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Demystifying literature review in the AI Era: Updating the SSF method with Generative Artificial Intelligence support

Desmitificando la revisión bibliográfica en la era de la IA: Actualización del método SSF con apoyo de la Inteligencia Artificial Generativa

Desmistificando a revisão da literatura na era da IA: Atualizando o método SSF com o suporte da Inteligência Artificial Generativa

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ORIGINAL

Abstract

Objective. The study addresses the lack of a method that combines systematic reviews with Generative Artificial Intelligence (AI). It proposes improvements to the SSF (Systematic Search Flow) method, introducing new review categories and incorporating AI tools. **Method**. It analyzed 44 types of literature reviews organized into seven distinct families with a narrative review approach. Based on this, the SSF method was updated with the support of generative AI. **Results**. It presents the evolution of the SSF, which incorporates generative AI to optimize search strategy, article selection and scientific writing. This results in faster reviews by filtering the results and analyzing a large volume of data. **Conclusion**. The update of the SSF Method represents a significant advance, offering a systematic and efficient guide for literature reviews. Although generative AI does not replace the critical judgment of the researcher, when guided by experienced researchers, it increases the efficiency of the process, making reviews more robust and methodologically rigorous.

Keywords: literature review, SSF method, Generative Artificial Intelligence, narrative review

Resumen

Objetivo. El estudio aborda la falta de un método que combine las revisiones sistemáticas con la Inteligencia Artificial Generativa (IA). Propone mejoras al método SSF (Systematic Search Flow), introduciendo nuevas categorías de revisión e incorporando herramientas de IA. **Método**. Se analizaron 44 tipos de revisiones bibliográficas organizadas en siete familias distintas con un enfoque de revisión narrativa. Sobre esta base, se actualizó el método SSF con el apoyo de la IA generativa. **Resultados**. Se presenta la evolución del SSF, que incorpora IA generativa para optimizar la estrategia de búsqueda, la selección de artículos y la redacción científica. Con ello se consiguen revisiones más rápidas al filtrar los resultados y analizar un gran volumen de datos. **Conclusiones**. La actualización del Método SSF representa un avance significativo, ya que ofrece una guía sistemática y eficiente para las revisiones bibliográficas. Aunque la IA generativa no sustituye el juicio crítico del investigador, cuando es guiada por investigadores experimentados, aumenta la eficiencia del proceso, haciendo que las revisiones sean más sólidas y metodológicamente rigurosas.

Palabras clave: revisión bibliográfica, método SSF, Inteligencia Artificial Generativa, revisión narrativa

Resumo

Objetivo. O estudo aborda a falta de um método que combine revisões sistemáticas com Inteligência Artificial Generativa (IA). Ele propõe melhorias no método SSF (Systematic Search Flow, fluxo de pesquisa sistemática), introduzindo novas categorias de revisão e incorporando ferramentas de IA. **Método.** Analisou 44 tipos de revisões de literatura organizadas em sete famílias distintas com abordagem da revisão narrativa. Com base nisso, foi atualizado o método SSF com o apoio da IA generativa. **Resultados.** Apresenta as evoluções do SSF, que incorpora a IA generativa para otimizar a estratégia de pesquisa, a seleção de artigos e a redação científica. Isso resulta em revisões mais rápidas ao filtrar os resultados e analisar um grande volume de dados. **Conclusão.** A atualização do Método SSF representa um avanço significativo, oferecendo um guia sistemático e eficiente para revisões de literatura. Embora a IA generativa não substitua o julgamento crítico do pesquisador, quando orientada por pesquisadores experientes, ela aumenta a eficiência do processo, tornando as revisões mais robustas e metodologicamente rigorosas.

Palavras-chave: revisão da literatura, método SSF, Inteligência Artificial Generativa, revisão narrativa

1 Introduction

There is no denying that a literature review is the foundation of scientific writing. It has always been this way and always will be: scientific research cannot be conducted without searching for previous studies that support ongoing investigations. However, numerous forms, models, methods, and types of literature reviews exist. Identifying what they are, their purposes, how they will be applied, and whether there are tools that can assist in this process are some of the questions that arise and motivate the ongoing pursuit of improving existing methods and advancing science.

In 2016, the authors of this article presented a study published in a paper titled "DEMYSTIFYING THE LITERATURE REVIEW AS BASIS FOR SCIENTIFIC WRITING: SSF METHOD" (Ferenhof & Fernandes, 2016), which aimed to explain what a literature review is, analyze various models developed to support the process, and ultimately propose a method that enables systematic searching.

This method, known as Systematic Search Flow (SSF), was designed to support different types of literature reviews, including:

a) Narrative/exploratory review, as described by Garcia-Peñalvo (2022);

b) Systematic review, explained by Higgins & Sally (2011), Alam et al. (2025) and Bettany-Saltikov & McSherry (2024);

c) The authors Ercole et al. (2014) and Castanha et al. (2024) detail the integrative review.

Eight years later, many of the same questions persist. The original study (Ferenhof & Fernandes, 2016) did not cover all possible types of literature reviews, and since then, new discussions have emerged about other approaches that could have been included. Sutton et al. (2019) identified seven families and 44 types of reviews, highlighting the need for a method that provides a step-by-step guide for searching scientific databases, recording information, and structuring the research report.

Moreover, with technological advancements, new questions arise:

a) Can technology assist researchers in conducting literature reviews?

b) Can Artificial Intelligence (AI) be utilized in this process?

c) When? Where? How?

In this context, the present study had two main objectives:

1) To deepen the analysis of literature review methods, expanding the understanding of their applications and limitations.

2) To present an updated version of the SSF method, which now incorporates new types of literature reviews and integrates the support of Generative Artificial Intelligence tools, making it a more robust methodological framework for conducting literature reviews in a practical, systematic, and structured manner.

The proposition of artificial intelligence (AI) in the literature review process presents challenges that must be carefully analyzed. Binns (2018) and Tang, Zhang and Zhang (2023) highlight that the risk of bias in selecting articles is evident, as algorithms of generative AIs may reflect biased patterns present in the data used for their training, occasionally leading to the suggestion of fictitious documents. Furthermore, not all researchers have access to the most advanced technologies or the technical training necessary to use them effectively, which can limit the application of AI in specific contexts.

Many recent initiatives have emphasized the importance of transparency and replicability in automated processes to minimize these challenges. According to Doshi-Velez and Kim (2017) and Roumeliotis and Tselikas (2023), establishing a rigorous understanding of interpretability in machine learning is essential for researchers to comprehend better how AI makes decisions and adjusts criteria as necessary. In this sense, AI should be viewed as a support for analysis, not as a replacement for human critical thinking.

In this context, it is essential to highlight that using AI in systematic reviews can introduce biases in selecting articles, especially when algorithms are not trained to mitigate existing prejudices in the data. Mehrabi et al. (2019) emphasize that transparency in automated processes is crucial to ensure that the results are reliable and replicable.

Furthermore, reliance on technological tools can hinder access for researchers who lack the necessary resources or technical knowledge. This barrier can divide research access, limiting participation from diverse groups. AI should serve as a support system for these researchers to manage large volumes of data without replacing human analysis and judgment. Susskind and Susskind (2022) and Suriano et al. (2025), argue that while technologies can enhance efficiency, data's critical interpretation and contextualization still rely on human expertise. Those arguments are reinforced by George et al. (2024). Thus, viewing AI as a complementary tool rather than a substitute in the research process is essential.

Considering these factors, it becomes clear that integrating AI in literature reviews requires a careful balance. Ensuring transparency in processes, providing adequate training, and using technology as an enhancement—while always valuing the critical perspective and experience of researchers—are vital steps toward achieving meaningful outcomes.

Finally, it is essential to highlight that this study represents methodological and theoretical advancement but still lacks empirical validation. Although the updated SSF method offers a more comprehensive and technologically integrated approach, its practical application must be tested in different contexts to assess its effectiveness in conducting literature reviews.

The following section presents the methodology adopted for this study, considering these scientific challenges and inquiries.

2 Literature review

As defined in "A D of English Etymology", by Wedgwood (2023), to review implies to view, inspect, or examine something again. This etymological concept is the basis for all types of literature review, although each type presents its methodological peculiarities. The term "literature review" encompasses a broad spectrum of methodological approaches in the academic sphere. Rowley and Slack (2004) note that a frequent challenge at this stage is navigating the complexity of existing knowledge to achieve the research purpose. However, the literature review is essential to identify current scientific knowledge and gaps that require in-depth investigation (Karunarathna et al., 2024).

According to Cooper and Hedges (1994), Cooper et al. (2019), and Karunarathna et al. (2024), a literature review is a systematic and comprehensive process of identifying, selecting, and analyzing relevant studies on a given topic. For Manten (1973, p. 75), what is common to all definitions of literature reviews is that they "are not based primarily on new facts and discoveries, but on publications containing this primary information, through which they are digested, sifted, classified, simplified and synthesized."

