quantitative methods, mentioned in Table 1.1, distributed throughout the stages of the scientific research development process. This process ranges from the initial conception phase of the research (insight) to the publication of scientific findings in the form of a scientific article. It is an operational and linear perspective to ascertain the main differences between the two approaches.

1.5 Types of Qualitative Research Paradigms

Qualitative research can occur within different perspectives of the philosophy of science considering epistemological and ontological issues. Epistemology can be summarized as the process employed for the development of scientific knowledge, while ontology turns to the description, the presentation of this new knowledge. Two very distinct and integrated challenges, the generation of knowledge, within scientific norms, and the transmission of the new according to scientific communication protocols, allowing the reader to focus only on the new content, without worrying about the form and means of transmission. More pragmatically, epistemology turns to the process, about "how" to develop, while ontology turns to the disclosure of the essence, that is, the communication of "what" was discovered.

From the way the scientific method deals with epistemological and ontological dimensions, groups of scientific strategies can be defined, a taxonomic structure that Creswell (2014) called "philosophical worldviews". He pointed out several synonyms for "philosophical worldview", one of them being "paradigm", a term that we will use in this book. According to Creswell (2014), there are four research

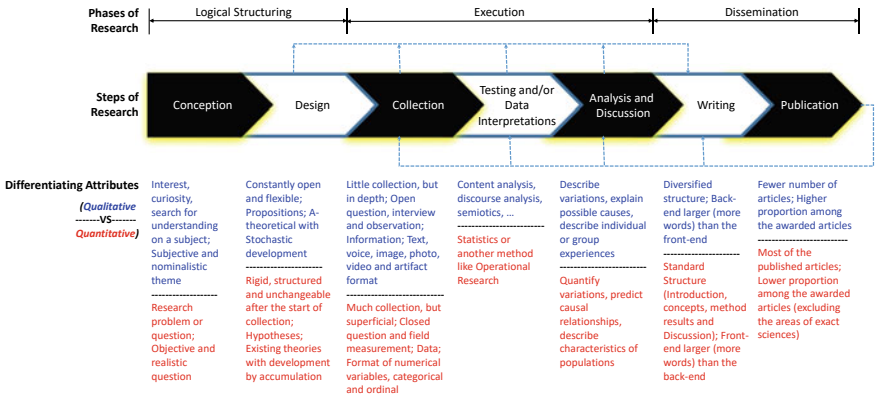

Fig. 1.1 Differences between qualitative and quantitative methods in the perspectives of the research development phases

paradigms: postpositivism, constructivism, transformative and pragmatism. The post-positivist paradigm is of a quantitative nature, while the constructivist and transformative paradigms are qualitative. The pragmatic paradigm works with both approaches, that is, they apply the mixed method (qualitative-quantitative). Following the scope proposed for this book, we will address research strategies that work with the qualitative approach, those associated with the constructivist, transformative and pragmatic research paradigms. In the following paragraphs, we describe these three paradigms.

1.5.1 Constructivist Research Paradigm

In this paradigm, the aim is to understand and interpret the speeches, symbols, artifacts, among other things, associated with the subjects who experience (or have experienced) the condition of interest of the research. These analyses can cover both current and historical actions, as well as the scope can be both individual and social. On an individual level, for example, we can study phenomena by interacting with people who experience/experienced the experience of interest or recover biographies, reports and other evidence from these people. On a social level, we can work with communities of interest or recover situations from these communities through access to historical records, the artifacts left, among many other pieces of evidence.

The research strategies of the constructivist paradigm can explore new realities of society, they can describe dynamics in the form of theories, based on field reality. This involves contemplating the multifaceted aspects of the social, historical, political, economic context of those who have experienced the experiences of interest. For this, it is essential to give voice to these actors, seeking the essence of events according to the experience lived by them. Constructivist research strategies work a lot with actions of understanding, interpretation and unveiling.

1.5.2 Transformative Research Paradigm

Transformative research strategies have a dual mission, promote needy citizens or social groups, who are the subjects of research interest, and, concurrently, learn from this transformation process. Learning from practical experience, containing the actions necessary for social transformation, is validated and structured according to the premises of the scientific method. One of the attractions of this type of scientific knowledge is its interventionist character in society, allowing replication in a simpler and more direct way, that is, it aims to accelerate the application and transformation of other social groups with similar problems. Thus, the change-oriented attribute applies well to strategies of this research paradigm. The researcher gets closer to social innovation, that is, it accelerates the transition from the invention to the innovation. The researcher begins to develop a more direct and evident role as a social promoter.

Although the origin of the research of the transformative paradigm has occurred mostly among minorities marginalized by society, the approach applies to different social contexts. In this type of paradigm there is even the possibility of the researcher being a member of the social community to be transformed and benefited. An exemplary situation would be an indigenous person and also a researcher in the area of nutrition who seeks to work on the food deficit of the children of his tribe, exploring ways to supplement this deficit with the resources of nature already available in the locality.

1.5.3 Pragmatic Research Paradigm

Pragmatic research strategies focus on "what works" in a certain context, turning to field problems. The researcher can follow an intervention that will be promoted by an entity, as occurs with the case study strategy, in order to learn and generate knowledge (learning-by-doing principle). The researcher can also propose a different intervention, offering a new artifact for this, as occurs with the design science research strategy (learning-by-design principle). Thus, the strategies of this paradigm generate solution-oriented knowledge, associating interventionist knowledge with field problems (Van Aken & Romme, 2009). An important aspect is the process of validating the scientific knowledge generated, totally based on the results of the field experience, hence the pragmatic term for this paradigm. Just like with the transformative paradigm, the pragmatic paradigm is not guided by laboratory actions, but from field data, obtained from society. In this way, it also shows itself as a quick approach in terms of accelerating the transition from invention to innovation, considering the proximity of innovation with the real world.

From the perspective of intervention analysis, following the premise of "what works" requires a holistic view. The complexity of the problem requires multifaceted analysis of environments, covering many challenges, such as economic, social, technological, political and environmental. Many of these can be analyzed through indicators, implying longitudinal measurements, before and after intervention, this being one of the justifications for the application of the mixed method (qualitative-quantitative) by the strategies of this paradigm.

1.6 Quick Reading Guide by Topics Covered

This book is structured in 10 chapters divided into 5 parts. The first part, called "Overview of qualitative research", is composed of this introductory chapter. The second part addresses qualitative research strategies; the third part explores the main techniques for collecting qualitative data; the fourth part addresses one of the main techniques for analyzing qualitative data, the content analysis; and the fifth part explores typical aspects of writing and presenting the findings from qualitative research. In the following four paragraphs, we explore the contents of these four parts that complement the book.

In Part II, called "**Qualitative Research Strategies**", there is a discussion of 9 research strategies, qualitative or quali-quantitative, distributed in three chapters, according to three different research paradigms:

- Chapter 2 addresses three research strategies of the constructivist paradigm: the **phenomenology** strategy, the **ethnography** strategy and the **grounded theory** strategy;
- Chapter 3 addresses three research strategies of the pragmatic paradigm: the **case study** strategy, the **design science research** strategy and the **grounded design** strategy;
- Chapter 4 addresses three research strategies of the transformative paradigm: the **action research** strategy, the **participatory action research** strategy and the **action-design research** strategy.

Part III, called "**Qualitative Data Collection**", is divided into two chapters. The first one addresses aspects associated with the diversity of techniques for collecting qualitative data; the second addresses the forms of interaction that the researcher establishes with different people in order to successfully navigate the various phases of qualitative research. Describing a little more about how these two groups of contents are explored in this book we have:

- Chapter 5 addresses eight different **types of interviews**, four different **types of observations**, collection through third parties (**crowdsourcing**), collection of **documents and artifacts** in the field, in addition to **open-ended questions**;
- Chapter 6 addresses the researcher's interactions with different people in order to successfully navigate the various phases of qualitative research. These people are subdivided into two groups: **input providers** for the analyses and the **professionals** who can help us ensure the quality of the project and the execution of the research.

Part IV, called "**Techniques for Qualitative Data Analysis**", is divided into two chapters. The first addresses the content analysis technique; the second addresses the software that supports the implementation and operation of this technique. Describing a little more about how these two groups of contents are explored in this book we have:

- Chapter 7 addresses the concepts, phases, activities and other entities necessary for understanding the application of the **content analysis technique**;
- Chapter 8 discusses two large groupings of **software**, those used in support of **obtaining field inputs** and those oriented to support the analysis of these inputs, such as computer-assisted qualitative data analysis software (**CAQDAS**), latent semantic analysis (**LSA**) and **display generator software**.

Concluding the book, Part V, named "**Writing and Publishing Qualitative Research Findings**", is divided into two chapters. The first discusses the structure

of the scientific text aimed at disseminating the findings from qualitative research; the second addresses some aspects of the scientific research evaluation process, peer review process, exploring the nuances of qualitative research. Describing a little more about how these two groups of contents are explored in this book we have:

- Chapter 9 discusses the **structuring of the scientific text**, including the analysis of the titles of these sections, size of the sections, and analyses and flows of ideas, from the connections between the various sections and subsections of the text. It also discusses the version of the text directed at professionals ("**practitioner's version**");
- Chapter 10 discusses aspects such as the **selection of the journal**; pointing out the **preferred and non-preferred reviewers**; and **asynchronous dialogue** between researchers and reviewers during the peer review process of the qualitative article.

Reflection Questions:

1. Considering the subjectivity of the human being as a central element of demand for the qualitative approach, we can consider this aspect as a predictor of interest and application of the qualitative method. Which areas of science can we consider as totally unimpeded from considering the opinion and emotional state of people?
2. Research the creation dates of the main qualitative research methods and compare them with the analogues of quantitative research. Which of these sets of methods have greater longevity? Is it a punctual or significant difference? Should this difference also reflect in terms of structuring, maturing and disseminating these two frameworks of methods?
3. After observing the differentiating attributes between qualitative and quantitative research methods (Table 1.1), select two high-impact journal articles in your area, one that strictly applies the qualitative method and another the quantitative method. Which of the differentiating attributes of Table 1.1 are easily perceptible just by reading these articles?

Note

1. An entity can be anything, a company or group of companies, a person or a social group, a machine or group of machines, etc.

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Part II
Qualitative Research Strategies

Qualitative Research Strategies Stories give life to data, and data gives authority to stories.

Wendy Newman
Canadian Librarian and Researcher

2 Research Strategies According to the Constructivist Paradigm

Reading Guide: In this chapter we will explore the main research actions conducted within three research strategies of the constructivist paradigm: the phenomenology strategy, the ethnography strategy and the grounded theory strategy. Each of them is described and discussed in a subsection of this chapter, which is broken down into specific topics of interest for each strategy.

As discussed in the subsection "1.5.1 Constructivist Research Paradigm", constructivist research approaches seek to understand from the speeches, symbols, artifacts, among other things, associated with the subjects who experience (or have experienced) the condition of interest of the research. These are analyses that can be associated with both past and present events, in an individual or social group context, but all giving representation to the actors directly involved in the topic of interest.

2.1 Phenomenology

The etymology of the term phenomenology combines the Greek terms *phainomenon* (phenomenon, that which shows itself) and *logos* (study, reason). The phenomenological strategy seeks to go beyond what is seen, seeking to understand the implicit structures of the phenomena we see, the subjective aspects associated with human experiences (Sanders, 1982). Thus, the central purpose of the phenomenological strategy is to identify the essence of the phenomenon. For this, the phenomenological researcher usually applies the technique of in-depth interview. This technique begins with the collection of information about the phenomenon and progresses over time to reflection. It is so specific and associated with the phenomenological strategy that it ended up defining a specific type of interview: the phenomenological interview, one of the eight types of interviews that we will address in the fifth chapter.

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Origin. The term phenomenology dates from the eighteenth century, attributed to philosophers. Its use as a research strategy, that is, its transition from philosophical method to empirical investigation method, occurred in the nineteenth century. The philosopher Edmund Husserl is considered to be its main developer. Among the many variations of phenomenological strategies available, we have a more descriptive branch (Husserl's) associated with the constructivist research paradigm, and another more interpretative, which can also extend to a transformative research paradigm (Heidegger's).

Field of application. The phenomenological strategy applies to various areas of science that have subjects as central elements of research. The studies are always of an individual order, considering that the same phenomenon can receive different interpretations by different subjects. In a very simplistic way, let's take as an example the feeling that awakens a simple object, a scythe, for different people. For a gardener, this object may be considered a simple work tool; for a police officer, it may be understood as a weapon; for a political activist, the representation of an ideology; for a merchant, a commodity, to name just a few of the interpretations by different actors. Despite imagining many possible applications, the application of the phenomenological strategy in various areas directed to individuals or subjects of interest [and not to objects] of research is still scarce. If we take as an example the field of Administration, the few studies are concentrated in the area of marketing, in the search for understanding consumers.

Reductionist strategy. The analysis we make of phenomena always characterizes itself as a reduction, considering that the act of seeking the essence and terms of its central elements already characterizes it as a cut-out, that is, it implies a simplification and losses. Another aspect to be considered is the impedances in terms of the actors involved; the one who experienced and the other who is recording and assisting in the analysis process of the phenomenon are different people. Another reducing aspect and that brings impedances is the time factor. Normally, past experiences are addressed, rare are the situations where the phenomenon of interest to the researcher can be observed in loco, at the occurrence of the phenomenon in the field, with the subject available to report their feelings. Thus, the understanding we have of the basic components, of the essence of a phenomenon, will always be partial, but something useful, an advance in the sense of deepening our knowledge about that phenomenon of interest in a certain area of science.

Genuine interest in the topic. The perception of a phenomenological research opportunity is very dependent on the presence or knowledge of the researcher in a certain field. The research opportunity is characterized by a restlessness, by an interest of the researcher in a certain situation that is occurring in his field of interest. It is not characterized as a typical research problem as occurs in traditional research of the post-positivist paradigm. Thus, good phenomenological research is invariably associated with researchers with performance and innate interest in the field where the phenomenon occurs. The central idea is to unveil what is behind the phenomenon, to have a full understanding of its motivators and its implications (Boemer, 1994).

Collection of information. The in-depth interview involves at least three interactions between the researcher and the one who experienced the phenomenon. In the first, the researcher presents the question about the topic of interest and begins to practice active listening. The purpose is to have as much information about the phenomenon as possible. The second interaction, which can be synchronous or asynchronous, requires that the interviewee's speeches obtained during the first interaction must be transcribed. The researcher must have questions written with the purpose of better understanding the experience, allowing the interviewee to reconstruct in greater detail their experiences. In the third interaction, the researcher should lead the interviewee to reflect on his experience (Seidman, 1997). The details of these interactions are described in the fifth chapter of this book, in the subsection "5.1.6 Phenomenological Interview".

Analysis techniques. A very useful structure in the search for understanding the experience is the use of the noema and noesis structure, a resource used to correlate the act itself, which is the object of analysis, with its meaning in terms of consciousness of this act. "Husserl used the term 'intentionality' to refer to the correlation between the object and the appearance of the object to consciousness" (Sanders, 1982, p. 354). The noema is the experience, that is, what was experienced by the interviewee, the object as it is perceived by everyone. The noesis is the meaning for the one who experienced the act or, as Sanders (1982) explains, an "intentional" act of consciousness that is correlated to an object, the total meaning of that object. While the noema is the description of the acts, the noesis is associated with feelings such as pleasure, trauma, happiness, hatred, compassion, envy, among many others.

Once the themes derived from the interviews with those who lived the experiences in the field, that is, the noemas ("what of experience"), as well as the noesis ("how of experience"), are identified, the researcher should seek the essences of these themes and these reflections ("why of experience"). The researcher, when going through these stages, begins to have a deep understanding, a learning about the studied phenomenon.

2.2 Ethnography

The etymology of the term ethnography combines the Greek terms *ethno* (nation, people) and *graphein* (to write). Consistent with its etymology, we have that the ethnography strategy seeks to perform the analysis of a social group cut-out in the most integral way possible. For this, the analyses are carried out from observations in the field, in the locality, in the natural environment of action and socialization among the elements of the group. Thus, ethnography implies the researchers going to field for data collection, to capture the meanings of this group's actions (Silverman, 2006). For this, the researcher pays special attention to social structures and individual behaviors as a group, interpreting these actions within the context of the group under analysis. The origin of the ethnographic approach lies in the method used by anthropologists.

Motivators. The reasons for applying the ethnographic strategy are linked to the researcher's interest in the behaviors of a social group, when something seems to make no sense to common sense or even to the expected behaviors according to scientific literature. The opportunities are many, just consider that we work, study and have fun (leisure and entertainment activities) most of the time in social groups. With globalization and the advent of network society, driven by the Internet and advances in information and communications technologies, there are more possibilities and diversities of social groups. Digital or virtual groups are an example of this. If on the one hand all interactions can be easily digitally recorded, if the group agrees to share their records or allow them to be collected by the researcher, on the other hand, there is greater intangibility and abstraction of these virtual groups. It becomes more difficult to become aware of these groups and characterize them in terms of their size, origin of their members, forms of interaction and other aspects that in the physical context are more easily perceived. Virtual or semi-presential groups seem to be a growing trend, generating new challenges for the researcher, hence the adaptation of the ethnographic strategy for this new context, called e-ethnography.

Participant observation. In participant observation, the researcher learns about the group from the perspective of its members, observing and talking to them (Agar, 1996). The researcher learns to act like the other members of the social group, in order to blend in with the community that is the object of study. The idea of having the researcher participating in the community of interest is to allow the experience or to have the broadest and most faithful possible observation of feelings and other aspects difficult to be transmitted by the members of the social group. More details of this data collection technique are described in the fifth chapter, in "5.3.2 Participant Observation".

Requires time in the field. Going to the field to understand social structures requires the researcher's time in the field, hence a very linked association of the ethnographic strategy with participant observation. The researcher, in order to understand the social structure and the meanings of the actions, ends up having to have a medium- to long-term involvement with the group under study. Only in this way, the researcher begins to have access to the environment in the most natural way possible, without staging or other ways to circumvent the natural environment of the group. By recognizing the persistence and, often, the resilience of the researcher in the field, the members of the group no longer see the researcher as a totally strange and distant person from the group. This helps to minimize the negative effect of the researcher's presence in the field.

Phases of the ethnographic strategy. Classical ethnography, that is practiced by anthropologists, has six phases: (i) look, in the sense of paying attention to what people do, norms, values and other context information; (ii) describe, from the observation of details to other layers of interest in society; (iii) analyze the process, trying to describe the observations within a procedural structure; (iv) contextualize, specify the process within the reality, social, political, technological and other facets of the group's environment (Silverman, 2006). The idea is not to be confused

with what is said, but with what is actually happening, to try to understand exactly what people do, how they understand these actions and what they expect from it.

Differences from classical ethnography. Unlike the ethnographic strategy originally applied by anthropologists, the researcher when applying ethnography in the context of applied sciences, the so-called professional schools (Van De Ven, 2007), must have clarity and focus on what is being researched. Unlike the anthropologist who often spends years or even decades in the field, the researcher from the professional schools needs to be much more agile. Because of this, Silverman (2006) suggests eliminating the fifth and sixth phases of classical ethnographic strategy: (v) flexible projects, in terms of time and schedule; and (vi) avoid the use of theories and concepts, being free to research what you find most attractive and convenient according to what is found in the field. In applied science the researcher exercises ethnography with a prior focus of interest, attractive also due to their theoretical understanding of the events associated with the social group in question. The idea here is to explore fewer themes of the group, but in more depth, characterized by the selection of data to be observed.

Writing ethnographic texts. A very common form of ethnographic texts is the use of labels to more clearly define the behavior of certain subgroups of actors. These labels are like nicknames that explain and highlight the behavior and dynamics between these different groups of actors in that specific social context (Reinhardt et al., 2011). Another important aspect is to bring speeches and texts according to the reality of these actors, meeting the authenticity component, that is, demonstrating that the researcher was immersed in the field of that group. Schultze (2000) also observed two more important aspects to be observed in ethnographic texts: criticality, leading readers to reexamine their own conceived assumptions about the social group; and plausibility, presenting the relevant results within a structured pattern of science that highlights the common concerns that the public may have about the group.

2.3 Grounded Theory

The grounded theory (GT) strategy emerged in the 1960s from research practices carried out by two sociologists, Barney Glaser and Anselm Strauss, to explain the variations in the occurrence of a social phenomenon underlying the behavior of a group. As the name suggests, the method proposes to build a theoretical explanation addressing the necessary conditions for the occurrence of a phenomenon, indicating how it is expressed in terms of actions and interactions, as well as its outcomes. Within the social demand of its authors, the outcomes include discussing and determining "how the actors respond to changing conditions and to the consequences of their actions" (Corbin & Strauss, 1990, p. 5). Here, the autonomy of the subjects of interest in the research in terms of action and reaction is highlighted, that is, their voluntaristic condition (or non-deterministic), opening perspective for different outcomes. This freedom of the subjects, regardless of the environment, is highlighted in the attribute "understanding of people" from Table 1.1, used to

point out differentiating aspects between qualitative approaches and quantitative approaches.

Different perspectives. Despite the seminal works on the GT strategy emphasizing the conditions, descriptions and outcomes of phenomena linked to people, there have been many variations of this strategy over the years. GT starts as a post-positivist research strategy, based on the premise "that there is a 'real' reality but that it can only be imperfectly perceived", later becoming applied to a "variety of ontological and epistemological positions, such as constructivism, feminism, critical thinking and postmodernism" (Mills et al., 2006, p. 8). For Barrett (2023, p. 89), in traditional GT it is understood that "the objective 'truth' can be uncovered by a researcher who is detached from this reality", while in constructivist GT "researcher cannot be viewed as separate from the emerging findings".

Many authors refer to GT as an analytical procedure, as an analysis technique, not necessarily aimed at the reaction of people to new phenomena and their perception of them as to the consequences of their actions. An example of this more technicist understanding of GT is in Langley (1999), who presents it as being one of the seven techniques for sensemaking analysis, alongside techniques such as: visual mapping strategy, quantification strategy, narrative strategy, synthetic strategy, alternate templates strategy and temporal bracketing strategy. Today we have many articles mentioning GT, but as a set of analytical techniques and not as a research strategy. In this subsection, we will address GT as a research strategy within the constructivist paradigm.

Generation of substantive theory. The GT strategy does not aim at the generation of formal theories as occurs with post-positivist research paradigms. It turns to specific groups, within well-defined time and space, providing the generation of theories substantive. The substantive theory differs from the formal theory in that it is transferable and not generalizable. By transferable, it is understood that its elements can be transferred to other action contexts with characteristics similar to those of the original study. This contrasts with the formal theory, which is based on conclusions validated and generalizable in several studies that represent the research population as a whole, or by deductive logic develop empirical theories validated by their basic axioms (Gasson, 2009).

Focus on a group of people. Unlike phenomenology that seeks individual experiences, GT turns to the study of causal relationships between actors. The main interest is not in people's life stories, but in extracting information associated with the social situation under analysis (Suddaby, 2006). Unlike phenomenology, rarely is the interview the only technique for data collection, a great diversity of techniques for data collection is used. In GT the aim is to work with a diversity of data, considering the need to contrast the similarities and differences of the situations under analysis. The similarities serve to point out the relevance of the data with its substantive area, while the differences serve to maximize the variation of the occurrence of the phenomenon explained by the theory and, consequently, the explanatory power of the theory.

Atheoretical or Theoretical? The GT strategy inductively develops the substantive theory from the data collected in the field, it does not depend on initial

theoretical foundation to formulate hypotheses. The available theories are not used in the front end of the article to structure the development of the work and theory, they are used only in the back end of the article to contrast and explain the gap filled by the new theory. Because of this, it is often said that the GT research strategy is atheoretical (Suddaby, 2006). However, it is important to note that this does not mean that there is a total detachment from theoretical knowledge on the part of the researcher conducting a study using GT. The adjective atheoretical refers to the fact that the extant literature is not used as a central structure, a guiding conductor for the new substantive theory. Current theories are used for other purposes in GT, with the identification of the gap to be filled and, mainly, for sensitizing the researcher to the meaning of emerging concepts and categories (Glaser, 1978). Here it is important to remember the triangulation of knowledge from different fields and different areas, that is, codes and concepts from different theoretical fields.

Coding process. The main analytical technique of the GT strategy is coding, this process being carried out in three stages: open coding, axial coding and selective coding (Corbin & Strauss, 1990). In the open coding stage, we are looking for answers to questions that the researcher considers relevant from the context of the observed field data. These can be both from recovered historical data and from current data. Each aspect recognized as interesting from the field data becomes a question. Thus, the coding process implies in formulating questions and identifying answers. The name given to each of the codes should be understood as conceptual labels, remembering that theories are structured from concepts. For each of these initial codes (or concepts) we can add additional information which are their attributes. As new codes are created, a systematic comparison is made with the set of existing codes. This ends up generating actions of both decomposition of codes and consolidation of codes, characterizing a process of validation and purification of categories. In the second coding stage, axial coding, the researcher seeks to establish relationships between the categories (or concepts). The associations can be in terms of causal conditions, intervening conditions, as well as action strategy and consequences. These associations between codes can be formulated and tested in the form of hypotheses, tests to occur during the analysis phase of the GT strategy. In the third coding stage, selective coding, Corbin and Strauss (1990) recommend selecting the central category (or concept) among the categories, the one with the most relation to all the other categories. The entire line of development of the new theory will be elaborated from this category, which will be the protagonist category of the story, that is, from it all the interrelations with the other categories identified during the Axial coding stage. There are many variations of the GT analytical method strategy, for example, Gioia et al. (2013) recommend that the selection of the central category should not be based on the one with the most relationships, but on the one that best explicates the nascent concept.

