

# Getting the Methods Right

Rodolfo Baggio

rodolfo.baggio@unibocconi.it

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## INTRODUCTION

Since the very beginning of what we identify as modern science, the communication of ideas, theories, insights and findings has been considered the essence of knowledge dissemination and intellectual progress for the advancement of all disciplines. However, the simple act of sharing information has not been reputed sufficient to ensure the credibility and impact of a scholar's work. The way results are obtained, observations and experiments conducted, and interpretations or extensions formulated has been seen as a crucial element. The methodological approach is, after all, the main factor that marks the distinction between sparse studies of phenomena and systems and what today we recognize as "science" (Hansson, 2021).

The modern communication of science was born in the second half of the 17th century, when the members of the newly born scientific societies started to hold regular meetings to discuss their discoveries and disseminate their research findings in journals. Since the foundation of these societies, rules or guidelines were established for presenting and discussing ideas, theories, experiments and results with the aim of persuading the audience of the relevance and reliability of the work done (Lareo Martín & Montoya Reyes, 2007).

This passed through two important elements: the clarity of the methods and techniques used, with an emphasis on the possibility to replicate the studies; and secondly, the opinions and comments of other scientists who were asked to review what was done. It must be noted however, that only very recently has the peer review become a standard step in the procedure followed for accepting and publishing a paper in a scientific journal. A well-known incident is the famous refusal by Albert Einstein, in 1936, to reply to the comments of an anonymous reviewer and his decision to withdraw the paper from the journal he had sent it to (Kennefick, 2005).

## WHAT REVIEWERS VALUE: A LITTLE BACKGROUND

Now the question is: how do reviewers value the different aspects of the section of a paper that describes the methods used and how relevant is this evaluation for the acceptance of the paper? As said above, the way in which a study has been conducted is of great importance for the validity of its results and for the possibility of replicating it, and is one of the cornerstones of what is called "scientific method". This is reflected in the main criteria by which reviewers judge a manuscript.

The literature on this topic is relatively scarce, but no matter what the discipline is, there are clear indications on the importance of the methods section. Ryan (1979, p. 1) explicitly writes that referees require: "a detailed description of the research method, including its appropriateness for the particular research and the precise ways in which the variables were measured and analyzed". Similar comments can be found in other papers that deal with the matter; in all of them the methods used are considered

to be one of the top areas that are scrutinized and issues in the methodological approach taken are one of the major causes of rejection (see, e.g., Siler & Strang, 2017; Yuksel, 2003).

In particular for the tourism and hospitality domain, McKercher et al. (2007) analyze a significant number of reviews and demonstrate that the most common area where reviewers find flaws is methodology (74% of papers). Other studies also explicitly describe what these issues are and attribute the problems to the use of inappropriate statistical tests (or a lack of statistics altogether), unsuitable techniques used for answering the hypotheses, or using old techniques that have been surpassed by more recent or powerful approaches that provide more robust outcomes (Menon et al., 2022; Sanchez, Makkonen & Williams, 2019). Often then, as McKercher et al. (2007) state, communications' problems are more common than technical flaws. Therefore, great care should be taken in writing this section.

One more consideration is in order here. Originality is a fundamental requirement in scholarly papers. If one of the objectives of scholarly research is to contribute new insights, theories and findings to the existing body of knowledge, then originality is the key aspect that distinguishes impactful research from mere repetition or replication. By presenting new ideas, theories or perspectives, researchers push the boundaries of understanding and stimulate intellectual discourse. At the same time, original research opens up opportunities for further investigation, allowing later researchers to build upon existing knowledge and explore new directions. Moreover, when presenting novel matters, they demonstrate their expertise, creativity and ability to think critically, thus enhancing the reputation and the impact of the work done.