There are different types of review studies, and each one follows a specific methodology.

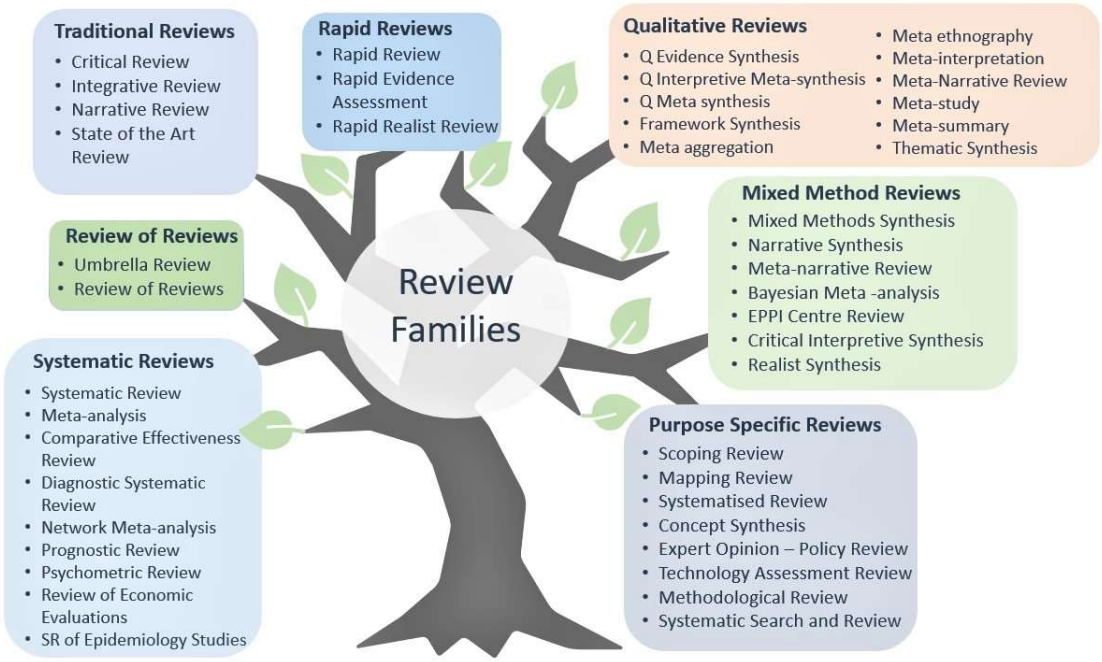
Fink (2019) describes the literature review as a systematic, explicit, and reproducible method of identifying, evaluating, and synthesizing the corpus of existing work produced by researchers and practitioners. Fink emphasizes that systematicity is a common requirement for all reviews, which must be based on original empirical research. The variations between the different review types reside mainly in the degree of systematicity, which varies according to the purpose and function of each review.

What can be seen regarding the literature review, whatever its type, is that the systematic process, systematicity, that is, having a process that can guarantee the repeatability and reliability of the literature review, is the essential factor.

Authors such as Booth et al. (2016), Sutton et al. (2019), and Ofori-Boateng et al. (2024) dedicated themselves to identifying and categorizing the different types of literature reviews, including classifying the types of reviews into families, as seen in Figure 1. Therefore, it is not possible to replicate such works in full, as the scope of this research is to understand the types of review and present a way in which it is possible to apply them systematically, giving security to the researcher and still guaranteeing the essential factor of all research: traceability and reliability. Therefore, we present APPENDIX 1 – Table in Appendix 1, which presents the seven families of literature review and the forty-four types, as well as their definition and description of the process.

Figure 1

Family of Literature Reviews



Note. Source: adapted from Birkic et al. (2020) by the authors.

APPENDIX 1 – Table lists all literature review processes. The search phase is emphasized, and we apply the inductive-deductive method to understand and improve the SSF Method proposed here.

Several literature review approaches are presented, and each of these methodologies has distinct characteristics and specific applications in scientific research.

At this point, it is worth mentioning that other types of literature reviews are not presented in this manuscript or by Sutton et al. (2019), but it is reasonable to assume that the main ones are present. It can be deduced from the analysis of these types of reviews that the systematic search process can be applied as the basis for all those listed, and it can also be assumed that it can be used for those not presented. Thus, the SSF method fits perfectly to underpin such reviews.

It is important to note that although systematic research is common to several reviews, it is crucial to recognize that each methodology has specific rules and procedures for analyzing documents. For example, while a systematic review may focus on quantitative studies with specific inclusion criteria, an integrative review may incorporate a broader range of sources, including qualitative studies and gray literature (Snyder, 2019; Palmatier et al., 2018). A systematic review requires more than one author and that all participants read all documents (Cook et al., 1997; Greifenstein, 2024). Just one researcher can carry out other reviews; when there is more than one, the records found can be divided between them for reading and analysis if this is clearly described in the research strategy and protocol (Ferenhof & Fernandes, 2016).

Given this methodological diversity, researchers must deeply understand the nuances of each type of review and strictly follow the steps proposed by the chosen method. Adherence to established protocols ensures bibliographic research's integrity, validity, and reproducibility. Furthermore, the choice of the type of review should be guided by the nature of the research question, the field of study, and the project's specific objectives (Snyder, 2019).

It is important to emphasize that the evolution of literature review methodologies reflects contemporary scientific production's growing complexity and diversity. Each type of review, for example, narrative, systematic, or integrative, offers unique advantages and is suited to different research contexts. Understanding these differences and carefully applying appropriate methods are fundamental to advancing scientific knowledge and making evidence-based decisions in various fields of expertise. This careful and informed approach to selecting and implementing review methodologies contributes significantly to the quality and relevance of academic research, driving scientific progress in various areas of knowledge.

Finally, the systematic process is a critical component of many review types, constituting one of the central and vital aspects of ensuring the rigor of scientific research in different contexts.

In this sense, Ferenhof and Fernandes (2016) proposed the Systematic Search Flow (SSF) method, which involves careful planning, systematization, and pre-established criteria for data inclusion and exclusion, aiming to eliminate biases, ensure the reproducibility of research, and mitigate the complexity and diversity of scientific production. The SSF method has been helping researchers since 2016 to conduct and report the literature review process. In this current research, we evolved the SSF Method by validating its use as a basis for other review types and incorporating the support of generative artificial intelligence to conduct the review process.

3 Methodology

In our quest to achieve this study's objectives, we took a systematic approach that blended inductive and deductive methods, as suggested by Creswell and Creswell (2017). We began with a narrative review, guided by the recommendations of Booth et al. (2016) and Ofori-Boateng et al. (2024), to explore the different families and types of literature reviews highlighted by Sutton et al. (2019). Liberati et al. (2009) and Dehesh (2025) noted that a narrative review involves critically analyzing studies to weave the results into a cohesive story.

It is essential to highlight that the SSF method we developed was created before the emergence of generative AIs. Technological advancements continuously reshape research landscapes, making it vital for methodologies to evolve and incorporate these innovations to remain relevant and practical in contemporary contexts.

We employed the inductive method (Creswell & Creswell, 2017) to derive general guidelines from specific observations in the literature, capturing universal empirical results through a critical analysis of various studies. Then, we utilized the deductive method (Creswell & Creswell, 2017) to integrate these general guidelines into the updated framework of the SSF method, testing and refining its components along the way. This dual approach ensured that our new proposal was firmly rooted in empirical evidence and theoretical rigor.

The procedures we adopted in this methodology are designed to ensure our study is repeatable and reliable. In the following sections, we will present the results and discussions stemming from the narrative review in Section 4. Section 5 will outline our proposal for updating the SSF method. Additionally, we will clearly illustrate how the information we gathered was utilized, employing deduction and induction in developing our new proposal.

This study describes the updated SSF method's practical application in detail, showcasing each step of the systematization and providing clear evidence of its implementation. This thorough approach addresses doubts about whether the systematization was applied in practice, confirming the proposed method's effectiveness.

4 Results

4.1 Systematic Search Flow

Systematic search is a scientific method that eliminates biases by planning and systematizing searches in a scientific database for original studies, synthesizing the results in a bibliographic portfolio. It can be performed by all types of literature review mentioned above. However, following the rules and procedures for each review is necessary. In addition, they are the established strategies that define the appropriate criteria for the inclusion and exclusion of data in a prior, transparent, and objective manner. When used for integrative review, it can be performed by only one researcher; when there is more than one, the documents found can be divided among them for reading and analysis, as long as it is clearly described in the strategy (Ferenhof & Fernandes, 2016, p. 2).

It should be noted that all literature reviews presented can start or be based on systematic searches, but the analysis of the documents returned has its peculiarities, for example: in the Systematic Literature Review, there is a need for two or more researchers; Everyone should read the articles and discuss which ones will or will not be included in the bibliographic portfolio, thus following a research protocol, which is not mandatory in Integrative Review, Scoping Review, and others. The researcher must understand and strictly follow the steps proposed by the method chosen for the literature review. This methodological adherence guarantees the integrity of the process and ensures that the work can be legitimately classified and recognized within the selected approach.

