Conducting Your Search

Overview

This step translates the search strategy you documented in your protocol into actual database queries, records the results systematically, and prepares a clean, deduplicated set of references for screening. Precision and documentation at this stage are critical: every decision you make must be recorded so that your search can be reported transparently in your final thesis.

Before You Begin

Confirm the following are in place before opening any database:

- ☐ Your research question is finalized
- ☐ Your inclusion and exclusion criteria are written down
- ☐ Your search strings are drafted for each database
- ☐ Your reference manager (Zotero) is installed and a new collection has been created for this review
- ☐ Your protocol has been reviewed by your supervisor

When your search is complete, use the **Search Quality Self-Assessment Checklist** to verify the search meets the standards of a rigorous systematic review. The checklist covers what to confirm before, during, and after searching.

Set Up Your Search Logbook

A search logbook is a running record of every search action you take. It is distinct from your protocol: the protocol records what you *planned* to do; the logbook records what you *actually did*. Both are required for a transparent, reportable review.

Your logbook should record, for every search:

Field	Example
Database	Business Source Ultimate (EBSCO)
Date of search	2026-02-23

Field	Example
Search string used	("sustainability reporting" OR "CSR disclosure") AND ("SME*" OR "small firm*") AND (Europe*)
Filters applied	Peer-reviewed; 2015–2025; English
Number of results	347

Field	Example
Notes	Reran with "non-financial reporting" added; 412 results

A simple spreadsheet works well for this purpose. The logbook feeds directly into the PRISMA flow diagram you will produce during write-up, so keep it current throughout.

Search Each Database

Execute your search strings in the order listed in your protocol. The recommended databases for business and management research at this institution are listed below, with notes on their particular strengths.

Database	Strengths	Access

BusinessSourceUltimate (EBSCO)	Largest business-specific database; coversmanagement, finance, marketing,	Via Research Database Index

JSTOR	Strong for older found ational literature (pre-2010); humanities and social sciencesincl u	Via Research Database Index

Google Scholar	Useful for supplementary grey literature and thesis searches; not suitable as a primary	Free; uses supplementary only

Search each database independently. Do not rely on a single database regardless of how many results it returns; coverage varies significantly between databases, and a study that appears in JSTOR may not be indexed in Business Source Ultimate, and vice versa.

Constructing Effective Search Strings

If your strings from the protocol stage need refinement when you arrive at a database interface, follow these principles.

Boolean Operators

Three operators control how search terms are combined:

- **OR** broadens your search: use it to connect synonyms and variant terms for the same concept. Example: `"remote work" OR "telework" OR "working from home"`
- **AND** narrows your search: use it to connect different concepts that must both appear. Example: `"remote work" AND "employee engagement"`
- **NOT** excludes terms: use sparingly, as it can unintentionally remove relevant records. Example: `"sustainability" NOT "environmental science"`

Phrase Searching

Enclose multi-word concepts in quotation marks to search for the exact phrase rather than the individual words. Example: `"knowledge management"` rather than `knowledge management`.

Truncation and Wildcards

Most databases support truncation with an asterisk (`*`) to capture variant word endings:

- `organis*` captures organise, organisation, organisational, organising

- `sustain*` captures sustain, sustainability, sustainable, sustained

Check each database's documentation, as wildcard characters vary: EBSCO uses `*` and `?`; Web of Science uses `*`, `?`, and `$`.

Controlled Vocabulary

Many databases use a subject thesaurus to index articles with standardised terms regardless of the words an author used. Using these terms improves recall significantly:

- **EBSCO Business Source Ultimate**: use the EBSCO Subject Thesaurus (available in the database interface under "Subject Terms")

Combining controlled vocabulary terms with free-text keywords in the same search string gives the best coverage. Example: `(DE "employee engagement") OR ("employee engagement" OR "work engagement" OR "job involvement")`

> For more information on constructing search queries, review Advanced Search Techniques and Making the most of Generative AI.

An Example

Research question: How do sustainability reporting practices in European SMEs influence investor decision-making?

Concept	Synonyms and variants

Sustainability reporting	"sustainability reporting", "CSR disclosure", "non-financial reporting", "ESG reporting", "integrated reporting"

European SMEs	"SME*", "small firm*", "small business*", Europe*, "European Union"
Investor decision-making	"investor behavior", "investment decision*", "capital allocation", "shareholder*"

Combined string:

```
("sustainability reporting" OR "CSR disclosure" OR "non-financial reporting" OR "ESG reporting")
AND
("SME*" OR "small firm*" OR "small business*")
AND
(Europe* OR "European Union")
AND
("investor behavior" OR "investment decision*" OR "capital allocation")
```

Testing and Iterating Your Search

Before committing to a final string, run test searches to calibrate your results.