Clearly, originality does not imply the complete absence of any influence of prior knowledge since new research is typically built upon existing theories, concepts and methods. Originality lies rather in the ability to combine existing know-how in new, innovative and meaningful ways (Buckley, 2023; Rodriguez Sanchez et al., 2022). In this respect, methodology can be an ideal candidate for ensuring novel contributions to the field of study. Novelty and creativity in methodology can involve several elements. They can concern the development of entirely new techniques, not previously explored, to address research questions or phenomena. Or they can present innovative combinations of known and established methods, tailoring the components in order to solve the problem at hand. All of this can be expressed by presenting new frameworks, models or approaches, or by incorporating in original and ingenious components from existing methodologies, from the tourism and hospitality domain or from other disciplines (Kara, 2015).

## **METHODOLOGY AND METHODS: A SHORT DIGRESSION**

Methodology and methods are terms often use interchangeably, but a difference exists. The original meaning of methodology referred to the exploration of how knowledge and inquiry were framed within academic disciplines or schools of thought. Therefore, rather than providing solutions, a methodology offers a theoretical perspective for identifying proper practices to address the research question. Over time, the meaning has expanded to encompass the design of a particular study and the set of procedures, tools and instruments used to conduct research. This includes the techniques for data gathering, management and analysis, as well as the implications of the study's outcomes. More precisely the term method, instead denotes the specific procedure and technique employed in the research process.

Several different methods can be chosen for a particular study, and they are linked and justified within a methodology. The effectiveness and significance of a research work depend greatly on the

methodology employed. Therefore, providing a careful and rigorous description is essential when evaluating the quality and relevance of a scientific publication. Research methodologies are commonly categorized into two classes reflecting, usually, quantitative and qualitative approaches. The choice between these approaches is commonly considered to depend on the researcher's perspectives and positions, the problem under examination, and the availability of suitable data. Quantitative investigations mainly utilize structured, numerical data, while qualitative approaches involve non-structured elements such as texts, images, video or audio recordings (for a summary see Pandey & Pandey, 2021). Throughout the history of research in tourism and hospitality, various methodologies have been employed. From a historical perspective, the dominant research approach was quantitative in the mid-20th century, with a growing sophistication in the use of statistical techniques. However, since the early 1990s, there has been an increase in mixed-methods research. In fact, it has been recognized that both qualitative and quantitative methods possess almost equally strengths and weaknesses (Choy, 2014) and the boundaries between the two are not always rigid so that some phenomena can be better understood through a combination of both methodologies (Davies, 2003; Kelle, 2006). For example, a study on tourist behaviour might employ quantitative surveys to gather data on travel patterns and preferences, while also conducting qualitative interviews to explore the underlying motivations and emotions driving those behaviours (see Gao et al., 2022).

Complex networked systems like tourism destinations often require mixed-methods techniques that integrate both quantitative and qualitative methods to provide a more comprehensive and meaningful analyses (Mariani & Baggio, 2020). By using mixed-methods approaches, researchers can provide a more nuanced and multifaceted analysis of the subject matter. Mixed-methods can provide investigators with better ways to explore the complex interactions between tourists, host communities and the environment, and the dynamic characteristics of these interconnections ultimately provide results in explaining complex social issues that are more accurate than those that rely on either qualitative or quantitative methods alone (Creswell, 2003; Khoo-Lattimore, Mura & Yung, 2019).

The recent advances in artificial intelligence, machine learning and data digitization have further blurred the lines between qualitative and quantitative methodologies. These technological developments now allow researchers to work with any combination of structured and non-structured data (qualitative and quantitative), leading to more creative and impactful research perspectives in the field of tourism and hospitality (Mariani, 2020; Schweinfest & Jansen, 2021; Tiguint & Hossari, 2020). Overall, the integration of different methodologies in tourism and hospitality research can pave the way for new and innovative lines of inquiry, contributing to the development of methodologies uniquely tailored to the tourism domain.

