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EXPLORING SEARCH STRATEGY FOR SYSTEMATIC LITERATURE REVIEW: EVIDENCE FROM THE INTERNATIONAL JOURNAL OF MANAGEMENT REVIEWS

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Abstract. Systematic literature reviews (SLRs) advance management theory and practice by synthesizing knowledge in a structured and transparent manner. However, inconsistent reporting of search strategies lim its replicability and methodological rigor. To address this gap in reporting standards, the main objective of this article is to explore successful search strategies for SLRs in management research. We further propose a distinction between transparency (conceptual replication) and practical replication to clarify what constitutes a replicable review in this field.

We conducted a systematic review of 57 SLRs published in the International Journal of Management Reviews and propose five criteria that search strategy reporting should meet to ensure replicability:
(1) provision of a search query,
(2) reporting of the query execution date,
(3) indication of the search timespan,
(4) clear presentation of inclusion/exclusion criteria, and
(5) specification of the document sections screened (e.g., title, abstract, full text).

Our findings show that most reviews support conceptual replication by providing the search query, timespan, inclusion/exclusion criteria, and screened document sections; however, practical replication remains rare due to missing details – especially the search execution date.

To improve future SLRs, we recommend: (1) disclosing the review team's underlying research paradigms and beliefs to clarify the perspective behind the synthesis, and (2) ensuring diverse team composition from the outset – or, if constrained, explicitly acknowledging such limitations. Ideally, review teams should encompass diverse contexts and paradigms aligned with the scope of the review.

Keywords: systematic literature review, search strategy, search strategy replicability, management, management research.

JEL Classification: M16, M190.

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1. Introduction

A literature review is a fundamental instrument utilized in management research aimed to cope with the variety of knowledge for particular academic questions. Among the goals of conducting literature reviews, at least two are particularly valuable for researchers: mapping and assessing the current intellectual territory and raising research questions to develop the current body of knowledge (Tranfield et al., 2003). Of special interest among management scholars are systematic literature reviews (SLRs). Thus, a steady growth in scientific publications utilizing systematic literature reviews in the field of management has been observed over the last two decades (Kosch & Szarucki, 2020, 2021; Linnenluecke et al., 2020; Rojon et al., 2021). The term "systematic" denotes"comprehensive accumulation, transparent analysis, and reflective interpretation of all empirical studies pertinent to a specific question" (Rousseau, 2012, p. 479).

Despite some criticism, this type of research has numerous advantages and continues to attract many researchers due to its unique attributes, enabling new theoretical and

practical contributions across various subfields of management sciences. Among many queries related to the purposefulness of conducting SLRs or, in other words, "digging the already dug ground", one is concern about why to study works performed by others. While addressing this question is beyond the scope of this paper, we instead focus on another, increasingly frequent concern that has emerged alongside the growing popularity of SLRs.

One of the common methodological questions raised before starting a systematic literature review is what approach and search strategy to select to succeed in publishing in journals accepting only high-quality research. Successful or high-quality search strategy assures replicability and transparency of SLR or is perceived to do so, as demonstrated by publishing in renowned journal. Despite the abundance of instructional publications on how to conduct literature reviews, a gap remains regarding the specific search strategies employed by scholars in management research. Another important rationale to explore and fill this gap, is methodological inadequateness of many review articles reported in other scientific disciplines (e.g. health sciences: Geddes et al., 1998). Research groups conducting SLRs and clinical practice guidelines have been a focal driving force in the progress of search strategies, nevertheless they face challenges related to transparency and available resources. Numerous researchers and organizations have appealed for transparency in the documentation of search strategies and systematic reviews (expecting them to be replicable, exclusive, aggregative and algorithmic), and new tools have been designed for peer review of search strategies (Denyer & Tranfield, 2009; Hausner et al., 2012; Booth et al., 2021).

Thus, the main objective of this article is to explore successful search strategies for SLRs in management sciences. To achieve our goal we have utilized a systematic review exploring all SLRs in terms of their replicability and transparency published in the *International Journal of Management Reviews*. Our results have shown several interesting methodological patterns in search strategies related to the replicability and transparency of the studied SLRs.

This paper will begin by discussing the theoretical background of systematic approach for literature review in medical sciences, differences in search strategies in management sciences, and their quality measured by replicability and transparency of SLRs. The following sections will analyze, compare, and contrast the SLRs published in the *International Journal of Management Reviews* and evaluate the extent to which the applied search strategy was replicable and transparent. Finally, this paper will discuss the obtained results and present the conclusions related to executing and reporting search strategies for management sciences.

