

# Action Research as a Meta-Methodology in the Management Field

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## Abstract

Although it was first developed in the field of psychology, action research is a methodology of growing importance in business and management contexts. In this research article, we focus on a significant aspect of action research: the variety of methodologies that can be used jointly in an action research study and its relationships. More specifically, the aim of this study is to underscore the definition of action research as a meta-methodology that encompasses different ways of carrying out empirical research. To this end, we perform a meta-analysis of articles discussing empirical research that used an action research methodology. The meta-analysis is based on a systematic review of articles published between 2000 and 2018. The main findings suggest that action research may be regarded as a multidisciplinary method and that it can be implemented jointly with other methodologies; not just qualitative methods but also quantitative research. Consequently, action research may now be defined as a meta-methodology or an umbrella process. In this way, action research is a tool whose implementation ought to be promoted in the business/management field as a way of enhancing relevant, rigorous empirical studies and serving as a framework reference in projects based on research and practice contribution as well as active collaboration between researchers and practitioners.

## Keywords

action research, meta-analysis, methodology, qualitative research, review

## Introduction

Action research (hereafter AR) is an approach to research that aims to both take action and create knowledge or theory about action (Coughlan & Coughlan, 2002). A simple search of the term “Action Research” on “Google Scholar” yields to an incredible return of 1,250,000 results. Limiting the search to the last 2 years, 580,000 results are found. These data give a first view of the interest of this methodology and its increasing use in academic contexts.

There are many definitions of AR, but one of the most frequently cited appears in Rapoport (1970): “Action research aims to contribute to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework” (p. 499). In this way, AR brings together researchers and, in the case of business research, organizations. In other words, AR tries to understand problems (research) and give them a justification through practice (action), that is, it has a practical nature. Both the research and the action itself are part of the results of this process. Moreover, the participation of the organization in the study increases both the authenticity and the trustworthiness of the results because the analysis is conducted

in a collaborative manner (Argyris & Schön, 1991). Thus, the researchers obtain more rigorous information, and the study is more valuable for the entity that carries it out.

In this study, we focus on the implementation of AR in various research fields related to business. A number of papers have signaled the significance of AR in some of these fields as a methodology to apply in relevant and rigorous empirical studies. For instance, Coughlan and Coughlan (2002) is a benchmark paper in operations management research, and Perry and Gummesson (2004) in the marketing field. According to Hildrum and Strand (2007), although there is great demand for articles and books describing what action researchers do, there is little methodological literature available explaining how researchers can go about writing such articles and books.

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The aim of this article is to underscore the definition of AR as a meta-methodology that encompasses different ways of carrying out empirical research, and we focus our study in the management field. In this way, this article enriches the AR literature and supports other references, such as Coghlan and Brydon-Miller (2014) and Dick et al. (2015), that also highlight the role of AR as a meta-methodology in two ways: (1) In terms of AR field, even there are papers that signal that this methodology includes different gathering methods, this study gives one-step ahead, and it highlights that it should be considered as a meta-methodology, that is, an “umbrella” that coexists with other quantitative and qualitative methodologies. (2) With respect to business/management field, this article should encourage researchers in operations, marketing, and human resources that AR is not only a methodology that can be analyzed as an extended case study if not that can serve as a framework to those studies that are based in dual contribution and where there is an active collaboration between researcher and practitioners. In order to get these objectives, we conduct a systematic review of the implementation of AR in the business field.

In short, this article proposes an updated review of previous research on AR in business fields, whose main objective is to analyze the methodologies used in these articles and propose several conclusions to foster AR in further studies.

To address these purposes, the article is organized as follows. The second section is an overview of AR features. The third section describes the methodology followed in the review and the fourth section presents the purpose of this article. The fifth section outlines the main results. Finally, conclusions, further research, and limitations are presented.

## AR: Overview and Main Features

AR methodology was firstly cited by Collier (1945) and Lewin (1946), and it appeared in fields like medicine, psychology, and sociology. In their beginnings, it was usually linked to the analysis of social problems, such as racial integration, gender issues, treatment of diseases, or educational problems. Chein (1948) developed the AR concept by specifying four dimensions: diagnostic, empirical, experimental, and participatory. In the field of business and management, this methodology was not cited until the late 90s (e.g., Westbrook, 1995), and the dimension that has been more developed has been the participatory one. This is why the implementation of AR in the management field differs from the one found in those areas where AR originally was put into practice. Meanwhile in the social and medicine fields, AR studies characterize by the fact that the role of the practitioner is to be a “patient,” on which the researcher develops different experiments, in management studies, where the external agent (practitioner) is a person that represents an organization (usually, a firm), there is a relationship where both researchers and practitioners (firms) have the same hierarchical level, that is, both agents pretend to get an objective and they interact through a team research.

