

# Mono, mixed or multiple strategy approach: a descriptive study of the latest published articles in the International Journal of Project Management

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## Abstract:

To develop a valid and credible research project, it is essential to define in detail the *research design*. It will have a meaningful strategy to answer the research question. While some researchers suggest that there might be some benefits in adopting multiple and mixed strategy approach for conducting the research, some tend to stick to mono-methods. This article tackles a descriptive study that identifies the research strategies followed by top ranked researches, by reviewing the last two years of publications of the International Journal of Project Management, the leading journal for the field of project management and organization studies. The results suggest that most researchers stick to mono-methods, predominantly with qualitative techniques. Also, there is a higher trend to use case study strategies in the field.

**Keywords:** *research strategies, mono-strategy, mixed-strategy, multiple-strategy*

## 1. Introduction

In research projects, it is key to develop a design of the research according to the objectives of the search. The research design is the detailed plan of how the researcher is going to answer the research question(s). It involves some considerations like how to collect the data, from which source will be collected, how it will be analysed and, of course, to take into account the barriers and constraints one may find in all steps. That is why it is important to consider research strategies, options and time horizons as a whole [1-5].

To understand the nature of this article it is necessary to note the difference between design and tactics. The former is concerned with the overall plan for your research; the latter is about the finer detail of data collection and analysis [6]. This article focuses on the design rather than the tactics, with a spotlight in the strategies followed by researchers.

The main research strategies identified by Saunders et al.'s are experiment, survey, case study, action research, grounded theory, ethnography and archive research. They can be used in combination in the same research project to provide better opportunities to answer research questions.

In this context, the research design process is an area of vital importance and interest to researchers responsible for delivering meaningful outcomes to their studies. Therefore, this paper aims to investigate used research strategies in project management, considering the following research questions:

- 1) Which strategies do project management researchers apply mostly in their studies?
- 2) Do project management researchers use mono-strategy approach or do they use multiple or mixed strategies?

Therefore, we present the results of a systematic literature review of the strategies followed by project management researchers by evaluating all published papers from 2018 and 2019 in the International Journal of Project Management (IJPM), the leading journal for the field of project management and organization studies. After analysing these articles, we also discuss directions for future research [7-9].

The paper is structured as follows: Section 2 describes the methodology, and undertakes a categorization of the research strategies. Section 3 presents the results of evaluating the material. Finally, Section 5 presents the conclusions and indicates future directions of the study.

## 2. Research Method

The systematic literature review has been used so as to offer an overview of the current understanding of the research topic under study [10, 11]. A systematic literature review identifies, selects and critically appraises research in order to answer a clearly formulated question [12]. The review builds on a method that follows three steps: material collection, category selection and material evaluation

The material collection component is described in Section 2.1. A discussion on how the categories were selected is offered in Section 2.2, while the material is evaluated in Section 3.

### 2.1. Material Collection

Considering the nature of the study, it was decided to base the research on the leading journal on project and organizational management issues, the International Journal of Project Management. This Journal has an Impact Factor of 4.694 and a citation score of 6.1 in the year 2018, therefore, it is assumed

that this journal publishes the best rated and more relevant articles in the field.

For this purpose, the material of all the issues published by the journal from 2018 to 2019 was collected. The search resulted in 163 articles, which were filtered to 127 excluding corrigendum or erratum articles, editorial boards, and a special issue from 2018 dedicated to essays in honour of J. Rodney Turner researcher’s work.

**2.2. Category selection**

As mentioned in the Introduction, the objective of this paper is to identify what criteria and strategies are the most widely used ones in project management environments. There is a wide variety research strategies one may employ, therefore, by following Saunders et al.’s (2007) research strategies categorization, papers were classified into seven categories: experiment, survey, case study, action research, grounded theory, ethnography and archive research [13]. A brief description of the type of criteria to classify into each of the categories is given hereafter (see Figure 1).

**3. Results or material evaluation**

Once the material has been collected, a systematic analysis of the content has been carried out. In order to do this, the following steps have been taken. First, a matrix table has been generated indicating the main research strategies and the articles under study.