2. Theoretical background

The systematic review is a distinct methodology "that locates existing studies, selects and evaluates contributions, analyses and synthesizes data, and reports the evidence in such a way that allows reasonably clear conclusions to be reached about what is and is not known" (Denyer & Tranfield, 2009, p. 671). This research methodology takes many forms, employed by scholars in their efforts to conduct literature reviews, and is more or less firmly grounded in systematic approaches. Here "systematic approaches" are understood, following Booth et al. (2021, p. 39) as "those elements of a literature review that, either individually or collectively, contribute to the methods being both explicit and reproducible". Thus, systematic approaches are reflected in both the execution and presentation of the literature review and culminate in the methodology of the "systematic review." Utilizing this method various contributions of new research made to existing research may be observed. Of importance is to find out which features of this method utilized in other sciences (e.g. medical sciences) are particularly relevant to SLRs in management research.

Before starting an overview of relevant criteria for successful search strategies of SLRs, it is worth mentioning some facts related to the drawbacks of using inappropriate SLR methodology. Even though there had been substantial developments in the research design of the review articles published in the *Evidence-Based Mental Health* journal, such as the advance of the randomized controlled trial, the review paper still inclined to be unsystematic and predisposed to various biases. It has resulted in difficulties evaluating how unbiased the reviewer was in formulating their conclusions. A common picture is when the author of a review paper had a specific perspective and only included works that sustained this position. This concern has raised a need for more comprehensive systematic reviews where the author provided all the methods applied to identify the primary studies (Geddes et al., 1998).

There are different approaches to find out which SLR is a high-quality one. The main attribute that differentiates a systematic review from an unsystematic one is a methods section that sufficiently communicates the research question, the search strategy, and the designs of the chosen works. After reading the methods section of a review paper, it is possible to decide how valid, mainly how free from bias, the reviewer's conclusions are likely to be (Geddes et al., 1998). This seems to be relevant for all SLRs despite their field of science.

A significant matter in high-quality research in general and SLRs specifically is the preparation of a research plan. A greater efficiency in the conduct of the systematic review depends on thorough deliberation of inclusion and exclusion criteria for published works, assessing methodological issues and considering planned comparisons. A protocol driven research design increases the reader's confidence that reviews were not overly affected neither by the exclusion or inclusion of specific works nor by the selection of the particular outcomes by the results studied. Moreover, Geddes et al. (1998, p. 68) have stressed that including in the search strategy "only the positive studies that examine the effects of an intervention, and excluding

all the negative ones, will lead to an overly optimistic estimate of the benefits of treatment". Although, this is very relevant for medical sciences, in case of management research including studies preferring positive effects of utilizing a specific method for organizational problem solving and avoiding those with negative effects would lead to blurring the real state of the art.

The extent to which reviewers go in their search strategies to detect appropriate studies can influence their conclusions. While organizations and management problems are often the focus of case studies designed to explore them, case studies themselves may also become the subject of systematic reviews. Hence, it is vital that reviews exhibit all related case studies within the specific research area rather than a subgroup of them. This is partly because incorporating additional case studies often provides useful information and improves the accuracy and precision of assessments regarding the effectiveness of problem-solving methods. Of importance is avoiding the risk of publication bias. Case studies with positive or interesting results tend to be more accessible and more likely to be published than those lacking statistically significant findings (i.e., negative studies). In fact, negative studies according to Geddes et al. (1998) may be more likely to stay unpublished. Readers of SLRs rightly expect that reviewers have undertaken sufficient efforts to retrieve all relevant studies meeting the inclusion criteria. By this means, it is possible to avoid the risk of summarizing the outcomes of only a subset of appropriate works with the most promising results (Geddes et al., 1998). It is also important that the results of systematic reviews are eventually published, especially since some journals specializing in literature reviews "require drawing on 100 publications as a minimum within the elaboration of research topics or research questions" (Frank & Hatak, 2014, p. 106).

The search strategy is mentioned to be crucial to ensure a good starting point for the identification of studies and eventually for the real outcome of the study. According to Wohlin (2014), when considering which search strategy to select the point is rather about being systematic, and not really about which type to select (i.e. manual vs. automatic). This claim comes from the fact that despite database searches can be conducted automatically, the search is not better than the search string applied. Creating effective search strings is a demanding task, as the terminology used in the literature is often inconsistent. Moreover, employing broad search terms frequently results in the retrieval of a large number of irrelevant studies. The latter generates extensive manual work that also is predisposed to errors. Wohlin (2014) and Wohlin et al. (2020) have advocated using snowballing, as an instrument to search for relevant studies. It can be fruitfully applied to SLRs and as a first search strategy, may successfully be a good substitution to the usage of database searches.

Management sciences, as a relatively young academic discipline, still require practical methodological guidance on the use of systematic literature reviews (SLRs) in general – and on search strategies in particular – to effectively explore their expanding body of knowledge. A potential benchmark for search strategies in this field can be found in medical sciences and related disciplines. It is observed, that over the last two decades medical science has made significant advances in attempting to progress the quality of the review process by conducting research in a systematic, transparent and reproducible manner advising policy and decision makers on the organization and provision of health and social care (Ali & Usman, 2018; Cook et al., 1997a; Cook et al., 1997b; Harding et al., 2021; Wolf et al., 2001). Other scientific disciplines such as nursing (Evans & Pearson, 2001; Tourani et al., 2017), housing policy (Davies & Nutley, 1999), social care (Macdonald, 1999) and criminal justice (Laycock, 2000) have also modified the approach with changing degrees of success (Tranfield et al., 2003). In several fields repeatedly using aggregated syntheses, the review process has been formalized to generate rigorous and replicable reviews, for example: the Cochrane Organization (2022) (www.cochrane.org) in medicine and the Campbell Collaboration (2022) (www.campbellcollaboration.org) in social welfare, international development, education, and criminal justice.