## **WRITING THE METHODS SECTION**

The methodology section serves to describe the actions taken and the approach adopted for answering the research question. The main objective is to allow readers to evaluate the credibility and the validity of the research findings and to let them, at least in principle, replicate the study. In this section, it is therefore important to cover all the key aspects of the research process. In essence, this section supplies a detailed account of the research design. This can be considered as the strategic agenda of the project, providing insight into how the study is conducted. It shows how various components of the research, such as samples, measures, treatments or programs, are combined and used to address the research questions.

The research design works in the same way as an architectural outline, translating logical concepts into a series of procedures that optimize the actions taken for validating and exploiting the data for a specific problem. The research design aims to “plan, structure, and execute” the research in order to maximize the “validity of the findings” (Mouton & Marais, 1996, p. 175). It comprises everything from the philosophical and epistemological assumptions to the design of the research and the collection of the data. It can be informally described as an action plan that guides the journey from the initial set of questions to a set of answers (Yin, 2003, p. 19). Obviously, the nature of the research conducted needs to be clear, so it might be worth repeating at the beginning of the methodology section what the specific problem or research questions are. Then the basic elements described here are the data required and the methods used, together with other tools or materials that might have been employed in the work presented. The section is typically written in the past tense because by the time of writing the study is completed.

Although the order of the elements is not crucial, it might be advisable to put first those more relevant for the research described and those that more contribute to the originality so much sought after by journal editors and reviewers. A possible outline is the following:

### *Introduction*

The section starts with a brief account of the methodological approach used to investigate the problem at hand. The selection of the methodology plays a crucial role in ensuring the appropriateness and effectiveness of the research design. An appropriate choice enables researchers to address the question effectively and achieve the desired objectives. Here the author will delve into the different aspects of the methodological approach, including its connection to the overall research design, the research instruments employed, the data analysis techniques, the provision of background information, the sampling process and the consideration of research limitations.

If needed, some ontological and epistemological considerations are also illustrated. Ontology refers to our beliefs about the nature of reality and the social world, focusing on what exists and what can be known. It involves assumptions about the objective or subjective nature of social entities (Smith, 2012). Epistemology, on the other hand, relates to our understanding of knowledge and how it is acquired (Steup & Ram, 2020). These philosophical positions form the foundation for the modus operandi chosen by the researcher and for the accumulation of the findings (Ayikoru, 2009). What a researcher chooses, in fact, cannot be completely value-free since their values always influence the whole process. Therefore, occupying a chosen position helps authors define their views and understandings in the creation of knowledge, and having a clear philosophical research position enriches the methodologies and the designs applied in a particular domain.

### *Methodological Approach*

The methodological approach adopted in the study is stated and discussed here. Quantitative, qualitative or mixed-methods will inform the next parts dealing with the details of the data, procedures and other materials used for the study. Here, as for the literature review section, it is useful to provide a brief account of the sources examined while researching a particular methodological topic, citing those reputed more relevant for the choice and application of what is used. It is important, however, not to limit such a review to a description of the different sources but to complement it with an explanation of the selection operated and of the use made, and to show how the information coming from these sources has been organized and interpreted.

### *Relevance to Research Design*

The chosen methodological approach must be closely aligned with the research problem to ensure the achievement of the research objectives. It is crucial to establish a clear connection between the methods employed and the research problem being investigated. In this part the authors will also make clear what the novelty or the contributions to the knowledge domain are if this is the main point supporting the originality of what is presented as discussed above.

#### *Research Instruments and Data Collection*

Research instruments are the tools employed to collect data for analysis, together with the criteria used for selecting them or the sampling technique used. These instruments can vary depending on the chosen methodology. In quantitative research, common research instruments include surveys, questionnaires and psychometric scales. These tools enable researchers to efficiently gather numerical data from a large number of elements or participants. In qualitative research, instruments may include interview guides, observation protocols and document analysis frameworks. These instruments aid in capturing rich and detailed information regarding individuals' perspectives, behaviours and social contexts. On the other hand, when using archival research or analyzing existing data, providing background information about the documents and their origins is crucial to ensure transparency and credibility. In this part, the assessment of the quality of what is collected is also presented (Pipino, Lee & Wang, 2002).