The SSF method stands out as a support for all presented reviews, emphasizing a systematic and procedural approach. Its construction was inspired by questions, inquiries, and requests for assistance from students, colleagues, researchers, and commercial partners. The goal was to guide a possible pathway for scientific research to become more practical and agile. Therefore, the SSF method is aligned with the ideas presented by Gough et al. (2017) and Gilbert (2025).

Incorporating Generative Artificial Intelligence (AI) into the Systematic Search Flow (SSF) method directly addresses key limitations identified in existing literature review methodologies. According to Gough et al. (2017), “traditional approaches to literature reviews, whether systematic, integrative, or narrative, often suffer from inefficiencies in search strategy formulation, manual article selection, and synthesis of results." The updated SSF method addresses these issues by automating and optimizing key stages of the review process, including the refinement of all steps of the SSF method, which are detailed in sections 4.2 to 4.6.

Thus, enhancing the SSF method with AI aims to improve the repeatability of the research process and reduce bias. This assertion is based on a critical analysis of the limitations identified in the previous version of the SSF method and traditional literature review methods, which often rely on the researcher's subjectivity in selecting and interpreting data. Automating stages such as search queries, document filtering, content summarization, and thematic synthesis allows for a more objective approach, minimizing the influence of individual biases that may affect the selection of relevant studies. According to Olalekan Kehinde (2025), strategies can mitigate bias, including oversampling underrepresented groups or using domain-specific knowledge to balance datasets.

However, as previously mentioned, it is crucial to recognize that introducing AI may also introduce new biases, such as the influence of non-representative data used for training algorithms. Another concern concerns the dependence on automated tools, which may lead to neglecting nuances and expertise that a human researcher could identify. Therefore, a critical reflection on the use of AI in research, including its limitations and potential biases, must be accompanied by the use of AI (Olalekan Kehinde, 2025).

The proposal to update the SSF method should be viewed as a tool that complements rather than replaces the researcher's critical judgment. Science is a multifaceted practice that benefits from considering multiple perspectives. To ensure that the approach remains balanced, it is essential to include a discussion about the biases introduced by AI and the ethical implications of its use.

Furthermore, researchers need to engage in critical evaluation by the scientific community so that the proposed method and the other analyzed methods can be continuously refined, incorporating feedback and empirical evidence to enhance their effectiveness and comprehensiveness.

Compared to other literature review methodologies, the updated SSF method is innovative and scalable. While traditional systematic reviews follow rigorous inclusion criteria and PRISMA guidelines (Moher et al., 2009; Dehesh, 2025), they lack an integrated mechanism to optimize search strategies dynamically or assist in synthesizing results. Scoping reviews (Arksey & O'Malley, 2005; Bradbury-Jones et al., 2022) and integrative reviews (Whittemore & Knafl, 2005; Nguyen et al., 2024) provide a broader perspective on a research topic. However, they require extensive manual processing to ensure comprehensive coverage and synthesis. The updated SSF, on the other hand, streamlines the literature review workflow by embedding AI-based automation tools that enhance efficiency and scalability. This positions SSF as a hybrid model, combining the systematic rigor of traditional reviews with the adaptability and computational power of AI-driven methodologies. However, it is essential to note that while the AI-augmented SSF offers clear methodological advancements, its empirical validation across different research contexts remains an open avenue for future studies. Further comparative studies are necessary to assess the method's performance across various academic disciplines and its effectiveness relative to traditional, non-AI-assisted methodologies.

The authors of this article developed the Systematic Search Flow (SSF) method based on their analysis of articles, methods, frameworks, and best practices for literature reviews and their results.

It provides a step-by-step process that can be applied to any literature review to develop a bibliographic portfolio.

However, the six systematic review principles proposed by Jesson et al. (2011) were a foundation for structuring the method. Table 2 presents the structuring of the SSF method in parallel with these principles.

Table 2

SSF Method Structure

Structuring the SSF Method	Jesson's Principles, Matheson & Lacey (2011)
1) **Strategy**	1) Mapping the field through a scoping review
2) **Database query**	2) Exhaustive research
3) **Organize the bibliographies** 4) **Standardize the selection of the articles**	3) Quality assessment, which includes reading and 4) selection of works
5) **Composition of the article portfolio** 6) **Data consolidation**	5) Data extraction refers to collecting and capturing relevant data into a pre-designed spreadsheet.
7) **Summary and reporting**	6) Synthesis, which comprises the synthesis of data 7) extracted to show what is known and provides the basis for establishing the unknown
8) **Write**	8) To write.

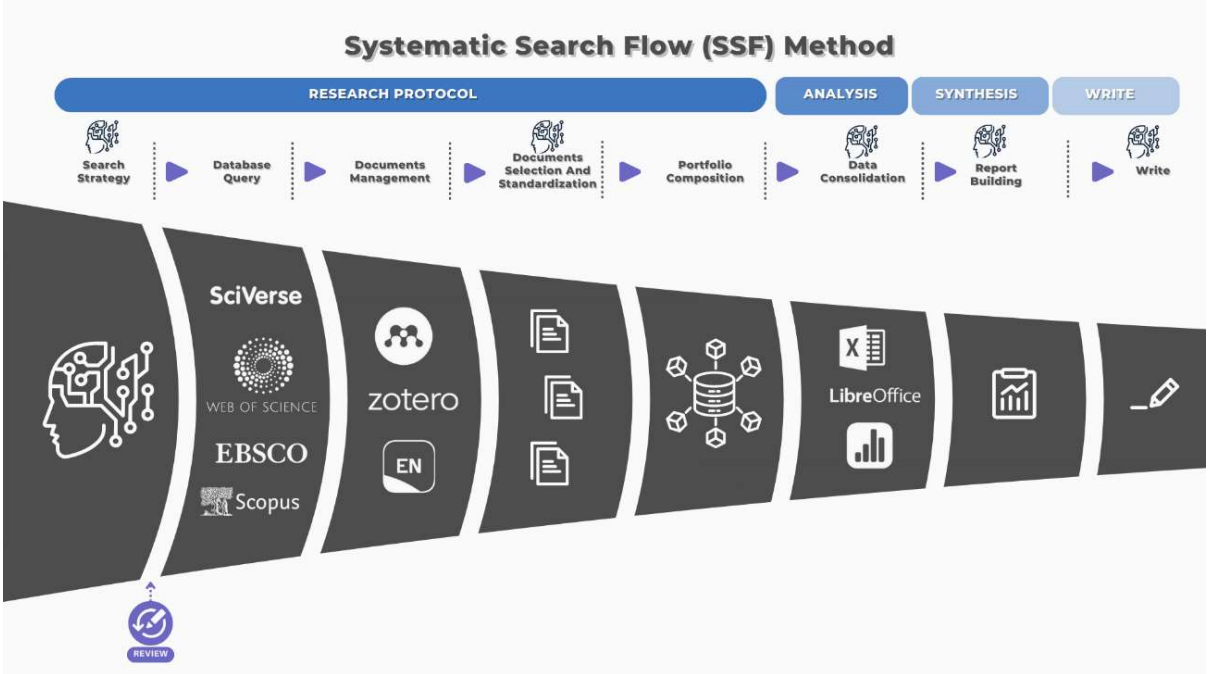
Note. Source: Elaborated by the Authors (2025).

The SSF method was developed to systematize the search process in scientific databases, ensuring repeatability and minimizing researcher bias. Thus, the SSF can be applied in systematic and integrative reviews, depending on the strategy defined for its use.

SSF method consists of 4 phases and eight activities, as seen in Figure 2.

Figure 2

Representation of the Systematic Search Flow method



Note. Source: Elaborated by the Authors (2025).

To facilitate the method, understanding each of its phases and respective activities are detailed below, accompanied by guidelines for their correct execution. This version of the method highlights the use of Generative Artificial Intelligence in its phases, as described below.

Its use is based on GPT prompts. According to Brynjolfsson et al. (2023), GPT stands for "Generative Pre-trained Transformer" (Pre-trained Generative Transformer, in Portuguese). This pre-trained generative transformer is a language model based on an extensive database that uses natural language processing to generate human-like responses based on user-provided prompts.

A prompt in GPT is a command or text that the user sends to the model, guiding it on what to respond to and acting as a guide for generating more accurate responses.