There are different handbooks that focus on analyzing AR features (Argrys & Schön, 1991; Coghlan & Bramick, 2014; Dennis & Lehoux, 2009; Greenwood & Levin, 2007; McNiff, 2016; Reason & Bradbury, 2008) and other ones that describe AR in terms of other research methodologies (Berg, 2001; Gummesson, 2000; Hardy & Nord, 1996; Karlsson, 2016; McNiff, 2016). A summary of the main features that we consider better feature AR in terms of management research are as follows:

*Dual objective:* An AR study must define both expected research contributions and practitioner’s ones. It is important that both ones are defined in a joint way to avoid that there is hierarchy level among them. In this way, we consider that it is important to differ between practitioner’s contribution and managerial contributions. The first ones are associated to the specific profits that the external agent gets during the study, and the managerial contributions represent the contributions of the study to all the organizations (firms) that also have to face the issue/problem that is treated in the study.

*Researcher–practitioner interaction:* This feature is crucial so that a study is considered as AR-based. This has a double implication: First, the researcher acts as an agent of change; second, the practitioner has an active participation in all the stages of the process. This implies active and participatory collaboration among both agents.

*Gathering data:* According to Coughlan and Coghlan (2002), “action research can include all types of data gathering methods” (p. 238). This is linked with the fact that having a holistic view of the problem to be analyzed implies to get information from multiple sources.

*Cyclical nature:* AR projects are characterized by including continuous feedbacks in all the stages of the AR study, which provoke spiral cycles (Ballantyne, 2004), and that AR methodology can be analyzed as a cycle where new AR studies can be further developed.

As signaled in the introduction, the aim of this article is to underscore the definition of AR as a meta-methodology that encompasses different ways of carrying out empirical research. In terms of the above features of AR, it is the “gathering data” feature the one that is most related to the use of AR as a meta-methodology, but assuming that AR may cover different methodologies implies one-step ahead in AR definition. To the best of our knowledge, there are few publications that highlight the role of AR as a meta-methodology. Coghlan and Brydon-Miller (2014) refer to AR “as a meta-methodology by which the researcher learns the way into the details and complexity of the situation of interest” (p. 532). This reference also signals some studies that utilize variants of AR in a meta-methodological manner but in psychological, environmental, and educational domain. Only Dick et al. (2015) describes a specific example of a research project where AR is carried out

**Table 1.** Articles Published by Journal.

| Journals   | Number of Publications |
|--|------------------------|
| <i>Systemic Practice and Action Research</i>                                     | 25                     |
| <i>International Journal of Operations &amp; Production Management</i>           | 11                     |
| <i>International Journal of Operations and Production Management</i>             | 7                      |
| <i>International Journal of Production Economics</i>                             | 6                      |
| <i>Production Planning and Control</i>   | 5                      |
| <i>Supply Chain Management: An International Journal</i>                         | 5                      |
| <i>Journal of Purchasing and Supply Management</i>                               | 4                      |
| <i>European Journal of Operational Research</i>                                  | 3                      |
| <i>International Journal of Hospitality Management</i>                           | 3                      |
| <i>International Journal of Physical Distribution &amp; Logistics Management</i> | 3                      |
| <i>International Journal of Production Research</i>                              | 3                      |

as a meta-methodology in the management field, such as value co-creation with stakeholders. Additionally, in a conference paper, we found a reference of AR as an “umbrella term” describing a variety of approaches and styles of research (MacIntosh & Wilson, 2003).

## Method

This article focuses primarily on the methodological implementation of AR in empirical research in the field of business and management. In our view, a systematic review is an effective research strategy to analyze the experiences, problems, and principal debates based on literature reviews (Gunasekaran & Ngai, 2012; Torraco, 2005; Tranfield et al., 2003; Webster & Watson, 2002). In fact, a systematic review is a well-founded research technique which allows one to address the characteristics of technology-based interventions and the main debates that arise within our field of knowledge (Lundahl & Yaffe, 2007; Ramsey & Montgomery, 2014; Soni & Kodali, 2013). To this end, this review examines articles related to AR with empirical analysis in the field of business and management.

## Strategy and Inclusion Criteria

A total of 109 papers dating from 2000 to 2018 have been selected. These articles were published in 43 different journals (Table 1). The databases from which the articles were retrieved were Academic-a-e, ASSIA, the Citation Index, Dialnet, ISOC, Scopus, the Social Sciences Citation Index, Social Services Abstracts, and the Web of Science.

The initial search aimed to find all the articles that specifically included the term “Action Research” in their title, abstract, or key words. The exclusion criteria assumed that if none of these terms appeared in any of these fields of an article, it was likely that AR did not occupy a core position in the article, and it could therefore be excluded.

On the other hand, papers related to health, psychology, and education, among others, were omitted as this article is

focused on the introduction of AR in management and organizations.

The first search from the Web of Science generated 3,032 results and showed growing interest in the publication of articles on AR in the years analyzed (from January 2000 to December 2018). In fact, AR is considered to be an emerging trend in the future of research as can be concluded from the number of publications based on this method in the last few years.

After excluding papers from other fields such as medicine, education, sports, or social work and other types of articles (e.g., book reviews and concept-based articles), and focusing on papers on business and management, a total of 222 papers were selected. Once duplications and papers without empirical evidence were omitted, 109 articles were included in the analysis. Figure 1 presents a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram to show detailed information about the process and method followed to select the papers being analyzed.