In contrast, discipline-specific methodological progress for SLRs in management research looks less well-formed, assuming that SLRs were applied in this discipline from the early 2000s (e.g., Greenhalgh et al., 2004; Levy & Williams, 2004; Pittaway et al., 2004). Among the reasons for such discrepancies is that medical research is based on considerable and widespread epistemological consensus, compared to management (Tranfield et al., 2003). Thus, the resulting troubles of finding approved thresholds for high-quality work stem from the lack of consensus and some other differences between medical research and management research.

To avoid some of the above-mentioned drawbacks and inconsequences of SLRs, as well as to assure the scientific and methodological soundness of this research method an appropriate search strategy should be applied. Search strategy is defined according to Rojon et al. (2021) as search strings for electronic database searches, including documents' inclusion and exclusion criteria. The main goal is to find a successful search strategy for SLRs, that will enable obtaining scientifically robust and reliable results.

According to Tranfield et al. (2003) a systematic search starts with the identification of keywords and search terms, which are derived from the scoping study, the literature and discussions within the review team. Next step is to decide on the search strings that are most suitable for the study. Another important aspect of the search strategy that has to be reported in detail appropriate to guarantee the search replication. Searches should not be limited to works published in journals and listed in bibliographic databases, but also include unpublished works, conference proceedings, industry trials, the Internet and even individual requests to recognized investigators. The expected outcome of the literature retrieval process is a comprehensive list of studies on which the review will be based. The final review should include only those studies that meet all

the inclusion criteria specified in the review protocol and none of the defined exclusion criteria. Using strict inclusion and exclusion criteria in SLR is based on the desire to ensure reviews of the best-quality evidence. As inclusion and exclusion decisions can be quite subjective, it is recommended that this phase of the systematic review is carried out by several reviewers. Possible disagreements can be unraveled within the review panel. Selecting works in systematic review is a process divided into several stages. In the beginning, the reviewer reviews all potentially pertinent citations found in the research. Next, relevant sources are retrieved for a more thorough assessment of the whole text, and from these, particular will be selected for the systematic review. At every phase of the review, the number of items included and excluded is recorded, along with details of exclusions (Tranfield et al., 2003).

A search strategy aiming at producing "a systematic, explicit, comprehensive and reproducible research literature review" (Frank & Hatak, 2014, p. 105) requires choosing search terms employed to acquire appropriate studies. Correspondingly, they have to be grounded on the words and combinations that shape the research issue or the research question. Despite the perception that it is a trial and error process, selecting proper search terms is helpful to have an initial overview of the topic. To establish as much transparency as possible, Fisch and Block (2018) suggest the authors precisely delineate their search strategy for detecting relevant studies systematically. This contains describing the databases where the literature search was performed, defining the search terms and keywords utilized to identify studies, as well as a careful explanation of the practical (e.g., language, availability) and methodological (e.g., time frame, article type) screening and exclusion criteria used. They also stress considering a good justification for the application of screening criteria (e.g., only focusing on highly ranked journals), since screening criteria can have vital implications for the results and their generalizability (Fisch & Block, 2018). Search strategy for identification of studies should contain the following elements: 1) Electronic databases to be used – which sources will you search?, 2) Other search methods – such as hand searching, reference checking, citation searching, etc., 3) Keywords and sample search strategy (Booth et al., 2021).

For a search strategy of importance is to determine the procedure of selecting journals considered for inclusion, which usually contains identifying databases (e.g., JCR, ABI-Inform); journal ranking lists (e.g., FT50); Google Scholar, online searches (Aguinis et al., 2018). On the other hand, some scholars argue that the inclusion of 'grey' literature, perceived as relevant works available in non-academic outlets and thus usually not exposed to typical academic peer review processes, may reinforce making SLR outcomes better applicable to practice (Adams et al., 2017; Rojon et al., 2021). To report search strategy, reviewers may choose among different formats and guidelines (Booth, 2006; Rethlefsen et al., 2021) even though evidence indicates that these are poorly implemented (Rethlefsen et al., 2015). Table 1 presents main characteristics of two popular search strategies based on PRISMA-S (suited to all search strategies for SLRs) (Rethlefsen et al., 2021) and STARLITE (suited to search strategies for qualitative evidence syntheses) (Booth, 2006). On the other hand, Cochrane expectancies necessitate reporting of the search process (containing 'sources, searched, when, by whom and using which terms') (Lefebvre et al., 2021). Cochrane Handbook advocates documenting the search process in an adequate amount of detail throughout the review in order to make searches of all the databases reproducible. At least one of the conducted database searches has to be described in adequate detail to replicate it.