Theoretical sensitivity and theoretical saturation. A very relevant aspect for the analysis process is the theoretical sensitivity of the researcher conducting it. This sensitivity depends on the researcher's ability to develop theoretical insights aiming at structuring the emerging theory. The more experienced the researcher, the

greater their theoretical sensitivity should be, favoring the identification and development of hypotheses among the categories (or concepts). Another relevant point of the GT analysis process is the theoretical saturation. It indicates the end point of the investigation and the deepening of a certain category. In practice, theoretical saturation occurs when a certain question raised for investigation in the process is already properly explained and contemplated and, therefore, does not require the collection of new data. Thus, issues such as the number of sample elements and the degree of data collection from each category permeate the subject.

Proposition and verification. The recursive process involving advancement and regression between the three coding stages characterizes an environment of insights that allow propositions of new categories or new associations between these and, subsequently, the testing of these associations. Thus, the GT analytical process should be understood as a process of proposing and verifying innovative and non-trivial propositions that can explain the collective behavior of a group in a certain context. These propositions must be properly empirically verified with the individuals of the group under consideration. The result of this process, the theory, is a consensus of interpretations, a construction with the voices of those involved and the researcher (Rennie, 1998).

2.4 Examples of Constructivist Research in the Field of Administration

As examples of research that applied the **phenomenological** strategy in the field of Administration are:

Cope, J. (2011). Entrepreneurial learning from failure: An interpretative phenomenological analysis. *Journal of Business Venturing, 26*(6), 604–623.

Pratama, A. P., Pritasari, A., Hidayanti, N., Tampubolon, M. N., & Nur, B. M. (2021). Personality types and managerial styles: A phenomenological approach. *Journal of Management Development, 40*(3), 141–150.

Sengupta, A., Mittal, S., & Sanchita, K. (2022). How do mid-level managers experience data science disruptions? An in-depth inquiry through Interpretative Phenomenological Analysis (IPA). *Management Decision, 60*(2), 320–343.

As examples of research that applied the **ethnographic** strategy in the field of Administration are:

Alcadipani, R., Hassard, J., & Islam, G. (2018). "I shot the Sheriff": Irony, sarcasm and the changing nature of workplace resistance. *The Journal of Management Studies, 55*(8), 1452–1487.

Farny, S., Kibler, E., & Down, S. (2019). Collective emotions in institutional creation work. *Academy of Management Journal, 62*(3), 765.

Moore, F. (2011). Holistic ethnography: Studying the impact of multiple national identities on post-acquisition organizations. *Journal of International Business Studies, 42*(5), 654–671.

As examples of research that applied the strategy **grounded theory** in the field of Administration are:

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Questions for Reflection:

1. What is the reason for stating that in phenomenology there should be an authentic interest of the researcher in the topic?
2. What is the data collection technique most strongly linked to the ethnographic research strategy? What is the reason for such a strong link?
3. What is theoretical sensitivity and theoretical saturation within the context of the grounded theory research strategy?

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Research Strategies According to the Pragmatic Paradigm

3

Reading Guide: In this chapter we will explore the main research actions conducted alongside three research strategies of the pragmatic paradigm: the case study strategy, the design science research strategy and the grounded design strategy. Each of them is described and discussed in a subsection of this chapter, which is broken down into specific topics of interest for each strategy.

As addressed in the subsection "1.5.3 Pragmatic Research Paradigm", pragmatic research approaches focus on the practice of the field context. In medicine, it focuses on what happens in hospitals, clinics and patients' homes; in Administration, on occurrences in the context of companies, suppliers and their customers' locations; in Law, what happens in courts and justice forums. In short, pragmatic strategies that deal with some level of practical knowledge are more suitable for researchers linked to what we call professional schools (van De Ven, 2007), areas where we clearly have a set of well-defined actors as practitioners.

3.1 Case Study

We will approach the case study strategy starting with its definition, first highlighting the false synonyms that usually generate confusion among beginner researchers. We will address the issue of the number of cases to be analyzed, the interaction of the researcher with these entities, as well as the commonly employed analysis techniques. We will highlight the importance of theoretical constructs for the definition of dimensions to have their data collected and analyzed, which will allow the discussion of theoretical questions from the context of practitioners, from the reality of the case or cases analyzed. Finally, we will conclude by discussing the different ways of exposing the findings, the new knowledge derived from the case study strategy.

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False synonyms. Before defining the case study research strategy we will address what it is not, exploring some of the similar terms that are erroneously considered by many as synonyms. In this list are terms such as: success case, case-based learning and case report. The success case is widely used by sales and marketing departments of companies, with the purpose of sensitizing potential clients and market analysts about their products and services, exclusively for business purposes. Meanwhile, case-based learning documents are educational tools that do not aim for a complete and meticulous interpretation, as the purpose is to present and establish a situation for debate. Finally, the case report, used by professionals in some areas, especially in the health sector, aims to present unusual situations to be discussed by their peers. In medicine, for example, a doctor may gather data from his patient, from atypical situations, which may require more attention and deeper studies. Case reports can even be seen as a first step toward conducting scientific research.

Definition. In the field of social science, case studies are more geared toward exploratory research, addressing research questions of the "how" and "why" type. This strategy is more appropriate for the analysis of a particular situation, where the boundaries are not clearly defined, that is, a new or changing reality. For this and other reasons, the case study turns to research questions that cannot be manipulated in laboratories like experiments. They cover situations that need to have their complexity understood and analyzed within their own environment. Taking the business environment as an example, we have the analysis of interventions that occur within the company. This includes the collection and analysis of data from transactions carried out by the company, it can be about a pioneering and innovative project that is starting, or something that has been happening for some time in the company and that has some aspect that arouses the researcher's interest. The unusual and new aspect can be in the way of doing something or in the results achieved, something new that justifies the interest in conducting the research.

Number of cases analyzed. In the case study strategy, one does not work with data volume from different entities, as occurs with the random samples of quantitative research, one works with data from some entities, intentionally or theoretically selected. The collection can occur with only one entity (single case), configuring an extreme and rare situation, or it can occur with some entities (multi-case), configuring the most common situation to occur (Eisenhardt, 1989). It is important to note that studies involving a single case are extremely rare. Hence the single case study arouses interest and suspicion, as it can be something highly relevant (innovative case in its essence) or merely disappointing (difficulty or limitation of the researcher in collecting data from multiple entities).

Interaction of the researcher with the entities. Due to the need for the researcher to go to the location of the transactions or intervention, the researcher must adapt to the environment, schedules and norms of the entities where the data collection activities will take place. As innovative events are usually poorly structured, it is up to the researcher during the collection to have the sensitivity to perceive the aspects of interest according to his theoretical and practical experience. In short, the researcher cannot delegate to third parties the work of going to the field

to collect, as is very common with quantitative research. Thus, we have a more mental effort, of observation and analysis of the novelties in their own locus. The main collection techniques used in the case study are natural observation, semi-standardized interview and the collection of evidence in the form of documents, records and artifacts.

Dimensions of analysis. Normally the new aspect that arouses interest in the case to be analyzed leads the researcher to make conjectures or propositions from the abductive logic, of what can occur in a certain situation. These conjectures are elaborated from a mix of theoretical and pragmatic knowledge of the researcher, that is, a good level of knowledge of what is happening in the field, as well as theories that help to understand and interpret this reality. From this initial awareness of the field in light of theories, the researcher defines his dimensions of analysis. The analytical dimensions help to define characteristics of the cases to be analyzed and can even compose groups of antagonistic or polar cases between them. Sometimes the proposition is so rare that it can be linked to a case that, luckily, the researcher has knowledge and authorization to be able to follow in loco the transaction or the intervention that will occur.

Data analysis. The most initial and simplistic form of analysis associated with the case study strategy is merely descriptive. Here the analyses are more restricted to the definition of attributes, types and definitions associated with entities that help to describe and understand a certain reality. A more elaborate and interesting situation for analysis would be the comparison of the situation found in the field, with the entities of this context, with the standard situation expected, according to the most recent literature in the area. This type of analytical technique is called "pattern matching" (Yin, 2018). A second more elaborate form would be "explanation building", which uses theoretical propositions for discussion of the data found in the field. This technique is highly interactive, consisting of a cycle of refinement of successive ideas. Another analysis technique is the "time-series", where events and occurrences are analyzed in terms of their results at different times. The idea here is the comparison of the status of the entity before a certain intervention, the status during the moment of intervention and the subsequent status, for example, the final situation of the entity after 12 or 24 months of intervention (Yin, 2018).

The analytical techniques of pattern matching, explanation building and time-series are not exclusive, on the contrary, they integrate to compose a more robust and consistent analysis to address more structured complex contexts. Within this perspective of combination and interposition of analytical techniques, the technique "logic-models" stands out, which presupposes cause-effect relationships (pattern matching) that are interconnected over time (time-series).

The analyses are done in the first moment case by case, only with the data from that entity, a process called "within-case analysis". With each new case collected, the researcher may, in his process of immersion in the field, perceive new dimensions. In this case, the researcher should return to the entities or cases already documented in order to verify the situation for that new dimension. It is important to note that in qualitative research the process of collecting information is permanently open, that is, new sources and new inputs can be incorporated

into the research protocol at any time (Sect. 1.3.3). After the first collections, the researcher should already be conducting the "cross-case analysis" which will allow the researcher to perceive the moment of "theoretical saturation", that is, the moment to stop with the process of data collection with new cases (Sect. 1.3.1).

Writing the research report. The case study research can result in multiple forms of result, it can be merely descriptive or more elaborate, and can even be used for the development of new theories. Obviously, these different levels of complexity will require different ontological strategies from the researcher to structure and present the new information resulting from the research. Yin (2018) describes six types of possible structures for a research report with a case study strategy: linear-analytic structures, the most common structure closest to traditional post-positivist research (introduction, literature review, methodology, findings, conclusions); comparative structures, a case is described many times, comparing various descriptive explanations; chronological structures, events are presented and discussed within a temporal sequence; theory-building structures, thinking about the best way to reveal and support a theoretical argument; suspense structures, the results achieved are initially presented to, then, explain and discuss their meanings; and unsequenced structures, any other order that may make more sense.

3.2 Design Science Research

The research strategy design science research (DSR) does not start from a conventional research problem, but from a pragmatic problem experienced at work by a group of professionals (practitioners). The researcher, to have the insight of a useful artifact to the group of practitioners, must have good interaction and knowledge of the actions performed by them, that is, full understanding of what we call the problem space. The understanding and the concern with regard to this demand from practitioners, associated with the knowledge of scientific concepts and constructs, usually from two or more areas of knowledge, are necessary ingredients for the generation of the insight for the proposition of an artifact that can be considered as a solution for a type or class of problem of the practitioners. The solution is usually designed for a very specific purpose, that is, design-oriented, according to a logic cause-effect (causation). The practitioners assist in defining the meta-requirements, as well as in testing the design of the artifact, whose Meta-design is being improved with each new test cycle by practitioners in their natural work environments, that is, the artifact is evaluated in real field situations. We will discuss below the main concepts and actions taken by the researcher during the conduct of a research based on the DSR strategy.

Problem space. In terms of philosophy of science, the design science research (DSR) research strategy shifts the researcher's attention from the necessary truth of traditional science to the contingent truth. While the necessary truth must prove true in all locations and contexts, the contingent truth is true in the way things happen or how things are, but it does not need to be an absolute and broad truth

in all locations and contexts. The result of the DSR strategy is a valid and useful artifact for a specific context, which Simon (1996) calls the "problem space". The users of this artifact are the professionals (practitioners) who operate in this space where the problem is inserted. Thus, we have that DSR is oriented toward pragmatic scientific knowledge, applied contingently and characterized by concern with the design of the solution. For the correct perception of the problem space, the researcher must have experience in the field of application of the artifact, in the practices and difficulties faced by its practitioners, an aspect addressed in the next paragraph.

Researchers and practitioners interact strongly. An important aspect of the DSR strategy is the insertion of the researcher into the area of application of the artifact. In this sense, he must have a broad mastery of the problems of the area, especially of the one that is the object of action of the artifact that is being proposed, as well as of the artifacts already available and in use by the professionals (practitioners) of the area. The proximity of the researcher to the reality of the group of practitioners of the artifact brings several benefits, one of them is to avoid the proposition of unnecessary or useless artifacts. For Hevner et al. (2004) a new artifact does not make sense when: it does not holistically and rigorously meet all necessary dimensions (financial, ergonomic, environmental, …); the new artifact does not solve the problem; existing artifacts are adequate; utility cannot be proven; or utility cannot be clearly and objectively evidenced. Thus, the proposed artifact must meet a specific and clearly delimited type or class of problem.

Type or class of problem. The DSR strategy works within the specificity of artifacts, not so broad and not so specific. As Van Aken and Romme (2009, p. 8) well defined: "it is not a specific solution for a specific situation, but a general solution for a type of problem". We return at this point to the concept of contingent truth, that is, valid and useful artifacts for a specific context, for a type of problem or better describing, characterized and directed to a problem space. Thinking about class or type of problem well equates the issue of scope, not being something so macro and not so micro. It is a generalized solution for a specific type of problem. It is not a specific solution to a specific problem, but a conceptual solution, whose design specification meets a type or category of problem, which seeks to serve a category of professionals or a business context (not necessarily linked to a group of specific professionals, considering that not every business problem or challenge is specific only to a group of professionals).

Design-oriented solution. The term design implies designing something as a solution to a need, these human creations being called artifacts. The function of design according to Simon (1996, p. 114) is "devising artifacts to attain goals". The artifact can manifest in different physical or virtual formats. In computing, for example, an artifact can take the form of "constructs (vocabulary and symbols), models (abstractions and representations), methods (algorithms and practices), and instantiations (implemented and prototype systems)" (Hevner et al., 2004, p. 77). The design and proposition of an artifact follow the same logic of a predictive hypothesis: the designed artifact is our premise (case) that we understand to be able to meet our needs (result) according to our theoretical understanding

(rule). There is the typical application of abductive logical reasoning, where from the terms "rule" and "result" one imagines a "case" that can solve the problem in question. We can make an analogy with the generation of cause-effect-type hypotheses, where we make inferences about a satisfactory explanation for a specific consequence that we aim for (Lee et al., 2011).

Conceptual sources of the artifact. Just as in the construction of new theories, which is derived from many triangulations of theoretical perspectives on the same set of data (Yin, 2018), the development of artifact in DSR is the result of triangulation between different concepts and knowledge. In the DSR research approach, in the generation of concepts, Taura and Nagai (2012) highlight the importance of the researcher in identifying the attributes (properties) of each concept, in order to better understand its function, cooperating with the identification, differentiation and selection of the appropriate concepts to integrate and compose the solution to a certain problem. The importance of attributes is similar to the discussion in various research approaches. In grounded theory, for example, in the open coding phase the objective is to find concepts with the analysis of attributes being fundamental for the structuring of concept categories from their similarities and differences (Corbin & Strauss, 1990).

Example of conceptual sources. As a way to illustrate the composition of concepts for the constitution of an artifact, Taura and Nagai (2012) gave examples of physical artifacts and people's daily lives, making it more understandable to researchers and professionals from various areas. One of the examples is the design of an art knife conceived from the junction of two concepts: broken glass and chocolate segments. These concepts substantiated the project of a cutting blade composed of segments, like the divisions present in a chocolate bar, which can be easily broken, just like a thin ice blade. With this, the knife always remains with the possibility of several sharp cuts, as many as the segments available along the length of the blade.

Design science research method. The DSR approach has some variations regarding the method for its application, that is, variations of design science research method (DSRM), but the most widespread is the one proposed by Peffers et al. (2007). The most recent DSRM proposals are all based on the text by Peffers and his colleagues. The six phases of the DSRM proposed by Peffers et al. (2007) are: problem identification and motivation; define the objectives for a solution; design and development [of the artifact]; demonstration; evaluation; and communication. In the phase of problem identification and motivation, the problem space and the type or class of the problem to be solved for a certain group of practitioners are worked out and defined. In the next phase, define the objectives for a solution, the main result is the creation of the meta-requirements, that is, the functions to be performed by the artifact. In the design and development phase, the artifact is created to meet the functionalities (meta-requirements) defined in the previous phase.

Meta-requirements and meta-design of the artifact. The researcher in the role of solution architect develops and presents successive versions of the artifact (meta-designs). This interactive process is referred to by Hevner et al. (2004) as

generate/test cycle. To meet a meta-requirement the designer identifies and tests various options of meta-design, hence the use of the term *testable design product hypotheses* "which can be used to verify whether the meta-design satisfies the meta-requirements" (Walls et al., 1992, p. 43). This interactive process with generation of design versions repeats until the moment when the designer understands that they have achieved functional saturation for all the meta-designs of the artifact. At this moment there is the understanding that the characteristics present in the project are sufficient for the resolution of the problem in a full and comprehensive way, capable of meeting that class of problem.

Meta-specifications. In DSRM the final set of meta-requirements and meta-design of the artifact is called meta-specification. These meta-specifications facilitate the actions of critical analysis and evolution of the proposed artifact, as well as the design and proposition of new artifacts for the same problem class. Although it is a fundamental element within the concept of continuous evolution of science, not just to generate the new (epistemology), but to understand the new aspects (ontology), allowing adaptations and evolutions of this knowledge, many DSR studies do not evidence or highlight the meta-specification of the artifact. Knowing this limitation of DSR articles, we present an example of meta-specification in a very simple and useful way, in the form of a table. The example highlighted in Table 3.1 is the extract of a meta-specification of an artifact, in this case, a typology to assist entrepreneurs and future entrepreneurs in perception of other creative tactics (heuristics) for generating new products and services beyond invention and copy tactics.

Artifact testing by practitioners. In DSR, the tests of the artifact being proposed occur in the field, with it being used by typical practitioners, in real field situations (not in laboratories or other researcher control environments). This is the greatest expression of collaborative work between researchers and practitioners. The evolution and improvement of the artifact is interactive from the feedback of practitioners, the clients of practitioners (beneficiaries of the action of the artifact) and the data generated (outputs) by the artifact itself. The important thing to highlight here is the record, the log of data resulting from the action of the artifact and coming from one or more sources. With

Artifact development
Implementation
Artifact development
Evaluation
Artifact evaluation
Performance indicator [new]
Artifact evaluation
Conclusions
Conclusions

Table 3.1 Example of meta-specification recommended by DSRM

Meta-requirements (The artifact must…)	Meta-designs (For this, its design must…)	Contextualization (In the design process that was achieved)
[…]	[…]	[…]
Demonstrate that when working with renewal it is necessary to consider not only the things that are deemed useful but also less desirable things, viewed as useless by the organization	Bring to the central display of the artifact a dichotomy centered on the subject of "aptitude [of the existing resource]", with "useful" as one of the options and "useless" as the other	Dichotomy between the two tactics associated with the "useless" (residue/byproduct and creative failures) and the other tactics associated with the "useful"
Demonstrate that the alteration of the form of a product or service may have different goals: to alter performance, reduce costs or make the product or service more adaptable to the needs of the end-user	Bring to the central display of the artifact a trichotomy centered on the subject of "orientation [of the alteration to the form]", indicating the options "cost", "performance" and "customer"	Trichotomy that presents five creative tactics associated with alteration of the form: custom-made, adaptation, frugal, improvement and degradation
Demonstrate that the alteration of performance of a product or service does not always mean an improvement; the opposite can also occur, with a reversal, a reduction	Bring to the central display of the artifact a dichotomy centered on the subject of the "direction [of the alteration of performance]", indicating the options of "superior" and "inferior"	Dichotomy between the "improvement" tactic and the "degradation" tactic
[…]	[…]	[…]

Source De Sordi et al., (2022, p. 28)

The Internet of Things (IoT) has made data collection from these various entities or processed resources simpler and more straightforward. Data records should characterize the conditions of the entity/resource at least two moments: before the use of the artifact and after its use. With this, we can discuss whether the artifact promotes the transition from status A to status B, that is, if it is capable of covering the distance from the current situation to the desired situation that characterizes the problem space for which the artifact was designed.

Artifact evaluation. As Hevner et al., (2004, p. 98) highlighted, "the design-science paradigm seeks to create 'what is effective'". For the researcher who is proposing an artifact with the DSR approach, it is fundamental to reflect on two fundamental questions: (a) "What utility does the new artifact provide?"; and (b) "What demonstrates that utility?". An editor or reviewer of an article developed with the DSR approach will pay attention, among many things, to these two questions. They are structuring questions for research projects conceived with the DSR approach. To answer the first question, the researcher must have clarity of the problem space to be able to clearly explain the functionality to be delivered by the new artifact. For the second question, we often answer it using indicators already

Table 3.2 Fundamental themes to be included in the DSR research report

Development of the artifact
Cycle of interaction with practitioners
Development of the artifact
Performance indicator [with the use of the artifact]
Evaluation of the artifact

available in the application area itself. Let's imagine that we are proposing an artifact in the form of a cutting tool for cranial incisions to be used by neurosurgeons. Let's imagine that one of the modalities of neurosurgery, for which the artifact is intended, has an average post-surgery hospital stay of 10 days and a risk of bacterial infections varying between 5 and 12%. These two indicators, post-surgery rest time and hospital infection rate, can be two good indicators for analysis and demonstration of the potential of the new artifact.

Writing the research report. The DSR strategy is quite young compared to the others. There are no studies on variations of report structures under some conditions, as occurs with the case study strategy. However, there are topics that cannot be missed in the structure of reports of research conducted with the DSR strategy. We point out in Table 3.2 the main themes to be included in the report, distributed by sections of the report.

3.3 Grounded Design

Rohde et al. (2017) proposed the grounded design (GD) strategy aiming to overcome some difficulties faced by interventionist approaches, such as self-referentiality and contingency. The stance of self-referentiality results in a closed system, instead of a system-environment relationship, the organization develops a system centered on itself, system-system. The open system allows exchanges with the external environment, facilitates the inclusion of improvements and advances, while the self-referenced system is closed and, therefore, much more difficult to accept exchanges with the external environment. The artifacts proposed by researchers through the design science research (DSR) strategy can be perceived by the organization's practitioners (the insiders) as an external element to the organization. The term contingency is related to the issue of social dependence, that is, the acceptance and use of the artifact goes through the appropriation of the artifact by the people of the organization.

The GD approach can be understood as a triangulation between the DSR strategy and the Grounded Theory (GT) strategy (Corbin & Strauss, 1990; Glaser & Strauss, 1967). Rohde et al. (2017) proposed the triangulation between DSR and GT to provide a method that allows the insertion of technological artifacts with less rejection and more acceptance by the organization's user community. GD can be understood as a set of principles for the development of artifacts, described in

Table 3.3, which are supported by concepts coming from practice theory. In the next subsection we will discuss the central concepts of practice theory.

Practice theory. The artifacts developed from the DSR, such as the GD, can be operated within the context of a personal tool, for example, by a freelance professional, or be directed to a community of professionals who collaborate within an organization or a set of organizations that operate in a network. The broader the community of people involved in the operation of the artifact, the more complex and challenging the process of appropriating the artifact by the community of

Table 3.3 Principles of Grounded Design

Principle	Description
Pre-study/context study	The designers must have a strong involvement and insertion with the community of future users, that is, those who experience the difficulty that is the object of the artifact, in order to understand their social practices
Working on the artifact	The design of the artifact should be understood as an appropriation process of the artifact by future users. For this, it is essential that the inputs, actions and outputs of the new artifact are interpreted by users within the context of their social practices. The central idea here is to ensure the use and effectiveness of the artifact
Working with the artifact	To evaluate the utility and usability of the new functions of the artifact, users must use it. From the use, they try to make sense of the new functions for carrying out their work, considering new ways of performing their work, as well as new improvements necessary to the artifact in development. In this way, a process of *learning by designing* is established
Building the knowledge base	Each tentative design of the artifact should have the results of its use properly observed and recorded in the form of *design case study* (DCS). This record should contain information on the design options considered, as well as the appropriation process and the effectiveness of the artifacts' functions and the emerging new social practices
Meta-analysis	The results of various DCS recorded in the knowledge base can undergo meta-analysis with the aim of identifying cross-sectional similarities and differences. This can lead to some patterns or common design characteristics (structural configurations) that can be typified for the artifact already considering specific properties or requirements of social practices for necessary appropriation activities
Evolutionary project organization	Create the organizational culture of developing and updating artifact designs in a strongly participative way with users and adhering to the requirements of social practices for necessary appropriation activities

Source Rohde et al. (2017)

practitioners will be. The GD addresses this aspect of the effective use of the artifact by the practitioner(s), which often implies a change in behavior, abandoning one practice and adopting another. This transformation of the practice developed by a professional requires not only the replacement of one tool with another, but is characterized as a systemic change that involves structures and social relations.