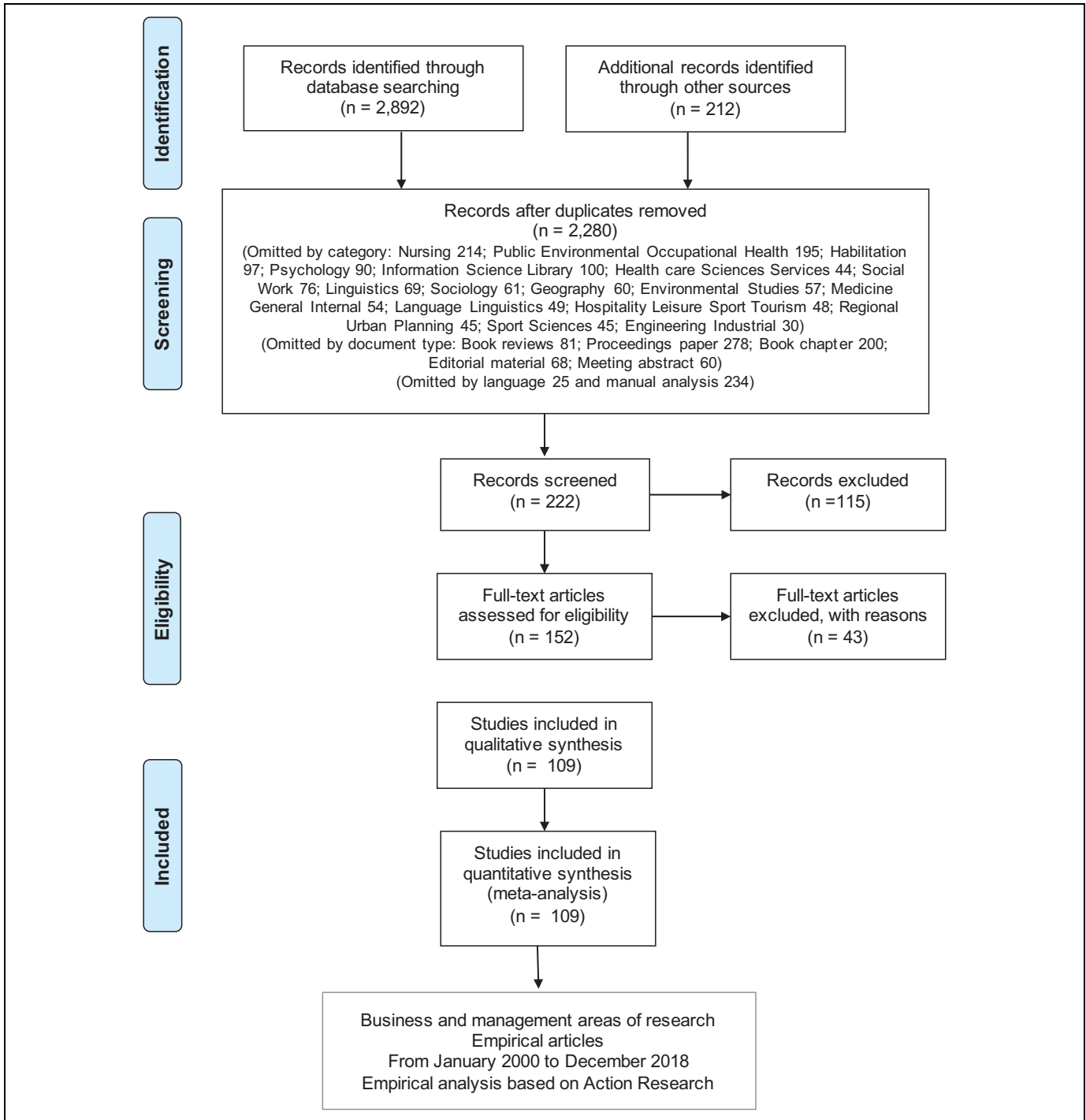
The period of time selected for the search was set from 2000 to 2018. It can be affirmed that this period concentrates main contributions of AR in the business field, as a search in the Web of Science of the papers published in AR in business from 1900 to 1999 yields to 450 results whereas the same search from 2000 to 2018 results in 10,957 outcomes. This difference justifies the analysis period selected. In addition, the use of AR in the business field appeared to be cited in the late 90s and at the beginning of the 21st century (e.g., Coughlan & Coughlan, 2002; Westbrook, 1995).

A manual search of papers published was performed in the selected journals. The studies were coded by reading the abstracts and full texts of the papers. All of the selected articles were collected, classified, and analyzed in Microsoft Excel as a reference database, and Mendeley was used to organize the papers.<sup>1</sup> The information collected from the selected articles includes the take-home message of each paper, authors, journal, year of publication, information about the samples, evidence, and areas of knowledge. Concerning the classification of the selected publications, several functional areas were identified after reading the full-text articles from the selected publications: operations, marketing, and human resources.

Finally, a bibliometric review is also included in this analysis to map the geographical scope and impact of AR in the business and management field. To complete the bibliometric review, both the Web of Science and Google Scholar were used in order to obtain data about the number of cites and the indexes of quality of the journals.