The main point here concerns the following aspects (all or the most important for the study):

- **Timeliness:** the degree to which the data are available at the time needed;
- **Completeness:** the degree to which all necessary data are available;
- **Accuracy:** the degree to which data represent the situation examined;
- **Uniqueness:** the degree to which data are unique and cannot be confused with other entities;
- **Validity:** the degree to which the data comply with requirements such as formats, types and ranges; and
- **Consistency:** the degree to which data, if collected in different places, match or not.

This assessment is especially important when the sources for the data used are digital online platforms or environments (Cai & Zhu, 2015). Finally, since it is quite common to face problems when collecting or generating data, the author should not ignore them or pretend they did not occur. Detailing how the obstacles met were overcome can be a noteworthy part of this section as it provides the reader with a sound justification for the decisions made to minimize the impact of any problems encountered.

#### *Data Analysis*

The data analysis process is determined by the methodology chosen and the nature of the data collected. In quantitative research, statistical analysis techniques such as descriptive statistics, inferential statistics and regression analysis are commonly employed to examine relationships, test hypotheses and derive meaningful inferences from numerical data. In qualitative research, data analysis involves thematic analysis, content analysis or discourse analysis, which focus on identifying patterns, themes and meanings within textual or observational data. Mixed-methods research integrates both quantitative and qualitative data analysis approaches for identifying recurrent themes and patterns within the data, provides insights into the subjective experiences and perspectives of participants and, in essence, gain a comprehensive understanding of the research problem.

Theoretical perspectives can also be employed to interpret and explain the observed behaviours and patterns. Existing theories and frameworks relevant to the research problem are surveyed to provide

a comprehensive understanding of the phenomenon under investigation. The reporting of the process followed is of high importance and should concisely include all of the major aspects including the actions taken for cleaning and preprocessing the data, the samples used and their validity, and the software tools used. A practice of growing diffusion in other disciplines is that of asking (often requiring) the attachment (as separate additional materials) of the data used and the software scripts with which the analyses were conducted if no common applications were employed. In the tourism and hospitality domain, this is not yet a widespread habit but some journals have started to suggest this routine.

There are many possible ways of correctly and thoroughly reporting the methods and techniques used. Given the wealth of possible methods, in case of doubts it is suggested to consult one of the guidelines available, such as the one published by the American Psychological Association (APA, 2010), the OECD Frascati Manual (OECD, 2015), or books such as the one by Baggio and Klobas (2017) for quantitative methods and Denzin and Lincoln (2023) for qualitative approaches.

It is also important to provide some background information when using methods (or combinations of methods) that may be unfamiliar to the readers. This ensures that they (and mainly the reviewers) have a clear understanding of the methodology and its relevance to the research context. Explaining the meaning in a concise and comprehensive manner establishes a solid foundation to comprehend the design and interpret the findings accurately. When such explanations might require large spaces the author can summarize the main concepts and provide a list of relevant literature.

### *Ethical Considerations*

There are several ethical considerations that researchers need to take into account during the data gathering and presentation process, mainly if the study involves human participation. This, in many countries, is ensured through the approval of an ethical committee, a fact that needs to be reported. When this is not strictly required it would be appropriate to briefly state what has been done for:

- Ensuring voluntary participation;
- Collecting consent to be involved;
- Safeguarding privacy;
- Ensuring confidentiality and anonymity;
- Evaluating possible impacts of the study on participants; and
- Ensuring objectivity throughout the research process.

By adhering to these ethical considerations, researchers demonstrate their commitment to conducting research with integrity and respect for the participants.