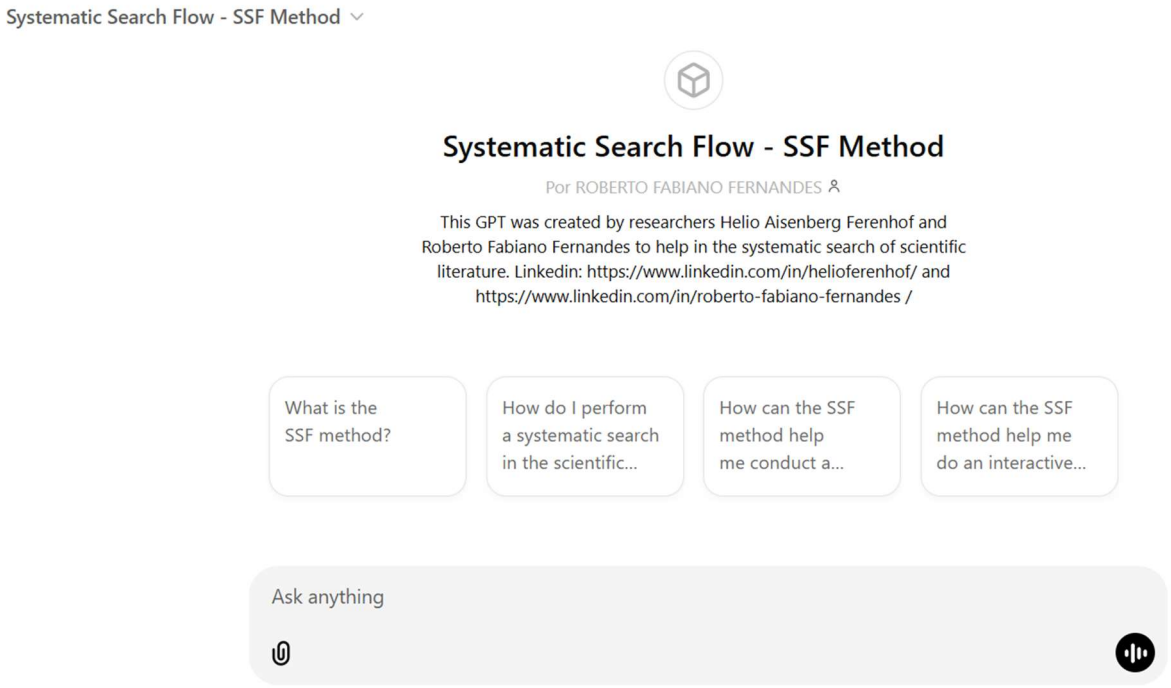
In this sense, the authors created and made available a specialized and personalized version of the ChatGPT language model from OpenAI.

The link to access the specialized GPT on SSF is https://chatgpt.com/g/g-JICuw2H0e-systematic-search-flow-ssf-method.

It is worth noting that the AI built by the authors is constantly updating and improving its knowledge base.

Figure 3

Generative AI created by the authors of the article



Note. Source: Elaborated by the Authors (2025).

4.2 Definition of research protocol – Phase 1

Phase 1 is intended to define the research protocol, including developing a set of rules and configuration parameters for the research process and determining the characteristics according to your needs.

It consists of five activities: 1) define the search strategy; 2) consult the database; 3) organize the bibliographic portfolio; 4) standardize the selection of articles; and 5) compose the portfolio of articles described below. It is worth noting that these activities align with the principles that Jesson et al. (2011) presented in Table 1 – Appendix 1.

Activity 1 consists of the search strategy, covering procedures defining the search mechanisms and retrieving online information.

Another relevant factor when establishing the search strategy is the definition of some delimitations associated with the search query, such as the delimitation of the type of document (article, review article), document language (Portuguese, English), and the publication period. If the researcher uses one of these previous filters, they must know if the same filter exists in all the databases they are searching. If it is only in one database, there is no need.

In activity 2, database query, the researcher parameters the search (query) through a computer interface and executes it in the previously selected databases according to the formulated strategy.

It is recommended that the researcher activate an alert for new publications related to the search query for each database searched. This will make it easier to update the search. Another important recommendation is to record the date the search was conducted, as this should be mentioned at the time of the search.

Activity three is intended to organize the bibliographies, separating the responses from each search. It uses bibliography and reference organizing software to automate and speed up the process of searching, filtering, counting, storing, and inserting the bibliography in the text as a citation and a bibliographic reference. You can use EndNote ®, Mendeley ®, Zotero ®, and BookEnds ®, among others. The choice of bibliographic organizer is up to the researcher and/or their institution. Search.

Activity 4, standardizing article selection, involves creating selection filters. In this phase, each article's titles, abstracts, and keywords are read, and those that align with the search theme are selected. Other filters, such as language and area of concentration, can be applied if they align with the pre-established strategy.

Finally, in Activity 5, the portfolio of articles is compiled. This activity involves reading all articles, allowing further filtering to exclude those not adhering to the topic under investigation. This activity seeks to eliminate any document indicated in the previous phase because it contained a term in the keyword, title, or abstract that referred to the researched topic.

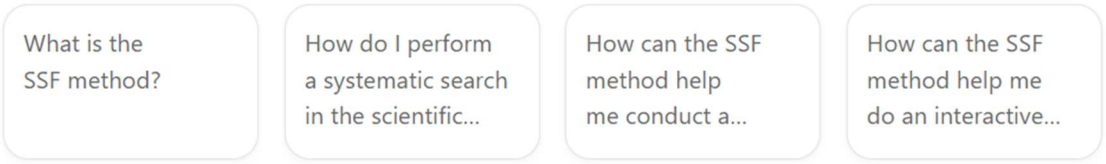
This article presents a significant innovation in the SSF method of Ferenhof and Fernandes (2016), improving its effectiveness and applicability. This novel approach introduces Generative Artificial Intelligence, representing a substantial advance concerning conventional methodologies.

Its use in the following activities stands out:

- Search Strategy: In this, generative AI can help formulate more refined search strategies, suggesting search terms and combinations that expand or refine the results.

Figure 4

Generative AI created by the authors of the article



Note. Source: Elaborated by the Authors (2025).

Document Standardization and Selection: In this, Generative AI can be used to help identify inclusion and exclusion criteria, as well as review and standardize abstracts and titles for more effective selection. Therefore, building a command prompt in GPT with the guidelines shown in Figure 5 is advisable.

Figure 5

Command prompt example

Prompt:

> *"I need to conduct a systematic review on [RESEARCH TOPIC]. Please help me follow these steps:*
> ***Inclusion Criteria:** The documents must be published between [START YEAR] and [END YEAR], must be in [LANGUAGE], and must be peer-reviewed articles or theses/dissertations in [SPECIFIC FIELD OF STUDY].*
> ***Exclusion Criteria**: Exclude articles not peer-reviewed, duplicate publications, and studies outside the specific topic scope, such as [RELATED TOPIC].*
> ***Keywords:** Use the following keywords for the search: [KEYWORDS]. Make sure to include synonymous variations and use logical operators like "AND," "OR," and "NOT."*
> ***Quality:** Prioritize higher-quality studies, giving preference to systematic reviews or studies with higher impact in the field.*
> ***Final Output:** Export the filtered results and organize them into a standardized list with the following fields: title, author, year, abstract, and link to the entire document. [-]"*

Note. Source: Elaborated by the Authors (2025).

Incorporating this new technique expands the scope of the original method and offers solutions to previously used manual methods.

Once the bibliographic portfolio has been composed, the Analysis phase begins.

4.3 Analysis – Phase 2

Phase 2 is intended to consolidate the data (Activity 6). In this phase, some data are combined, such as the most cited scientific articles and authors, the year in which the most publications on the research topic occurred, the definition of the constructs studied, and the weaknesses and strengths of the object of study. After creating the portfolio of articles, it is recommended that some computational tools be used to combine and group the data collected.

It is at this stage that the researcher becomes qualified to interpret the data and has the opportunity to identify existing knowledge gaps and suggest guidelines for future research on the topic of interest (Ganong, 1987; Mendes et al., 2008; Botelho et al., 2011; Silva, 2025), as well as obtain bibliometric data. An analysis and synthesis matrix, called the knowledge matrix, is recommended (Ferenhof & Fernandes, 2016).

One of the analyses considered pertinent by several authors concerns the general research data, such as the number of publications found in each database, the number of publications available for download, and the total number of publications that comprised the portfolio of articles analyzed (bibliometric analysis). Pilkington and Meredith (2009) define it as being, respectively:

a) The use of writing, publishing, and literature standards through the application of various statistical analyses and

b) The research technique aims to analyze the bibliography's size, growth, and distribution in a given field of knowledge.

It is worth noting that graphs and figures can be visually appealing, but what is their value? What do they contribute to the objective of the article? What analysis can be made of these graphs, figures, and tables from bibliometrics? The focus should be on value. Bibliometric data only presents part of how science is carried out; therefore, use should not be the sole focus of publications; it should be avoided. However, when a purpose and an analysis describe the numbers, graphs, figures, and tables can add value to the work. In this case, yes, it should be used.

In short, the analyses help to establish relationships and significance between search terms, systematically identifying a set of factors relevant to the research.