The database of the literature review was structured by the contents of the papers, comprising a total of 109 articles. Three criteria have been used to classify them: functional areas, methodologies, and levels of evidence. First, we are interested in determining the functional areas of the organization that are analyzed as they represent the research fields in the business research we focus on.

Second, the articles were classified according to the instruments used in the analysis, signaling the qualitative or quantitative nature of the methodology used, and, if available, the size

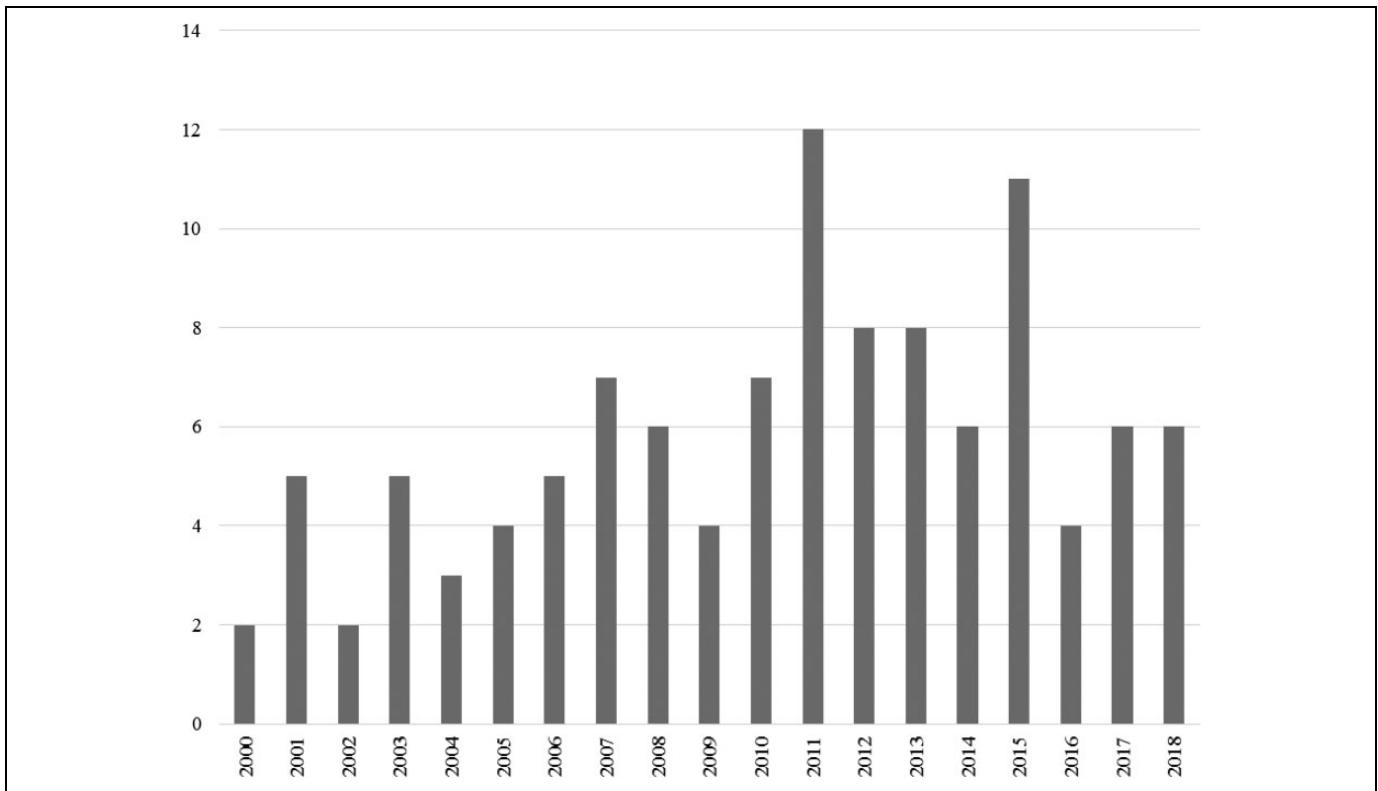


**Figure 1.** Search strategy and process. PRISMA flow diagram.

of the sample. With regard to instruments used, the following were applied in the articles selected: surveys and questionnaires, interviews, data collection and analysis, workshops and meetings, documents from the company, data from the company, focus groups, visits, and other tools. Samples were structured in relation to their size (small sample, medium sample, and large sample size). According to Torraco (2005), among other aspects, a literature review analysis should include an account of the research

methods used in the articles revised. In this regard, evidence-based approaches should be examined (Tranfield et al., 2003), as well as the quality of the information used as evidence. Therefore, the instruments used for the purposes of analysis are essential in this framework (Davies & Nutley, 1999).