Then, each of the articles have been analysed by reading the sections referring to the research design,

research method, methodology or data collection and analysis. Next, the articles have been classified into one or more of the categories mentioned in the previous section.

The results of the Systematic Literature Review are presented in the following topics: (1) identification of the used strategies, (2) analysis of the use of multiple and mixed strategies, (3) the combination of used strategies.

**3.1 Identification of the used strategies**

From the 127 articles that were analysed, a total of 161 main strategies were identified (see Figure 2).

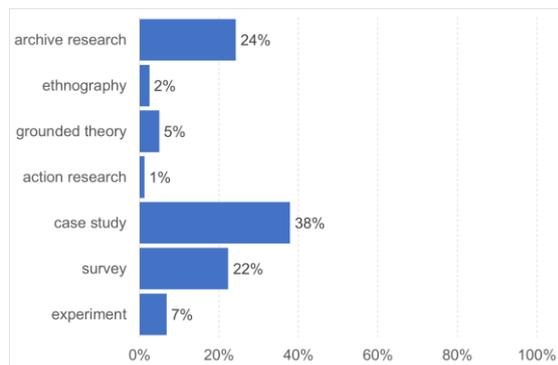


Figure 2: Distribution of the research strategies used in the IJPM in 2018 and 2019

The case study approach is the predominant strategy used by the published researchers with a representation of the 38%. Followed by a 24% and 22% of the archive research and survey,

Research strategy	Description
Experiment	Experiment is a classical research where the researcher manipulates one variable, and control/randomizes the rest of the variables. It has a control group, and the researcher only tests one effect at a time. In this case, also the strategies that involve the selection of a sample and the study of the effect of interaction to a certain process, model or any other experimental approach that can lead to useful insights are included.
Survey	Survey research is a quantitative approach that features the use of self-report measures on selected samples. It is a flexible approach that can be used to study a wide variety of basic and applied research questions. Articles that mention using a survey strategy are included in this category.
Case Study	Robson (2011) defines case study as ‘a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real-life context using multiple sources of evidence’. Articles that mention using a single or a multiple case study approach are included in this category.
Action research	Action research involves actively participating in a change situation, often via an existing organization, whilst simultaneously conducting research. Only articles that claimed to be applying action research are included in this category.
Grounded theory	Grounded theory is a research method concerned with the generation of theory, which is ‘grounded’ in data that has been systematically collected and analysed. In grounded theory, data collection starts without the formation of an initial theoretical framework. Theory is developed from data generated by a series of observations.
Ethnography	Ethnographic research is a qualitative method where researchers observe and/or interact with a study’s participants in their real-life environment. Articles that mention using ethnography approach or that imply a long-term observation are included in this category.
Archival research	Archival research, makes use of administrative records and documents as the principal source of data. Literature reviews and other use of documentation as the main source of information are included in this category.

Figure 1. Research strategies

respectively. The less used strategies are the action research which has been identified in only 2 articles as the main research strategy and ethnography strategy with 4 articles.

The fact that ethnography and action research strategies are not so widely used is not related to their effectiveness. They are very useful strategies when the researcher has a very high time horizon and accessibility to the field of study, which is not usual due to lack of resources.

### 3.2 Analysis of the use of strategy approach

Taking into account the categorization of the strategies mentioned in Section 2.2, and their main qualitative or quantitative approach, a second analysis was undertaken. Depending on the use on mono-strategy when only one strategy was used, mixed strategy when mainly qualitative and quantitative strategies were used, or multi-strategy when more than one mainly qualitative strategies or more than one mainly quantitative strategies are used. It is important to note that some of the strategies, might have qualitative and quantitative approaches within them, like in the case study, but at this stage only the main categorization was taken under consideration.

As shown in Figure 3, from the 127 articles, 96 were identified as mono-strategy, 19 as multi-strategy and 12 as mixed-strategy. This indicates that researchers on the field stick to a mono strategy approach.