Practice theory helps practitioners of pragmatic approaches, like DSR and GD, to understand the various systemic components involved in the effective appropriation of an artifact by a social group. According to practice theory, a work practice involves various dimensions such as: materiality and embodiment, structure, and cognitive-mental processes. According to Giddens (1984), the structure dimension is characterized by rules (shared knowledge). The materiality and embodiment dimension is composed of artifacts, bodies or natural objects that contribute to the formation of practices. The cognitive-mental processes dimension covers non-material aspects, such as emotion and affectivity linked to practice, it is configured as codes that characterize for the practitioner the essence of the practice.

The researcher, by following the use of the artifact by practitioners, in terms of what they are doing and saying in relation to the new artifact, constitutes a path to understand and analyze how to overcome resistances or difficulties arising from the force of habit linked to internalized routines. The recording of this information with each new adjustment in the artifact's design, through the design case study (see principle "Building the knowledge base" in Table 3.3), as proposed by GD, brings important inputs. The application of coding and content analysis techniques to these inputs, as proposed by Grounded Theory, allows researchers to analyze the effectiveness of the artifact in terms of its appropriation by practitioners.

3.4 Examples of Pragmatic Research in the Field of Administration

As examples of research that applied the strategy **case study** in the field of Administration we have:

Gianiodis, P. T., Ettlie, J. E., & Urbina, J. J. (2014). Open service innovation in the global banking industry: Inside-out versus outside-in strategies. *Academy of Management Perspectives, 28*(1), 76–91.

Obermayer, N., Kővári, E., Leinonen, J., Bak, G., & Valeri, M. (2022). How social media practices shape family business performance: the wine industry case study. *European Management Journal, 40*(3), 360–371.

Raffaelli, R., DeJordy, R., & McDonald, R. M. (2022). How leaders with divergent visions generate novel strategy: Navigating the paradox of preservation and modernization in swiss watchmaking. *Academy of Management Journal, 65*(5), 1593–1622.

As examples of research that applied the strategy **design science research** in the field of Administration, we have:

Moretto, V., Elia, G., Schirinzi, S., Vizzi, R., & Ghiani, G. (2022). A knowledge visualization approach to identify and discover inner areas: A pilot application in the province of lecce. *Management Decision, 60*(4), 1132–1158.

Trabucchi, D., Buganza, T., Bellis, P., Magnanini, S., Press, J., Verganti, R., & Zasa, F. P. (2022). Story-making to nurture change: Creating a journey to make transformation happen. *Journal of Knowledge Management, 26*(11), 427–460.

Xu, H. (2020). Minimizing the ripple effect caused by operational risks in a make-to-order supply chain. *International Journal of Physical Distribution & Logistics Management, 50*(4), 381–402.

At the time of writing this book, there were no articles published in the main journals in the field of Administration developed with the use of the strategy **grounded design**. It is important to remember that this is a recent approach and originates from the area of technology.

Questions for Reflection:

1. Identify in the repositories of scientific articles (web of science, ProQuest, EBSCO, Jstor, …) some research that used the case study strategy and check which analytical techniques were employed. Try to identify if there are indications of the application of the techniques pattern matching, explanation building, time-series and logic-models.
2. What is the relationship between the meta-requirement and meta-design in the development of an artifact through the DSR strategy?
3. How does the grounded design strategy expand and improve the design science research strategy? Consider in the development of your answer the terms: self-referentiality, contingency and design case study.

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Research Strategies According to the Transformative Paradigm

4

Reading Guide: In this chapter we will explore the main research actions conducted along three research strategies of the transformative paradigm: the action research strategy, the participatory action research strategy and the action-design research strategy. Each of them is described and discussed in a subsection of this chapter, these being broken down into specific topics of interest for each strategy.

As addressed in the subsection "1.5.2 Transformative Research Paradigm", transformative research approaches seek to fulfill a dual mission: to promote citizens or social groups, who are the subjects of interest of the research; and, concurrently, to learn from this transformation process. These are field researches, according to the precepts of the interactive action–reflection–learning cycle. The actions necessary for the intervention, which aims at social transformation, are conceived and validated according to the premises of the scientific method. Thus, the approaches of the transformative paradigm are all of an interventionist nature in relation to a social group.

4.1 Action Research

The action research (AR) strategy is a type of research of a participative and applied nature. Participative because researchers collaborate with members of a group experiencing a problem in search of a solution for it. Applied because it is empirical research, carried out in the field with close association with the members of the group experiencing the problem. During the research, researchers and community participants identify the problem, they develop a diagnosis and propose a solution. This is a very different approach from the mainstream of the predominant paradigm, the post-positivist, as its main focus is the promotion of members of a group or society, involving the combination of theories and scientific techniques (Thiollent, 1985).

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Researcher's legitimization in the field. The intention of collaborative work with the social group presented by the researcher from the first moment brings greater legitimization of the action and presence of the researcher with the group. This is one of the great benefits of the AR approach, once well discussed and with the consent of the social group with the project, the researcher begins to be seen as an ally of the group's interests. This relationship is configured as one of the most positive forms of interaction between researcher and researched. If we make an analogy, for example, with the case study strategy we will notice the many differences. In the case study strategy, the researcher talks to those responsible for one or more entities (cases) to be researched. Once the person responsible for the case agrees to cooperate with the research, he indicates people from the entity to talk and pass the necessary information to the researchers. These second-tier members of the case, indicated by the person responsible, are "obliged" to attend to the researchers. Thus, in the case study we have a relationship between researchers and researched with a mix of co-optation and obligation, while in AR we have a relationship of cooperation. These differences were well explored by Tripp (2005) and are described, briefly, in Table 4.1.

Researcher as an agent of transformation. In AR the researcher becomes an implementer of a system, seeking political, social, economic, educational, food among many other possible facets to assist a community. In addition to evaluating a certain interventionist technique, the researcher is also oriented to the promotion of the social group with which he is interacting. This is a very different research stance from the case study strategy, where the researcher only acts as an observer of the intervention promoted by the entity. In AR, the researcher is directly involved with the intervention and with the social group. Thus, the researcher who practices AR has two objectives: to solve a social problem and to develop a set of concepts and practices for the development of an interventionist and transformative system for social groups. Regarding a possible strong involvement of the researcher with the social group, Baskerville and Wood-Harper (1996) warn researchers about the care not to violate some necessary behaviors for the researcher: impartiality and discipline.

Interaction cycles. The AR strategy works with practical learning (or learning-by-doing) through cycles of action–reflection–learning. There are four central phases that are present in the various methods proposed for AR: phase one, (re)plan the intervention with the group; phase two, act to implement the planned action; phase three, observe the effects of the action on the community; and phase four, reflect on the achieved results (Zuber-Skerritt, 2001). This cycle repeats until the intervention achieves the satisfactory result for the community, as planned. Due to this interactive cycle, note that the first phase of the AR strategy can be to plan (in the first cycle) or to replan (in the occurrence of the other cycles). There is no defined number of cycles, considering that it depends on the complexity of each researched environment, among many other factors. This set of four phases within each round or interactive cycle is called the "Lewinian spiral", in tribute to the German psychologist and social scientist Kurt Lewin who created the method and the term action research in 1946.

Report structure. The scientific text addressing the results achieved with the application of the AR strategy has some specific characteristics that should be observed by the researcher. The first aspect is to highlight the current situation of the social group to be assisted or promoted, highlighting the difficulty they face. The central aspect of the report is the description of the interaction cycles, describing for each of them the four phases carried out: plan the intervention, act to implement, observe the effects of the action and reflect on the results. The text should highlight the successive interventionist approaches experienced in each round, highlighting in each one of them: (a) what was learned and changed in relation to the previous cycle; and (b) the differentiation in terms of achieved results. In the final part of the text we should have the description of the best practice achieved, describing its implications both for the social group beneficiary of the action and to practitioners who will make future interventions in similar contexts.

4.2 Participatory Action Research

A variation of the action research (AR) strategy is the participatory action research (PAR), the main differential of this being the strong commitment of the researcher to the problems experienced by a certain community. The researcher is not necessarily an advocate or sympathizer of the cause, and may even be a member of the community, that is, beneficiary of the intervention itself. According to Creswell (2014), examples of communities addressed in seminal works involving the PAR strategy involve victims of some type of social prejudice (special people), racial (blacks and indigenous people) and sexual (women and homosexuals).

Intensity of experience. The intensity of the researcher's experience with the community represents the main differential aspect between the AR strategy and the PAR strategy. In PAR the involvement is very intense and lasting, the researcher is strongly involved and inserted in the situation or problem to be addressed by the intervention. In the AR strategy, the involvement of the researcher with the problem is more circumstantial, for example, while people are in the exercise of a certain function or occupation. Table 4.2 is an updated version of Table 4.1. Note that in the AR strategy the action is of "cooperation" between the researched community and the researcher, while in the PAR strategy the action is of "collaboration" between the researched community and the researcher. McGrath and O'Toole (2012) characterized these different levels of involvement through the indication of the most pertinent preposition to characterize the involvement between researcher and community. They indicated the preposition "on", for the action of cooption; the preposition "with", for the action of cooperation; and the preposition "by" for the action of co-learning or collective action.

Table 4.1 Different levels of involvement between researcher and researched

Action	Action description	Strategy	Involvement
Cooperation	When a researcher gets someone to agree to participate in their project. The person, in this case, works as a partner in many aspects, being regularly consulted	AR	High
Co-optation	When a researcher persuades someone to help him in his research. The person in this case is being co-opted, that is, will do a favor or a service to the researcher	CS (entity responsible)	Medium
Obligation	When a participant has no option, must assist the researcher in his project. In this case, there is some kind of coercion or guideline from the entity's superior for the employee to assist the researcher	CS (entity employees)	Low

AR = action research; SC = case study

Table 4.2 Different levels of involvement between researcher and research subjects

Action	Action description	Strategy	Involvement
Collaboration	When the members of the researched community work together with the researcher, with equal participation from the beginning, that is, from the conception of the research project	PAR	Very High
Cooperation	When a researcher gets someone to agree to participate in his project. The person, in this case, works as a partner in many aspects, being regularly consulted	AR	High
Co-optation	When a researcher persuades someone to help him in his research. The person in this case is being co-opted, that is, will provide a favor or a service to the researcher	CS (entity responsible)	Medium
Obligation	When a participant has no choice, must assist the researcher in his project. In this case, there is some kind of coercion or directive by the superior of the entity for the employee to assist the researcher	CS (entity employees)	Low

AR = action research; PAR = participatory action research; SC = case study

4.3 Action-Design Research

The action-design research (ADR) strategy is a recent approach and with increasing adoption (Mullarkey & Hevner, 2019), resulting from the triangulation between the research strategies action research (AR) and design science research (DSR). The seminal works of ADR were proposed by researchers in the field of Information Systems. As a result, many of the ADR articles were conceived from a more technological structure, grounded and written from the perspective of the practitioners of the DSR strategy. Thus, we have that the public of researchers with tradition in the research strategies AR are the least assisted by the contents of the articles that present and describe the ADR approach. Another reason, more relevant, for the discussions of this section to be developed under the perspective of the AR approach, is the fact that ADR is aimed at promoting a group of people, in the case the user community of the artifact characterizing it strongly with this important precept of the transformative paradigm.

Improvement in relation to DSR. The main difference of the ADR strategy in relation to DSR is in the greater involvement of different actors (researchers, practitioners and users) from the initial conception of the artifact. The ADR method proposes several interactive cycles between the actors, according to the precepts of the AR strategy (Susman & Evered, 1978). The group of professionals for a research project with method ADR should be composed from its inception by researchers and practitioners, with the latter bringing information to the group from interactions with end-users in the field, when making use of the artifact. In the DSR approach, practitioners are involved with the project only in the final stages, especially in the demonstration and evaluation phases of the artifact.

Co-creation. Practitioners of the DSR approach recognize that the foundation of AR that most complements and enhances the DSR approach is the co-creation that occurs between researchers and practitioners. This joint work generates a greater understanding of the demand or problem to be solved, including the social and cultural issues that are less perceptible to researchers who are outside the group of practitioners. Within this perspective of complementarity between the approaches, it is also relevant to question what would be the main methodological and epistemological benefits to researchers with more experience in the AR strategy when incorporating the fundamentals of the ADR approach. In the following paragraphs, we will address some of these benefits for professionals specialized in conducting the AR strategy when inserting some techniques and precepts of DSR when exercising the ADR strategy.

Emphasis on the problem. In the DSR strategy, the central object of research is the artifact, which must be proven useful. The AR strategy, on the other hand, focuses on the intervention that may even result in an artifact, understood as something relevant, but secondary. In the "AR strategy, the artifact is usually the byproduct of the research intervention, not the goal of this intervention" (Papas et al., p. 156). The emphasis of AR is on solving problems associated with the daily practice of a locality or group, through an intervention, characterizing the result generated by the research as a contribution to local practice, unlike DSR

which seeks to contribute to general practice through the created artifact (Goldkuhl, 2013, p. 3). The typology of artifacts recognized by the DSR approach, encompassing method, construct, model and instantiation (Hevner et al., 2004), proposes and favors the researcher who practices ADR to think and perceive different possibilities of contributions in the form of an artifact.

Transferability and transparency of findings. The lessons learned from the artifact design process according to the DSR strategy are formalized in meta-requirements and meta-designs. These meta-specifications facilitate the actions of critical analysis and evolution of the proposed artifact, as well as the conception and proposition of new artifacts for the same class of problems. In short, it goes far beyond finding and allowing the replication of the solution, that is, the transfer of the artifact to other groups with similar problems. The meta-specification allows greater clarity of the principles and characteristics of the artifact to all subsequent investigators, facilitating the evolution of the artifact of interest to the benefited social group. This is a gain for AR practitioners, considering that the results of the AR strategy do not always have an easy way to be explained and understood by other similar actor groups that could also benefit from a similar intervention.

Learning by design. As for the artifact evaluation process, the AR strategy seeks to solve the problem of the locality, not necessarily with a solution that can be recognized as the best possible. In DSR, a solution is sought that can be considered the best, either through a unique and innovative artifact, or through an artifact similar to the current ones, but with superior performance. Because it seeks to meet these requirements, DSR has a more formal and structured artifact evaluation process than that observed in AR. In this sense, Papas et al. (2012) pointed out that in DSR the evaluation process is vital, while in AR this process is perceived only as useful. While in the AR evaluation process action learning is practiced through an action-reflection cycle with a community, in DSR the strategy of learning from failures is used, generating several successive versions of the artifact (learning by design) that are tested simultaneously by different practitioners in different locations (Iivari & Venable, 2009). Thus, to test solutions identified in the form of artifacts, the ADR mental model offers new possibilities of actions to be considered by AR practitioners.

Phases of the ADR method. According to Sein et al. (2011), the four phases of the ADR method are: phase 1, problem formulation; phase 2, construction, intervention and evaluation of the artifact; phase 3, reflection and learning; and phase 4, formalization of learning. For the first phase, problem formulation, it is important to note that the research problem according to ADR must meet two principles: (a) “practice-inspired research”, which implies researchers in perceiving the opportunity to “generate knowledge that can be applied to a specific class of problems”; and (b) “artifact rooted in theory”, which “emphasizes that the set of artifacts created and evaluated via ADR are substantiated by theories”, with emphasis on those classified as design theory.

Broader perspectives. It is important to recognize that the researcher’s epistemological stance toward the actors involved is more open and comprehensive in the context of the AR approach than in the DSR approach. In AR, we start from

the voluntarism or non-determinism of the actors studied, allowing discussion of the multiple aspects of intervention, for example, "how actors respond to changing conditions and the consequences of their actions" (Corbin & Strauss, 1990, p. 5). The training of the researcher who has a broad command of the AR approach and the assumptions of DSR, through ADR, should not restrict this important opening, on the contrary, it should further expand the set of possible scenarios, considering the possibility of generating new knowledge according to the assumptions of design theory. Thus, the researcher with a broad command of AR, who focuses on problem solving in a specific location, can, based on the fundamentals of DSR, work with the possibility of specifying one or more artifacts, with specific purposes and target audiences. Therefore, artifacts that are also capable of being generated by AR can be presented in a more structured and ontologically more effective way in terms of being recognized and understood more easily, thus facilitating their reuse by other practitioners, as well as their evolution by other researchers.

4.4 Examples of Transformative Research in the Field of Administration

As examples of research that applied the **action research** strategy in the field of Administration, we have:

Eikelenboom, M., & Long, T. B. (2023). Breaking the cycle of marginalization: How to involve local communities in multi-stakeholder initiatives? *Journal of Business Ethics, 186*(1), 31–62.
Kelliher, F., Murphy, M., & Harrington, D. (2020). Exploring the role of goal setting and external accountability mechanisms in embedding strategic learning plans in small firms. *Journal of Small Business and Enterprise Development, 27*(3), 449–469.
Saabye, H., Thomas, B. K., & Wæhrens, B. V. (2022). Developing a learning-to-learn capability: Insights on conditions for industry 4.0 adoption. *International Journal of Operations & Production Management, 42*(13), 25–53.

As examples of research that applied the **participatory action research** strategy in the field of Administration, we have:

Bell, D. G., Giordano, R., & Putz, P. (2002). Inter-firm sharing of process knowledge: Exploring knowledge markets. *Knowledge and Process Management, 9*(1), 12.
Kalliola, S. (2003). Self-designed teams in improving public sector performance and quality of working life. *Public Performance & Management Review, 27*(2), 110–122.
Salizar, M. L., & Arbon, P. A. (2017). Improving community disaster resilience through scorecard self-testing. *Disaster Prevention and Management, 26*(1), 13–27.

As examples of research that applied the strategy **action-design research** in the field of Administration, we have:

Danneels, L., & Viaene, S. (2022). Identifying digital transformation paradoxes. *Business & Information Systems Engineering, 64*(4), 483–500.
De Sordi, J. O., Reed, E. N., Meireles, M., & Hashimoto, M. (2022). Development of products and services in small enterprises: Proposition of an artifact to discuss creative logics. *Journal of Small Business and Enterprise Development, 29*(1), 18–46.
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Questions for Reflection:

1. Considering the interventionist interactions with the community of users to be benefited by the action research strategy, how many interaction cycles should the researcher carry out with this community?
2. What is the main differentiating element between the participatory action research strategy and the action research strategy?
3. What is the main complement of action-design research to the action research strategy? And for the design science research strategy?

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McGrath, H., & O'Toole, T. (2012). Critical issues in research design in action research in an SME development context. *European Journal of Training and Development, 36*(5), 508–526.
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Papas, N., O'Keefe, R. M., & Seltsikas, P. (2012). The action research vs design science debate: Reflections from an intervention in eGovernment. *European Journal of Information Systems, 21*(2), 147–159.

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Susman, G. I., & Evered, R. D. (1978). An assessment of the scientific merits of action research. *Administrative Science Quarterly, 23*(4), 582–603.

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Part III
Qualitative Data Collection

You can have data without information, but you cannot have information without data.

Daniel Keys Moran
American computer programmer and science fiction writer

Techniques for Data Collection

5

Reading Guide: This chapter details the main variations of two of the main techniques for collecting qualitative data, the interview and observation. Table 5.1 describes the distinctive aspects of eight types of interviews, while Table 5.2 describes the distinctive aspects of four types of observations. In addition to the interview and observation, this chapter discusses collection techniques through third parties (crowdsourcing), collection of documents and artifacts in the field, as well as open-ended questions.

The researcher can collect data using different techniques: interview, observation, spontaneous collaboration of third parties (crowdsourcing), open-ended questions, as well as the capture of documents, records and artifacts. In qualitative research, it is very common to use several of these techniques in the same project, considering the realization of data collection from multiple sources and in different perspectives. In this chapter, we will explore these different techniques within the context of qualitative data collection.

5.1 Different Types of Qualitative Interviews

The interview is the act of presenting questions to the interviewee and recording their responses. In general, the researcher should encourage the interviewee to speak. However, this standard posture can be carried out in different ways, using different techniques and strategies. The behavior of the interviewer and the set of actions to practice will depend on the type of interview defined by the researcher. Flick (2009), for example, described five types: focused interview, semi-standardized interview, problem-centered interview, expert interview and ethnographic interview.

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It is important that the researcher, when preparing the research project, is aware of the various types of interviews, the behaviors of the researcher and the actions demanded for each of them. The choice of the type of interview will depend on the context of each research, according to the questions associated with the selected research strategy, which will depend on the research problem to be addressed by the research. Below are described eight types of techniques for conducting interviews, in addition to the five addressed by Flick (2009), the phenomenological interview is described, as well as two other types of unstructured interviews, the oral history interview and the creative interview.

5.1.1 Focused Interview

The focused interview starts with a uniform stimulus to the interviewees, which can be the screening of a film, a lecture, a performance, a presentation of photos or images, an activity involving the interviewees, among other initial interactions. After the initial interaction with the interviewees, the impact of the initial interaction on the interviewees is analyzed, from an interview guide, with the aim of focusing as much as possible on a specific object and its meaning. This is a structured interview technique, as the same sequence of acts must be performed with all the interviewees regardless of the number of interview sessions to be conducted. The questions formulated are open, adhering to the principle of non-direction. These questions aim to seek the most detailed possible answers from the interviewees, going beyond superficial perceptions such as pleasant or unpleasant.

When applied to a group of people, this form of interview is called a focus group. The inputs of the session (information) are generated by the interaction within the group. The participants influence each other with their statements and responses to the stimuli emitted by the researcher who assumes the role of moderator of the session. The data fundamentals produced by this technique, the discussions among the group members, are transcribed and supplemented with the moderator's notes and reflections, and those of other observers, if they exist.

The focus group is appropriate when the goal is to explain how people perceive an experience, an idea or an event, as the discussion during the meetings is effective in providing information about what people think or feel, or even about how they act. A typical example of a focus group is the sessions conducted by company marketing professionals, with the aim of collecting consumer opinions on possible new products and services. For these sessions, typical users of the company's current products and services are invited, for whom a new version or even a substitute product is intended to be generated. Users test the product or service during the session and at the end of it, they give their opinions and views on them.

During the focus group, the researcher assumes the role of the session moderator, which requires other behaviors: cordial and at the same time firm, to maintain a pleasant environment as well as the discipline that will ensure the agenda is followed; tolerant of the diversity of participant behavior; engaging, in order to stimulate the participation of all participants; incomplete understanding, in order

to seek clarity of communication within the group; stimulating, to encourage those who are reluctant to participate; flexible, to improvise and change the plan in order to avoid distractions from the group work process; and sensitive, to guide the group's conversation at a good intellectual and emotional level. Because of these many attributes, often the researcher invites or hires a professional specialized in conducting focus groups to play the role of moderator of the focus group sessions.

5.1.2 Semi-Standardized Interview

This format is recommended for respondents who have some knowledge about the topic under study, that is, they have explicit and immediate assumptions that can be expressed by the respondent spontaneously when answering an open question. The idea is to develop an understanding or even a substantive theory substantiated from the respondents' speeches. In addition to open questions addressing the respondent's knowledge of the topic, there are three other sets of questions aimed at exploring assumptions about the topic, developed by the researcher (Flick, 2009):

a. Open questions about the topic, guided by theory;
b. Questions aimed at exploring hypotheses, also supported by theory on the topic; and
c. Confrontational questions for the answers provided by the respondent, with the aim of conducting a critical analysis of his position in terms of rival alternative answers to his. The interviewer must have a set of various versions of questions that will be applied according to the sequencing of the respondent's answers.

In the semi-standardized interview, there are at least two iterations between researcher and respondent. For the second meeting, the researcher uses the Structure Laying Technique (SLT) to present to the respondent the interpretation or the foundations of his thinking, obtained from the first interaction. The central idea with the application of the SLT is to reveal to the respondents the implicit theories contained in their initial discourse. The SLT presents the content in a way very similar to the formulation of scientific hypotheses, facilitating the evolution of scientific knowledge. Thus, a brief exposition of the SLT diagram should be made to the respondent, assisting him in reading and understanding its content. In a type of semi-structured research, the questions although flexible should cover a certain set of questions, aiming to gain understanding from the answers that will be transcribed, that is, textual information that will undergo a process of analysis.

5.1.3 Problem-Centered Interview

The problem-centered interview (PCI) turns to the discussion of a daily problem from the perspective of the practical knowledge of the respondent who has experience and interest in the problem. In the PCI, there is an "egalitarian dialogue

between the interviewer and interviewee in which the research question or the 'problem' is jointly refined" (Döringer, 2021, p. 268). The researcher has a conceptual and theoretical interest in the problem, while the interviewee knows the field reality. Thus, this joint work between researcher and respondent aims to co-construct or reconstruct the problem under analysis, through an interactive and interpretative process of the collected data. The researcher's prior knowledge integrates with the practical knowledge of the interviewee, giving opportunities to the researcher to refine or even develop scientific knowledge about the problem.