Finally, the level of evidence was also analyzed. This criterion was ranked according to the Oxford Centre for Evidence-Based Medicine Levels of Evidence (OCEBM, 2011). OCEBM



**Figure 2.** Publications selected by year.

classifies studies in increasing order of bias control. Level 1 corresponds to the highest level of evidence (high-quality systematic reviews), followed by Level 2 (randomized clinical trials), Level 3 (case control trials without randomization), Level 4 (case reports), and Level 5 (studies based solely on expert opinions), which is the lowest level. Although the OCEBM was first implemented in the medicine field, several scholars have applied this classification in the social sciences area (e.g., López-Pélaez et al., 2018).

## Findings

The findings are structured in three subsections. The first subsection offers a bibliometric analysis of the 109 articles selected. The database was analyzed by year of publication, country of the researchers, number of citations of the article, and the position of the journal in the rankings. The second subsection covers the implementation of AR in organizational functional areas. Finally, the third subsection focuses on the methodology of AR and the instruments used to conduct empirical analysis.

### Bibliometric Analysis

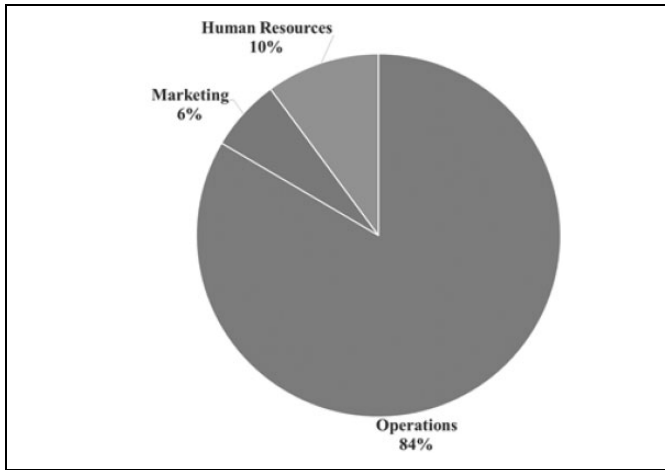
With regard to the date of publication, as one characteristic of the literature, Figure 2 shows that 21 articles were published between 2000 and 2005, whereas 41 papers were published in the last 5 years. Concerning the year of publication, 2011 and

2015 show the highest number of published articles, and significant increases in the numbers of publications between the periods 2000–2005 and 2010–2015 may be observed.

In addition, two types of journals can be observed: the ones focused on AR and journals specializing in an area (e.g., operations management, human resources, and technology). Table 1 shows the journals in which more than two articles were published. The journal *Systemic Practice and Action Research* leads in terms of number of articles (a total of 25 papers from the sample selected). As mentioned above, a journal dedicated to AR leads the list, whereas journals that focus on operations are in the subsequent positions.

The most frequently cited paper is Coghlan (2011) with 187 citations in Google Scholar. In this regard, it should be noted that David Coghlan is the leading scholar in the area, having published more than 50 papers about the methodology of AR (e.g., Coghlan, 2007, 2011; Coghlan & Brannick, 2014; Coghlan & Coghlan, 2002).

On the other hand, the papers analyzed were based on case studies located in organizations from both the public and private sectors, although most worked with data from private companies. Regarding the level of evidence of the papers analyzed, most were classified as L4 (case reports). Accordingly, the sample size was usually small (from one to five cases). Nevertheless, some articles based on large samples and AR are also identified, such as the paper conducted by Young (2011) with a sample of 1,310 questionnaires from employees of the company.



**Figure 3.** Areas of research.

### Areas of Implementation of AR

This section examines the implementation of AR in three specific company functions: operations, marketing, and human resources. It should be highlighted that we have not included other areas such as finance because these fields of research are more closely based on quantitative methodologies and numerical analysis, and therefore, the finance function, for instance, does not fall within the scope of our research. Along with this line, papers focused on strategy or management were not differentiated as the classification is centered on functional areas. In addition, most of the articles about strategy and management also consider a functional area. Because of these reasons, the analysis was structured in functional areas.

As Figure 3 presents, the operations area is the field where AR is mainly applied. As noted, of 109 articles, 91 may be read as studies of operations (83% of the total). In addition, several academic journals specializing in operations have published articles based on AR and account for a significant percentage of the 109 papers analyzed, such as the *International Journal of Operations and Production Management*, the *International Journal of Production Research*, or *Supply Chain Management: An International Journal*.

Regarding the implementation of AR in *operations management*, the topics covered by these studies are very wide-ranging. Some scholars aimed to optimize the costs of production (e.g., Hendry et al., 2013; Gylling et al., 2015), whereas quality is analyzed in several research studies (Brits & du Plessis, 2007; Prybutok & Ramasesh, 2005). Concerning the use of AR in research about quality, AR is applied to the Six Sigma model to show the relationship among project context, elements, and success in several company projects (Nair et al., 2011). Likewise, the use of AR in Lean projects is explored in many articles (e.g., Bamford, 2013; Eriksson, 2010; Kregel & Coners, 2018; Laganga, 2011). Location decisions are the main goal of Gylling et al. (2015). They conducted a time-driven activity-based costing (TDABC) analysis in a bicycle manufacturing company that generated

a cost reduction of 30% due to the appropriate location of the company.