Table 1. Main characteristics of PRISMA-S and STRALITE search strategies (source: own elaboration based on Booth et al., 2021, p. 324)

PRISMA-S	STARLITE
INFORMATION SOURCES AND METHODS (Database name, Multi-database searching, Study registries; Online resources and browsing; Citation searching; Contacts; Other methods)	S: Sampling strategy (e.g. purposive, theoretical, comprehensive) T: Type of studies A: Approaches (other than electronic subject searches covered in the electronic sources section), e.g. hand searching; citation snowballing, etc.
SEARCH STRATEGIES (Full search strategies; Limits and restrictions; Search filters; Prior work; Updates; Dates of searches)	R: Range of years (start date–end date) L: Limits
PEER REVIEW (Peer review)	I: Inclusion and exclusions T: Terms used
MANAGING RECORDS (Total records; Deduplication)	E: Electronic sources (reports databases used and, optimally, search platforms and vendors to assist in replication)

Denyer and Tranfield (2009, p. 686) suggest the proper content of the methodology section: "The methodology section provides precise details of how the review was conducted – the search strategy, the selection criteria, and the analysis and synthesis criteria." Combined with the statements, like the one that the review should be done in a way that allows for its update, replicability is an inevitable part of systematic review in management. However, we should assume the conceptual replicability. Denyer and Tranfield's (2009) view remains perfectly accurate, when applied to other stages of systematic review in management, especially analysis and synthesis, which are more or less transparent, but to pursue replicability, it would be almost impossible.

We have studied terms "replicability" and "transparency" according to their meaning displayed by Denyer and Tranfield (2009). In the publication, two competing principles might be found: replicability (the traditional core principle) and transparency (the principle for management SLRs). The former aims for the study to be performed by other researchers with the same outcome, if they use the search protocol provided. As argued by Cooper and Hedges (1994),

the 'intended result is a research synthesis that can be replicated by others." In the second case, the governing principle is transparency of the entire search strategy, meaning it is: 1) explicit, 2) clear in terms of the basic conclusions, 3) framed within reviewers' values. Denyer and Tranfield (2009, p. 678) arguing on search strategy in management sciences have stressed: "documenting the review methods is not to achieve replication or eradication of bias, as in a Cochrane-style review, but rather to aid transparency".

We found four major differences between principles (see Table 2) guiding search strategy in the reviews based on "traditional" core principle (concentrating on replicability) and based on "management and organization" core principle (concentrating on transparency).

The first difference (see Table 2) links with mutability of the search protocol. Traditional SLRs should be rigid, with alterations made only in case of a great need (and reported explicitly). In management the search protocol should not limit heterogeneity of the evidence retrieved, and it might be altered during the search process, with all changes being customary (but not obligatory) displayed.

The second difference is subtle. Of course, both systematic reviews should explain their methods in proper sections; while traditionally, everything should be written down (which makes the creation of this section somewhat algorithmic), in the case of management, the section should provide an audit trail, making it possible to update and appraise the review in the future. As such, the management case is more complex, as it has to explain all the factors that affected the final selection of papers – with plenty of factors being complex and immanent to the researcher, not an electronic database.

The third difference concerns the inclusion and exclusion criteria. Traditional reviews should not be altered; in management, they might if they prove inadequate. This is due to unpredictability of the search strategy, which is substantially higher in all social sciences – solely differing naming and keywords present much more difficulties than those in natural sciences.

The fourth – last – difference concerns limitations researchers should disclose. In traditional cases, due to the algorithmic nature of search strategy, it is sometimes possible to even estimate the number of possibly overlooked publications. At the same time, in both cases, the biases should be discussed, but given the nature of the literature synthesis, it is more important to be particularly comprehensive in listing those in management.

The search strategy is executed, and the search protocol is reported. Traditionally, protocol must be developed before the literature collection and changed only occasionally, with all changes being made explicit. In case of management research, it should form a firm basis but should not restrict the heterogeneity of the evidence – and any changes should be reported. We argue that replicability should be treated in two versions: 1) weak, if from the search protocol we are able to conceptually reconstruct authors' search strategy (theoretically replicate it), and 2) strong, if using the search protocol, we are able to execute their search strategy with same results (practically replicate it). The former might be called theoretical, or conceptual replication, the latter might be called practical, or executional search strategy replication. One simple argument for such distinction is the fact, that not all databases provide option to search for records added until the certain date – and that

Table 2. Principles guiding search strategy in various fields of science (source: own elaboration based on Denyer & Tranfield, 2009)