AIs stand out in the following activities:

- Data Consolidation: AI can summarize large volumes of textual data, identify patterns, themes, or key concepts in selected documents, and generate preliminary insights from the data.

Figure 6

Command prompt example

Prompt:

> *"I need to consolidate a large volume of textual data from various articles and documents on [RESEARCH TOPIC]. Please follow the steps below to carry out this consolidation effectively:"*
> ***Summarization:*** *For each provided document, generate a concise summary highlighting the main ideas, results, and conclusions. Focus on key concepts and the most important findings of each text.*
> **Pattern and Theme Identification:** *Analyze the documents for recurring patterns or emerging themes. List the main themes, such as recurring theories, standard methodologies, or areas of consensus in the field of study.*
> ***Document Grouping:*** *Organize the documents into thematic groups based on the identified patterns and themes. Relate articles that address similar or complementary topics.*
> ***Extraction of Relevant Information:*** *Extract essential data from each document, such as author, year, primary citations, and relevant contributions. Organize this information into a standardized table or database.*
> ***Final Synthesis:*** *Generate a consolidated synthesis of the main themes, indicating gaps in research, areas of consensus, and possible directions for future investigations. This synthesis should be clear and objective, highlighting what has been learned from the data and which areas still need to be explored.*

Note. Source: Elaborated by the Authors (2025).

4.4 Summary – Phase 3

In this penultimate phase, called synthesis (activity 7), the inferences on the topic are constructed and then condensed into reports. The synthesis of data allows the generation of new knowledge based on the results presented by previous research (Mendes et al., 2008; Polit & Beck, 2006).

The Knowledge Matrix, a tool developed by Ferenhof & Fernandes (2016), is used as a basis. It is intended to extract and organize data from article analysis. The matrix contains information on aspects related to the research topic, assisting researchers in interpreting and constructing the writing and integrative review (Botelho et al., 2011).

Also noteworthy is the use of Generative AI for Report Writing, which helps prepare reports, offers suggestions for organizing data clearly and logically, creates an outline of report sections, or even generates texts summarizing the review's main findings.

Figure 7

Command prompt example

Prompt:

> *"I need assistance drafting a detailed report on [REPORT TOPIC]. Please follow the guidelines below to structure the document clearly and cohesively:"*
>
> ***Introduction:*** *Write an introduction that provides an overview of the topic, highlighting its importance, the context, and the main objectives of the report. If applicable, include a brief review of relevant literature.*
>
> ***Executive Summary:*** *Write a concise executive summary synthesizing the report's main findings and recommendations. This summary should be clear enough for readers to understand the key points without reading the entire report.*
>
> ***Detailed Analysis:*** *Conduct an in-depth topic analysis, segmented into clear sections. Each section should cover a specific aspect of the topic, presenting data, theories, and practical examples. If necessary, illustrate the information with graphs, tables, or diagrams.*
>
> ***Identification of Patterns and Trends:*** *AI can be used to identify emerging patterns or trends in the analyzed data, pointing out possible correlations, significant insights, and their implications.*
>
> ***Conclusions:*** *Draft a conclusion summarizing the main findings and reflecting on the presented data's implications. Include practical recommendations for future actions or areas that require further research.*
>
> ***References and Citations:*** *Include a list of all sources used in the report, formatted adequately according to the requested citation style (APA, MLA, etc.).*
>
> ***Style and Tone:*** *The report should be formal, objective, and precise. However, it should also be fluid and easy to understand for the target audience.*

Note. Source: Elaborated by the Authors (2025).

4.5 Knowledge Matrix

There is no standard model for constructing the knowledge matrix. The combination of data and analysis is up to the creativity and interpretation of each researcher regarding the data systematically analyzed throughout the review process, remembering that the focus is the objective of the search.

An example of columns to be created for analysis is:

Table 3

Columns for analysis

Columns for analysis	
Author	Topic
Year	Disciplines
Title	Number of Disciplines
Journal	Theoretical Objective
Type of research (Empirical, Theoretical, Theoretical/Empirical)	Research Environment
References (Documents to be read, referred to in this document)	Number of Research Environments
Construct/Definition - However, many are	Research Methods
Author's Nationality	Number of Research Methods
Research Team	Results
Level of Analysis	Gaps
Theme	Quote

Note. Source: Elaborated by the Authors (2025).

However, it is up to the researcher to decide which columns should be added to the knowledge matrix. It is important to note that they should respond to the research objective and align with the second method if you decide to use, for example, content analysis, semantic analysis, bibliometrics, and so on.

Remember, as Ferenhof & Fernandes (2016, p. 560) stated, "the focus should be on value. Bibliometrics, for bibliometrics' sake, without purpose, should be avoided. However, when a purpose and an analysis is describing the numbers, graphs, figures, and tables can add value to the work". Remember the objective and the value to be delivered to the reader.

It is worth noting that the matrix must be shaped as desired by inserting the necessary information from the constructed manuscript. Other tabs in the matrix can be added according to the analysis needs.

4.6 Writing – Phase 4

Phase 4 is intended to consolidate the results through scientific writing. To this end, the objective of the literature review must be considered, as must the results of the analysis and synthesis. The knowledge matrix and reports must also be used to support the writing of the results.

Writing activity eight must consider the recipient, where the work will be published, and the research objective.

The researcher must investigate the journal or event to which they will submit; check if it is aligned with the objective of the study; meet the submission standards; check the language style, passive or active voice; prepare all documents for submission according to the standards; create the article's cover letter to the editor; and; remove any mention of authorship of the articles to ensure anonymous review. Finally, the resulting document must comply with the grammatical standards of the language in which the document was written (Ferenhof & Fernandes, 2016).

In the Final Draft, generative AI can improve writing, review grammar and style, and even suggest more effective ways to communicate results. In addition, it can help with formatting references and writing specific sections, such as the introduction and conclusion. Creating prompts for each part of the article or scientific paper is advisable.

Once the SSF method has been systematically presented, the final considerations of this study will be given.

Figure 8

Example prompt for using AI to aid scientific writing

Prompt:

You have been assigned to write a scientific article exploring the most effective innovation strategies employed by technology startups. Your paper should evaluate how these strategies "drive growth and commercial success." Use the following points to develop your work:

1. **Introduction:**
   a) Highlight the importance of innovation for the growth and sustainability of startups.
   b) Present preliminary examples of startups recognized for their disruptive innovations.
2. **Literature Review:**
   a) Discuss relevant theories and models of innovation.
   b) Explore case studies of success and failure in the context of startups.
3. **Methodology:**
   a) Describe the methods used to collect and analyze data on innovation strategies (interviews with founders, market data analysis, etc.).
4. **Analysis of Innovation Strategies:**
   a) Identify and discuss the most common innovation strategies in technology startups.
   b) Evaluate the effectiveness of these strategies based on specific outcomes (revenue growth, market expansion, investment attraction).
5. **Discussion:**
   a) Compare the approaches of different startups.
   b) Discuss how external factors (market, technology, regulations) influence the adoption of innovative strategies.
6. **Conclusion:**
   a) Summarize the most important insights from the study.
   b) Suggest how startups can implement or improve their innovation strategies to achieve long-term success.
7. **References:**
   a) List all academic sources and industry reports used to support your article.
8. **Document Format:**
   a) Your work must follow ABNT standards for formatting, citations, and references.
   b) Limit of 15 pages, including analyses, graphs, and references.

Note. Source: Elaborated by the Authors (2025).

It is necessary at this point to highlight an important caveat regarding the recommendation to use Generative Artificial Intelligence in academic and scientific writing. Academic writing is a crucial component of researchers' intellectual and professional development across all fields of knowledge. While advanced tools such as GPT (Generative Pre-trained Transformer) provide valuable support at various stages of the writing process, it is essential to recognize that they serve only as assistants. They do not replace the skills, critical judgment, and expertise that academics bring to their work. Academic writing is not merely a means of communication but also a way of thinking and exploring complex ideas. Researchers continuously dialogue with the academic community when they write, contributing new information, perspectives, and insights that can influence and shape their field of study. This process demands a deep understanding of the subject matter, the ability to critically analyze existing information, and the talent to formulate well-founded and compelling arguments.

AI tools like GPT are designed to process language and generate text based on patterns learned from vast datasets. They can suggest textual structures, assist with grammar and formatting, and even offer ideas for argument development. However, these tools cannot think independently or honestly understand the content they process. They cannot conduct deep analyses or engage with material beyond a superficial level.

Beyond the presented results, it is also worth noting the following:

The narrative review identified gaps and limitations in existing literature review methods, including the original SSF. By analyzing 44 types of reviews across seven distinct families, it was possible to better understand methodological variations and researchers' needs. This mapping revealed challenges, such as the lack of systematization in some approaches and the difficulty in screening and synthesizing large volumes of literature. As a result, the updated SSF has incorporated new review categories and generative AI tools to mitigate these challenges, ensuring greater efficiency and transparency in the review process.