Capacity decisions are considered in AR. To cite an example, Carvalho et al. (2014) proposed a model based on linear programming that balances demand with the available capacity. This model provided an optimal production plan that minimizes costs. Consequently, AR is also linked to the field of research on cost savings previously mentioned. At the same time, AR can be applied to define the operational management of a company (Menda, 2004). The relationship between a company and its suppliers and the buying process is also studied through AR. For instance, the interaction between buyers and suppliers is addressed by Maestrini et al. (2016). Eltantawy et al. (2015) considered supply management coordination among a prominent contact lens company (customer), its carton supplier (first tier), and paperboard supplier (second tier). The authenticity of the supply chain is investigated by Ranfagni and Guercini (2014), and Pereira et al. (2011) examined cost reduction in an automotive supply chain. In addition, buyer–supplier relationships offer many “live cases in real time” of both research and managerial significance, which is coherent with the application of AR (Coughlan & Coughlan, 2002).

The adoption and use of technology in a company is another objective of operational research conducted using AR (Farooq & O’Brien, 2015; Phaal et al., 2001). On the other hand, Childerhouse and Towill (2011) identified good practices in the supply chain through AR.

In contrast, the use of the AR approach to analyze *human resources* issues is not so frequent. Rejas-Muslera et al. (2012) validated a competency-based model of human resources management through an AR project in RTVE, the public Spanish television channel. Githens (2015) included critical approaches to AR to allow practitioners and researchers to integrate critical approaches into actual practice. As a result, it was concluded that including employees in the analysis and solution of their own problems may facilitate the identification of creative solutions. In addition, workers will be open to the application of changes if they have previously participated in their definition. For all these reasons, the use of AR methodology offers a number of benefits to human resources managers and may help them to motivate employees and find new alternatives to problems.

In the same way, AR is not a methodology that is frequently applied by scholars working in the field of *marketing*. Nonetheless, Perry and Gummesson (2004) argue for the usefulness of AR in this specific area by introducing a definition of AR that is particularly suitable for the marketing field. Moreover, the use of AR in *marketing* may enable scholars to obtain information from customers and their views in the design of new products and services. A number of studies use AR to estimate the demand for a product or a service. Kalchschmidt et al. (2006) examined the impact of the heterogeneity of customer requests on demand forecasting approaches, whereas Baker and Jayaraman (2012) developed a demand forecasting-optimization algorithm and applied it to nine difficult-to-manage maintenance and repair products at a

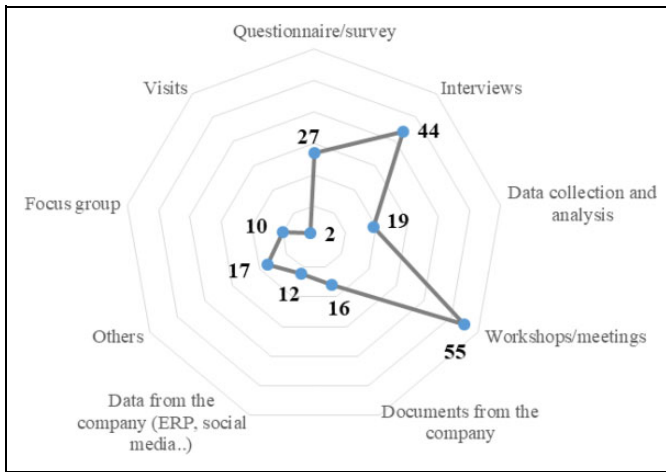


Figure 4. Use of methodologies in action research-based papers.

nuclear fuel rod manufacturing facility. The papers selected were published in journals from different areas of expertise, which confirms the potential of AR to be applied across a range of disciplines.

To sum up, with regard to the use of AR methodology in the functional areas of a company, operational issues are the most prevalent in the use of this method. Nevertheless, AR can be used in different areas as may be concluded from the fact that productive research has already been conducted in them.

### Method

Analyzing the methods used to collect data is a key issue in any review. Consequently, several research papers have studied the instruments used in data gathering (e.g., Gould et al., 2004; Petty & Guthrie, 2000). In line with this research and from a methodological perspective, the articles were classified according to the following methodologies: surveys and questionnaires, interviews, data collection and analysis, workshops and meetings, documents from the company, data from the company, focus groups, visits, and other tools (Berg, 2001). Figure 4 presents the number of papers in terms of methodologies used in the 109 studies analyzed. In this sense, each apex from the spider graph provides the number of papers that use a specific instrument (e.g., questionnaires) to conduct the empirical research (to quote an example, 27 papers from the selected articles use questionnaires in their empirical analysis).