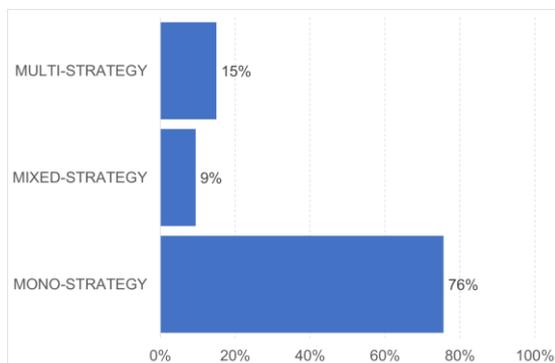


Figure 3: Distribution of the articles depending on the combination of strategies

Even though the mono-strategy is the most widely used, certainly, articles were identified that use mixed or multiple methods of data collection and analysis, like interviews and questionnaires in a different stages of a case study.

### 3.3 Analysis of the combination of strategies

An analysis of the types of strategies used in the different strategy approaches was conducted.

In Figure 4 we can see the distribution of the strategies when tackling a mono-strategic approach. Here, case studies, archive research and surveys are main strategies tackled.

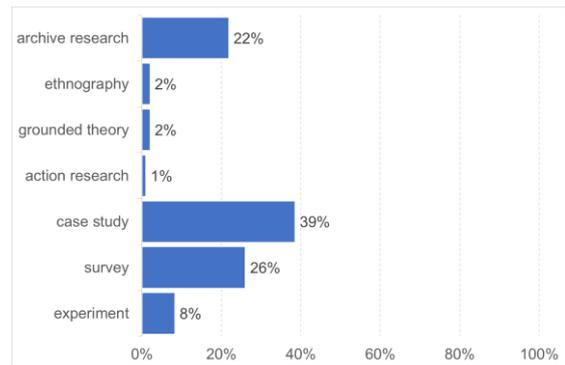


Figure 4: Distribution of the strategies when using mono-strategy approach

The case study strategy has been the most used because of its accessibility and as it is usually more relevant for the parties involved due to the direct observation of the entities engaged.

Figure 5 shows the combination of strategies used in the mixed-strategy approach. In the 50% of the cases, surveys have been accompanied by case studies as main strategies in the research project. In addition, 25% of the analysed articles, surveys are complemented with archive research.

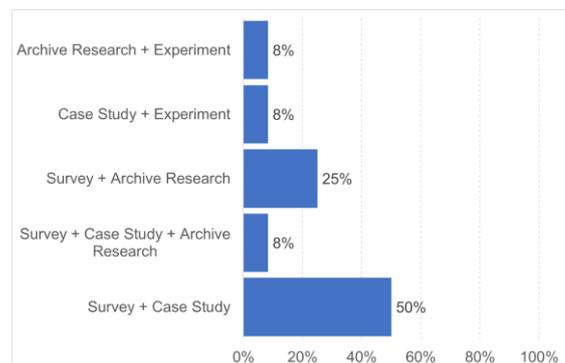


Figure 5: Distribution of the strategies when using mixed-strategy approach

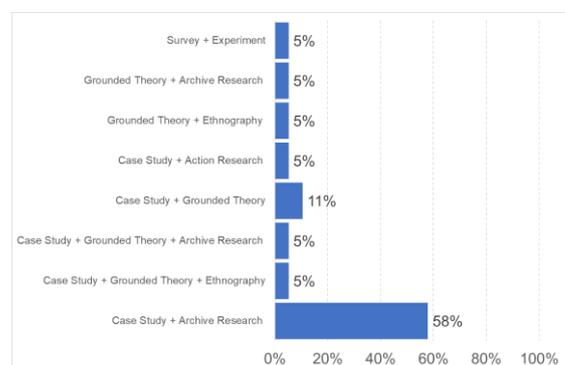


Figure 6: Distribution of the strategies when using multi-strategy approach

Likewise, Figure 6 shows the combination of strategies used in the multi-strategy approach. In the 58% of the cases, case studies are reinforced with an archive research strategy, for example, when a case

study is preceded by a in depth documentation of the situation and context. The rest of the cases are residual and alternative.

Both Figure 4 and Figure 5, shows that the case study is the most widely used because of the versatility and complementarity it gives to other types of strategies, specially archive research. They require an in depth analysis of the documentation of the case under study, like companies results, historical data, situation and other relevant data to the project.