### *Addressing Methodological Limitations*

Finally, it is worth acknowledging and addressing potential limitations that may have arisen during the study process. Practical limitations, such as time constraints or limited resources, can impact the data gathering process and potentially affect the generalizability of findings. By acknowledging these limitations, authors demonstrate their awareness of the potential challenges and their commitment to mitigating their impact on the research outcomes. It is crucial to provide a rationale for choosing a specific methodology despite the potential risks or limitations, emphasizing its strengths and alignment with the research problem.

Above is a full list of possible contents for the methodology section. Usually, a paper does not contain all of these elements but a careful choice must be made depending on the specific study in order to

include the most relevant pieces. Since practically all journals have limitations on the length of the manuscript, it might be advisable to include detailed information in an appendix or in a document of supplementary materials, so as to keep the section concise, easily readable and comprehensible – otherwise the reading of the methodology section could be rather daunting and tedious and distract the reader (or the reviewer) from the comprehension and the appreciation of what was done.

Several possible mistakes seem to be quite common and are worth mentioning next.

#### *Details*

As said, it is essential to offer a well-defined and comprehensive account of the research design, sampling techniques, data collection methods and data analysis procedures. Moreover, it is important not to overlook any challenges encountered during the data handling process. but to describe how these issues were addressed. On the other hand, unnecessary information should be avoided. This includes, for example, superfluous explanations of basic or very common procedures, unless some relevant modifications have been made. The methodology section is not a step-by-step guide for a particular method, and any element that does not contribute to the understanding of why a specific method was chosen, or how the data were processed, should be discarded. The focus should be on how the author applied a method, rather than illustrating the mechanics of execution. It is normally assumed that readers already possess a fundamental understanding and at least an elementary awareness of basic or common methods and of how to investigate the research problem on their own. If some details of a basic technique is seen as critical, as said above, the researcher can refer to appropriate literature.

#### *Lack of clarity*

The methodology section should be written using clear and concise language, avoiding technical jargon or unnecessary complexity that may lead to confusion among readers because of unclear explanations such as, for example, using ambiguous terms to designate parameters or conditions. Also, the overuse or misuse of the passive voice may result in bad writing or grammar mistakes that can confuse readers.

#### *Inconsistencies*

Another error to avoid is inconsistencies in the section, where the research design, sampling techniques, data collection methods and data analysis procedures do not align or lack coherence. The same can be said about the terminology used. It is crucial to ensure that all elements of the section are consistent and aligned with the research objectives.

#### *Lack of justification*

The methodology section should include a justification for the chosen research methods and procedures. Often, this justification is absent, and authors fail to explain why a particular method was chosen over other options. It is essential, as already said above, to provide a justification for selecting the research methods and justify their suitability for the research objectives.

## **CLOSING REMARKS**

The methodology section plays a crucial role in a scholarly paper, acting as its core foundation. By providing a detailed account of the study's design and execution, readers and reviewers are provided with all the information needed to understand the work done. Moreover, it shows authors' awareness

of the philosophical and theoretical bases that guide their investigations and gives credibility and validity to the research outcomes.

A well-designed and executed methodology ensures reliable and faithful results, while a flawed approach can endanger the integrity of the study. Furthermore, its significance lies in its potential to facilitate replication of the study. Replicability is a crucial aspect of academic research, as it allows others to validate and build upon previous findings. Additionally, a well-presented methodology can highlight the originality and novelty of the researchers' contributions. The methodology section demands careful attention to its essential characteristics: clarity, conciseness, completeness and relevance. By observing these principles, researchers can ensure that their methodology not only enhances the quality of their work but also strengthens the credibility of their findings. In this chapter, we have provided a brief exploration of the key meanings and aspects of a methodological approach.

Moreover, we have offered a guideline for effectively compiling this vital section. By following these guidelines, researchers can improve the rigor and impact of their academic efforts and contribute meaningfully to their fields. Ultimately, a well-executed methodology section reinforces the scholarly foundation of the paper and enhances the broader understanding and knowledge of the scientific community.

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