As Figure 4 shows, meetings were the most commonly used instrument in the empirical research, followed by interviews. With regard to the interviews, several types of interviews could be identified: open-ended or semistructured interviews, individual or group interviews, narrative interviews, and interviews conducted face-to-face or online. On the other hand, the questionnaires were likely quite dissimilar (e.g., progress update questionnaires, etc.). Concerning the characteristics of meetings, different types of meetings were found: brainstorming sessions, scenario workshops, roundtable discussions, and dialog groups. The focus group, as a specific type of meeting or

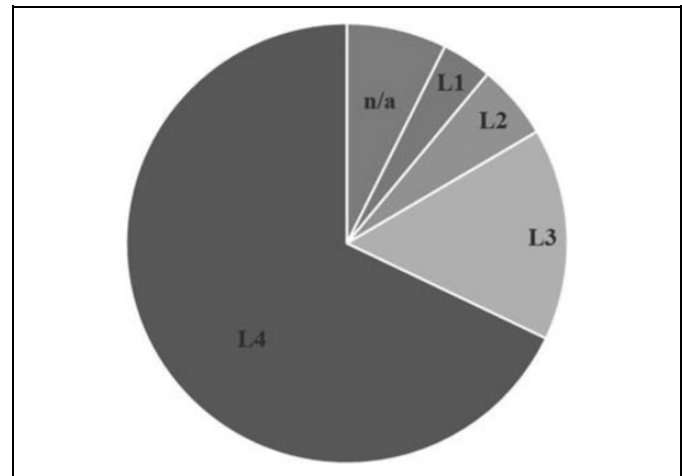


Figure 5. Evidence-level analysis.

workshop, was analyzed independently as several research studies used it. Finally, “others” refers to different empirical instruments, most of them qualitative, including mathematical models, a testing panel, and a TDABC methodology to evaluate locations and demand analysis, as well as other instruments such as prototype analysis based on video watching or simply conducting an internship in the company to obtain data and results.

As a result, it may be concluded that AR allows the use of different instruments in empirical research. For that reason, future research based on AR should include multiple instruments that would improve the quality of the data analyzed, and, consequently, the outcomes of the research. In this way, the use of AR may be figured as an umbrella that enables the use of multiple methodologies, thus enriching empirical studies.

With regard to the evidence level, as Figure 5 shows, most of the research was classified at Level 4, that is, as case reports (OCEMB, 2011). This is important as it means that empirical analysis in AR is based on case studies rather than on statistical data. Consequently, most samples used in AR are not characterized by a large size which can be a weakness of the conclusions obtained by AR as they do not provide generalization of results.

Finally, each article may use more than one of the instruments mentioned. Additionally, most of the articles conducted qualitative research based on this data. Nevertheless, several papers complemented qualitative research with a quantitative approach. To cite an example, Chan et al. (2013) developed a testing panel to show the benefits of solar collectors for water heating in a hotel. Similarly, Kalchschmidt et al. (2006) analyzed daily demand data for 1,000 stock keeping units (SKUs) to forecast demand, whereas Caniato et al. (2011) used temporal series (autoregressive integrated moving average model [ARIMA]) to predict future production in a cement company located in Italy. Ross et al. (2007) conducted a cost-benefit analysis in the context of an AR study. From their perspective, the cost-to-serve method (Braithwaite & Samakh, 1998) proved to be a viable approach to capturing external supply chain logistics costs, while the AR framework demonstrated

how activities and their linkages can be better understood. In general terms, they developed a mathematical model based on the information facilitated by the practitioners. In fact, this example evidences how implementing both methodologies together leads to a better result.

On the other hand, different qualitative approaches were also complemented with AR. Gylling et al. (2015) applied TDABC methodology to evaluate the plant locations of a bicycle manufacturing company. Additionally, the analysis of videos recorded by a manager and the implementation of Sensei, a particular Japanese-influenced improvement method, is used in an AR study (Mason, 2012), whereas Fitzgerald et al. (2013) used video data in the collection of information. Finally, Abrahamsen et al. (2016) applied a novel research approach combining process research and AR methodology.

This implementation may mostly be included in the data analysis AR phase. Due to its flexibility, therefore, AR enables the implementation of other quantitative and qualitative methods. Although AR follows its own methodology, it can be jointly implemented with other quantitative or qualitative methods.

Indeed, several benefits are produced by so doing. Practitioners can improve survey definition, more data can be collected if practitioners encourage their colleagues to respond to the questionnaire, data from the Enterprise Resource Planning (ERP) of the company can be analyzed by statistical methods and further conclusions can be obtained. At the same time, practitioners may detect problems in gathering data, such as time, resources, strategic support constraints, or the lack of appropriate software (Doherty & Dickmann, 2012).

In addition, AR allows the implementation of a variety of techniques to collect data. Surveys and questionnaires, interviews, among others, can be used in data gathering (McNiff, 2016). Along with this line, AR enables different strategies for analyzing data, including both quantitative and qualitative analysis (McNiff, 2016).

This proposal is coherent with the existing literature, and in this sense, AR is a framework that encompasses the complementarity of AR and other methodologies. As this article shows, qualitative tools such as interviews, surveys, and focus groups are mainly used in AR approaches. Nevertheless, quantitative research can be also applied in an AR framework. As Coughlan and Coughlan (2002) stated, data-gathering methods are themselves interventions that can be addressed through AR. For instance, observing the process of data collection may give researchers relevant information for the research. The integration of members of the organization analyzed is very common in AR. The participation of these professionals in the process of data collection may be beneficial for such study and is already integrated in the AR cycle.