#### 4. Conclusions and further studies

Since the research design is critical for the success of the research project, the decision of the chosen strategy is very influential. The choice of research strategy is not only guided by research objectives, but to the extent of existing knowledge, the amount of time and available resources.

Thus, this paper leads to a further investigation on the criteria and strategies to select and evaluate research strategies. In this context, a literature review was undertaken, covering publications from 2018 and 2019 in the IJPM.

This paper has contributed to the literature by integrating knowledge from strategy selection and strategy approach in project management.

The results from this study provide insights to explore the issues raised here. These observations show some opportunities for future research.

First, a deeper analysis of the qualitative and quantitative nature of the methods used in each strategy of the analysed research projects is needed. Additionally, a broader analysis in terms of number of articles or sources could be tackled. By exploring in the methods of research, it would be possible to identify their relationship with specific cases of application, or disruptive or innovative techniques that would allow the acquisition of knowledge that would not be possible otherwise.

Moreover, a comparison of the mono, multi and mixed methods, with the relevance of the paper could be dealt in order to understand if the use of one or another approach is more valuable.

Finally, it would be useful to conduct exploratory studies on the perception of the importance of the strategy approach for the researchers on the field.

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#### References

[1] J. Söderlund, "Building theories of project management: past research, questions for the future," *International journal of project*

*management*, vol. 22, no. 3, pp. 183-191, 2004.

- [2] O. Bentahar, and R. Cameron, "Design and Implementation of a Mixed Method Research Study in Project Management," *Electronic Journal of Business Research Methods*, vol. 13, no. 1, 2015.
- [3] D. J. Bryde, "Project management concepts, methods and application," *International Journal of Operations & Production Management*, vol. 23, no. 7, pp. 775-793, 2003.
- [4] J. R. López-Robles, J. R. Otegi-Olaso, H. Robles-Berumen, H. Gamboa-Rosales, A. Gamboa-Rosales, and N. K. Gamboa-Rosales, "Visualizing and mapping the project management research areas within the International Journal of Project Management: A bibliometric analysis from 1983 to 2018," in *Research and Education in Project Management - REPM 2019*, Bilbao (Spain), 2019.
- [5] C. Wolff, J. R. O. Olaso, S. Bushuyev, A. Sachenko, R. Ciutene, B. Hussein, T. Torvatn, P. Arras, C. Reimann, and A. Dechange, "Master level education in project management—The EuroMPP model." pp. 836-842.
- [6] M. Saunders, P. Lewis, and A. Thornhill, "Research methods," *Business Students*, 2007.
- [7] J. R. López-Robles, J. R. Otegi-Olaso, and I. Porto-Gómez, "Bibliometric analysis of worldwide scientific literature in Project Management Techniques and Tools over the past 50 years: 1967-2017," *Research and Education in Project Management (Bilbao, 2018)*, pp. 49, 2018.
- [8] J. R. Otegi-Olaso, J. R. López-Robles, and N. K. Gamboa-Rosales, "Responsible Project Management to face urgent world crisis and regional conflicts," in *Birzeit University - Project Management*, Birzeit, Palestine, 2019.
- [9] J. R. López-Robles, J. R. Otegi-Olaso, I. Porto-Gómez, and M. J. Cobo, "30 years of intelligence models in management and business: A bibliometric review," *International Journal of Information Management*, vol. 48, pp. 22-38, 2019.
- [10] M. Sartor, G. Orzes, G. Nassimbeni, F. Jia, and R. Lamming, "International purchasing offices: Literature review and research directions," *Journal of Purchasing and Supply Management*, vol. 20, no. 1, pp. 1-17, 2014.
- [11] A. T. de Almeida, J. A. de Almeida, A. P. C. S. Costa, and A. T. de Almeida-Filho, "A new method for elicitation of criteria weights in additive models: Flexible and interactive tradeoff," *European Journal of Operational Research*, vol. 250, no. 1, pp. 179-191, 2016.
- [12] A. Dewey, and A. Drahota, "Introduction to Systematic Reviews: Online Learning Module Cochrane Training," 2016.
- [13] C. Robson, *Real world research*: Wiley Chichester, 2011.