Integrating generative AI into the SSF enhances the method by automating critical steps, reducing biases, and optimizing the efficiency of article search, selection, and synthesis. AI assists in formulating research strategies, automating document screening based on predefined criteria, and generating structured summaries. This reduces the researcher's manual effort and improves the traceability of results, making the literature review process faster and more reliable. Furthermore, AI improves scientific writing by suggesting coherent structures and providing grammatical reviews, ensuring higher quality and standardization in the resulting texts.

The updated SSF stands out by combining methodological rigor with AI support, unlike traditional methods that rely heavily on researchers' manual efforts. While conventional systematic reviews, for example, require a significant time investment in building search strategies and selecting articles, the updated SSF automates these steps, ensuring speed without compromising accuracy. Additionally, traditional methods, such as narrative reviews, often lack transparency and replicability—problems mitigated by the new SSF's systematic structure and technological support.

Indeed, the new SSF is distinguished by its hybrid approach, which combines the systematic nature of traditional methods with the efficiency of AI tools. Unlike systematic or integrative reviews, which follow rigid protocols without computational optimization, the updated SSF offers flexibility and scalability by automating processes without compromising academic rigor. Moreover, by providing a detailed and adaptable framework, the method becomes accessible to different literature reviews, positioning itself as a more agile and structured alternative than conventional approaches.

5 Conclusions

Given the above, this study had a clear objective: to broaden the understanding of literature review methods and update the Systematic Search Flow (SSF) method, incorporating Generative Artificial Intelligence as a support tool. The results show that systematic search and the process structured by the SSF are applicable to different types of literature review and make research more transparent, more reliable, and replicable.

Enhancing the SSF method with AI significantly advances how literature reviews are conducted. Artificial Intelligence does not replace the researcher but automates repetitive processes, speeds up the search for and organization of information, and improves the structuring of scientific writing. Thus, by using the SSF combined with AI tools, researchers can:

a) Save time when searching for and organizing bibliographic materials.

b) Increase precision when defining search terms and inclusion/exclusion criteria.

c) Guarantee traceability and transparency at every stage of the process.

d) Improve the quality of writing by using AI to structure and revise text.

This approach reduces uncertainty for researchers and makes the review more objective and efficient. For reviewers, the updated SSF makes assessing the quality and validity of studies easier, ensuring more excellent reliability in the results.

For the academic community, the method strengthens the replicability of studies and contributes to the evolution of scientific knowledge.

However, it is essential to emphasize that AI should not be used uncritically. The researcher remains primarily responsible for interpreting the data, critically analyzing the literature, and making scientific arguments. Indiscriminate use of AI can result in biases, the inclusion of irrelevant references, and a loss of the research's analytical depth. Therefore, it is recommended that researchers use AI as support but always manually validate the results generated.

Finally, this study offers a practical and up-to-date method of conducting literature reviews with greater efficiency and methodological rigor. Incorporating Artificial Intelligence into SSF optimizes the process and expands the possibilities for innovation in academic research. Even so, there are limitations: other literature review methods were not considered, and AI does not replace the need for a critical and careful examination of the information. However, a systematized search can complement other review approaches, making the research more structured and reproducible.

In this way, this study is not just a theoretical contribution but a practical and applicable solution for researchers, teachers, and students who wish to conduct literature reviews more efficiently, transparently, and reliable.

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APPENDIX 1 – Table 1

Family	Types of Reviews	Definitions	Process Description
Traditional Reviews	Critical Review	It evidences extensive research and critical literature evaluation, going beyond simple description to include in-depth analysis and conceptual innovation, often culminating in formulating a hypothesis or model (Grant & Booth, 2009; Jensen, 2024).	It involves identifying a relevant topic, conducting a comprehensive literature search, critically evaluating the studies, and synthesizing the evidence to highlight gaps, controversies, and theoretical and practical implications (Gough et al., 2017, Gilbert, 2025).
	Integrative Review	Also known as integrative synthesis is a comprehensive synthesis method that allows the integration of qualitative and quantitative data to deepen the understanding of phenomena. It facilitates critical analysis and conclusion, which is essential for literary reviews, providing more complete insights. The integrative review, prevalent in nursing research, accepts varied methodologies, including experimental and non-experimental studies (Tricco et al., 2016; Whittemore & Knafl, 2005, Nguyen et al., 2024).	"Exhaustive search to identify the maximum number of eligible primary sources, using two or more strategies. Sampling may be combined with exhaustive search if appropriate" (Higgins & Green, 2011; Alam et al., 2025).
	Narrative Review	A term used to designate the "conventional review" of literature, generally in contrast to a systematic review (Booth et al., 2016; Ofori-Boateng et al. 2024).	"It involves defining the theme, formulating inclusion and exclusion criteria, searching relevant databases, selecting and critically analyzing the studies found, culminating in synthesizing the results in a coherent narrative" (Liberati et al., 2009; Dehesh, 2025).
	State of the Art Review	Unlike approaches combining retrospective and current perspectives, it focuses on contemporary issues. Provides new perspectives on the topic and identifies areas for future research (Grant & Booth, 2009; Jensen, 2024).	"It involves defining the theme, comprehensive review of the literature in databases, application of inclusion and exclusion criteria, critical analysis of the selected studies, and writing a report summarizing the main contributions and trends in the area" (Peters et al., 2015).
Quick Reviews	Quick Review	"A type of knowledge synthesis in which the systematic review process components are simplified or omitted to produce information in a short period" (Tricco et al., 2015).	"It consists of defining a specific question, performing a quick search in relevant databases, applying inclusion and exclusion criteria, critically analyzing the selected studies, and synthesizing the findings concisely and efficiently"

Family	Types of Reviews	Definitions	Process Description
			(Munn et al., 2018; Sampaio et al., 2024).
	Rapid Evidence Synthesis	"A faster and less rigorous process than a full systematic review, but more rigorous than ad hoc searches. It combines key informant interviews and targeted literature searches to produce a report in a few days or weeks" (Booth et al., 2016; Ofori-Boateng et al. (2024)).	"It involves formulating a clear research question, conducting a systematic search of relevant literature, applying inclusion and exclusion criteria, and rapidly analyzing selected studies to provide evidence efficiently" (Tricco et al., 2016).
	Rapid Realist Synthesis	"Applies a realist approach to knowledge synthesis to produce a product that is useful to policymakers when responding to emerging and/or time-sensitive issues with limited time and resources." (Booth, 2016, edited; Ofori-Boateng et al., 2024)	"It consists of defining specific questions about how and why interventions work in different contexts, conducting a targeted search of the literature, applying inclusion and exclusion criteria, and critically analyzing the data to understand the underlying mechanisms and contextual conditions" (Pawson et al., 2005; Nyawira Githaiga et al., 2025).
Qualitative Reviews	Evidence Synthesis	Qualitative evidence synthesis is the broad term popularized within the Cochrane Collaboration for the methods used to conduct systematic reviews of qualitative research evidence. It is also known as: Qualitative Systematic Review is the "Method for integrating or comparing the findings of qualitative studies. Searching for 'themes' or 'constructs' that reside in or cross individual qualitative studies" (Grant & Booth, 2009; Jensen, 2024).	"It consists of formulating specific research questions, conducting a systematic search of the relevant literature, applying inclusion and exclusion criteria, and integrating qualitative evidence to generate insights into practices and policies" (Hannes & Macaitis, 2012).
	Interpretative Meta-Synthesis	A synthesis of qualitative studies results in a deeper understanding of the phenomena studied that can then be used to develop theory and inform Practice and policy. The methodology is designed to enable a synergistic understanding of phenomena that draws on the diversity of settings, participants, and qualitative traditions (Sutton et al., 2019)	"It involves formulating research questions, conducting a systematic search in the literature with a qualitative focus, selecting and critically analyzing relevant studies, and synthesizing qualitative evidence to identify patterns and generate new understandings" (Sandelowski & Barroso, 2007).
	Meta Synthesis	Qualitative meta-synthesis is a purposeful and coherent approach to analyzing data from qualitative studies. It allows researchers to identify a specific research	"It involves defining a research question, conducting a systematic search in the literature, with a qualitative focus, selecting and