## Discussion and Conclusions

This article summarizes main findings relating to evidence of the implementation of AR in the business field. The article illustrates this implementation through a review of previous

literature in this area. More than 100 scientific papers were consulted over the course of this research. Results were structured in three ranges according to the functional areas of an organization: operations, marketing, and human resources. In addition, research was classified according to the instruments used in the analysis.

As a main result, it can be concluded that AR is a multidisciplinary approach that involves the use of various qualitative and quantitative methodologies/instruments and, consequently, enables the implementation of other quantitative and qualitative methodologies. This result complements and enriches the feature of AR as method with diverse gathering data (Coughlan & Coughlan, 2002). Therefore, AR may be regarded as a meta-methodology or an umbrella process. For instance, Dick et al. (2015) used AR as a meta-methodology—that is, a process that can subsume multiple subprocesses and under which contradicting demands can be satisfied. According to the authors, and because of those reasons, AR can be described as an umbrella process. This means that AR may be used jointly with other methods. Moreover, AR is a collaborative method (Cordeiro et al., 2017; Denis & Lehoux, 2009) which facilitates its use with other quantitative and qualitative methods. Its flexibility also helps to include different methods in the corresponding phases. In particular, because it is iterative, the process of AR is flexible, and cycles may be nested to provide cycles within cycles (Dick et al., 2015).

Even just to show that AR can be used as a meta-methodology, it is more significant to determine what kind of problems/issues associated with traditional research methods in the field of business/management might be solved by specifically using a variety of methodologies. In this way, the analysis of the selected papers determines that the use of AR as a meta-methodology is not closely linked to the specific problems, but it is related to the “context” where the AR is put into practice. In this way, we consider that diverse methodologies will be used in an AR study where the context is characterized by a long-term collaborative relationship (i.e., 2–3 year project). So, contexts based on a doctoral thesis or research projects with a long duration permit that AR methodology uses different methodologies in each of the stages of the project. In this way, Mejia-Villa and Alfaro-Tanco (2017) highlights the usefulness of developing AR projects as a way to develop a set of integrated studies based on a dual contribution (in projects that include a theoretical contribution to the literature and, likewise, a practical contribution). As a consequence, we consider that the development of AR projects goes one-step ahead from the traditional view of AR as “extended case studies.” In this way, this view of projects versus case study allows a higher intense collaboration between academic and practitioners and generates learning in the different stages of the AR. Evolving from the deployment of AR studies to AR projects will allow researchers to advance one-step further in leveraging the full potential of the AR methodology in business/management research.

Conducting research using a meta-methodology offers several advantages. For instance, it facilitates cooperation in an



interdisciplinary team as it helps researchers to interact with others. At the same time, AR contributes to mutual understanding between research participants (Ponzoni, 2016). In fact, several scholars highlight that AR is an umbrella methodology that contributes to the integration of other methods. To cite an example, Maestrini et al. (2016) proposed AR as a suitable interactive method that could complement other methodologies. They applied it in the field of purchasing and supply chain management, but, in their opinion, AR can complement other methodologies in other fields. As a result, AR can be implemented jointly with other methodologies, and scholars should take advantage of the potential of this multidisciplinary approach.

According to the expected contribution of this study in the business/management field, this study permits that researchers in operations, marketing, and human resources should appreciate AR not only as a methodology that can be analyzed as an extended case study but also as a framework to those studies that are based in dual contribution and where there is an active collaboration between researcher and practitioners. In this way, even in operations management, the use of AR is quite extended, and in the fields of human resources and marketing is quite limited. In this way, the journals and associations of these fields should reinforce empirical studies based on AR.

About further research, it is encouraging to the researchers that analyze AR as a tool that fosters university–firm relationships by enabling problem analysis using different methodologies and improving the exploration of the problem/issue under study. At the same time, AR facilitates industry–university collaboration, as it strengthens relationships between researchers and practitioners and contributes to knowledge transference. Indeed, one of the challenges of Bologna Process Implementation of the European Higher Education Area was related to knowledge transfer and the role of universities in the dissemination of knowledge. The university–firms relationship is also relevant to the identification of labor market needs (European Commission/EACEA/Eurydice, 2015). AR facilitates this relationship and contributes to knowledge transfer from universities to the business context. Other relevant aspect to be further studied would be to determine in what situations or for what type of studies in management field AR is an appropriate research methodology. At most, we can conclude that AR is a suitable approach when a holistic understanding of a problem is necessary and different methodologies have to be carried out. Nevertheless, a more detailed research could expand the analysis to other features of the AR database papers, such as the corresponding topics, the scope of empirical analysis, and the different research and contribution approaches.

Like all studies, this review presents some limitations. Firstly, some gray literature, such as reports from nongovernmental organizations and frontline practitioners' reflections, were not included. Secondly, only research studies in English and Spanish were reviewed. In spite of these limitations, this study has covered the leading journals and represents a very significant sample set of this literature.

Finally, further research on AR may consider this methodology as a meta-methodology and develop instruments to enhance the coordination between AR and other methodologies. For instance, open innovation can reinforce, jointly with AR, the relationships between universities and companies.


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### Note

1. The database of the articles is available upon request at the corresponding author.

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