Operationally, PCI is characterized by three moments, below we describe and justify the activities carried out in these three moments (Witzel & Reiter, 2012):

a. Start the interview by presenting to the interviewee an introductory question that directs the conversation to the problem that is desired to be discussed. The question should be broad, leaving the interviewee at ease to approach the problem from their perspective;
b. Based on the theoretical framework of their knowledge, the researcher should encourage and sensitize the interviewee to tell their story. The interviewer will approach thematic aspects associated with the introductory question, requesting concrete examples of the interviewee's experience with each of the themes. The idea is to allow the interviewee to reveal their view on the problem in question, narrating various emblematic episodes about the topics of interest. As preparation for the interview, there is the formulation of the introductory question and the identification of the themes to be explored during the dialogue with the interviewee. Thus, the interview unfolds from the introductory question, punctuated in sequence with the placement of themes to be explored;
c. After the interviewee's narrative, in the format of storytelling, ad hoc questions can be formulated at the end of the interview. This occurs if some theme has not been addressed or well explained by the interviewee. This will ensure the comparability of the responses of all interviewees.

5.1.4 Expert Interview

Aims to discuss a subject of interest to the researcher in which the interviewee is an expert. The expert can be understood as that person with special knowledge in relation to the research problem, this knowledge being associated with their professional activity (Meuser & Nagel, 2009). Unlike the semi-standardized interview or the biographical interview that focuses on the person's experiences, in the expert interview the focus of interest is the interviewee's experience. There is more emphasis on the interviewee's professional knowledge than on a specific subject. An interview guide is used with a directive function to exclude unproductive topics in relation to the domain of interest. Unlike the semi-standardized interview or the biographical interview, the expert interview allows group discussion. In this format, we call it the Delphi technique (described below), replacing the need for individual interviews with the experts.

The Delphi technique aims at the prospecting of future trends on the object under study. The main objective is to obtain the most reliable consensus among experts on a topic. The technique encompasses a group communication process, involving experts on the topic under analysis, to address a complex problem (Linstone & Turoff, 1975). The entire dialogue is done asynchronously, with the researcher acting as facilitator and intermediary between them. Once the group of experts is defined, the researcher makes successive submissions of the questionnaire, as well as the tabulation of the answers and presentation of the justifications presented for each member of the group. From the second round, the questionnaire submission is accompanied by the answers without the identification of the names of the expert respondents, allowing each expert to read the others' responses. This feature of anonymous responses avoids psychological dominance by some experts, as occurs in face-to-face meetings.

From the second round, experts with dispersed responses within the group's concentration area, that is, the "outliers", need to justify their answer or reposition their initial response. Thus the basic operation is summarized in: (a) successive application of questionnaire to a group of experts; (b) in the interval of each round, perform analysis statistics of the responses; (c) provide feedback on the responses to the group for reassessment; and (d) monitor the repositioning of outliers or better description of their justification. This process repeats until there is no more repositioning of the experts regarding their opinions, usually achieved in the third round.

5.1.5 Ethnographic Interview

The ethnographic interview takes place in the field, while the researcher observes the actors of the society of interest of the study, that is, while practicing participant observation. As the observation time of the ethnographer is much longer than the interview time, the time factor has less importance in this type of interview. The ethnographic interview is set up as a series of cordial conversations, during the process of participant observation, in which the researcher slowly introduces new elements to help the interviewees to respond as informants (Spradley, 1979). From a methodological point of view, these are interviews with the aim of collecting qualitative data. The researcher conducts these cordial conversations, individually, with the members of the researched society, aiming to understand behaviors and rituals associated with the culture of the society under study.

The intention is to interview the users in their natural environment, while they are performing their tasks, asking them questions about what they are doing and the reasons for it. This act of observing the users while they perform activities and question them in their environments can bring important details to the study about social behavior. The fact that the researcher is immersed in the locality, listening and seeing the acts and asking only what is necessary, reduces the distortion and the bias of the data collection process, implying an increase in the quality of the research. The quality gain of the research with the ethnographic interview was also

explored by Rinaldo and Guhin (2022) who highlighted two additional pieces of information from this technique that enhance the analyses:

a. Allows researchers to triangulate the data in the field, considering that they are seeing the actions, hearing the dialogues, asking and hearing responses, all of this at the same time and in the same place;
b. Absorbing the "local knowledge", that is, going beyond the declarative culture revealed in a formal isolated interview, reaching the undeclared culture revealed both by the interview and by ethnographic observation.

5.1.6 Phenomenological Interview

This strategy starts with an open question about a topic of interest to the researcher, allowing the interviewee the possibility of expressing their point of view extensively (Giorgi, 1997). After the presentation of the question, the interviewer must remain exclusively attentive and interested in the interviewee's speech. This act of posing the question and simply listening, without concern for analysis and development of value judgment during the interviewee's speech, is called "active listening". By adopting this posture, the interviewer focuses exclusively on the report of experiences, avoiding that their assumptions or comparisons with other experiences lived contaminate their thoughts and interfere in the conduct of the process.

The act of suspending value judgment while the interviewee speaks also has a specific denomination, the "phenomenological epoché". According to Sanders (1982) the phenomenological epoché implies in "disinterested contemplation", in other words, the suspension of judgment does not doubt the existence of something, but refrains from issuing judgments about this thing. Thus, the proposal of the epoché is the temporary suspension of all personal prejudices, beliefs or assumptions of the interviewer about something. This allows the interviewer to focus exclusively on the pure and free view that the interviewee has about something, that is, what this thing essentially means to the interviewee.

Once the interviewee's speech is transcribed, the researcher makes, later, notes about the points where there are doubts and that deserve greater understanding. This document is presented to the interviewee in order to seek more information and this can be done in person, through a second interview, or asynchronously by sending the document with the notes of the doubts. This second moment allows the interviewee to reconstruct the details of their experience within the context in which they occur or occurred. In this second moment, it is expected from the interviewee to complement and clarify doubts from the first iteration. In a third moment, the researcher should encourage the interviewee to reflect on the meaning of their experience in question. Due to these three moments of interaction and detailing of the experience, the phenomenological interview is also referred to as "in-depth interview" (Seidman, 1997).

5.1.7 Oral History Interview

This interview is aimed at understanding and obtaining life history of a person in their own words. Conducting the oral history interview is a way to reach groups and individuals for whom there is no availability of record of information of research interest. Obviously, before conducting the interview, there should have been previous work identifying knowledgeable persons on the research topic of interest, as well as preliminary research of the literature related to the topic of interest aiming to develop questions that can be formulated during the interview (Collins & Bloom, 1991). The questions often do not need to be formulated, being only presented for topics not naturally addressed by the interviewee or commented on very briefly.

During the oral history interview, the researcher should show cordiality and make the interviewee feel comfortable. The pace in terms of time and agenda is up to the interviewee's availability, characterizing an unstructured work. In this type of interview, it is very common for the interview to require more than one date, that is, more than one session to present the whole story. The interviewer should inform at the beginning of the interview that it is not an intrusive or inquisitive session, but of scientific interest in the life story of the interviewee. The interview should be conducted as a friendly dialogue between two people. Notes should be avoided during the interview, as this tends to generate insecurity in the interviewee and shake the trust relationship previously established when inviting the interviewee to collaborate with the research. The interviewer should only film the session, according to a previous agreement when making the invitation, an agreement remembered at the beginning of the recording.

Although the interviewer has a general direction for the interview, the interviewee may drift to various topics, off the agenda of interest. A strategy to return the conversation to the research topic of interest is to take a break in the interview, using the restart of the interview to remind the central topic. Another resource to resume the topic during the interviewee's speech, without the need to interrupt the interview, is presenting one of the previously formulated questions about the topic of interest to the interviewee. After the end of the interview, it is important that the interviewee signs a consent form for the use of the information for the purposes of the research in question. Attached to the consent form should be the transcription of the interviewee's speeches.

Other important tips for a good conduct of the oral history interview are (Larmour, 1994): do not rush, let the interviewee tell their story; do not throw more than one question at a time; show interest in the story, including with non-verbal signs; use your list of notes to know the topics that still need to be addressed by the interviewee; check your filming equipment from time to time to make sure everything is being filmed, it's important to check this at each rest stop; only write down terms and words that catch your attention for later questioning; each interview session should not exceed 90 minutes.

5.1.8 Creative Interview

Technique used to collect data from a group, with the interviewees selected intentionally (not random or statistical sampling), according to the research perspectives of interest. Its methods are quite open and unconventional, in the sense that these interviews are not structured and do not follow rules, on the contrary, they are quite flexible and adapt to each situation, and can take a long time to conclude (Douglas, 1985). Its processes involve the construction of content through the elaboration of drawings, of presentations, of diagrams, of dance, of making films, of photos, among other means. It is configured as a creation situated and contextualized by the participants, a particular and not universal knowledge.

The activities of the creative interview process can be developed in different locations and under different conditions such as moving, traveling, participating in a project or standing in a location, for example, in a room. During interactions with those involved in the creative interview, the researcher seeks to collect aspects of the situational dynamics, the environment, the physical and non-verbal elements, as occurs in the ethnographic interview. These collected inputs are of nature "visual and the sensory, and which are worthy of investigation but cannot always be easily expressed in words, since not all knowledge is reducible to language" (Bagnoli, 2009, p. 547).

The explanation of the different types of interview highlighted the distinctive aspects regarding the techniques employed and the attitudes required of the researcher. Table 5.1 summarizes some of these differences for the eight types of interviews analyzed.

5.2 Collection of Documents, Records and Artifacts

The terms pervasive computing, information society and Internet phase two are some of the many terms used to highlight the digitization of society, which has made a large set of data about different entities available to researchers. Researchers who make use of these sources, working with emerging tools and methods, have been called bricoleurs, being responsible for generating great findings, practically, from nothing, in terms of being something unthinkable until then (Baker & Nelson, 2005).

The search for these documents and records is called documentary research. If the researcher can command the instructions for generating the report (information) from the collection of records (data), we have what Scott (1990) called close interaction between the researcher and the content. If the information has already been generated and the researcher cannot influence the generation process (definition of criteria), we have mediated interaction. Documentary research can also cover physical documents and artifacts, similar to what happens with archaeology. Some examples of physical documents: manuscripts, letters and diaries, laws, reports, public data, newspaper and magazine texts, pamphlets, medical exams, memos, advertisements, company invoices, photographs, maps, paintings,

Table 5.1 Distinctive aspects of the eight types of interviews studied

Type of interview	Actors individual or group	Actors profile specialist or typical user	Interaction synchronous or asynchronous	Processes unstructured, semistructured, or structured	Discussion present, past or future
Focused interview	Both	Typical user	Synchronous	Structured	Present
Semi-Standardized interview	Individual	Specialist	Synchronous	Semistructured	Present
Problem-centered interview	Individual	Both	Synchronous	Unstructured	Past and Present
Expert interview	Both	Specialist	Both	Structured	Future
Ethnographic interview	Individual	Typical user	Synchronous	Unstructured	Present
Phenomenological interview	Individual	Typical user	Synchronous	Semistructured	Past
Oral history Interview	Individual	Typical user	Synchronous	Unstructured	Past
Creative interview	Group	Typical user	Synchronous	Unstructured	Present

films, architectural drawings, organograms, among others. As an example of tangible artifacts we have: produced pieces, furniture, tools, among many other objects produced by man.

The decision to capture documents in the field should consider aspects such as: authenticity of the document, credibility of the source, representativeness of the document and the meaning of its content. As for the artifact, the main questions are associated with provenance (origin), who and when (age) it was developed. If these physical or digital entities collected are not from a static environment, like the historical records of an archive, but extracted from a current and dynamic environment, it is equally important to record the context of use of that entity in that context. In this case, the importance attributed by the actors who develop or use it, as well as the use and purpose attributed to the entity in that context, should be recorded.

5.3 Different Types of Qualitative Observations in the Field

The observation technique uses our various senses to describe the systematic of events, behaviors and artifacts used in the social environment of research interest (Marshall & Rossman, 1989). The techniques of direct observation of phenomena in their natural environment are so important for various areas of science

that many epistemologists define them as a research paradigm, calling it observational research or field research. In this subsection, we will describe three types of field observation, commonly practiced by researchers: natural observation, participant observation and covert participant observation. In addition to these three field observations, which occur in a natural and unstructured environment, we will also describe the process of controlled observation, carried out in an unnatural environment with structured procedures.

5.3.1 Natural Observation

In natural observation, the social group, the object of observation, is aware of the presence and intentions of the researcher. This allows the researcher to be completely honest and transparent with the interviewees and avoids possible ethical problems, such as those associated with the lack of consent from the observed people. It also prevents the researcher from getting too close to the participants and becoming an element of the group. Thus, natural observation helps to keep the observation objective and free from questioning. However, the participants knowing the objectives of the observer may condition their behaviors to what they believe to be expected by the researcher. In practice, the presence of the researcher can bias the observation environment.

Natural observation is a very common technique in Administration research. Citing its application in some widely disseminated research in Administration, we have the research of Mintzberg (1973), which discussed the managerial roles from data obtained from natural observation with managers from different industries and at different organizational levels. Kanter (1983) used natural observation with members of various organizations to study organizational behavior and change, while Cohen et al. (1972) used the same technique to discuss work practices and organizational learning.

5.3.2 Participant Observation

In participant observation, the researcher learns to act like the other members of the social group, in order to blend in with the community that is the object of study. The central idea is for the researcher to participate in the community of interest is to experience the feelings and other aspects difficult to be observed or even to be transmitted by the other members of the social group. The researcher in this mode of observation must adopt a very open and flexible posture, without judgments, but interested in learning more about others and being aware of a possible cultural shock. Misunderstandings can be avoided if the researcher adopts the posture of a careful observer and a listener attentive, open to the unexpected that can be learned from the daily practice of living with the social group (De Walt and De Walt, 1998). It is important to remember that the technique of participant observation

is the main source of data collection for some research strategies, as occurs with ethnographic research.

Obviously the presence of the researcher with the social group can cause a behavior bias among the group members at first, but this bias tends to be reduced as the time of interaction with the group is prolonged. Behavior changes tend to be reduced as the researcher begins to be accepted by the group and, often, perceived as a member of the group itself. Thus, in this type of observation, the longer the interaction period, the higher the quality of the researcher's perceptions in the field.

5.3.3 Covert Participant Observation

In covert participant observation, the social group, the object of observation, is not aware of the presence and intentions of the researcher. This allows for a very different position from participant observation. One advantage of covert participant observation is that it allows access to social groups that normally do not provide consent for research. Therefore, this technique allows for researching and expanding knowledge about lesser-known social groups, which in turn will expand our understanding of the world. The greatest advantage, however, lies in the anonymity of the researcher, which results in less interference in the studied environment, resulting in greater validity of field observations.

The researcher is subject to ethical questions by keeping his true intentions secret, especially with regard to the lack of consent from the group. Another negative aspect is that the researcher cannot feel protected when dealing with social groups that operate on the fringes of society. There is also the risk of the researcher becoming an element of the group, which could result in bias in his analyses. When analyzing the ethical issues of covert participant observation in the field of Administration, Oliver and Eales (2008) understood that it is an ethical and effective method. They highlight that researchers should be aware of the possible consequences for themselves in terms of personal, emotional and trust issues that revolve around the omission of information associated with covert participant observation.

5.3.4 Controlled Observation

In controlled observation, the people to be observed are led to an environment where the observation will take place. In exact sciences, this environment is usually a university laboratory, a company or a research center (Kothari, 2010). In social sciences, as is the case with research in Administration, we usually use meeting rooms of the university itself, hotel rooms, theaters and other spaces that are quite different from the typical laboratory. The researcher decides the location where the observation will take place, that is, there is no collection in the natural environment of the observed. In addition, the researcher defines at what

Table 5.2 Distinctive aspects of the four types of observation

Type of observation	Recognition of the researcher by the observed(s)	Collection in the natural environment of the observed(s)	Researcher only observes	Researcher practices empathy by putting himself in the position of the observed(s)
Natural observation	Yes	Yes	Yes	No
Participant observation	Yes	Yes	No	Yes
Covert participant observation	No	Yes	No	Yes
Controlled observation	Both alternatives	No	No	No

moment the observation will occur, with which participants and under what circumstances, using a standardized procedure. Participants are randomly allocated to each group that will be associated with an independent variable, allowing comparisons between different contexts and/or groups. Due to all this influence of the researcher on the collection environment, defining both the location and the collection method, this type of observation is also called structured observation.

It is important to note that not always the observed, invited to the observation environment, are aware that it is a session for data collection for scientific purposes. Many interactions require as natural an act as possible and, for this, the session is not always announced as a scientific event. It can be announced as an event for commercial purposes, for understanding the consumer, or another form of interaction that is pertinent to the actions that will occur during the session.

The explanation of the different types of observations highlighted the distinctive aspects regarding the techniques employed and the attitudes demanded of the researcher. Table 5.2 summarizes the four types of observation studied, describing their distinctive aspects.

5.4 Spontaneous Third-Party Collection (Crowdsourcing)

In the action of crowdsourcing, there is large-scale data collection, carried out by many people in society, usually for free. This collection practice was only recently enabled, due to the new resources of information and communication technology, in particular, the creation of the large data network, the Internet, as well as the new mobile devices connected to it. Thus, the term crowdsourcing is also new, included only in 2011 in the dictionary Merriam-Webster, which points to the year 2006 as its emergence, its first public use. This term is the result of the composition of the words crowd and outsourcing. The idea here is to delegate the collection activity, usually conducted by researchers or their representatives, to society as a whole. For

this, this collective of people must be motivated, that is, they must perceive the collection action associated with a noble and praiseworthy action, compatible with their values and beliefs. In addition to the dissemination of information about the research with the aim of sensitizing and motivating society members to collaborate with the research, researchers must provide and publicize a technological platform, an application, so that the community can make their contributions in the simplest and fastest way.

Research that designs the use of crowdsourcing aiming at the participation of the collective of employees of one or more companies, like a business cluster, can be more easily understood, especially in more modern and innovative organizations. In these organizations there is already a culture of crowdsourcing, they have it as a practice or a recurring process "for different purposes, such as group decision, idea generation, problem solving, and software development" (Thuan et al., 2018, p. 286). Among the pioneering and most widespread examples of crowdsourcing we have the development of Linux software, made up of great collaboration between a large collective of programmers with the aim of providing an operating system with open codes and more accessible to society as a whole (Warner, 2011). Another good example of crowdsourcing is the content capture for the constitution and continuous development of the Wikipedia dictionary, with people proposing new words and their definitions.

In the context of research activities, crowdsourcing can have several other applications besides data collection, such as (Dunn & Hedges, 2013): text coding by collaborative tagging action, content correction or modification, transcription, recording and creation of content, commenting on responses and declaring preferences, categorization, cataloging, contextualization, mapping and georeferencing. Thus, throughout this book we will make other mentions of the term crowdsourcing not associated exclusively with data collection activities, but with other fronts of scientific research work.

Unfortunately, not every research has an evident social motivation or appeal that can naturally attract the participation of a large public of respondents. In general, considering the various areas of science, it is estimated that only 2% of the total people contacted and invited to participate in the research collaborate by responding, for example, to a questionnaire. The combination of technological facilities with the insertion of financial reward has generated some new specialized services for data collection. One of these services is offered by the bigtech Amazon, called Amazon Mechanical Turk or just MTurk (Peer et al., 2014). Among the mechanisms employed to ensure the quality of the collected data is the insertion of attention check questions (ACQs), which end up preventing the insertion of responses from people merely interested in the financial reward.

5.5 Open-Ended Question

The questionnaire is a structured and efficient way of collecting data, very common in quantitative research, which predominantly uses closed-ended questions, that is, questions that ask the respondent to choose an answer from a list of possible responses. Conversely, qualitative research involves few open-ended questions, which allow the respondent to freely express their opinion in the form of free text. Below are some examples of open-ended questions used in different qualitative research strategies:

- Coates (2017, p. 44) employed phenomenological research to discuss the perception of Generation Y members, who work full-time, on how they understand the phenomenon of work. For this, he used the following open-ended questions: "What does work mean to you? How have you developed your meaning of work? What analogy or metaphor would you use to represent the meaning of work to you, and why?";
- Gillespie et al. (2013, p. 388) used ethnographic research to study the communication process among health professionals involved in performing surgeries (nursing, anesthesia and surgery). For this, they used open-ended questions such as: "Can you describe the characteristics of an effective team in surgery? and, Based on your experience, what are some of the obstacles to teamwork in surgery?".

Questions for Reflection:

1. Considering the two typologies studied, that of interviews and observations, what are the pairs, the interview-observation combinations that are most relevant and likely to occur?
2. Among the possible interview-observation combinations, which dyads can be considered incoherent?
3. Are open-ended questions more likely to occur within the context of which types of interviews and observations?

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Dealing with People During the Research Process

6

Reading Guide: In this chapter, the various interactions that the researcher establishes with different people in order to successfully navigate the various phases of qualitative research are discussed. These people are subdivided into two groups: providers of inputs for the analyses, referred to here as actors; and the professionals who can help us ensure the quality of the project and the execution of the research. For the actors, we will discuss how to classify them in terms of proximity to the research interests, defining them as a primary or secondary source. We conclude this chapter by addressing the care that the researcher must take with these different groups of people to avoid ethical issues.

6.1 Primary and Secondary Source

In this subsection, we will deal with the concept of a source which in the context of scientific research is defined as "something mentioned in a text as providing related and especially supporting information" (Merriam-Webster, 2023). The data and information collected in the field are tabulated or coded and condensed into tables and figures that will be cited throughout the analyses and discussions developed in the scientific text. The definition of the sources of these contents, as primary or secondary, will depend on their relationship with the central subject or object of research interest. The analysis of the distance or proximity of the source to the object or subject of the research will indicate the classification of the source in terms of origin, whether primary or secondary. According to Solomon et al. (2007), primary information sources are those that are closest to the event, time period, individual or any other entity understood as the object or subject of research. Thus, we have that the primary source has a strong relationship with the object or subject of the research, being able to provide explanations about them.

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"The distinction between primary and secondary source is subjective and contextual" (Dalton & Charnigo, 2004, p. 419). "The distinction is not easy. Considering that the source is just a source in a specific historical context, the same source can be both primary and secondary, depending on the use that is made of it" (Kragh, 1989, p. 121). This information is important in order to observe that to classify a source it is necessary to have discernment, not only of the subject or object of research, but also, of the objective of the research. Below are described two exemplary situations regarding the classification of sources as primary or secondary, which well characterize the importance of observing the research interest context for the correct classification of the source.

Hall's (2002) research aimed to explore how one of the presidents of the United States of America, George Bush, used public opinion polls in the process of rhetorical construction of his presidential speeches. Although Hall did not interview the president, he interviewed important professionals from his team, responsible for the preparation of the speeches given by the president, these sources being, correctly, classified as primary sources of the research. These same professionals from President Bush's team could be classified as secondary sources, in the case of a change in the research context, for example, if the research objective was to analyze the stress of assuming the presidency. In the first scenario, the interviewees are fully involved, that is, responsible for the preparation of the presidential speech. In the second scenario, they can only give their opinion on what they perceived from the president's behavior, as they did not live the experience of being president.

Another example is Turner's (2006) study, which applied osteology (part of anatomy that deals with bones) and phylogeny (genetic succession of organic species) with the aim of specifying a variation of a prehistoric crocodile still unknown. Among the sources of evidence analyzed were four partial skulls of the animal. For the purpose of defining the palate (upper part of the oral cavity) and the internal cranial structure, the partial skulls were correctly classified as a secondary source of the research. They do not bring direct attributes of these parts of the animals, however, they serve as parameters for assumptions about it. If the central object of interest in the research was the animal's skull, such evidence could be classified as primary sources.

Having said that, we have to define the origin of the source, whether primary or secondary, also depends on the context of the research and collection. It is a relational issue, which can be described by the question: how close are the evidences provided by the source to the object or subject of the research, according to the objective of the research in question? It is not about truthfulness, but proximity, considering that the person themselves, the subject of the research, could provide incorrect information to the researcher.

The basic premise is for the preference of primary sources, as they are directly connected to the object or subject of the research (Swinehart & McLeod, 1960). This helps to reduce the impedance of third parties or content replicators, which can generate inputs of dubious quality. The idea here is the same as the metaphor of the river as a source of water for consumption, drinking at the source, at the

head of the river, is much safer in terms of water quality. The contents of secondary sources, for example, may present errors and noise caused by third parties. Here come the intentional or unintentional errors, of observation, of translation, of analysis, among others, caused by the interaction of this second actor with the primary subject or object of the research.

For secondary sources used in research, there should be greater attention and care in terms of arguments, analyses and methodological procedures, in order to ensure the maintenance of the quality of the research inputs. Hence the importance of objectively analyzing each of the possible research sources, classifying them as primary or secondary. This will facilitate our understanding of what is possible to be considered as an integral source of the research, as well as the necessary care for the collection and analysis actions of the research inputs. As an example of collection actions we have: the triangulation of sources, collecting the same topic of interest from two or more sources; special care with collection instruments, such as cross-questions, aiming to verify the quality of the content that is being collected.