Family	Types of Reviews	Definitions	Process Description
		question and then search for, select, evaluate, summarize, and combine qualitative evidence to address the research question.	critically analyzing relevant studies, and synthesizing the evidence to extract new interpretations and insights into the phenomenon studied" (Dixon-Woods et al., 2006).
	Structure Synthesis	The 'best' approach fit' (framework synthesis) applies new methods to systematically identify theories and create a priori framework for synthesizing qualitative evidence. Furthermore, it uses an innovative combination of existing quality assessment, analysis, and synthesis methods to complete the review process (Carroll et al., 2012). Framework synthesis: An evidence product that 'uses an existing framework of stakeholder consultation or literature as a template for data extraction and analysis. Data not adequately explained by the existing framework are analyzed inductively to create themes that populate a revised framework' (Booth 2016; Ofori-Boateng et al. (2024)).	"It involves identifying a research question, conducting a systematic search of the relevant literature, applying a theoretical framework to organize and analyze the data, and synthesizing the evidence to develop a structured understanding of the phenomenon under study" (Ritchie et al., 2013).
	Meta Aggregation	The qualitative evidence synthesis methodology is most transparently aligned with accepted conventions for conducting high-quality systematic reviews. Meta-aggregation is based on pragmatism and transcendental phenomenology.' In a meta-aggregative review, 'the reviewer avoids reinterpretation of included studies but instead accurately and reliably presents the findings of the included studies as intended by the original authors.' (Lockwood Munn & Porritt 2015)	It involves formulating research questions, systematically searching the qualitative literature, selecting and critically analyzing relevant studies, and synthesizing qualitative evidence to identify common themes and generate a comprehensive understanding of the phenomenon studied (Sandelowski & Barroso, 2007).
	Meta Ethnography	According to Tricco et al. (2016a), this method focuses on integrative induction and interpretation, overcoming the simple aggregation of data and facilitating the transfer of ideas between different studies.	The search process in a Meta-Ethnography involves defining a research question, conducting a systematic search in the ethnographic literature, selecting and critically analyzing relevant studies, and interpreting the data to build new understandings about the phenomenon under study (Noblit & Hare, 1988; Thoen et al., 2024).

Family	Types of Reviews	Definitions	Process Description
	Meta Interpretation	The meta-interpretation approach to the interpretive synthesis of qualitative research tries to maintain an interpretive epistemology congruent with most primary qualitative research (Weed, 2005).	It involves formulating research questions, conducting a systematic search of the qualitative literature, selecting and critically analyzing relevant studies, and interpreting the evidence to understand how different contexts influence the meanings of phenomena (Hammersley, 1997).
	Meta Narrative Review	A meta-narrative review seeks to illuminate a heterogeneous subject area by highlighting the contrasting and complementary ways researchers have studied the same or similar topics. This approach examines historically how certain research traditions have developed over time and influenced the types of questions asked and the methods used to answer them (Wong et al., 2013).	It involves defining a research question, systematically searching relevant literature, critically analyzing narratives from different disciplines, and synthesizing evidence to identify how narratives shape understanding of the phenomenon under study (Greenhalgh et al., 2016; Brignardello-Petersen et al., 2025).
	Meta-Study	She is also known as Meta-Theory. The Meta-Study derives questions from the three components to which it subjects the data set and inductively generates a series of theoretical statements concerning it (Barnett-Page and Thomas, 2009; Sutton et al., 2019). Its three components are 1) Meta-data-analysis, Analysis of the results or findings of previous studies; 2) Meta-method, Analysis of the methods used in the studies; 3) Meta-theory, Analysis of the theories that underpin the studies (Barnett-Page and Thomas, 2009; Sutton et al., 2019).	The search process in a Meta-Study involves formulating research questions, systematically searching the literature on qualitative research methods, selecting and critically analyzing relevant studies, and synthesizing the evidence to understand the approaches and methodologies used (Harrison et al., 2004).
	Meta Summary	Meta-summary: a new and original approach to dealing with a collection of qualitative studies... the frequency of each outcome is determined and the greater the frequency of a given outcome, the greater its validity.' (Barnett-Page & Thomas, 2009)	It consists of defining a research question, conducting a systematic search in the qualitative literature, selecting and critically analyzing relevant studies, and synthesizing the evidence to summarize the findings and identify emerging patterns (Sandelowski & Barroso, 2003).
	Thematic Synthesis	The thematic synthesis is also known as thematic analysis. Thomas and Harden (2008) developed a synthesis method called "thematic synthesis," which combines and adapts approaches from meta-ethnography and grounded theory.	It involves defining a research question, conducting a systematic search in the qualitative literature, selecting and critically analyzing relevant studies, and extracting themes to synthesize the evidence

Family	Types of Reviews	Definitions	Process Description
		This method arose from the need to conduct reviews that addressed questions regarding the need, appropriateness, and acceptability of interventions and their effectiveness without compromising the critical principles of systematic reviews. They applied thematic synthesis to review barriers and facilitators of healthy eating among children.	and generate new interpretations (Thomas & Harden, 2008).
Mixed Methods Reviews	Meta narrative review	"It seeks to illuminate a heterogeneous subject area by highlighting the contrasting and complementary ways researchers have studied the same or a similar topic. The metanarrative review looks at how particular research traditions have unfolded over time and shaped the types of questions asked and the methods used to answer them." (Wong et al., 2013)"	It consists of identifying a research question, conducting a systematic search in the literature of different disciplines, critically analyzing the narratives, and synthesizing the evidence to explore how different contexts and theories influence the understanding of a phenomenon (Greenhalgh et al., 2016; Brignardello-Petersen et al., 2025).
	Realistic Synthesis	"Applies a realist approach to knowledge synthesis to produce a product that is useful to policymakers when responding to emerging and/or time-sensitive issues with limited time and resources." (Booth, 2016)	It involves formulating a research question, systematically searching the relevant literature, critically analyzing selected studies, and synthesizing the evidence to understand how and why interventions work in different contexts (Pawson et al., 2005; Nyawira Githaiga et al., 2025).
	Critical Interpretative Synthesis	"It involves an iterative approach to refining the research question, searching and selecting from the literature (using theoretical sampling), and defining and applying codes and categories. It also has a specific approach to assessing quality, using relevance – that is, the likely contribution to theoretical development – rather than methodological characteristics as a means of determining the 'quality' of individual articles" (Barnett-Page and Thomas, 2009)	It involves defining a research question, conducting a systematic search in the qualitative literature, critically analyzing selected studies, and synthesizing evidence to interpret and understand the meanings and contexts of complex phenomena (Dixon-Woods et al., 2006).
	EPPI-Centre Review	Mixed methods synthesis encompasses studies that measure effectiveness (e.g., randomized controlled trials) and studies that investigate people's views and experiences (qualitative research) (Oliver, 2015). Evidence for Policy and Practice Information and Institute's Coordinating Center of Education, University of London,	It involves defining a research question, systematically searching the relevant literature, critically evaluating the selected studies, and synthesizing the evidence to inform policy and Practice based on a rigorous and transparent approach (Gough et al., 2017, Gilbert, 2025).

Family	Types of Reviews	Definitions	Process Description
		sought to combine methods for assessing the likelihood of causal relationships with those that advance understanding of different social perspectives within a third integrative review.	
	Bayesian Meta-Analysis	Qualitative and quantitative findings are synthesized with a priori distribution based on previous data or expert beliefs. The observed data are analyzed with these parameters, and the results are combined to form a posteriori distribution, treated as a point estimate, and with credible set limits to indicate uncertainties (Voils et al., 2009).	It involves defining a research question, conducting a systematic search of the relevant literature, collecting data from selected studies, and applying Bayesian methods to integrate evidence and update beliefs about the effects of interventions (Gelman & Hill, 2007).
	Narrative synthesis/textual narrative synthesis	As Tricco et al. (2016) described, narrative-textual synthesis extracts central theories or causal mechanisms identified across multiple studies. It explains the body of research by narrating the field's evolution or mapping the domains covered by the literature in a given area. This method uses thematic analysis, conceptual mapping, and critical reflection on the synthesis process. Furthermore, Barnett-Page and Thomas (2009) describe narrative-textual synthesis as organizing studies into more homogeneous groups.	It involves defining a research question, systematically searching the relevant literature, selecting and critically analyzing studies, and synthesizing the evidence through a descriptive narrative highlighting themes, patterns, and relationships among the data (Popay et al., 2006).
	Mixed methods synthesis	"Any combination of methods where a significant component is a (usually systematic) literature review. Within a review context, it refers to a combination of review approaches, for example, combining quantitative with qualitative research or outcome studies with process studies" (Grant & Booth, 2009; Jensen, 2024).	It involves defining a research question, conducting a systematic literature search combining qualitative and quantitative data, critically analyzing the selected studies, and integrating the evidence to comprehensively understand the phenomenon under study (Fetters et al., 2013).
Specific Purpose Reviews	Scoping review	"Preliminary assessment of the potential size and scope of the available research literature. Aims to identify the nature and extent of research evidence (often including ongoing research)" (Grant and Booth, 2009; Jensen, 2024).	It involves defining a research question, systematically searching the relevant literature, selecting studies based on pre-established criteria, and synthesizing the evidence to map the extent and nature of existing research on a given topic (Arksey & O'Malley, 2005).