Difference no.	Replicability (traditional core principle)	Transparency (management and organization core principle)
1	"In medicine and other fields, review protocols must be developed and approved before the systematic review can commence." "While the intention should be that a review will adhere to the published protocol, it is acknowledged that the review protocol may need to be changed during the course of the review. If modifications are made to the protocol, they must be documented explicitly and explained"	"A systematic review protocol does not mean that the predetermined methods are set in stone. It is important that the protocol does not restrict the review and it is quite normal for reviewers to alter the protocol during the course of conducting the review." "In the final systematic review methodology section, it is customary to produce an overview of the main changes between the original and final protocols."
2	"Systematic reviews have a clearly defined methods section with each step of the systematic review rigorously reported. Justifications are given for all decisions taken by the reviewer."	"Including a methodology section in the systematic review report enables readers to determine precisely the scope and boundaries of the review. It also provides an audit trail and enables the review to be updated and appraised in the future."
3	"Only studies that meet the inclusion and exclusion criteria are included in the review."	"A reviewer may, for example, find a body of work that they had not foreseen or alternatively for which they may wish to alter the selection criteria as their understanding of the field develops."
4	"The reviewer also needs to discuss whether or not all relevant studies were identified, whether or not all relevant data could be obtained, and whether or not the methods used (for example, searching, study selection, data extraction, and analysis and reporting) could have introduced bias."	"In conducting a review, particularly problem specification, study selection and synthesis, the reviewer necessarily falls back on their values, prejudices, and beliefs." "As such, it is important that reviewers make explicit their value stance towards the aspect of the social world they are studying".

databases are constantly updated, often to include items published long ago. This weak replicability is, in our opinion, synonymous with transparency of the search strategy. If we cannot conceptually reconstruct the procedure, it is obviously not transparent.

3. Research methods

Based on the review of search strategies in SLRs presented above, we have operationalized replicability and transparency according to the differences mentioned, and our proposition of the weak replicability. Our main research question is: What successful search strategies are used in SLRs in management sciences? To answer this question we applied a systematic review exploring all SLRs regarding their replicability and transparency published in *the International Journal of Management Reviews*. We also attempted to answer five secondary research questions that were as follows:

1) Did the authors provide the applied search query?

2) Did the authors provide the search query execution date?

3) Did the authors provide the search query timespan?

4) Did the authors provide documents' inclusion/exclusion criteria?

5) Did the authors inform which parts of the documents were used against inclusion/exclusion criteria?

3.1. Data sources

We utilized Web of Science and Scopus databases to search for all published SLRs, with the last run of search on both platforms done on the 6th of December, 2021. We used the following search queries:

- for Web of Science: "(TS=("systematic review" OR "systematic literature review")) AND (IS=("1468-2370" OR "1460-8545") OR SO=("International Journal of Management Reviews"))" and,
- for Scopus: TITLE-ABS-KEY ("systematic review" OR "systematic literature review") AND (EISSN ("1468-2370") OR SRCTITLE ("International Journal of Management Reviews") OR ISSN ("1460-8545")).

Web of Science returned 73 results, and Scopus revealed 74 publications. We decided that the title, abstract, or keyword should indicate Systematic Literature Reviews.

After retrieval, we merged the results from both databases, achieving 75 unique publications. We decided to restrict our research period to publications until 2020. As of the start of the research, the year has not ended, and results would be incomplete for that year, considering the lag of database completion after publication. There were 57 publications published on or before 2020. We further check these publications against only the inclusion criterion we applied in our research: is the publication systematic review? All of the screened publications satisfied this criterion and were included in our review. It is worth mentioning, that we were looking for such declaration in the following order: 1) title, 2) abstract, 3) full-text. Only in three cases it was necessary to check full-text to determine if the research was truly SLR (e.g. abstract stated that no prior systematic review was conducted in given field, but to actually determine the methodology of the review it was necessary to screen the text). In 33 cases it was clearly indicated in the title of the publication, and if not, in 21 cases abstract stated the type of review.

3.2. Data extraction

We coded the documents to obtain the following data on the mentioned below five methodological conditions applicable to search strategy:

- if the authors have given search query that might be used (either in ready form, or the one that might be reconstructed): true/false
- whether authors have given the search query execution date: true/false
- whether authors have indicated timespan: true/false
- whether authors have presented inclusion/exclusion criteria: true/false
- whether authors have informed which parts of the documents were used against inclusion/exclusion criteria: true/false

Additionally, we extracted the year of publication and number of authors from the articles.

To extract data, we searched the publications in the following order: 1) methodology/methods section, 2) appendices (if supplied), and 3) other parts of the text. Due to the fact that coded values were true/false, and extracted values were simple, no data preparation was required.