6.2 Roles Occupied by Different People in Different Contexts of Qualitative Research

According to the differentiating attributes between qualitative research methods and quantitative ones, discussed in Sect. 1.4 , qualitative strategies involve few entities, selected based on criteria. In short, the few entities involved are always well defined in terms of the specific characteristics of the group, in order to contrast with the generic group or with an exactly opposite group, as occurs between the male and female genders, between small and large companies, among many other polar situations. The descriptions, propositions and other epistemological resources used for the construction of scientific knowledge benefit from these similarities and differences. The similarities serve to give cohesion and relevance to the theme or substantive area that is being explored by the research, while the differences serve to maximize the variability of the data and increase the variation of the occurrence of the phenomenon explained by the theory and, as a consequence, its own explanatory power.

These few entities or people who are the target of the data collection actions of qualitative research can be characterized by different groups of actors, according to the paradigm and the qualitative research strategy in question. We will describe in the following subsubchapters some of these groups of actors most commonly found in qualitative research, the typical actor and the specialist actor. There are several other more specific situations that, if we analyze in detail, we realize that it is possible to be framed in one of these two large groups without prejudice to the understanding of the strategy or the research method.

6.2.1 Typical Actor

In many research we want any subject that meets certain pre-defined characteristics. An example would be to explore contemporary entrepreneurs of the third age, a group characterized by specific attributes such as: (i) people who have established a company (criterion one); (ii) recently, between 2020 and 2023 (criterion two); and (iii) aged 70 years or older at the start of the company's operations (criterion three). Thus, as typical actors or subjects of interest in this research, we have anyone who meets these three criteria. The knowledge generated by this research will be directed toward a specific area, in this case, elderly entrepreneurs, contrasting with general theories of entrepreneurship.

The typical actor is the most commonly used by various qualitative research strategies. Their role is the most passive of all, usually they are observed in their natural environment or interviewed about current phenomena or previous experiences. The researcher's perception and expectation are to observe actions or reports from a common and representative informant of that group.

6.2.2 Specialist Actor

Unlike the typical actor, who can be anyone who acts or has acted in a certain role according to some specific characteristics, the specialist actor has something different, usually a deep knowledge or experience in something. Thus, the specialist goes beyond meeting certain characteristics of a group, usually encompasses some very rare and distinctive characteristics among the members of the group or presents a much higher and differentiated status from the group average in relation to one or more common characteristics of the group. The differentiated status in a common characteristic or the possession of a differentiated characteristic is what allows classifying some subjects of the group as specialists.

The specialist actor can be activated by the researcher in the context of some qualitative strategies for specific purposes, such as the analysis of a phenomenon or even the issuance of opinions on technological, political, social trends among other aspects. The researcher's perspective is of an actor well above the group average in terms of their competencies in a certain subject.

In addition to these actors directly associated with the data collection phase and information in the field, which are the most remembered when the subject is scientific research method, there are other people that we should have access during the research. Van De Ven (2007), for example, indicated four important moments of research that require the researcher's involvement and exchange of information with other groups of professionals. These moments or work fronts he called: research design, theory building, problem formulation and problem solving. Next we describe the profile of the people to be contacted by the researcher in these four work fronts.

6.2.3 Professionals Specialized in the Intended Research Design

For the research design moment, the researcher should contact the methods experts and people providing access to information. As qualitative methods are recent and increasingly intertwined and diversified due to many triangulations of collection techniques, analysis techniques, research methods and research strategies, it is necessary to read or listen to other researcher colleagues about the various possible paths to be adopted by the research. The main objective is to define the method to be executed during the research, that is, to define the research design. Before defining the sources to be accessed for data collection, we have to ensure access to these sources. Thus it is important to also contact people who can facilitate access to these sources of research interest.

6.2.4 Professionals Specialized in the Necessary Theories

For the theory-building moment, the researcher should contact the knowledge experts in relevant disciplines and functions. Qualitative research usually combines insights from different but related fields. Thus, it is very common to involve theories and literature from various books and scholarly articles from different thematic areas (Ellis & Levy, 2008). In this triangulation of theories, the researcher will most likely not be knowledgeable about all the necessary theories, and may thus have to contact specialists in these different thematic fields. These specialists can be the very formulators of the theories or other researchers who are knowledgeable due to the study and application of these theories in their research.

6.2.5 Professionals Specialized in the Problem at Hand

For the problem formulation moment, the researcher should contact professionals who have experience and knowledge about the problem of research interest. The idea is to make sure to have made a divergent and broad movement to explore the various facets of a problem and then, subsequently, converge the ideas around a very specific and defined problem. This aims to ensure the identification of a research-worthy problem. This avoids conducting unattractive or even unnecessary research, based on a non-critical or even non-existent problem. This group includes research groups specialized in the theme, technology providers that mitigate the problem, political actors, non-profit organizations focused on the theme, among others.

6.2.6 Professionals Specialized in Problem Solving

For the problem-solving moment, the researcher may demand the assistance of professionals who have good technical knowledge in interpreting meanings or even in the use of artifacts. The analysis of the research results, which we call in qualitative research the findings of the research, must be as precise as possible. The triangulations of techniques, methods and strategies imply the challenge not only of structuring the research design (Sect. 6.2.3), but also in the analysis and discussion of its results. These results must be discussed, obviously, in the context of the research problem and the intended objective. In some cases, it even involves dialogue and measurement of results with the beneficiaries of the research, this is the case of research strategies associated with the transformative research paradigm, which seek the generation of knowledge that promotes groups of individuals. In some of these cases, there may even be political negotiations to reconcile conflicting interests within the group.

6.3 Ethical Issues

Ethical issues are worrisome and deserving of our attention when we consider the various problems and embarrassing situations that we can incur when collecting data and information from people. During the research, we contact individuals with very distinct profiles for various purposes. Below are some concerns for each of the six groups of people addressed in subsection 6.2. This is a small portion of possible problems that can occur, just to exemplify possible conflict situations that we can face during the data and information collection process.

Typical actor. Among the possible ethical problems is the exposure of the name or other data that allows identifying the informant without his consent. Once agreed with the informant the secrecy regarding the identity of the person or entity of our interest, we have to take actions that ensure respect for what was previously agreed. In this sense, a very common technique is the creation of codes or fictitious names with the purpose of ensuring the anonymity of the informant. It is important to note that consent for collection is necessary, excluding sources considered public domain, such as those informed on the person's own web page or entity and the information available in authorized biographies. Here the conflict situations go far beyond the disclosure of information without consent. Some examples are sharing the collected inputs with other researchers; using the provided inputs for other research purposes beyond what was consented by the informant; and extrapolating data and information outside the original context reported by the informants.

Specialist actor. Specialists are usually people who are difficult to access and with a very busy schedule. This difficulty often can make the participation of authentic specialists unfeasible. The researcher must adhere to the minimum criteria required that configure a specialist in a certain field, avoiding the collection from pseudo-specialists.

Professionals specialized in the intended research design. The direct application of collection instruments, analysis techniques, and linking these in the form of a research method, as developed and applied by another researcher are rare events. Usually, these must be adapted to the context of the new research. Thus, there is a concern to have the instruments properly reviewed and adapted to the reality of the research. The other side of this aspect of reusing the methodological resources of other researchers is to ensure the understanding and use of most of the precepts and actions of the method as established in the original text, avoiding irrelevant citations just with the purpose of seeking credibility for the methodological options adopted.

Professionals specialized in the necessary theories. The risk here lies in the superficial understanding of important concepts or in a biased and partial selection perspective. The ethical deviation can be in the sense of a superficial or biased reading, capturing only the aspects of greatest interest. In information science there is the concept of performing a biased search, seeking to find only what is expected. In research methodology texts, more specifically in literature review, it would be like applying only the technique of narrative review which is selective, without ambitions of a broader review on the topic (Paré et al., 2015).

Professionals specialized in the problem at hand. A central aspect of ethics among specialists in the problem addressed by the research is to bring as faithfully as possible the current state of the scenario at that moment. This includes being careful not to address problems already solved or well underway, as well as not to expand the problem to new aspects or non-existent frontiers (pure alarmism). The more impactful the representative numbers of a problem, the greater the sensitization of readers, which can lead to a bias of inflating these numbers. Such numbers must be as reliable as possible, under penalty of being characterized as sensationalist or alarmist research. Thus, the researcher must have the sensitivity and care to verify if the source of a grey literature shows signs of preferences that may suggest biases in their reports or algorithms before using their inputs. This type of care is one of the great landmarks that differentiate journals from newspapers, researchers from politicians.

Professionals specialized in problem solving. In this theme there is a need for a holistic view, remembering that the resolution of complex problems is usually multifaceted. A solved problem should not imply the generation of new problems, that is, the analysis of the solution given should be as comprehensive and honest as possible in order to demonstrate an effective solution. Taking pragmatic approaches as an example, the acts of evaluating the unfolding of an intervention (case study) or the application of the artifact in a specific context (design science research) requires considering different perspectives: financial, operational, environmental, political, social, among others. Making a selective discussion, contemplating only part of the results obtained, can be seen as a problem of concealing results and partial analysis, especially if such results can alter the findings of the research.

6.4 Considering the Multifaceted Aspects of the Sources

For all research sources, whether primary or secondary, there are specific aspects of each individual or group that must be observed in order to better plan the actions for data collection. In this last subsection we will explore some of these aspects, most of which can be predicted for planning collection actions. The reality found in the field can often be surprising, different from what was imagined, bringing new contexts or even pointing to new research fronts not yet considered. Thus, the researcher conducting qualitative research must be attentive to the unexpected, which often only reveals itself during the interaction with the sources. Within this context, the qualitative researcher must have sharp perception and good sense to also collect the unexpected, the unplanned. This condition shows that qualitative collection activities cannot be delegated to research assistants as often happens in traditional post-positivist research, and must be conducted by the researchers responsible for the research. We explore below four aspects associated with groups or individuals that characterize the dynamism and some of the challenges of qualitative information collection.

Collective-individual dimension. An ethnographic observation in the field may require informal conversations with specific actors of the group under study. Similarly, during an interview with an actor in their environment, unexpected interactions of the interviewee with other actors of the environment can reveal the need for field observations or interviews with other actors. Thus, although we are going to the field for a type of collection, with a certain technique, we must be open and prepared to carry out additional unforeseen collections, expanding the number of meetings or collection events, as well as making use of other collection techniques.

Cultural dimension. Our interactions with the sources should be as friendly and simple as possible, resulting in the least effort and cost possible to the sources that collaborate with the research. In this sense, we have to be attentive: to the most appropriate communication style for interaction with each individual or group; attention and respect to the best times and places for interaction, if there is a need for synchronous interaction; as well as observing the most appropriate techniques and tools for the context of each individual or group. Despite few entities compared to quantitative research, there is a more intense, deep and lasting interaction, which should be conducted in the best way to avoid wear and tear with the sources. It is important to remember that in qualitative research it is very common the occurrence of many interactions with the sources, occurred at different moments.

Human-artificial dimension. Often the focus of interest of the research may be on the person or individual, it may be on a group or society, that is, focus on the human dimension. In other situations, our focus may be on an entity that can take different forms, such as a process, a method or, more broadly, an artifact or something artificial. Most of the time, the focal object and the objective of the research should be made explicit to the sources at the first moment. This transparency makes the sources more comfortable and motivated, especially if we can show them, during the invitation to collaborate with the research, that we are working on a problem worthy of research, with relevance and social impact. The clarity

of the object of interest of the research helps not only the researcher to plan and establish all the procedures for collection, but also helps the sources themselves in understanding their importance within the context of the research.

Insider–outsider dimension. The researcher should imagine himself in the position of the sources in order to analyze their perception in relation to the researcher, how they consider the role of the researcher. When the sources perceive him as a member of the group, as occurs for example in participatory action research, the researcher already has greater legitimacy and acceptance from the group, making the collection process much simpler. On the other hand, when they perceive the researcher as an outsider to the group, the researcher will have to make greater efforts for his acceptance by the group. In this case, the researcher should use techniques that involve them with the project, for example, discussing with them the problem or how the results of the research can collaborate with the community to which they belong.

Questions for Reflection:

1. Think about a research project that you intend to conduct and imagine who would be the informants or actors who will provide inputs for your research.
2. Considering the objective of the intended research, classify each of the groups of actors as a primary source or secondary source.
3. What theories will you need to discuss the possible findings of the research and, consequently, professionals from which thematic areas will you have to contact for a correct understanding of the theories to be applied for the analysis of the findings?

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Part IV
Techniques for Qualitative Data Analysis

To create, we need both technique and freedom of technique.
Stephen Nachmanovitch
American educator, artist, and musician

Content Analysis Technique

7

Reading Guide: In this chapter we will address the concepts, activities and other entities necessary for understanding the application of the content analysis technique. Starting from different ways of obtaining text corpus to be analyzed, we will explore the different types of readings exercised at different times or stages of the content analysis technique. We will give special emphasis to the central part of the analytical actions, describing the phase of coding, detailing it in its three basic types of coding: open, axial and selective. We will finish by exploring how the visual map can assist in the ontological challenge of presenting the new, the new theory, indicating the application of this in support of the structuring and writing of the theory.

Bansal and Corley (2012) used the term bricoleur to characterize the work developed by researchers who practice the qualitative method, characterizing it as the act of gathering and joining a set of practices with the purpose of providing solutions to a problem. The term makes perfect sense, considering that in good qualitative research, invariably, researchers develop their work integrating various data collection and analysis techniques and, often, even triangulating different research strategies. This freedom to compose techniques is the signature, the trademark of good articles developed with qualitative strategies. Hence the choice of the aphorism for this fourth part of the book that begins in this chapter: "To create, we need both technique and freedom of technique" (Stephen Nachmanovitch).

In this sense of composing and assembling research techniques, we discuss in this chapter the content analysis technique from the perspective of different researchers who composed and applied it in different ways. We will prefer the set of concepts and activities described by researchers who used it as the main instrument for generating their theories. Another aspect to highlight in this introduction is that the content analysis technique has a very broad scope in terms of concepts and activities. Knowing this, it is important to point to the reader that this chapter does not intend to address in a complete and exhaustive way the whole set of techniques, but to provide the reader with a good notion of the main concepts and activities involved in the application of it.

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7.1 Types of Reading of Text Corpus

The researcher develops different types of reading during the conduct of a research, and for each reading there is a set of distinct techniques and actions. This also occurs during the application of the content analysis technique, with the researcher performing different types of reading of the text corpus available for analysis. The types of reading vary as the researcher deepens their understanding of the text throughout the various stages of the content analysis technique. There are many typologies for reading, in this subsection we will address four types of reading, all well disseminated and widely agreed upon in academia. The types of reading addressed are: scanning, skimming, intensive and reflective.

7.1.1 Scanning

Scanning type reading occurs when the reader knows precisely what they are looking for and already knows the keywords, names or themes of interest to be located in the text. This research is quite fast and specific: it includes the search for an exact word or phrase within the text. The reader focuses exclusively on parts of the text that contain the keywords, ignoring all other parts.

The scanning type of reading, in scientific research, is commonly applied in the process of identifying and selecting the corpus of texts that address a certain theme, subject, author or work. This form of research is 100% automated when the repository or text viewing tool provides facilities for searching by the document's text string criterion. If this function is present among the repository's functions, several texts are searched at once, if the function is present only in the viewer, the research must be done text by text. Nowadays it is increasingly common for indexing or content storage software to have this text string search function.

7.1.2 Skimming

The following reading, to be carried out in the documents identified by scanning, is the skimming type. This is a quick, superficial and extensive reading to all sections of the document's text. The purpose of this type of reading is to provide an overview of the text in order to verify if it will be relevant to the research. The procedures include reading the title, the abstract and the structure of chapter and subchapter titles, for recognition of the themes and concepts addressed in the text. Graphs and tables consolidate information; thus, the reading of their titles is also recommended in the skimming type of reading. This allows the reader, in a quick and efficient way, to have an idea of the whole in terms of content addressed in the document. In the case of reading scientific articles, skimming reading also includes the reading of the initial paragraphs, where the research motivation is declared (problem, objective and object). This is a pre-reading that can evolve into

a third type of reading more detailed and precise in terms of content analysis and reflection.

The scanning and skimming types of reading always precede the two types of readings presented next, the intensive and the reflective. It should be highlighted that this can occur with a good time distance, for example, in the situation where the reader became aware and filed the text, resuming the document later for analysis and use in their research.

7.1.3 Intensive

Intensive reading, word by word, occurs when detailed understanding and retention of text ideas are necessary. Already knowing that the text addresses the central theme of the reader's interest and that it should, therefore, be analyzed, this knowledge is obtained from the skimming type of reading. Intensive reading requires the reader to have a lot of clarity of their objective, of what they are looking for in the text. Doubts that arise during reading should be noted and clarified. A technique that helps in this process is the elaboration of summaries in order to verify if the important issues have been resolved, as well as satisfactorily analyzing the important themes and concepts. In the case of texts worked by content analysis, summaries are unnecessary in the strict sense of the word, but it is important that the researcher deduces a general perception of the ideas contained in the text as a whole (Endres & Kleiner, 1992).

Parts of the text that are not readily understood may require the search for new texts and careful analytical readings. Often, understanding a paragraph can demand a few hours of reading, including rereading, searching and reading cited texts, as well as researching misunderstood terms, in addition to the necessary time for interpretation and reflection. It is important to note that in scientific texts it is very common to have citations, which can indicate the necessary readings for readers who are not familiar with some of the themes, that is, non-specialists in the themes associated with the text in question. References exist for this purpose, to indicate optional reading to readers who need more in-depth knowledge on the theme.

In the process of intensive reading, the researcher may detect concepts or even completely unexpected structures. In qualitative research, ex-post analyses are very common, as Yin (2018) comments for the case study strategy, very few case studies will end exactly as planned. Inevitably, there will be small when not major changes. In addition to paying attention to the new, during intensive reading the researcher must also be alert to the contradictory, information contrary to what they imagined. Here the researcher must have a lot of maturity and tranquility not to be induced by the attitude of selective information processing, as highlighted by Antos and Piller (2015, p. 201):

> Striving for cognitive consistency, people filter out new information that challenges their attitudes and adopt information that is in line with their attitudes. This attitude-induced selective information processing affects attention, encoding, exposure, judgment, elaboration, and information storage.

In qualitative research, information contrary to what was imagined should not be treated as an outlier, something discrepant and liable to be discarded, as occurs in many quantitative techniques. In these differential and unexpected aspects, there is often relevant information for the ongoing research or even for the identification of future research fronts.

7.1.4 Reflective

In reflective (or critical) reading, the reader's goal is not only to assimilate information, but to analyze and elaborate an opinion. For this, the reader must have a priori concepts and understandings to be applied in reflective reading, that is, they must start reading with a complete set of theoretical commitments to assist in analysis activities (Alvesson & Deetz, 1996). Critical reading establishes the reflection of the content by the reader, who will analyze, compare and judge the ideas contained in the text. For this, it is very common for the reader to compare the data collected and declared in the text with the operational procedures of the research, setting up an important resource for the development of the research's analyses and conclusions. Reflections take the reader beyond understanding the information described in scientific communication, and allow the judgment of scientific value. Note that critical reading requires a high level of concentration from the reader.

Reflective reading is developed by researchers at the time of development of texts in the research discussion section, which normally implies reading the results of the analyses performed confronting them with current theories, in order to develop a reflection. Other examples of critical readings developed by professionals in the academic-scientific field are those carried out by: referees, when evaluating articles sent for analysis by editors of scientific journals; teacher-researchers, who make up the evaluation boards of final course works (monograph, dissertation or thesis); and reviewers, indicated by the publishers to evaluate scientific works in book format.

7.2 Obtaining the Corpus of Texts

Content analysis techniques work with texts and to obtain these the researcher has two central actions: to develop the necessary texts or collect the texts that already exist. Here the idea is very close to the actions of harvesting and collecting, practiced by human society to this day. The action of harvesting requires much more work, as it requires preparing the land, sowing, necessary care such as watering

and combating pests to, some time later, be able to harvest. Harvesting in this case would be, for example, the researcher conducting interviews in the field. They will have the work of formulating questions or interview scripts, conducting the interviews according to their different protocols (see subsection 5.1 Different Types of Qualitative Interviews) to later transcribe and finally have the texts available for their analyses. The action of collecting is simpler, it means going to the field, asking for permission to access the documents and checking which ones are pertinent to be analyzed.

In qualitative research, it is common for the researcher to both harvest and collect documents. The first stages of the content analysis technique addressed by different authors already indicate these two possibilities. The content analysis technique framework presented by Miles and Huberman (1994, p. 92), for example, names the first stage as "Creating a text to work on". The framework presented by Bardin (2009, p. 128) indicates as the first stage the "Floating reading (skimming)", followed by the "choice of documents" stage. Miles and Huberman are more focused on the action of harvesting, while Bardin (2009) on the action of collecting. Both actions are valid for obtaining the corpus of texts necessary for content analysis and, consequently, for the completion of the research as a whole. Always remembering that the content analysis technique is a means for something greater and not an end in itself.

Here we must understand in the following way, the actions of gathering (interview, questionnaire) are more directed, they already deliver the text in condition to move on to intensive reading. The actions of collecting (crowdsourcing; capture of documents, records and artifacts), although simpler and faster, require more reading and selection efforts. It requires scanning and skimming reading skills from the researcher.

The amount of text corpus on a certain topic is not sample, but situational, in the sense that these meet the specific criteria of what you want to analyze. The central idea is not quantity, but the relevance and quality of the occurrences, incidents or transactions to be observed. Instead of volume, the researcher is interested in knowledge, in-depth analysis of each instance or investigated case. The process of including new text corpus ends with the principle of saturation.

7.3 Coding of Text Corpus

Once the first text corpus is obtained, the researcher can already start analyzing their contents. Unlike quantitative research, in qualitative the analyses already start with the availability of the first texts. These first texts are the result of the collections made, or that is, the capture of documents and records available in the field, or from the actions of gathering, that is, listening to the other. In both cases, there is the use of criteria, either to select documents or to structure questions. In the collection action, these criteria correspond to the keywords or themes used for scanning type reading of the different sets of documents and records available.

In the action of harvesting they are the central themes of the questions of interest. These criteria, whether they are keywords or themes of interest, are related to conceptual elements or constructs present in theories or in frameworks, as they can also be associated with new conditions or variables of the environment that is being analyzed by the researcher. The central fact is that every collection or gathering action has guiding criteria, either for the selection of already available contents or for the creation of new contents.

7.3.1 Identifying the Units of Context

Once the first texts are available to researchers the process of content analysis of these texts can begin. That which is written, according to the original document, or said by someone, according to transcreation, is called text corpus. Extracts from these text corpus identified as relevant for the analyses, which will serve as evidence, should be highlighted for the analysis process. This original text as written or spoken originally, Bardin (2009) calls a unit of context. The term "unit of context" is interesting to remind the researcher to consider that text within the content in which it was produced. Thus, throughout the process of intensive reading, researchers are identifying and highlighting the various sections of texts considered as relevant for the analyses.

The units of context are mostly made up of sentences, but it can also be part of a sentence or even a few words. It all depends on what you want to analyze, as well as the writing style of the text under analysis or even the speaking style of the interviewee or the observed. In addition to the variation in size of the sections of texts highlighted in each of the units of context, there may also be overlap of units of context, that is, a section of text can compose two or more units of context. For example, a section of text can constitute with the words upstream composing one unit of context and with the words downstream composing another unit of context.

7.3.2 Coding the Units of Context

For each relevant text extract, that is, for each unit of context, we must assign a label or a code, the latter being the term most used by content analysis techniques (Miles & Huberman, 1994). Thus, the process of identifying sections of interest, that is, the creation of units of context, and the process of coding these sections, that is, assigning meaning to these sections, go together in a recursive process. This cumulative process of content analysis of the various new texts available to the researcher generates movements of code decomposition and consolidation. In the decomposition of codes, a code is elevated to the condition of supercode, being associated with several subcodes. In the reverse process, a set of codes can be consolidated into just one. Everything depends on the understanding we are gaining as we advance in the number of documents we analyze of a specific type or

even in the diversity of other types of documents. This is the process of absorbing facts, of deep knowledge of the entity or entities being studied.

It is important to note that in this process of analysis and learning, it is very common to identify new codes not previously imagined by the researcher. Unlike quantitative research where ex-ante analyses predominate, in qualitative research ex-post analyses predominate. Despite the researcher having his theoretical and pragmatic motivations and convictions, there is much to be discovered inductively, after the processes of data collection and analysis. Thus, an intense process of creation, consolidation and decomposition of codes during content analysis is expected.

7.3.3 Naming of Codes

The name assigned to each of the codes is fundamental for clarity and understanding of the reasoning, both for the researchers who are developing the research and for future readers of the scientific text for the dissemination of knowledge generated by the research. Normally the names of the codes are short, two or three words, and meaningful. These names are extremely important, as it is from them that new scientific knowledge will be developed and made explicit. The following exercise is useful for working on the identification of context units, as well as the formulation of names for codes identifying these context units.