Family	Types of Reviews	Definitions	Process Description
	Mapping Review	"Mapping and categorizing existing literature from which to commission further reviews and/or primary research, identifying gaps in the research literature" (Grant and Booth, 2009; Jensen, 2024).	It involves defining a research question, systematically searching the relevant literature, selecting studies based on specific criteria, and viewing the evidence to identify gaps and patterns in research on a given topic (Munn et al., 2018; Sampaio et al., 2024).
	Systematic Review	Systematic reviews seek to incorporate one or more process elements; however, the result does not constitute a complete systematic review. Commonly carried out as academic activities by graduate students, these reviews recognize the limited resources required to perform a full systematic review, such as the participation of two independent reviewers (Grant; Booth, 2009; Munn et al., 2018; Jensen, 2024; Sampaio et al., 2024).	It involves defining a research question, systematically searching the relevant literature, selecting and critically evaluating studies, and synthesizing the evidence to provide a clear and structured view of the current state of knowledge in a given field (Petticrew & Roberts, 2006).
	Concept Synthesis	The synthesis method is used to identify concepts, points of view, or ideas. It focuses on identifying the defining attributes of concepts and can be used to develop a synthesis model (Tricco et al., 2016).	It involves defining a research question, systematically searching relevant literature, selecting and critically analyzing studies, and synthesizing evidence to develop a clear and integrated understanding of theoretical concepts in a domain (Meleis, 2011).
	Expert Opinion	"Review and synthesize expert opinion, texts, or policies on a given phenomenon" (Munn et al., 2018; Sampaio et al., 2024).	It involves identifying experts on the topic of interest, collecting their perspectives and insights through interviews or questionnaires, and qualitatively analyzing the information to inform practices and policies based on expert knowledge (Harrison et al., 2009).
	Systematic Search and Review	"It combines the strengths of critical review with a comprehensive search process. It typically addresses broad questions to produce a 'synthesis of the best evidence'" (Grant & Booth, 2009; Jensen, 2024).	It involves formulating a straightforward research question, conducting a comprehensive and systematic search of the relevant literature, rigorously selecting studies based on pre-defined criteria, and critically analyzing and synthesizing the evidence to answer the research question (Moher et al., 2009; Dehesh, 2025).

Family	Types of Reviews	Definitions	Process Description
Systematic Reviews	Methodological Review	"Examines and investigates current research methods and potentially their impact on research quality" (Munn et al., 2018; Sampaio et al., 2024)	It involves defining a research question, systematically searching the literature on research methods, selecting and critically analyzing relevant studies, and synthesizing the evidence to evaluate and compare methodological approaches in a given field (Gough et al., 2017; Gilbert, 2025).
	Technology Assessment Review	Technology Assessment Reports (TARs) assess the evidence presented by manufacturers on the clinical effectiveness and cost-effectiveness of their products. Manufacturers' systematic review methods will be critiqued, and the evidence review group may conduct its searches."	It involves defining a research question related to specific technologies, conducting a systematic search of the relevant literature, critically evaluating the evidence on effectiveness, safety, and cost, and synthesizing the information to inform policies and decisions about the adoption of technologies (Schmidt et al., 2016).
	Systematic Review	A systematic review seeks, in a structured manner, to identify, evaluate, and synthesize research evidence, following the guidelines established by the Cochrane Collaboration (Higgins & Green, 2011; Alam et al., 2025) or the NHS Center for Reviews and Dissemination (2009) (Grant & Booth, 2009; Jensen, 2024).	It involves formulating a specific research question, conducting a comprehensive and systematic search of the relevant literature, rigorously selecting studies based on pre-defined criteria, and critically analyzing and synthesizing the evidence to provide a clear and reliable answer to the research question (Higgins et al., 2019; Alam et al., 2025).
	Prognostic Review	To determine the overall prognosis of a condition and the relationship between specific prognostic factors and an outcome and/or to develop prognostic/prediction models and prognostic tests (Munn et al., 2018; Sutton et al., 2019).	It involves defining a research question focused on predictors of outcomes, conducting a systematic search of the relevant literature, selecting and critically evaluating studies that investigate prognostic factors, and synthesizing the evidence to identify and evaluate the effectiveness of these predictors (Steyerberg et al., 2013).
	Meta-analysis	It is a research review method that integrates evidence from multiple primary studies through statistical techniques, improving the objectivity and validity of the results obtained (Glass, 1976; Whittemore, 2005; Nguyen et al., 2024).	It involves defining a specific research question, conducting a systematic search of the relevant literature, selecting studies that meet inclusion criteria, extracting quantitative data, and applying statistical techniques to combine the results of these studies, providing an

Family	Types of Reviews	Definitions	Process Description
			overall estimate of the effect (Higgins & Green, 2011; Alam et al., 2025).
	Comparative Effectiveness Review	It describes the comparison between the relative benefits and harms of different therapeutic options rather than limiting itself to answering a specific question about the safety and efficacy of a single intervention (Slutsky, Atkins, Chang, Sharp, 2010; Sutton et al., 2019).	It involves defining a research question about the comparative effectiveness of different interventions, conducting a systematic search of the relevant literature, selecting and critically evaluating studies that compare these interventions, and synthesizing the evidence to inform decisions about treatments and health policies (Eddy et al., 2012; Dangle et al., 2024).
	Systematic Diagnostic Review	Systematic reviews of diagnostic test accuracy summarize the evidence regarding the accuracy of these tests. Ideally, these reviews also investigate potential causes of variation in results across studies, compare the performance of alternative tests, and provide the reader with a contextualized understanding of the evidence in the clinical setting (Leeflang Deeks & Takwoingi Macaskill, 2013; Sutton et al., 2019).	It involves defining a research question related to the diagnostic accuracy of tests or tools, conducting a systematic search of the relevant literature, selecting and critically evaluating studies that evaluate these diagnostic tools, and synthesizing the evidence to determine the effectiveness and applicability of the tests (Deeks et al., 2003).
	Network Meta-Analysis	A network meta-analysis begins with a network of evidence of relevant treatments and the clinical trials that have directly compared these treatments. The structure of this network is visualized through a diagram, where each node represents a specific treatment (or possibly a class of treatments), and each link or edge connects treatments that have been directly compared in one or more randomized controlled trials (RCTs) (Hoaglin et al., 2011; Sutton et al., 2019; Macabeo, 2024).	It involves defining a research question about comparing multiple interventions, conducting a systematic search of the relevant literature, selecting studies that provide data on these interventions, and applying statistical methods to integrate and compare the effects of different treatments in a network of evidence (Lumley, 2002; Dehesh, 2025).
	Review of Economic Assessments	An economic evaluation involves identifying, measuring, evaluating, and comparing the costs and outcomes of a technology relative to its relevant comparator (Sutton et al., 2019; Bettany-Saltikov & McSherry, 2024).	It involves defining a research question about the economic efficiency of health interventions, conducting a systematic search in the relevant literature, selecting and critically evaluating studies that analyze the costs and benefits of these interventions, and synthesizing the evidence to inform health policy and practice decisions

Family	Types of Reviews	Definitions	Process Description
			(Drummond et al., 2015; Sittimart et al., 2024).
	Systematic Review of Epidemiological Studies	A systematic review of epidemiological studies is a rigorous scientific approach used to synthesize evidence from previous research on a specific topic in epidemiology. The goal is to provide a comprehensive and unbiased overview of the results of existing studies, identify patterns and gaps in knowledge, and guide future research (Munn, 2018; Sampaio et al., 2024)	It involves defining a research question related to health patterns and determinants, systematically searching the relevant literature, selecting and critically evaluating epidemiological studies, and synthesizing the evidence to provide a comprehensive understanding of the relationships between risk factors and health outcomes (Higgins et al., 2011; Alam et al., 2025).
	Psychometric Review	"To evaluate the psychometric properties of a given test, typically to determine the reliability and validity of a specific test or assessment." (Munn et al., 2018; Sampaio et al., 2024)	It involves defining a research question about the psychometric properties of measurement instruments, conducting a systematic search of the relevant literature, selecting and critically evaluating studies that examine validity, reliability, and other psychometric aspects, and synthesizing the evidence to inform the choice and use of assessment tools (Terwee et al., 2007).
Review of Revisions	Umbrella Review	"It refers specifically to a review that compiles evidence from multiple reviews into a single accessible and usable document." (Grant & Booth, 2009; Jensen, 2024)	It involves defining a research question on a specific topic, conducting a systematic literature search to identify relevant systematic reviews and meta-analyses, critically evaluating these reviews, and synthesizing the evidence to provide a comprehensive overview of the current state of knowledge (Peters et al., 2015).
	Critical Review	"It aims to demonstrate that the author has extensively researched the literature and critically evaluated its quality. It goes beyond mere description to include the degree of analysis and conceptual innovation. It usually results in a hypothesis or model." (Grant & Booth, 2009; Jensen, 2024)	It involves defining a research question on a specific topic, conducting a systematic search of the literature to identify existing reviews, critically evaluating these reviews, and synthesizing the evidence to provide a consolidated and comprehensive view of the state of knowledge in an area of study (Gough et al., 2017; Gilbert, 2025).

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