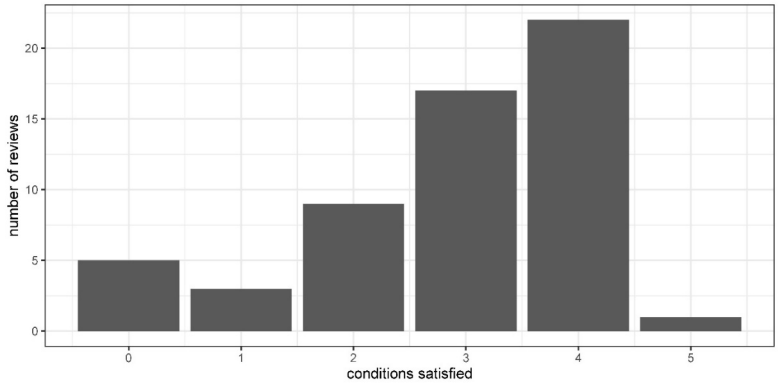

Figure 1. The number of conditions satisfied for a replicable search strategy

4. Research results

In our analysis, we first attempted to analyse the aggregated data; hence we calculated the average number of conditions satisfied (see Figure 1) to initially assess the replicability of the reviews studied. It is required to state that 54 out of 57 (94.74%) reviews utilized bibliographic databases.

Five reviews did not satisfy any of the mentioned conditions for replicability, and overall, the largest group consisted of almost ideally replicable reviews (even in terms of practical replicability, but this will be revealed by further results). The number of conditions satisfied over time were displayed in Figure 2.

As might be seen, after initial low values at the beginning of the year 2000, the average number of conditions satisfied after the year 2006 started to grow and then stabilized.

After initial examination, we conducted analysis on each of the conditions (conditions from 1 to 5), and the evolution of the conformity (see Figure 3, Figure 4, Figure 5, Figure 6, Figure 7).

As it might be seen, the condition that might be considered the most important for transparency – presenting inclusion and exclusion criteria (condition 4), alongside the number of papers – is the most covered one (48 reviews). The widely used condition is disclosing the query used (condition 1) in case of any database search, or presenting

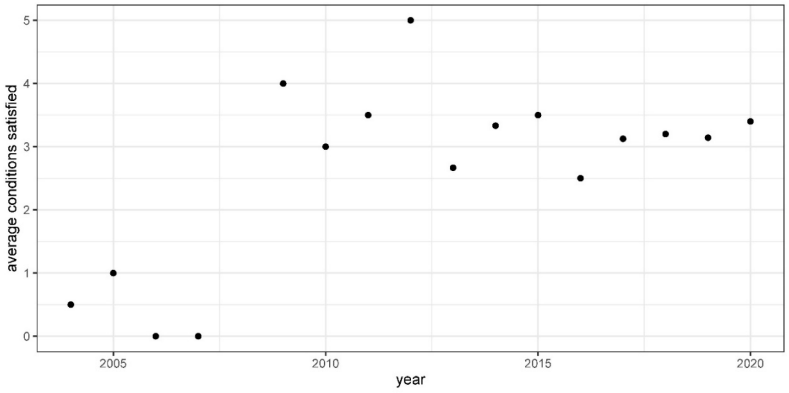

Figure 2. Evolution of the average number of conditions satisfied

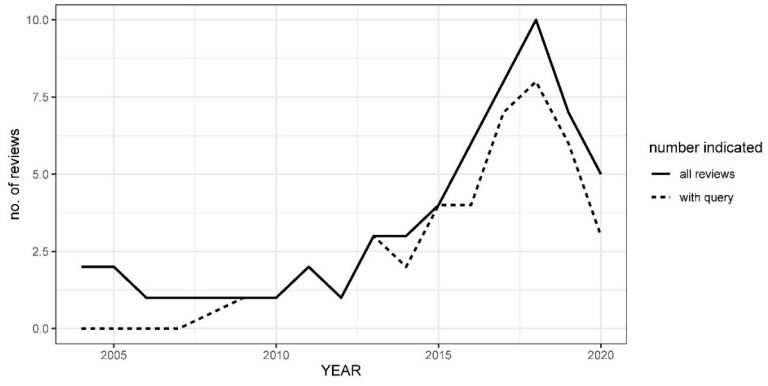

Figure 3. SLRs with explicit query (condition 1)

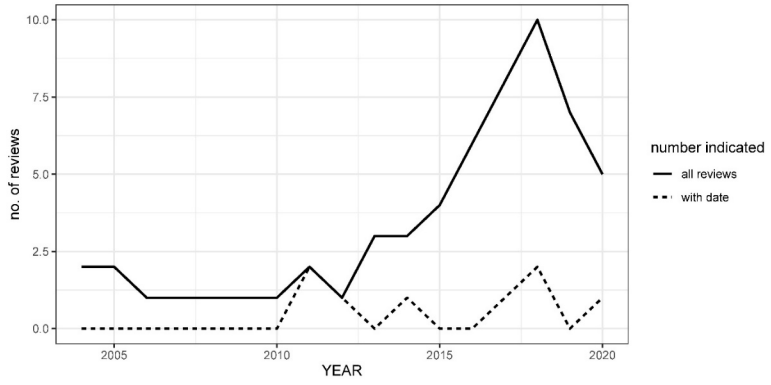

Figure 4. SLRs with the explicit date of search (condition 2)