Coding Exercise
Read the following transcripts, obtained from interviews conducted with two former business owners who were owners and managers of small businesses for more than ten years. From these texts identify: (a) a context unit on a topic that has been addressed by the two former business owners, and (b) assign a code to this context unit. Note in the answer area that there is an example of how to answer, having identified a theme addressed by the two respondents and assigned an identifying code for the two text excerpts, that is, for the two context units.

Transcript of the 1st former business owner's speech:

Before closing my company's activities, I made a good assessment of the situation, I noticed that the financial issue was my biggest problem. A lot of money was going out and little was coming in, it's a pity I realized it late, when my financial situation was already unsustainable. If I could go back in time I would not buy on credit, only cash and with a good discount, the interest added to the inputs in my segment are violent. Many of my friends who adopted this pay in cash strategy have their companies operating to this day.

Transcript of the 2nd former business owner's speech:

My company worked as I planned, it covered my family's expenses during the period I imagined. Since its conception, I already imagined closing the activities in 2014, along with my definitive retirement at 70 years old. In other words, everything went

very well, as planned, I would not change anything in terms of decisions or actions taken. Deep down, I think the company was more successful than I expected.

======== Answers ========
CODE assigned to the first theme:

REASON FOR COMPANY CLOSURE

CONTEXT UNIT associated with the 1st ex-businessman:

"[...] financial issue was my biggest problem. A lot of money was going out and little was coming in, [...]"

CONTEXT UNIT associated with the 2nd ex-businessman:

"[...] as I planned [...] I already imagined closing the activities in 2014, [...]"

CODE assigned to the second theme:

…

CONTEXT UNIT associated with the 1st ex-businessman:

…

CONTEXT UNIT associated with the 2nd ex-businessman:

…

/
Answer available right after the references list of this chapter

7.4 Understanding and Describing the Codes

The fact that a code has a quite unstable structure at its first moment, being able to be broken down into several codes or composed into another existing code, is part of the creative process resulting from the application of content analysis technique. In order to make this phenomenon explicit as something natural and indicative of the correct application of the content analysis technique, Gioia et al. (2013) comment that the analysis of texts from ten interview transcripts can initially result in around 50 to 100 codes that, after the subsequent stages of analysis and consolidation, can conclude with something around 25 to 30 codes.

The insights for composing or decomposing codes depend on our greater understanding of the entities we are analyzing. This understanding is leveraged by the identification and specification of two entities associated with each code: attributes of the code and the properties associated with each of these attributes. The basic premise at this point of the analysis is that for each "code" we can identify "properties", which can be characterized by different values, this set of values being its "dimensions" (Georgia Institute of Technology, 2015). In this subsection we will explore these two new entities, the "property" of the code and the "dimension" of the property.

7.4.1 Properties of Each Code

The property entity can be understood as synonymous with characteristic of the code entity. The properties represent the information that characterizes the code we want to specify. For those who have studied data modeling techniques, for example, the entity-relationship diagram (ERD), the property entity used in content analysis is analogous to the attribute entity of data modeling techniques (Chen, 1976). For example, the student entity can be described by the attributes: registration number (ID), name, date of birth, sex, address, telephone and e-mail. The term (ID) means identifier, that is, a unique attribute that differentiates one instance from all other instances of the entity.

7.4.2 Dimensions Attributed to Each Property

The dimensions are the possible values to be assumed by a property. For example, the attribute "sex" associated with the code "student" can assume the following dimensions: "male", "female" and "non-binary". The details of the analysis are what will make the results more attractive, possibly leading the researcher to consider new codes, subcodes or supercodes. In the above example, it may be that if the theory, construct, or other form of scientific knowledge expression, is geared toward the category "female student" discarding the category "student". In summary, the diversity of attributes and their possible values allow the researcher to work on the similarities and differences between the codes. The similarities refer to the relevance of the codes for understanding a social group or a specific area addressed by the substantive theory; the differences serve to maximize the variability of the data and increase the variation of the occurrence of the phenomenon explained by the theory and, as a consequence, its explanatory power.

I understand that the inclusion of data modeling techniques for the training of researchers would greatly help in understanding the concepts associated with the entities "code", "property" and "dimension", greatly facilitating the construction and representation of new knowledge. The dynamics of generalization or specialization of an entity represents the same logic of composing or decomposing codes.

The attributes of the entities propagating to their sub-entities bring the necessary dynamics for understanding the propagation of the characteristics of a supercode (or theme) to its codes.

7.5 Attributing Meaning to the Codes

Scientific knowledge implies working with concepts, just as the act of developing scientific research implies dealing with concepts. Scientific concepts can be described as systematic mental representations of the natural world, accepted by the research community on a certain theme. Scientific texts involve concepts, whose meanings must be clear to participants in the current debate regarding the central theme of the research. At this point it is important to observe the thematic context in terms of science area, considering that a concept can have different meanings depending on the area of science (Kampourakis, 2018). In this way, it is not enough to work with concepts defined by the scientific academy, these must be referenced in scientific texts. For the use of appropriate concepts, we must be attentive to the area of training of the authors who define the concept and, mainly, to the target audience aimed at by the journal that published the text defining the concept. This observation is important considering the many triangulations present in qualitative research, among them those of concepts and theories from different areas of science.

7.5.1 Identifying Concepts

The work of reading and coding associated with the technique of content analysis is evolutionary and recursive, starting from the documents identified or generated from keywords, themes, subjects or other logical abstractions used as criteria for collection or harvesting of texts. These logical abstractions transformed into codes, especially those that persist throughout the analysis and discussion work, will constitute concepts that will serve as a construct for the elaboration of scientific knowledge to be generated by the research. If these concepts assist in the elaboration and presentation of a new theory, they are considered constructs (Gioia et al., 2013). Thus, we have that concepts are the precursors of constructs, just as constructs are the precursors of new theories.

The identification of concepts, that is, of codes of interest to the research, is associated with ideas prior to the collection and harvesting activities carried out (ex-ante) as well as those perceived by researchers during collections and initial analyses (ex-post). In a research it is common for codes (or concepts) to come from different sources of inspiration for researchers. Among these various sources of inspiration, we can highlight:

- The domain and continuous theoretical study of researchers about a certain theme;

- Experience in a certain field of action, whether as a practicing professional, as a client of professionals who work in the field in question, as a supervisor acting in the regulatory body of the field or as even attentive observer of the field;
- News and comments received about a certain field that cause strangeness or even curiosity of the researcher;
- Consultation with researchers, professionals and scientific texts from other areas of knowledge, distinct from those of the researcher's training and performance, aiming to understand phenomena observed in the field (intertextual research);
- Aspects observed by the researcher during the data collection phase in the field, as well as insights generated from the initial analyses.

Gioia and his colleagues (2013) when discussing analytical techniques in a variant strategy of grounded theory, Gioia Methodology, explored the issue of articulation between the entities code, concept and construct. In the initial analyses, called by them "first-order", they state that the concepts are the "facts" of an investigation. In the later and more in-depth analyses, the "second-order", the concepts become the "theories" that the researcher uses to organize and explain the "facts". They point out the researchers in this process as "knowable agents", consolidating the categories resulting from the initial analysis and making use of theories and available references for theory construction. In this same research, Gioia et al. (2013, p. 604) differentiate the construct from concept in the following way: "We draw a subtle but significant distinction between concepts and constructs to connote that concepts are broader, more tenuous notions that can later be more narrowly specified, operationalized, and measured".

7.6 Analyzing Patterns Between Concepts

A theory indicates relationships between entities under certain conditions. These relationships are inferred from propositions made by the researcher about the dynamics between various entities. Thus, at this first moment the researcher develops inductive logical reasoning for generating propositions. Next, the propositions must be verified, with the researcher developing deductive reasoning. Data from situations addressed by the developing theory is collected in the field and compared with the relationships indicated in the propositions. With this, the researcher exercises a cycle of proposition and verification that can result in the identification of patterns of relationships between concepts.

Not all literature on content analysis techniques indicates the stage of proposing and verifying propositions, but this stage is important for scientific advancement, without which the technique would be limited to the description of the entities involved, without addressing the dynamics between them. Bardin (2009), for example, emphasizes that propositions are not a mandatory element for the application of content analysis technique, and the analyses can be performed "blindly". In

the content analysis technique framework proposed by Miles and Huberman (1994) the works are grouped into three phases, the last of which is called "developing and testing propositions to construct an exploratory framework".

7.6.1 Proposition (Induction)

The propositions conceived by researchers usually innovate in some sense: addressing aspects not yet discussed by academia; addressing aspects already addressed, but from a perspective contrary to what is indicated in current theories; they advance in the sense of proposing a test for a proposition not yet verified in the field; among various other ways of adding new knowledge to a certain area of scientific knowledge. The insight for propositions usually comes from the researcher's perception of what is happening in the field to be researched, whether in terms of something completely innovative or contrary to what the current literature indicates.

7.6.2 Inquiry (Deduction)

The verification of propositions is obviously not an exhaustive test of sample field as occurs with hypothesis tests for research strategies of the post-positivist paradigm. Remembering that in the qualitative approach we are more interested in the quality of incidents, transactions or occurrences of interest. To analyze the patterns of relationship between the concepts characterized by the propositions, we collect and/or gather data from cases, phenomena, transactions or incidents of research interest. With each test we are verifying the results in order to learn from the inadequacies, which may result in the alteration or inclusion of new propositions. We stop bringing data from new cases for analysis of the patterns under discussion, when we perceive the occurrence of the theoretical situation, that is, the results repeat themselves without any change or differential aspect.

Analytical operations between codes involve a broad set of arithmetic and logical operations regarding the occurrences of context units associated with the codes. These analyses can involve everything from the occurrence or non-occurrence of certain context units, through the frequency of occurrences, the weighted frequency based on semantic intensity, the direction indicated by the text (positive, negative, neutral, ambivalent), to the order of appearance or co-occurrence of codes.

7.7 Developing Logic from Patterns

The operational issue of the work necessary for generating theory from the application of content analysis technique has various variations, as explicitly described in different research strategies described and practiced by various authors (see Chapters 2, 3, and 4). In this subchapter, we will address the central procedures

described by Corbin and Strauss (1990) and by Gioia et al. (2013). Corbin and Strauss (1990) indicate the action of coding as being the fundamental analytic process used by the researcher, this being carried out through three basic types of coding: open, axial and selective. A summary of the central action for these coding activities was written by Douglas (2003, p. 47): "coding is the result of raising questions and giving provisional answers about categories and their relations". In the following subsection 7.7.1, there is a brief description of the actions developed in these three stages proposed by Corbin and Strauss (1990). Closing this subsection, in Sect. 7.7.2, we will discuss the development of the interpretative logical pattern as proposed in the Gioia Methodology.

7.7.1 Open-Axial-Selective Sequence

Open coding. The initial work involves intensive reading of the text corpus looking for answers to the initial guiding questions, those associated with the themes and keywords of interest used for document selection. From this process, text excerpts are being coded. As the work progresses, new codes can be perceived beyond those initially imagined. The analysis of properties and dimensions of each category is useful in this process of identifying new codes. At this initial moment, the process is to welcome new codes, which proliferate rapidly. From time to time, the set of codes is analyzed with the purpose of finding similarities and grouping them into supercodes (or categories) based on common properties. Thus, through systematic comparisons, the supercodes are being refined in a process that varies between generalizing and specializing (or composing and decomposing). The names of the supercodes end up constituting the constructs of the new theory.

Axial coding. Once there is a set of clearly defined codes and supercodes, the following work involves analyzing the possible relationships between these supercodes (or categories) composing themes of interest. Propositions encompassing relations between themes can be structured and defined with the purpose of verifying their pertinence to the field reality. For this, the evidence is analyzed, that is, the available text corpus, more specifically the text excerpts highlighted in the previous phase, that is, the context units. The idea is to identify relations between themes, representing here the conceptual elements of the nascent theory. All propositions involving the various themes and their supercodes must be elaborated and verified during this phase of axial coding. At this point, we should have several codes and supercodes composing the research themes of interest, as well as the relationship between these themes.

Selective coding. The theory to be written must be explanatory of reality and at the same time interesting to academia. To meet these requirements, in this stage of selective coding the central work is to identify the themes on which the whole theory will be based. In an analogy with literature, it would be like defining the protagonist character around which the whole story will revolve. To identify this central code, Corbin and Strauss (1990, p. 14) propose the following reflections: "What is the main analytic idea presented in this research? If my findings are

to be conceptualized in a few sentences, what do I say?". Meanwhile, Gioia and his colleagues (2013) propose another strategy for identifying the central theme, they recommend that researchers identify the most innovative theme, the one most associated with a nascent concept, not yet adequately explored by the literature. The approach described by the Georgia Institute of Technology (2015) directs researchers to question which theme seems to be the most impressive and interesting. Once the central theme is identified, the writing should be developed from and around it, describing its relations with the other themes. The data from all the instances obtained in the field should be used to perform a test of the theory's adequacy.

7.7.2 Interpretive Template of the Central Analytical Actions of Gioia Methodology

Mees-Buss et al. (2022, p. 410) analyzed the qualitative research published in the main journals in the field of Administration and found that the Gioia Methodology is the most established interpretive analysis model, and can be considered the "housestyle" analytical of many journals. When we observe the final results of the Gioia Methodology in research, two displays stand out: the "Data Structure" and the visual map for presenting the theory or the central message of the article (described in detail in the following subsection [Sect. 7.8]). However, the intermediate stages or activities to achieve this result are described more superficially, when they are, and therefore are less understandable. In this subsection, I will try to describe these intermediate steps in more detail.

The first step is to read and analyze the available texts, originating from the collections, highlighting all the significant statements, by significant we mainly understand the totally new aspects or contrary to what is known today. With the use of software to support qualitative analyses (explored in the next chapter) the assembly of tables of texts for significant statements is quite simple and fast. These aspects receive provisional names (codes) according to the meaning formulated in our mind. These codes can be composed and decomposed as we get a broader view of all the significant statements (as described in Sect. 7.4). At this stage of the analysis, the software helps to create groups and subgroups configuring a tree or a typology of codes. At this moment we are getting to know and defining the attributes and dimensions of each code, whose significant differences imply the need for the definition of new codes. The tip at this moment is to decompose, being easier to consolidate later than to decompose from memories of previous analyses not considered at first.

When analyzing all the available texts, with the codes marked, we have that the structure of grouping of codes, called supercodes, becomes themes of the Gioia Methodology. The themes available to the researcher are usually diverse, considering the triangulation of sources, input, theories, which are linked to a variety of questions, observations and collected documents. The important thing at this moment of the research is to explore the possible associations between

these various themes, that is, to establish what Gioia and his colleagues (2013) called Aggregate Dimensions. A very common way to explore these associations between themes is through the elaboration of thematic matrices. The filling of the cells formed between the lines (first dimension) and the columns (second dimension) requires analytical reading of the coded inputs, observing the existence of associations and the types of associations between these themes. At this point, the software supporting qualitative analysis helps a lot, as the themes are composed of several codes. The way to inquire about the associations between the codes are quite varied, can involve semantic questions, proximity between codes and Boolean operations between codes (all explored in Sect. 8.2).

Once the Data Structure is well conducted, covering concepts, themes and aggregate dimensions, the second and last display of the Gioia Methodology, presenting the visual map that expresses the new theory, should be elaborated. For this display, the aggregate dimensions are central as they reveal the dynamics between the themes. When being Soon the display should tell a story to its reader, the story of the theory in question. The example of the visual map developed in Gioia et al. (2013) is described in the following section.

7.8 Making Explicit the Concepts and Patterns of the Theory

The findings resulting from the research need to be informed and make sense to the reader. In this context, the new theory fits, encompassing the constructs and the patterns between them, according to definitions and the generation process described in the subsections of this chapter. Thus, after the epistemological challenge of developing scientific knowledge, there is the next challenge, to present it to the research community, that is, an ontological challenge. Langley (1999) highlighted that one of the important sensemaking tools is the visual mapping strategy. The visual maps (or display) are attractive representations that allow representing a large number of dimensions simultaneously. Among these representations we have precedences, parallelism between processes, sequences and progressions between events, as well as lines of authority and influence between objects or constructs. In short, they are very suitable tools for communicating new theories.

The content analysis technique, according to the Gioia method, recommends the creation of two visual maps for the description of the new theory. The first of them, called “data structure”, makes explicit the concepts that were consolidated into themes and, finally, the relationship of these in patterns. The design is a pyramid in the horizontal position, with its top pointing to the right, with many items on the left side that are being consolidated to the right, as described in Fig. 7.1. The data structure proposed in the Gioia methodology encompasses three elements: concepts, themes and patterns. Note that Fig. 7.1 was purposely extended to go beyond the design of the data structure proposed by Gioia et al. (2013), with the purpose of illustrating the works and entities associated with the three types of coding described in subsection 7.7: open, axial and selective.

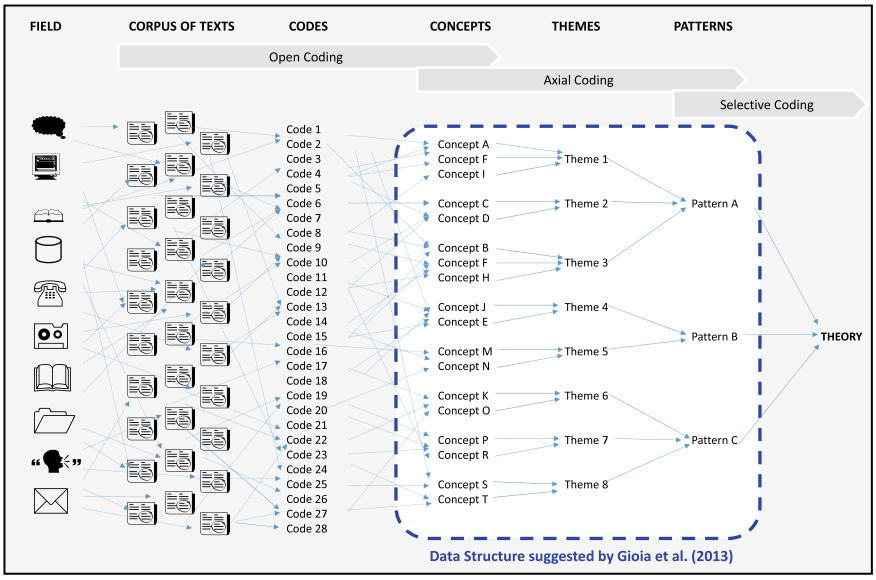

Fig. 7.1 Entities associated with the three types of coding

Gioia and his colleagues (2013, p. 20) highlight the importance of the "data structure" for the process of developing the theory according to the method proposed by them:

> [...] basis for building a data structure (see Figure 1)—perhaps the pivotal step in our entire research approach. The data structure not only allows us to configure our data into a sensible visual aid, it also provides a graphic representation of how we progressed from raw data to terms and themes in conducting the analyses—a key component of demonstrating rigor in qualitative research.

The second visual map recommended by Gioia et al. (2013) in their method, the Gioia Methodology, is a drawing that should represent the dynamics between the entities involved in the theory. As the method proposed by them was published in a journal in the field of Administration, the example is of a theory from the organizational area, more specifically the difficulty faced by employees whose department is undergoing a spin-off process. A theory specifically aimed at managers of areas that will undergo a spin-off process (area becoming an independent company from the "mother company"). The theory addresses constructs associated with the sources of fears of employees associated with the spin-off process, as well as the constructs associated with the way managers help employees deal with this delicate moment in their careers in the organization. Because of this, the name assigned to the second figure is the very name of the theory generated: "Figure 2. Organizational identity change process". In short, the second display proposed by the Gioia Methodology is always a graphic description of the theory.

Questions for Reflection:

1. What is the purpose of defining and investigating propositions exploring relationships between the constructs identified in the initial phases of content analysis?
2. Once themes and relationships between these, associated with an incident or phenomenon of interest, have been identified, what would be the logical alternatives to start structuring such elements as a theory?
3. Identify an article from your area of interest, published in a high-impact journal, that has developed theory from the application of the content analysis technique according to the grounded theory strategy. For the research described in this article, observe how the theory was constructed and articulated in terms of identified constructs, as well as established patterns between them.

Answers to the coding exercise:

CODE assigned to the second theme:

ADMINISTRATIVE REGRET
CONTEXT UNIT associated with the 1st ex-businessman:

"[...] I would not buy on credit, only in cash and with a good discount, [...]"

CONTEXT UNIT associated with the 2nd ex-businessman:

"[...] everything went very well, as planned, I would not change anything [...]"

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Software-Technique in Support of Qualitative Analyses

8

Reading Guide: There are many categories of software that can cooperate with the work of the researcher who develops qualitative research. In this chapter we will discuss software for two major fronts of qualitative research work: (i) obtaining inputs in the field; and (ii) the analysis of these inputs. In the first part we will discuss the software for obtaining input considering two distinct challenges: the actions of identification, selection and collection of existing documents; and the actions of harvesting opinions, observations and speeches, in order to constitute the documents. In the second part, we will discuss the software in support of analysis activities, covering four categories of information systems: computer-assisted qualitative data analysis software (CAQDAS), latent semantic analysis (LSA), display generating software and artificial intelligence resources.

The portfolio of information systems and applications in support of the work involved in conducting qualitative research is quite extensive and diversified. Obviously this chapter does not intend to cover the entire spectrum of demands and their respective technological tools. We present some categories of software that notoriously contribute to most qualitative research. For this, we decided to address those categories widely demanded by qualitative research, regardless of research strategy or other factors. It is important to highlight that the contents of the first subsection, "8.1 Software in Support of Obtaining Research Inputs", have a strong association with the research activities described in the fifth chapter, "55. Techniques for Data Collection". Similarly, there is a strong relationship between the contents of the second subsection, "8.2 Computer-Assisted Qualitative Data Analysis Software", with the research activities described in the seventh chapter, "7. Conten7t Analysis Technique". We can understand the contents of this eighth chapter, as being the instrumentation of concepts and operations described in these previous chapters.

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8.1 Software in Support of Obtaining Research Inputs

As already addressed throughout the chapters, the obtaining of qualitative data can occur through two types of actions, those of harvesting and those of collection. The actions of collecting input for research imply finding ready-made contents, that is, activities of discovery and selection of documents, files, records, artifacts and other entities already available in the field. Harvesting actions demand more efforts from researchers, in the sense of having to generate the contents, either through interview, questionnaire, observation or other tactics generating research input. Having said that, we will present in this subsection the software tools for obtaining research inputs sectioned into two groups, those aimed at the collection actions and those aimed at the harvesting actions of inputs.

8.1.1 Tools for Input Harvesting Actions

Harvesting involves questioning people, verbally or textually. Respondents can provide feedback in both formats, both verbally and textually. For these actions, we have many software available, extremely useful tools for the researcher. The first harvesting tools were textual, both for questioning and for answers. Among these, we highlight the most widespread, Google Forms and SurveyMonkey. Later came tools aimed at verbal communication, such as Skype, Google Meet, Zoom, among others. These tools facilitate communication between people, as well as the recording of conversations (questions and answers). Once the voices are recorded, there is software that performs the conversion of digital voice audio to text format, for example, we mention the NVivo Transcription software. Transcribers are important facilitators of the harvesting activity, generating large savings in terms of researcher working hours. As an example of the gains provided, just imagine that 30 minutes of a person speaking can usually easily generate around ten pages of texts.

Actions to generate texts from speech transcription must be careful not to generate message losses. This is valid mainly when the interview occurs in the form of dialogue. The interviewee may make use of contextualized and intersubjective practices that function as linguistic strategies. Hence the importance of a careful review of the texts transcribed by software. Often it is important to mark the time between one word and another, as well as indicate a smile or a laugh between one speech and another. These elements are not captured by the vast majority of speech transcription software and are relevant for analysis. Hence the importance of having in the method section a good description of how the process of speech transcreation was carried out (McMullin, 2023).

For harvesting actions there are some tools that cover not only the sending of questions and obtaining the answers in text format, but also cover the previous stage, of identification, contact and dialogue with possible respondents who meet the research interest criteria. As already addressed in the fifth chapter, “5. Techniques for Data Collection”, not every research has a motivation or a social appeal

evident that can naturally attract the participation of a large public of respondents. In general, considering the various areas of science, it is estimated that only 2% of the people contacted collaborate effectively providing information to researchers. Aware of this limitation, some technology companies offer different services of crowdworkers via Internet, one of them being the provision of answers for research. From a contingent of registered people, with different profiles, the service provider company hires the respondents who meet the criteria defined by the researchers. Among the providers of this service stands out the bigtech Amazon, with the service called Amazon Mechanical Turk or just MTurk (Peer et al., 2014). Among the mechanisms employed to ensure the quality of the collected data is the insertion of attention check questions (ACQs), which end up preventing the insertion of answers from people merely interested in the financial reward.