search in a way that without doubt allows for query reproduction. This condition is satisfied by 42 reviews. The third best covered condition is to declare parts of the publications that were checked against the inclusion criteria (condition 5) covered by 37 reviews. Some authors falsely assume, that barely signaling about the criterion – for example – of the paper being relevant to certain topic is enough, as they do not state on the basis of which parts of the publications (e.g., title, abstract, keywords, full-text) they were assessing documents. The fourth condition that is best covered is the intended timespan of review (condition 3) exemplified with 30 reviews. It is important to note, that we only accepted explicit selection or reporting of timespan. If authors simply stated the year of first and last publication included, it did not reveal the time period, for which they were searching for literature. The fifth condition, that is rarely covered, is the date of the query execution on databases (condition 2) – only 8 out of 54 database-based reviews reported it. This last mentioned condition is less important for conceptual replication, but it is important for practical replication. If it is removed from the analysis, it appears that the dominant group comprises reviews, which are actually reported well enough to achieve conceptual replication (see Figure 8).

Interestingly, while a higher number of authors – often cited as a requirement for literature reviews – is considered necessary for bias mitigation, it doesn't affect reporting quality.

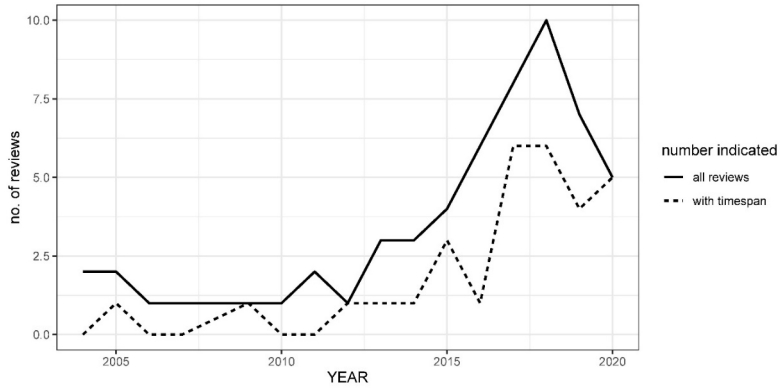

Figure 5. SLRs with explicit time span for search strategy (condition 3)

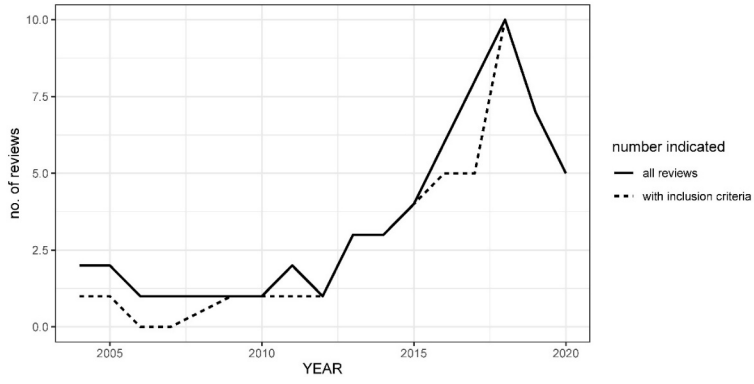

Figure 6. SLRs with explicit inclusion/exclusion criteria for search strategy (condition 4)

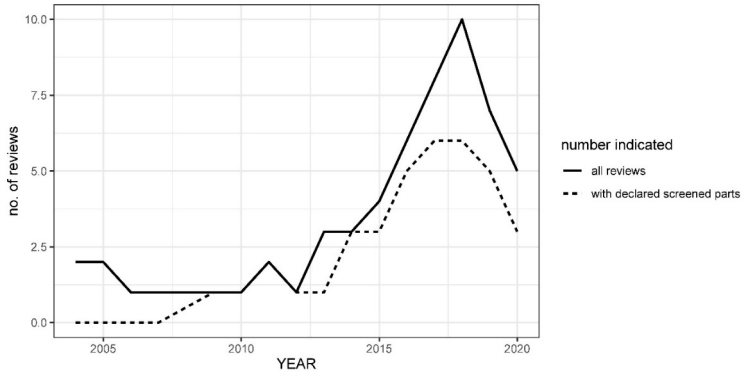

Figure 7. SLRs with explicitly declared screened parts for search strategy (condition 5)