8.1.2 Tools for Input Collection Actions

For the actions of collecting inputs already available in the field, we also have many softwares available. With the widespread digitization of society, characterized by various movements such as the Internet of Things (IoT) and pervasive computing, we have more and more documents in digital format. For the phase of identifying documents we have available the large indexers, like Google, Bing, DuckDuckGo, Yahoo, among many others. Once the digital documents are downloaded, we have tools that allow automatic reading of the scanning type. The FileLocator software, for example, allows searching in all files of a directory having words as criteria. A search transaction can analyze dozens or even hundreds of digital documents stored in a directory and these can be in various technological formats (pdf, doc, …).

8.2 Computer-Assisted Qualitative Data Analysis Software

The software called computer-assisted qualitative data analysis software/system (CAQDAS) is a tool that assists the researcher in conducting the various activities necessary to conduct the technique of content analysis. The documents or corpus to be analyzed must be in digital format, a situation that predominates in current documents due to the digitization process of society. Although the examples in this subsection are of text type content, it is important to remember that we can analyze content of different types. The contents of interest to the researcher can be of the text, voice, figure, photo or video type. For all these types of content, extracts from them can be encoded and analyzed according to content analysis techniques.

CAQDAS tools present a very broad set of functions and resources available. In this subsection, we will focus specifically on the resources aimed at content analysis. For presentation and structuring purposes, we will use the grouping of

functions as proposed by the Atlas.Ti tools: semantic operators, proximity operators and Boolean operators. Practically in all CAQDAS tools these resources are available, not necessarily grouped in this way and with these labels. As we are not interested in the physical structure of the software, but in the available resources or functions, we will focus on explaining the functions and their importance within the context of the content analysis technique.

8.2.1 Semantic Operators

Every analysis work begins with the semantic coding of extracts from the corpus of texts identified by researchers as relevant to the research context. As discussed in Chapter 7, this creative process may even seem chaotic to an external observer, as it involves continuous and recursive actions of decomposition and synthesis of codes. The name assigned to each of the codes, that is, the label for identifying some sections of texts of interest, these sections called context units, has a semantic value within the context of the analysis in development. Thus, as we create codes we are making a semantic description of the contents available for analysis.

To give an example of a practical situation, imagine that researchers from the fields of law and sociology are analyzing the causes of deaths of members of a certain society according to medical reports, death certificates and other available documents. As the analyst reads the documents, he can identify various causes and subcauses and establish different semantic values associated with each new identified cause of death. The fact of creating a subcause or the opposite step, consolidating several codes into a higher code (a parent), characterizes the action of relating codes. Figure 8.1 presents a description of the codes at a certain moment of the analyses of the mentioned example. It is a display of the types and the structure of codes in use, referred to by some CAQDAS software as “code tree” or “code structure”.

Among the semantic operators of CAQDAS software, which assist the researcher to navigate and understand the associative structure between codes, we can highlight three functions:

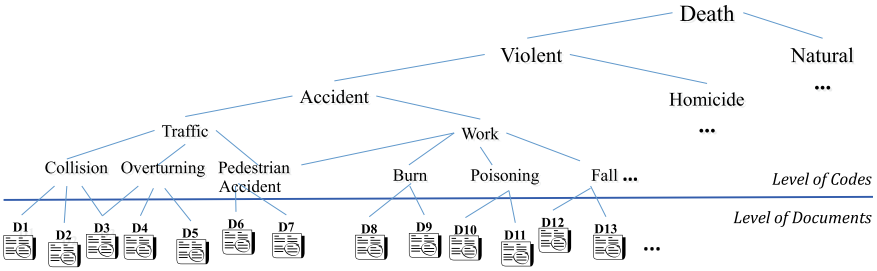

Fig. 8.1 Example of code structure

i. Identification of the structure of higher codes (synthesis) of a specific code, UP function, resulting in the presentation of the higher structure of the concept tree that a certain code is inserted into;
ii. Identification of the structure of lower codes (specializations) of a specific code, SUB function, resulting in the description of subcodes or lower codes (if there is decomposition of the selected code), as well as the list of context units and documents associated with them;
iii. Identification of codes of the same level (siblings) within the code structure, SIBLINGS function, resulting in the codes associated with the same parent (if there is) and the list of context units and of documents associated with these sibling codes.

To exercise the logic of semantic operators, let's take as an example the structure described in Fig. 8.1. If we select the code Traffic and if we activate the SUB function, we will get as a result the indication of documents D1–D7, as they all have at least one unit of context associated with the subcodes of Traffic, which are Collision, Rolling and Running over. If we select the Intoxication code and activate the same SUB function, we will get as a result the indication of documents D10 and D11. As for the UP function, it does not indicate documents as in the previous function, it indicates the names of the structure of higher codes, that is, the parent of the selected code (if any), the grandparent of the selected code (if any), the great-grandparent and so on. If we select the Traffic code and activate the UP function we will have as result the indication of the higher codes, that is, the structure Accident >> Violent >> Death. If we select the UP function for the Natural code, we will be presented with only one concept, Death. Finally, for the SIBLINGS function, if we select the code Work, the algorithm will show the Traffic concept as a sibling and will indicate the documents D1–D7.

Note that semantic operators are important for the process of understanding and analyzing the coding, a phase called open coding (Sect. 7.7.1), especially when we have a large code tree covering many levels and concepts. The reports generated by semantic operators help in understanding the whole, not just while we are coding the text corpus, but also when formulating propositions by assisting in the perception of possible relationships between codes. It is important to remember that in the initial phase of coding, open coding, it is common to have the creation of many codes that need to be grouped and organized. These semantic operators greatly assist in retrieving the understanding of each code or structure of codes created yesterday, last week or at other previous moments, from the beginning of the text analysis phase. The creation of each new code always depends on a good understanding of the available code structure and for this semantic operators are very useful.

8.2.2 Proximity Operators

Proximity operators are geared toward analyzing the codes within each of the documents, they help to explore the connection relationship between the internal codes of each of the documents that make up the corpus of texts to be analyzed. If we think about the running text, whether on screen or printed, we can even say spatial dimension, as we can see the order of appearance of the context units of each code and even the overlaps of context units or codes. Remembering that a portion of text may be participating in one or more context units or codes.

The basic premise of proximity operators is to allow the exploration of spatial relationships between codes within each of the coded documents. For this, proximity functions need to work with at least two codes, which will constitute the operands of the function. As the order of appearance can have different meanings for the researcher, we say that proximity operators are non-commutative, that is, the order of appearance of the two codes within the function is relevant. For example, asking in which of the hundred coded documents the code A precedes code B will bring a completely different result from the question in the reverse order, that is, in which of the hundred documents does code B precede the appearance of code A. This aspect of non-commutativity of functions that implement proximity operators requires more attention from the researcher when formulating the search command. The way to pass the instruction for the elaboration of the search command (query in software language) in good CAQDAS tools is very intuitive, through a graphical interface, using resources such as "drag and drop" of codes.

Among the proximity operators present in CAQDAS software, which assist the researcher in understanding the internal structure of each one of the documents, we can highlight six functions. Two of these functions are associated with the "distance" between the context units of two codes (PRECEDE and FOLLOW); three of them are associated with the "sharing" of texts between context units of two codes (WITHIN, ENCLOSE and OVERLAP); and one function associated with the verification of the "co-occurrence" of context units of two or more codes within the same document. (CO-OCCURING). Below is the description of the functions performed by these six proximity operators:

i. Precedence—checks in all documents in which the texts of the context unit of a certain code precede the texts of the context unit of another code (PRECEDE function);
ii. Sequencing—checks in all documents in which the texts of the context unit of a certain code come after the texts of the context unit of another code (FOLLOW function);
iii. Text contained in—checks in all documents in which the texts of the context unit of a certain code are entirely contained within the texts of the context unit of another code (WITHIN function);
iv. Text encompasses—checks in all documents in which the texts of the context unit of a certain code contain all the texts of the context unit of another code (ENCLOSE function);

v. Overlap—checks in all documents in which the texts of the context unit of a certain code present some level of overlap, common text, with the texts of the context unit of another code (OVERLAP function);
vi. Co-occurrence—indicates in which documents there are context units of two or more codes (CO-OCCURING function).

For the purpose of exemplifying the use of proximity operators, imagine a research that explored the reasons pointed out by entrepreneurs for the closure of their businesses. We consider 34 interviewed entrepreneurs, 34 documents with an average of 11 pages per document that describe the context of the time of closure and the main reasons pointed out by them. The researchers may want to know which of these entrepreneurs addressed texts about "marital separation problem" preceding "debt problem". For this investigation, the precede function would meet the researchers' demand well (code "marital separation problem" precedes code "debt problem"). With the codes assigned to the portions of texts, or in other words, delimited context units, the analysis of proximity relations between codes can be very useful to elaborate and test propositions. Thus, proximity operators, unlike semantic operators, are more useful in the axial coding phase (Sect. 7.7.1) of content analysis.

8.2.3 Boolean Operators

Boolean operators are connectors for composing search commands to be applied to the entire set of already coded documents. They are resources that allow establishing a chain of criteria on the presence and non-presence of certain codes in the documents. For this type of research, CAQDAS provide four Boolean operators to researchers:

i. AND or "all conditions true"—this operator is the most selective of all, as all codes or criteria linked in the search command line with this operator must be present in the documents to be selected. As it is the most selective, it is usually the operator with the least return in terms of selected documents;
ii. OR or "at least one condition true"—this operator is the least selective of all, as it identifies the documents that meet at least one of the criteria. If the search command involves three codes or criteria linked by this operator, the documents that will return as valid are all those associated with at least one of the three codes or criteria. The resulting list will also include documents that present any combination of two codes, as well as those documents associated with the three codes;
iii. XOR or "only one condition true"—this operator is similar to OR but in a more selective way. It will return as a result only those documents that meet one and only one of the criteria on the list. Returning to the example of the search command with three codes, documents that contain any combination

of two codes or those that contain all three codes will not be included in the resulting document list;

iv. NOT or "no true condition"—this operator tests the absence of one or more codes in the documents. To do this, simply indicate on the command line the codes that are not desired in the documents, preceded by the operator "not".

To illustrate the functionality of these Boolean operators, we will return to the example of code writing and documents associated with them, as presented in Fig. 8.1. Imagine that researchers want to know which coded documents describe deaths that occurred in traffic involving both collision and rollover actions in the same accident. For this, the researcher must operate the graphical interface in a way to connect the two codes through the Boolean operator "and", which would result in the search command line "documents = Collision AND Rollover". The result of this search command, considering the documents associated with the codes (see Fig. 8.1), would be only document D3, as it is the only one that has one or more context units associated with both codes. A second example would be researchers wanting to know all deaths that occurred by collision or by rollover. By using the logical operator "or", that is, "documents = Collision OR Rollover", the CAQDAS software would inform us of a list with five documents, from D1 to D5. If researchers want to know the list of documents that only contemplate deaths that occurred exclusively by collision or exclusively by rollover, they should replace the OR operator with XOR, that is, "documents = Collision XOR Rollover". The return list would include not five documents as occurred with the Boolean operator "or", but four documents: D1, D2, D4 and D5. Note that document D3 was excluded because it has context units associated with both codes. Concluding the examples of Boolean operators, let's now imagine that researchers want to identify all deaths by work accident, except those by intoxication. For this research, we have to use the "not" operator, elaborating the following command "documents = Work NOT Intoxication". The return to this command would present four documents: D8, D9, D12 and D13.

8.3 Software Focused on Latent Semantic Analysis

Latent semantic analysis (LSA) is an emerging technique for natural language processing that aims to extract and decipher the main latent (hidden) factors from underlying relationships between words and between documents of a large volume of text corpus. For this, the algorithms of LSA software operationalize various mathematical resources and rigorous statistical techniques that, aligned with the academic judgment of the researcher, help to discover the unexpressed relationships (Kulkarni et al., 2014). LSA algorithms assume that words used in similar contexts tend to have similar meanings. Because of this, the more formal the language of the sources of the texts to be analyzed, the greater the accuracy of the analyses, considering that these do not employ metaphors, idiomatic expressions and other resources that can alter the stricto-sensu meaning of the words.

One of the main techniques employed by the algorithms of LSA software is Singular Value Decomposition (SVD), a numerical method belonging to the field of study of Linear Algebra, used to factor rectangular matrices. The description of the formulas used by LSA software is available in Kulkarni et al. (2014). Obviously, due to the volume of work (counting all the words/terms of all the documents), the use of specific software becomes mandatory. Among the LSA software in open source format, we have the platform provided by the University of Colorado: http://lsa.colorado.edu/. A graphical representation of the logical operation of grouping documents from semantic values can be seen in the video available at the link https://upload.wikimedia.org/wikipedia/commons/transcoded/7/70/Topic_model_scheme.webm/Topic_model_scheme.webm.480p.vp9.webm#t=00:00:01,00:00:17.600. In this video, we can observe the grouping of 20 documents around some sets of common words.

LSA software can be used to support content analysis in different contexts, as we can observe in three examples that we will describe. Ahmad and Laroche (2015) used LSA software for the analysis of product reviews on the Internet, more specifically for measuring the emotion contained in consumer reviews as published on the Amazon website. Kulkarni et al. (2014) used LSA for the analysis of the themes addressed in the journals of the Operations Management area, aiming to uncover the intellectual structure of this area. De Sordi et al. (2021) used LSA for the analysis of the content on the Entrepreneurship topic present in the articles and books used for the teaching of this topic in Brazil, highlighting a bias of exposure only of successful entrepreneurship, without exploring the vast majority of the outcomes of entrepreneurial action, the failure of the venture.

8.4 Software in Support of Display Creation

A display is a non-textual element, present in the scientific text, which presents a set of information in a systematic way. It usually exists to facilitate the reader's understanding and also to reduce the amount of text present in scientific literature. The central idea behind the display is that expressed by the aphorism "a picture is worth a thousand words", that is, not everything that is in the display will be written in the text, otherwise the display would be redundant and could be discarded. Displays are usually read before the texts, already in the scanning reading process (Sect. 7.1.1), as they also tend to be widely shared by readers and researchers. Thus, displays should allow understanding of a set of information, without the reader having to consult the set of texts of the document where it is inserted.

The most used displays are figures and tables, but there are many other forms, such as matrices, frames, infographics, among others. Some of these displays are so valued and useful for some areas and specific professional communities that they receive a specific denomination. As examples of these very useful and traditional displays of some areas we have: the organogram, in the Administration area; and the flowchart, in the Software Engineering area. Figures are quite diverse, with a practically infinite set of format options, this due to the new software in support

of the creation of infographics. The informative capacity of figures is so recognized among researchers that many journals already offer two abstract formats, the traditional one, in text, and the graphical abstract, in figure format. Tables have a more structured and standardized structure. According to Oxford Academic (2023) a "table is a set of data (descriptive or numerical) formatted in rows and columns. They are used to display information that is too complex or granular to read in the main text or a list".

As discussed in "7.8 Making Explicit the Concepts and Patterns of the Theory", non-textual elements (or displays) are very useful for qualitative research. There are many software specialized in generating these non-textual entities, below are some examples:

i. Creation of figures—in addition to the excel graph function, there are several other tools specialized in generating displays, such as Visme, BioRender and Canva;
ii. Creation of tables—EdrawMax, Creately, RapidTables and Xar Table Maker.

8.5 Resources Based on Artificial Intelligence

The third version of the Chat GPT software, released in July of 2020, brought greater conversational capabilities and allowed the popularization and diffusion of the concept of artificial intelligence (AI) as a resource of widespread use by society. For the researcher, there are countless ways to use AI as a support tool for qualitative research, in this subsection we will explore some of these aspects. Before exploring the opportunities, it is important to highlight that the researcher is a knowledge worker (De Sordi et al., 2021, p. 65):

> The term knowledge worker applies to professionals whose work is highlighted by the continuous, systematic and predominant expansion of organizational knowledge through the mechanism of exploration. This sets knowledge workers apart from other workers, who deal with already existing knowledge [information workers] and whose tasks predominantly involve the exploitation of organizational knowledge.

Thus, the researcher performs the action of exploration, that is, creates and expands knowledge. In this sense, there should be no risk or fear of competition or even replacement of the professional researcher by the tool. AI resources should reduce or even replace the work performed by information workers (IW) who work with the exploitation (application and diffusion) of already existing knowledge. This is a good narrative hook for the first way AI can assist researchers.

Perception and conception of the problem worthy of research. One of the greatest virtues of the researcher is the identification of new problems, situations not yet perceived by society and not addressed by other researchers. In this sense, an AI tool that has scanned a plethora of scientific texts can help to prove the novelty of the research. Thus, we have AI assisting from the initial steps of the research, in

the definition and delimitation of the research, contemplating the object of interest, the objective and the research problem, all within an innovative context.

Identification and triangulation of theories. The great ability of AI in summarizing already known themes can facilitate the work of researchers in identifying the presence of themes or subjects of interest in different fields of science. This facilitates the identification of opportunities for triangulation of theories, strengthening the ability of the researcher to build a good theoretical framework. Here we have an important help from AI in assisting the researcher's power of synthesis, helping to combine insights from different fields of science.

Analysis of the collected inputs. Having the researcher collected all the inputs and prepared the documents for AI reading, the commands and typical operations of a CAQDAS can be more easily performed. I understand that here it is more about operational ease, for example, giving voice commands instead of clicking and dragging buttons from graphical interfaces. The analytical ability of the researcher to perceive nuances in texts originating from transcriptions of interviewees' speeches is fundamental, considering the lesser structuring of speeches in relation, for example, to texts originating from contracts collected in the field. AI resources tend to enter and assist more strongly in the "processing" of data from quantitative research than in the treatment of qualitative information.

> De Sordi, J. O., Azevedo, M. C., Bianchi, E. M. P. G., & Carandina, T. (2021). Defining the term knowledge worker: Toward improved ontology and operationalization. *Knowledge and Process Management, 28*, 56–70.

Questions for Reflection:

1. What are the main distinctive functionalities of the two categories of software for obtaining inputs, those of harvest and those of collections?
2. How do you associate the three types of operators of CAQDAS tools (semantic, proximity and Boolean) with the three basic types of coding (open, axial and selective)?
3. How do LSA and CAQDAS software differ in terms of deliveries made? Try to structure your answers thinking about documents (corpus of texts) available for analysis.

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Part V

Writing and Publishing Qualitative Research Findings

Presenting a scientific subject in an attractive and stimulating manner is an artistic task, similar to that of a novelist or even a dramatic writer.

Max Born

German physicist and mathematician

Communicating the Findings of Qualitative Research

9

Reading Guide: The structure of the scientific text can be discussed from different aspects. In this chapter, we will discuss it in terms of the information resulting from the application of qualitative research strategies. This discussion will revolve around three characteristics of the scientific text: its structuring sections, including the analysis of the titles of these sections; section sizes, in terms of word count; and analyses and flows of ideas, from the connections between the various sections and subsections of the text. In addition to the scientific text, qualitative research, often developed in a field application, requires a second version of the text aimed specifically at non-academic professionals, those with the opportunity for direct application of knowledge in their professional activities. Thus, in this chapter, we will address two types of communication, scientific (scientific article) and professional ("practitioner version").

Qualitative research produces new scientific knowledge through three paradigms, two of them based on the results of researchers' actions in the field (transformative paradigm and pragmatic paradigm). In these paradigms, we have the possibility of more direct and faster transfer of scientific discoveries to the field of application in society, considering this to be its original locus of development. Thus, in addition to the traditional dissemination version of the scientific text, in the form of an article, there is the possibility of generating a second communication version, aimed at practitioners. The practitioner version helps non-academic professionals to become aware and make use of the research findings. Thus, in this chapter, we will also explore the preparation of the communication version for practitioners, as well as the specific aspects of the scientific article for the dissemination of qualitative research among academics. We will start this chapter by discussing communication in the form of a scientific article in the context of research conducted with a qualitative approach.

J. O. De Sordi, *Qualitative Research Methods In Business*,
https://doi.org/10.1007/978-3-031-50323-8_9

9.1 Structure of the Scientific Text

The importance of the structure of the scientific text has been highlighted by editors of important journals. Sun and Linton (2014, p. 571) wrote an editorial indicating that "paper writing is a critical step in publishing research work. Structure offers a basis, skeleton and acts as a guide – especially for multi-author collaborations". Bansal and Corley (2012) addressed in an editorial the structural differences between the front end and the back end of qualitative articles. This editorial was published in a set of editorials from the Academy of Management Journal in which the editors give suggestions and advice for improving the quality of the articles to be submitted to the journal. The central message of these editorials is that there are structural aspects, common among the articles published in high-impact journals, that should be observed by researchers who intend to publish in these channels.

The editors of these editorials are referring to the structures for communicating research developed with research strategies different from the classic structure. The dominant model in classic research methodology books and in the collective consciousness of researchers is the one used in the structure of reports from the post-positivist research paradigm. The aforementioned editorials, along with others, like those of Sparrowe and Mayer (2011) and Zhang and Shaw (2012), encourage us to reflect on the best way to structure and present the relevant information from research developed from a qualitative approach. Whether the research is qualitative or quali-quantitative, a differentiated presentation is necessary in terms of text structure, exploring for each research strategy the structure that makes more sense for the exposition and understanding of the facts, analyses, activities carried out and discoveries arising from the research.

For the structural analysis of qualitative research texts, we work in this subsection with three aspects to be analyzed: (i) total number of words distributed between the initial part of the text (front end) and its final part (back end); (ii) identifying names of the text sections; and (iii) associations between the sections and subsections of the text in terms of citations to their internal parts (cross-references).

9.1.1 Section Sizes

Sun and Linton (2014) used the number of words in the sections for comparative analysis between two groups of articles: 50 desk-rejected manuscripts recently submitted to a high-impact journal and 10 highly-cited papers published in the same journal. Bansal and Corley (2012) also worked with the idea of size, but not of sections, but of parts of the text, using the concepts of front end and back end of the article, as described and analyzed:

> The front end of a quantitative article typically includes an introduction, literature review, and the development of new theory by way of hypotheses. The literature review, therefore, sets the background for the hypotheses. Because qualitative papers fulfill a different purpose, their front end is shorter, yet it serves more functions.

> […]
>
> A Long, Robust back end
>
> […]
>
> Qualitative works, on the other hand, reserve the biggest punch for the back end. A strong Discussion section should not only summarize the findings and ultimately delineate the theoretical and practical implications that a real so demanded of quantitative papers […]. (Bansal & Corley, 2012, p. 510)

The relationships highlighted in the editorial by Bansal and Corley (2012) for the qualitative text are: "front end shorter" and "back end robust and long". This makes a lot of sense when compared to the context of the information demanded by the front end of quantitative research. The fact that quantitative research launches hypotheses based on literature implies an entire theoretical explanation in this initial part of the article, that is, a more extensive front end.

To verify this perception of the editors, we conducted an empirical research. For this, we collected and analyzed 108 articles, all originating from the top 20 journals in the field of Business Management. The selection of the journals took place in March 2015, based on the following criteria: being on the list of the top 20 journals in the field of Business Management from SCOPUS (SCImago Journal Rank) and Thomson (Journal Citation Report—Social Science Citation Index). The articles were collected in three groups, with 36 of them developed with the quantitative method, 36 with the qualitative method and 36 with the mixed method (quali-quanti). For the selection of quantitative articles, we used the selection criteria of the words "quantitative" and "hypotheses" in the title attribute or in the abstract attribute. For the qualitative-quantitative articles, these should mention the words "quantitative" and "qualitative" in the abstract attribute. For the qualitative articles, attention was paid to three qualitative research strategies, with at least one of them described in the abstract: "Grounded theory", "phenomenological" or "phenomenology", "ethnography or "ethnographic". Also for the qualitative articles, these should not present the words "hypothesis", "hypotheses" or "quantitative" in the abstract attribute.

For comparative analysis between qualitative, quantitative and quali-quanti articles, we compared the total number of words in the two major divisions, the front end and the back end. For the calculation of the number of words in the front end of each article, we added up the words from all the sections that precede the Method section, for the back end we considered all the words from the method sections to the last section, not considering the words present in the Appendices and References. Figure 9.1 presents the arithmetic mean of the total number of words, described in percentage, calculated for the front end and for the back end of the articles, according to the three types of research. It also presents the ratio between the average percentage of the total number of words in the front end and the average percentage of words in the back end. It is important to note that the sum of the two parts of the articles does not total 100% because these numbers do not include the total number of words in the Appendices and the Reference list.

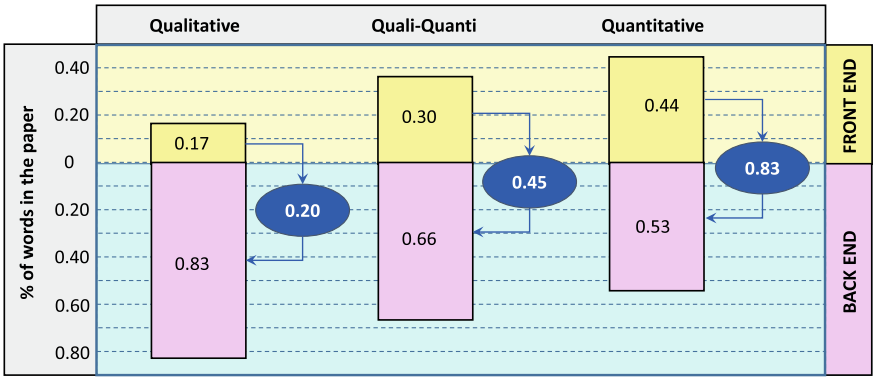

Fig. 9.1 Size of front end and back end of the articles according to type of research (*Source* De Sordi et al. [2017, p. 488])

It is observed in Figure 9.1 that the ratio between the volume of words of the front end and the back end is more equal (closer to one) for quantitative type articles, at 83%. The most unequal ratio (closer to zero) was obtained for qualitative type articles, at 20%. The ratio that resulted in a more intermediate position (closer to half) was obtained for qualitative-quantitative type articles, at 46%. Thus, we find that the field data corroborate with the editors' perception, the more qualitative the article, the greater the proportion of words devoted to the construction of the back end.

One of the reasons for the more extensive front end in quantitative research is the need to substantiate the hypotheses, so that they are perceived by the reader as quite intuitive and make complete sense. Thus, there is a need to have a good understanding of all the constructs mentioned in the drafting of the hypotheses. Readers do not need to completely agree with the hypotheses to be tested, but they need to clearly understand the underlying relationship that is the focus of the hypothesis (Sparrowe & Mayer, 2011). The logic of structuring the text in hypotheses is the dominant model in quantitative approaches, constituting a well-defined rhetorical tactic for a well-defined research problem. On the front end of qualitative research, there are many ways to sensitize the reader to the problem or research interest to be addressed. Thus, although the front end of qualitative research is shorter, it is more challenging in terms of conception and logical structuring. As for the components and challenges of the back end of qualitative research, we will leave to discuss in the subsection "9.1.3 Associations between the sections of the text".

9.1.2 Section Titles

The most widespread text structure among empirical social science journal articles consists of six parts: (1) Introduction, (2) Literature review, (3) Methodology, (4) Result, (5) Discussion and (6) Conclusion" (Sun & Linton, 2014, p. 571). This structure is obviously derived from the most recurrent and traditional research, those associated with the post-positivist research paradigm. The use of the term "Results" instead of "Findings" is a good indication of the origins of this structure, indicated by many as the basic standard adopted in books, templates and other resources used for discussing the scientific method. Observing the importance of the text structure pointed out by the editors of important journals, as well as the culture of the structure of the quantitative method that predominates in the scientific community, it is inferred the importance of discussing the best way to structure the information resulting from the application of different qualitative research strategies.

Throughout the description of the nine qualitative research strategies, present in the three chapters of the second part of this book, we observed that for some of them there are very specific structures documented in the literature. In many of the subchapters of each of the research strategies addressed in this book, we present a topic called "Writing the research report". In Table 9.1, there is a description of the structures proposed for qualitative research strategies. The research strategies grounded theory, phenomenology, case study and ethnography are usually presented with the standard qualitative research structure (see the first column of Table 9.1).

An important aspect to highlight is the presence of the appendices sections. All the text corpora analyzed underwent a coding process, that is, excerpts extracted from the text, which are configured as context units, and which were labeled or coded. For editors, reviewers or even readers to verify the quality of the analyses developed by the research authors, access to these contents is important. In the Findings section, we usually leave some text extracts from the context units only as an example, they only remain in full, that is, all the highlighted passages for a context unit when this quantity is small. Usually, the exposure of all the text passages associated with a context unit occurs through appendices.

The text excerpts extracted from third-party texts, collected in the field, which are present in the descriptive tables of each of the context units, whether they are present in the findings section or as an appendix, must all be referenced. The reference here means to inform the document code, the page number of this document and the line number within the page. Texts collected, or be, developed during the research, should have the entirety of the original text available for readers to consult, if very extensive they should be available as supplementary material, otherwise as an appendix to the text. These inputs developed during the research, the result of the collection action, should be formatted with the indication of the page number, as well as the number of lines within each of the pages of the document. This will facilitate the act of referencing the context units, as well as access to the original document of these texts, allowing a review of the integrity of the analyses

Table 9.1 Section structure for scientific texts according to the research strategy

Standard qualitative	Design science research	Action research	Action-design research	Participatory action research
Introduction	Introduction	Problem formulation	Problem formulation	Problem description
Literature review	Current environment	First cycle: plan, act, observe and reflect	Current environment	First cycle: plan, act, observe and reflect
Methodology	Conceptual issues	Remaining "*n*" cycles: review plan, act, observe and reflect	First cycle: develop, test, and evaluate artifact	Remaining "*n*" cycles: review plan, act, observe and reflect
Findings	Artifact development	Learning	Remaining "*n*" cycles: adapt, test, and evaluate artifact	Learning
Discussion	Artifact evaluation	Appendices and Annexes	Learning	Appendices and Annexes
Conclusion	Conclusion		Appendices and Annexes	
Appendices and Annexes	Appendices and Annexes			

from the field evidence. If the researcher is using a CAQDAS tool, the generation of a table of context units is automatic, with the complete reference, covering the identification of the document, the page number and the line number.

9.1.3 Associations Between Text Sections

The structure of scientific articles can be analyzed not only in terms of the size of their sections (number of words), but also from the relationships established between the sections of the article. The analysis of interrelationships between text sections of an article can be based on indicators of the network analysis technique (Wasserman & Faust, 1994). The internal relations between the sections of the text are characterized by internal citations (cross-references) and other devices, such as citation to non-textual elements such as tables and figures. Thus, we apply the network analysis technique to analyze the internal relations between the text sections of the 108 articles in the sample, the same ones used for the analysis of the size of the sections (9.1.1). For the application of the network analysis technique, we created a square matrix (text matrix) where the sections and subsections of the article were identified as actors of the network, with internal citations (cross-references) indicating the existence of relations between these actors.

Operationally, three text matrices were generated from the 108 sample articles, one for the set of 36 qualitative articles, others for the 36 quantitative articles

and another for the 36 quali-quantitative articles. This allowed us to compare the indicators generated by the network analysis technique for the three groupings of research approaches. Based on these indicators, we analyzed some perceptions and suggestions given by the editors of important journals in their editorials. One of these perceptions indicates that the scientific text generated from the qualitative strategy presents the most dense and robust back end. For the analysis of this perception, we elaborated the following hypothesis:

H1: the Findings section of qualitative type articles is characterized by presenting the highest volume of internal citations, that is, many citations between its own subsections, making this section present the highest outdegree and the highest indegree among all the standard sections of the qualitative article.

Another statement from the editors, specific to quantitative articles, is that "hypotheses are the heart of a paper" (Sparrowe & Mayer, 2011, p. 1101). From this statement, we inferred that there should be a high volume of internal citations pointing (indegree) to the section that declares the hypotheses (Literature review), which resulted in the formulation of the hypothesis:

H2: the analysis of internal citations (cross-references) from other sections to the Literature Review section (indegree) is a discriminatory characteristic of the type of quantitative research, making this section present the highest indegree among all the standard sections of the quantitative article.

The two hypotheses were corroborated by the tests from the text matrices and the network analysis indicators generated (detailed descriptions of the tests in De Sordi et al. [2017]). This means that the qualitative researcher develops a dense narrative in the back end, more specifically in the Findings section, composed of an intense flow of arguments supported by field data. Non-textual elements such as figures and tables are used to facilitate this construction, as they exemplify the field data in an exemplary way. Thus, the data help to support the story that is being developed which, often, can be a theoretical narrative, that is, the development of a new theory. This process characterizes the central action of theoretical development, well summarized by the phrase of Bansal and Corley (2012, p. 511): "the data are needed to give the theory context, and the theory is needed to give the data meaning".

It is observed in these various sets of actions that the qualitative researcher should have good competence in the narrative technique, as there is an intense flow of data to be presented, as well as explored through associative, comparative logics and other analytical resources. It is at this point, from this intellectual exercise, that the main findings of the research should emerge.

9.2 Communicating with Other Audiences (Non-Scientific Community)

Many of the discoveries of qualitative research strategies are useful for other audiences beyond the academic and scientific community. Two of these situations are well characterized and documented in the literature referring to qualitative research strategies, as occurs with the case study strategies and design science research.

For the case study strategy, Yin (2018) indicates the need for researchers to develop more than one version of the research findings dissemination. The findings of a case study go far beyond academics and scientists, encompassing many others who are laymen in the scientific method and in scientific writing. Here are included various professionals, such as political organizers and professionals in general. We will call these, from this point forward, practitioners. Yin (2018) names the version of communication of the research findings for the public of practitioners as the "popular version". It should be published in a communication channel aimed at practitioners, such as a website or a magazine specialized in information for that specific community. The delimitation of the community of interest can be in function of the area of business, the business process or the technologies directly associated with the cases analyzed.

For the design science research strategy, the literature that disseminates the approach was even more emphatic about the need to direct the research findings to the non-academic public. Among the seven guidelines presented by Hevner et al. (2004, p. 83) for conducting design science research, one of them specifically deals with this theme: "Guideline 7: Communication of Research". Descriptive presented for this guideline: "design-science research must be presented effectively both to technology-oriented as well as management-oriented audiences". In the literature and among the experts in the approach, this non-academic version is known as the "practitioner's version". This is totally coherent, considering that the artifact generated by the design science research approach is directed to a specific group of professionals.

The need for these additional versions of the research for non-academic audiences becomes very evident when we analyze the difficulties faced by non-academics when trying to read and inform themselves through scientific texts. It is not a simple and pleasant reading, as they do not always have time to read long texts full of technical terms. The attempt to read usually implies access to many other referenced texts, characterizing a slow and fragmented reading. Another aspect to highlight is that scientific texts usually lack direction to actions, the main demand of practitioners who seek solutions for their professional challenges. These two arguments are pointed out by van Aken and Romme (2009) as the main reasons for the low reading and little use of scientific texts by practitioners.

The text directed to practitioners should be short and direct, very prescriptive, directing to the reader's action (De Sordi et al., 2014). The market professional is focused on what works, how to operationalize a certain action to meet a specific demand. The scientific evidence of content quality should only be mentioned in the practitioner's version. Through the text referenced in the practitioner's version,

those who wish can have access to more information about the method, and other epistemological issues associated with the generation of content. The researcher when writing the two texts must have a good understanding of the reading purpose of each of these two audiences. The scientist reads more in depth or reflective (Sect. 7.1.4), thinking about expanding knowledge, acting as a knowledge worker and seeking the expansion or exploration of current knowledge. The practitioner just wants to understand to use the new knowledge already available, that is, acts as an information worker using or exercising the exploitation of knowledge (De Sordi et al., 2020).

The development of the two texts, the scientific and the practitioner's version, collaboratively brings the researcher closer to the public that has the demand, that is, the one who experiences the real-world problem. The central idea with these two texts is to combine the positive aspects of the two types of literature: the practicality and prescription of the literature for practitioners, with the evidence and rigor of the method associated with scientific literature. With this comprehensive action of the researcher, also dedicated to communicating the results of his research to practitioners, there should be a process of improving the perception of the relevance of scientific research (Van Aken, 2005). One of the central objectives of this better connection between researchers and practitioners is to seek to reduce the time between the discovery of new knowledge and its application to society, in other words, to reduce the time elapsed between invention and innovation.

9.3 Other Forms of Communication

In addition to the scientific article and the practitioner's version, communication tools discussed in the first two sections of this chapter, there are several other resources for disseminating research results. We present in this subsection two other means: one more focused on academics, the conference; and another more directed to practitioners and other non-academic stakeholders of the research, the workshops.

Conferences or academic conferences are spaces that offer a series of activities for the dissemination and improvement of research. The idea is that this is an intermediate space before publication in a scientific journal, a space for discussion and possible points of research improvement. Management conferences usually discuss research by subjects of interest in the field. For example, at the annual meeting of the Academy of Management in 2024 we have 26 divisions or interest groups: Careers; Conflict Management; Critical Management Studies; Communication, Digital Technology, and Organization; Diversity, Equity, and Inclusion; Entrepreneurship; Health Care Management; Human Resources; International Management; Management Consulting; Management Education and Development; Management History; Management, Spirituality, and Religion; Managerial and Organizational Cognition; Operations and Supply Chain Management; Organization and Management Theory; Organization Development and Change;

Organizational Behavior; Organizational Neuroscience; Organizations and the Natural Environment; Public and Nonprofit; Research Methods; Social Issues in Management; Strategic Management; Strategizing Activities and Practices; and Technology and Innovation Management. These themes are usually changed from time to time according to the perception and agenda of the grand challenges of the area.

From the non-academic perspective, we can use workshops with the community to disseminate the results of our research. The idea is that this space serves to position the stakeholders of our research (those who in some way cooperated with the development of our research) about the results achieved by the institution or by a research group of the institution. These sections highlight scientific productions, technological productions, as well as their impacts on society, highlighting the beneficiaries and the resulting benefit to them.

Questions for Reflection:

1. In a scientific text that presents the results of research developed with a qualitative approach, which section of the text should be the densest in terms of the number of words as well as in terms of interrelationships between its textual and non-textual elements?
2. The excerpts of texts identified as context units, extracted from research inputs, should be available to the reader through which section of the scientific text? If this set of text is very extensive, what would be the other option for making these texts available to readers?
3. How can we differentiate the texts disseminating research results to academics and practitioners in terms of being action-oriented (prescriptive) and being rich in evidence and respect for the scientific method (scientifically valid)?

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Planning the Publication of Qualitative Research

10

Reading Guide: In this chapter, some aspects of the scientific research evaluation process, peer review process, exploring the nuances of qualitative research are addressed. The selection of the journal is the first step, this makes the content of the article contextualized to the characteristics of the journal. This requires that researchers observe the culture of the journal in relation to the novelty of qualitative strategies. Another aspect associated with the submission of the article for a journal's review is the appointment of preferred and non-preferred reviewers. Finally, we will address issues associated with the intense asynchronous dialogue between researchers and reviewers during the peer review process of the qualitative article.

When addressing the differences between qualitative research and other types, Bansal and Corley (2012) commented that the researcher seeking to publish findings generated from qualitative research should be prepared for an intensive communication process with the reviewers and with the editor. They comment that this is a very interactive process, due to the nature and open scope of the qualitative inputs obtained for the fulfillment of analysis activities and inference generation. The reviewers may have new perspectives for these inputs, providing authors with feedback that adds other socially constructed meanings from the field inputs. The theoretical or pragmatic experience of the reviewers in relation to the field of study can lead to the generation of these new insights, going far beyond those already explored by the authors. On the other hand, the structure of quantitative research is more structured and closed, with its analytical structure presented from the front end of the article. It is a more delimited and directed structure for the discussion of the hypotheses established from the front end of the article.

The intense interaction between reviewers and researchers during the peer review process until the acceptance of the article, which often implies in a significant reformulation of the analyses and texts, ends up making the reviewers anonymous co-authors of qualitative articles (Bansal & Corley, 2012). Considering this, we have that the three subsections of this chapter ("10.1 Suitability of the Text to the Journal

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Selected for Publication", "10.2 Pointing out preferred and non-preferred reviewers", and "10.3 Dialogue with the reviewers"), although necessary for any type of research, are more critical and demanded for the publication of articles that present the findings of research developed with a qualitative research strategy. Hence the need for knowledge and special care for these three topics explored in the subsections of this chapter. This will allow a correct understanding, behavior and planning of the researchers in relation to the necessary work for the publication of the scientific discoveries arising from research developed with qualitative research strategies.

10.1 Suitability of the Text to the Journal Selected for Publication

An important aspect to be observed by the qualitative researcher is regarding the definition of the journal in which it is intended to publish the research findings, even before starting to write the article. As with the other types of research, this is due to the editorial policy declared by the journal and the recent history of publications. However, an important aspect is the tradition and culture of the journal in relation to the research approaches that predominate among the publications. There are some aspects that cannot be ignored, some journals declare explicitly the preference for certain approaches or the non-acceptance of others. For example, some journals in the field of operational research clearly indicate a preference for some strategies of quantitative approach. This is important not only to verify the possibility of submission to a certain journal, but mainly for the adaptation of the necessary texts considering the submission to a certain journal.

To illustrate the adaptation of article texts to the publication history of the journal, I cite the successful example of the publication of a research developed with the confessional ethnography strategy in a journal with no history of publishing ethnographic research. To overcome this difficulty, Schultze (2000), carried out a very detailed description of the confessional ethnography method, very rich in evidence and comments, which must have greatly facilitated the understanding of the texts by reviewers and editors. A personal example was my experience of publishing an article with the findings of a research developed through the design science research strategy in a journal without previous publication associated with this strategy (De Sordi et al., 2016). This required additional efforts of description of the method and detailed presentation of the results of this approach. It is important to note that the greater youthfulness of qualitative strategies, as well as the wide proliferation of triangulations between them, leaves the research developed with these approaches more subject to the need for adaptation of the texts of the method section according to the epistemological culture of the selected journal.

10.2 Indicating Preferred and Non-Preferred Reviewers

The subjectivity of qualitative research is the object of attention of various collection and analysis techniques as addressed in the various chapters of this book. No matter how much attention and care the researchers pay to the logic of triangulation of these techniques, from different sources and different strategies, there will always be room for questions, if the reviewer has a deliberate intention to question. In this sense, it is important to note that the peer review process used for scientific evaluation is also an activity conducted by people, subjective and liable to present defects such as the occurrence of biases during the analysis of the text carried out by editors and reviewers.

Among the most discussed and accepted biases in academia regarding the peer review process of articles are those associated with halo and horn effects (Peters & Ceci, 1982). The halo effect is a cognitive bias of the decision maker, defined as the possibility of one aspect of the individual or entity being analyzed being perceived by the evaluator as something positive, which can positively interfere in the judgment of all other important aspects to be analyzed and distort the decision outcome. The horn effect is similar, but involves an aspect perceived by the evaluator as something negative, negatively interfering in the outcome of the analyses. Thus, the halo effect can favor an article of little scientific merit, just as the horn effect can harm an article with scientific merit (Smith, 2006).

Many forms of bias in the peer review process have been discussed by academia over the last few decades. Lee et al. (2013) developed a taxonomy of these biases, among the types identified is the category "Content-Based Bias". This category is broken down into: "Confirmation bias", reviewer bias against manuscripts that describe results inconsistent with their theoretical perspective (Jelicic & Merckelbach, 2002); "Conservatism bias", bias resulting from the conservatism of the reviewer who tends to be against groundbreaking and innovative research (Braben, 2004); "Publication bias", bias associated with the tendency for journals to publish research demonstrating positive rather than negative outcomes (Bardy, 1998); and "Bias against interdisciplinary research", bias associated with the understanding that disciplinary reviewers prefer mainstream research (Travis & Collins, 1991). Thus, as important as pointing out the reviewers who have a good understanding of the research problem is vital to indicate which are the possible groups of researchers who may present some negative bias in relation to the message of your article. The idea is to think of groups of reviewers who may have a negative feeling or experience, "horn effect", when reading the information contained in your article.

Giving a practical example, we recently presented the result of one of our researches to the participants of the Academy of Management congress of 2023. Under the title "A Business of Small Size is not a 'Small and Medium Enterprise'", the article begins with the following abstract:

> Composite categories such as "small and medium enterprise" (SME) violate canons of the categorization process, such as mutual exclusion, configuring a scientific-ontological problem and also a business-pragmatic one, as such categories make it difficult to understand and seek solutions for these companies. In order to explore this difficulty, this study analyzed the concepts recently used by researchers and practitioners to characterize businesses of small size. [...]

As you can see, our research builds the evidence of a research opportunity, characterizing a research problem according to the strategy of motivating the reader called incommensurability: "When problematizing a text as incommensurate, an article suggests that the extant literature not only overlooks different and relevant perspectives, but also claims this literature is wrong" (Locke & Golden-Biddle, 1997, p. 1040).

After the congress, when submitting the same article to a journal specialized in "small business", knowing the possibility of the incidence of the horn effect during the peer review process, we chose to ask the editor to exclude reviewers who published research addressing the theme "small and medium enterprise". On the other hand, or in other words, thinking about the reviewers we would recommend for the analysis of our article, we suggested authors who published recent research using the term "small business". A very efficient strategy for identifying recommendable reviewers is to observe the authors cited in the introduction of your own article, those who support and underpin the structuring elements of the research, such as objective and statement of the research problem.

10.3 Dialogue with the Reviewers

The communication between the researchers who prepared the communication of the research results in the form of an article, referred to from this point as in front of authors, and editors and reviewers is an almost mandatory step for the publication of qualitative research findings in high-impact journals. In this sense, the researcher must be prepared to establish a communication protocol that is simple to understand. This activity is asynchronous, through the exchange of texts in the form of letters. After receiving the reviewers' opinion on the research in the form of a letter forwarded by the editor responsible for the article, the authors should act in order to work on the texts of their article to meet the requests. This will involve actions of including new texts, excluding other parts, as well as changing texts. Usually a request for major revision implies these three types of actions.

The first thing to be done by the authors upon receipt of a revision request, whether minor or major revision, is to break down the requests into work fronts. Usually there are at least two reviewers who analyzed and gave their opinion on the article, so the work fronts should be grouped and identified by reviewers. Imagine that the first reviewer, here called reviewer "A" wrote three paragraphs, with 2 requests in the first paragraph, 4 requests in the second paragraph and 3 in the last paragraph. Thus, we have 9 work fronts, thus identified: Reviewer-A1,

Reviewer-A2, …, Reviewer-A9. Each of these identifiers is followed by the text of the request in quotes, indicating to the editor and the reviewer that it is exactly an extract of the text as per the original request. As an example, the name of the first front is: "Reviewer-A1: present at least one recent reference that justifies the statement present in the first sentence of the first chapter".

For each of the reviewers, a specific response letter should be prepared, which should have the same structure or protocol in terms of exposition of the actions taken by the authors, as well as the results achieved. We usually send all the response letters together in only one file and the editor and his assistants, depending on the journal, cut this text and send only the specific responses to each reviewer or, sometimes, all reviewers receive all the requests from all the reviewers, as well as the responses prepared by the authors for all the requests. The most common is the first situation, each reviewer receives the responses only from their requests. Thus, if we have to respond to two reviewers, usually the response file is divided into three sections: "Comments to the Editor", "Responses to Reviewer A" and "Responses to Reviewer B".

In terms of the structure of the response protocol, we have that after the name of identification of each response section to the reviewers, the ideal is to copy the paragraph or paragraphs of the request from the respective reviewer, exactly as written by him, preceded by the text "forwarded requests". Following this, the various subsections of responses are presented, as many as the number of requests made by the reviewer. For the example of Reviewer A, we will have nine subsections: Reviewer-A1 to Reviewer-A9. For each one of these work fronts, right after the identification of its name, there should be two contents: "Original Text" and "Text after meeting the request". Thus, for the previous example of Reviewer-A1 we have a response text as indicated in Fig. 10.1. Note that the citation included at the end of the sentence, as requested identified as Reviewer-A1, is highlighted in bold. This is an important resource to facilitate the reviewer's understanding.

We note that the letter may have an initial section called "Comments to the Editor". This may be necessary for several reasons: (i) to respond to the editor's own requests; (ii) to explain conflicting situations between the requests made by the reviewers, justifying which one was met; and (iii) to explain the reason for not meeting some of the reviewers' requests. It is important to note that the authors are not obliged to meet all the reviewers' requests, as long as there is a justification. These situations should be reported not only to the reviewer who requested it, but also to the editor, preparing the editor for conflicting situations, in case the reviewer does not feel completely satisfied with the justification.

In addition to the file with the response letters to the editor and the reviewers, we have to send one more file, which contains the complete wording of the new version of the article (revised article). The suggestion of most journals is that the new texts of the article are highlighted with highlighter, or with the revision mark on or another feature that facilitates the identification of the new texts by the editor and the reviewers. This set of files to be sent by the authors of the communication is independent of the type of research, whether qualitative, quantitative or mixed method. However, it is important to highlight that the larger volume of

Responses to Reviewer A

Forwarded requests: "*As for the introduction of the research, I understand that it is necessary to present at least one recent reference that justifies the statement present in the first sentence of the first chapter. Another aspect that should be observed carefully is with regard to [...]*"

Request Reviewer-A1:

Original text:

"*More than fifty percent of small businesses cease their activities before completing two years of existence.*"

Text after the request has been addressed:

"*More than fifty percent of small businesses cease their activities before completing two years of existence* ***(Thumant, 2023)*** ."

In the reference list, we proceed with the following text inclusion:

Thumant, R. T. (2023). Exploring causes of closure of Small Businesses ...

Reviewer-A2 Request:

Original text:

[...]

Fig. 10.1 Example of response letter to the requests of reviewer A

analytical texts, of narratology efforts, occur with qualitative research strategies. Thus, the proposed structure is recommended for all types of research, regardless of whether qualitative, quantitative or mixed, but its non-use or partial use will be more detrimental to authors of scientific communications resulting from qualitative research.

Questions for Reflection:

1. What is the justification for considering that qualitative research will present a greater flow of interaction between researchers and reviewers during the peer review process?
2. Why do journals allow authors, when submitting their articles, to exclude researchers or groups of people as reviewers of the article?
3. Are authors obliged to meet all the requests made by the reviewers?

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