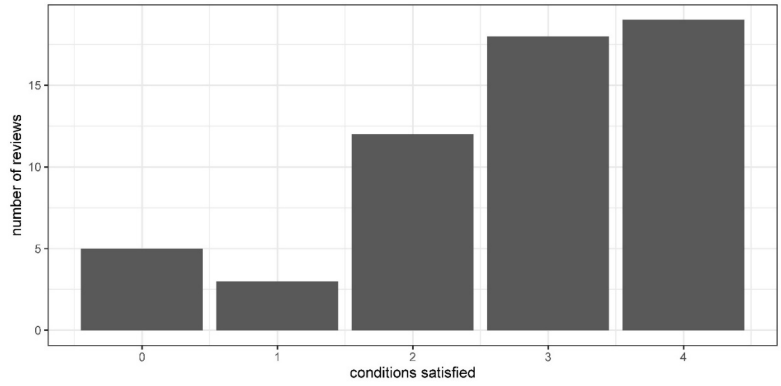

Figure 8. Weak replication/transparency condition

5. Discussion and conclusions

It is essential not to forget, what reviews in general are about – a synthesis, driven by skill, knowledge and experience. Replicability is an important quality of systematic reviews, but it does not reflect on the quality of the content – only makes it more difficult to assess the content properly, especially boundaries of literature retrieved and included. Majority of reviews that did not satisfy any condition for replicability (their transparency should be perceived as compromised) were written in early years of adoption of systematic reviews in management, when the guidelines were scarce. Nevertheless, after reading these reviews, the effort and time needed to search the literature are apparent, and by the way they are described one can assume the reviewers are skilled and the research is trustworthy (e.g. Leseure et al., 2004; Thorpe et al., 2005) – after all, they have been accepted and published in the recognized journal – the only issue is, these reviews are not theoretically replicable at any of their point.

What seems to be important, and – at the same time – rarely discussed is the issue of joint effort of researchers to produce literature review. While its influence on the research outcome is usually displayed in terms of the traits and beliefs of individual researchers, that does not fully cover the biases that might be encapsulated in the search strategy.

Let's take an example of search strategy, where three researchers independently assess a portion of evidence for inclusion. They decided to include quantitative measures of their initial agreement (like Cronbach's alpha), and in case of any differences, they discussed the matter until they reached a consensus. Later, they describe their values (as they recognize them from their perspective) to make their search transparent. At this point, researchers might feel satisfied, as they believe that transparency (and, perhaps, replicability) was achieved. While such an example now seems to be an ideal approach, it does not make all things transparent. These three researchers usually will share some paradigm (Kuhn, 1970; Shepherd & Challenger, 2013), or perspective (Hatch & Cunliffe, 2013), or maybe some other ontological-epistemological-axiological specifics that apply to them as a team, but not to all other researchers. These collective values and beliefs might not be fully realized when reporting – in fact, they rarely are. If practitioners use this evidence synthesis, the lack of explanation might lead to a misfit between the researchers' paradigm and the practitioners' paradigm (Lemak, 2004, p. 1311), resulting in further failure.

Summing up, our paper has outlined five thought-provoking methodological patterns in utilizing search strategies related to replicability and transparency of the studied SLRs in management sciences. Firstly, there is a growing tendency among the SLRs' authors to provide information on the applied search query (Figure 3). Secondly, the authors rather rarely provide the search query execution date in their SLRs (Figure 4). Thirdly, the authors quite often tend to provide the search query timespan (Figure 5). Fourthly, the authors conducting SLRs in management willingly provide documents' inclusion/exclusion criteria (Figure 6). Fifthly, the authors tend to provide information about the parts of documents that were used against inclusion/exclusion criteria (Figure 7). Moreover, most of the studied reviews were essentially reported well enough to achieve conceptual replication, while the number of authors, what seems of importance for bias mitigation, does not affect the quality of the reporting.

Hence, we call for greater transparency regarding the self-recognized beliefs and paradigms of the entire team conducting the review. Providing at least some institutional background will allow researchers (and practitioners!) to assess the suitability of the review for their own context.

We also recommend that heterogeneity be considered from the outset of the research process. Ideally, the review team should encompass a range of contexts and paradigms, aligned with the requirements of the specific systematic review. While the scope of a given review may limit the feasibility of fully achieving this diversity, such limitations should be explicitly acknowledged when drawing conclusions.

At a minimum, multiple researchers should be involved in the literature search phase to ensure broader coverage and reduce bias. Alternatively, if the team is less diverse, the research objectives and conceptual boundaries should be more narrowly defined to reflect the team's perspective and expertise.

Our research has one limitation stemming from the selection of a single journal for our study. While this strategy has its benefits, the recommendation for future research is to broaden the studied population as well as examining a reflectivity on the search strategy of the studied SLRs as suggested by Rojon et al. (2021). Moreover, it is quite tempting to suggest taking on review, and assembling several teams to replicate it, to understand if replication is truly possible. While for the entire review this is probably hardly possible, for the search strategy it might be. If the results were not replicable, the proximity between teams' results might be used to determine which values were critical for obtaining the results. Such values should be then reported, as being extremely important to disclose in every systematic review.

Authors' contributions

Conceptualization and methodology, OK, MS and AS; formal analysis, investigation and original draft preparation OK, conclusion formation and development of discussion, MS, OK and AS; design, review and editing, A. M.-S. and MS.

Disclosure statement

The authors do not have any competing financial, professional, or personal interests from other parties.

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