- **Too many results (over 1,000):** Add an additional AND concept, apply stricter filters (date range, document type), or use more specific terminology
- **Too few results (under twenty):** Remove an AND concept, broaden synonyms using OR, check whether your terminology matches the vocabulary used in the field, or widen the date range
- **Zero results:** Check for syntax errors (mismatched quotation marks or parentheses), try individual concepts separately to identify which combination is causing the problem

A useful calibration technique is to take three to five papers you already know are relevant to your topic and verify that your search string retrieves them. If a known-relevant paper is not found, revise the string before proceeding.

Example: Iterating a Search

Initial search: `"government branding" AND communication`
Database: Web of Science
Results: 1,856 hits (too many to screen)

Refinement 1: Added language and document type filters (English, journal articles only)
Results: 1,626 hits

Refinement 2: Added date range filter (2000–2021)

Results: 1,553 hits (manageable for screening)

Documented in logbook: Three iterations recorded with reasons for each refinement.

This iterative approach is normal and expected; document each iteration in your search logbook rather than only recording the final string.

Export and Deduplicate References

Once you are satisfied with your search strings and have run them across all databases, export all results and combine them into a single reference set.

Exporting from Databases

Export records in **RIS format** (also called .ris or "citation export"), which is compatible with Zotero and all major screening tools. Export the full record including abstract, author, year, journal, and DOI. Do not export title-only records.

Importing into Zotero

1. In Zotero, create a new collection named for your review (e.g., "SLR — Sustainability Reporting SMEs")
2. Import each database export file: File → Import → select your .ris file
3. Repeat for each database export
4. All records will now appear together in the collection

Deduplication

The same article will often appear in multiple databases. Duplicates must be removed before screening begins, as screening the same paper twice distorts your counts and PRISMA numbers.

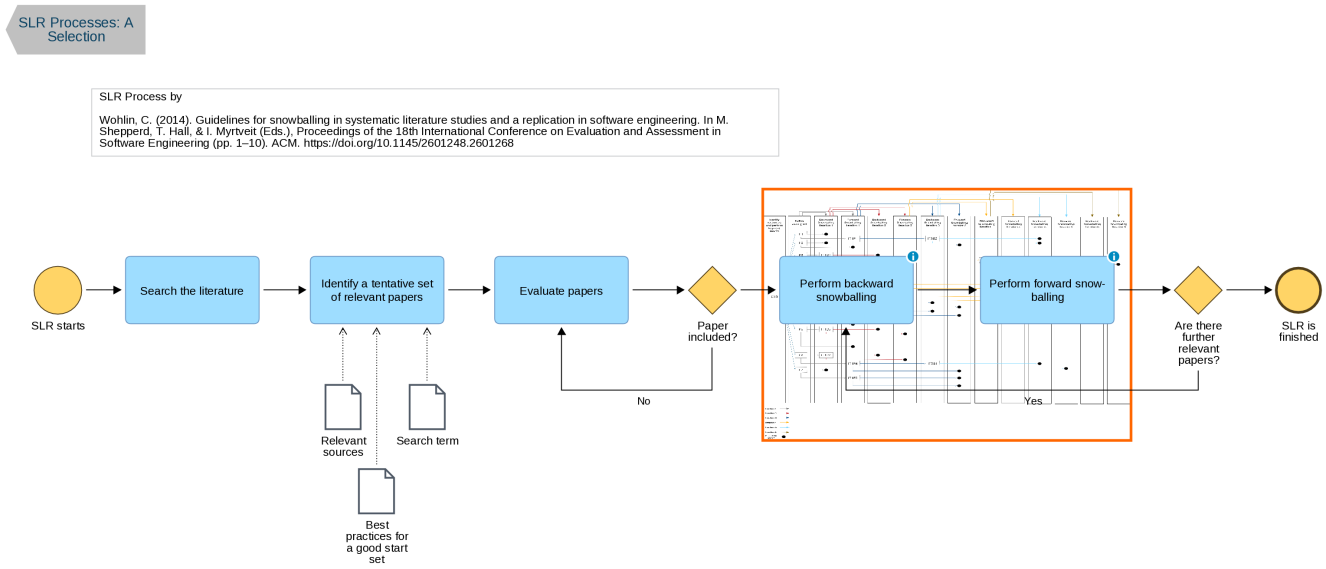
- **In Zotero:** select all items in your collection → right-click → "Find Duplicates." Zotero will flag probable duplicates for manual review and merging. Note that Zotero's deduplication is not perfect; a manual check is advisable for smaller datasets
- **In Rayyan or Covidence:** both tools include automatic deduplication when you upload your reference files, and this is often more reliable than Zotero for large datasets

Record the total number of records before and after deduplication in your search logbook. Both figures are required for the PRISMA flow diagram.

Supplementary Search Methods

Snowballing

Database searching alone may miss relevant studies published in venues not fully indexed or using terminology that differs from your search string. **Snowballing** addresses this by tracing citations forward and backward from a confirmed set of relevant papers.



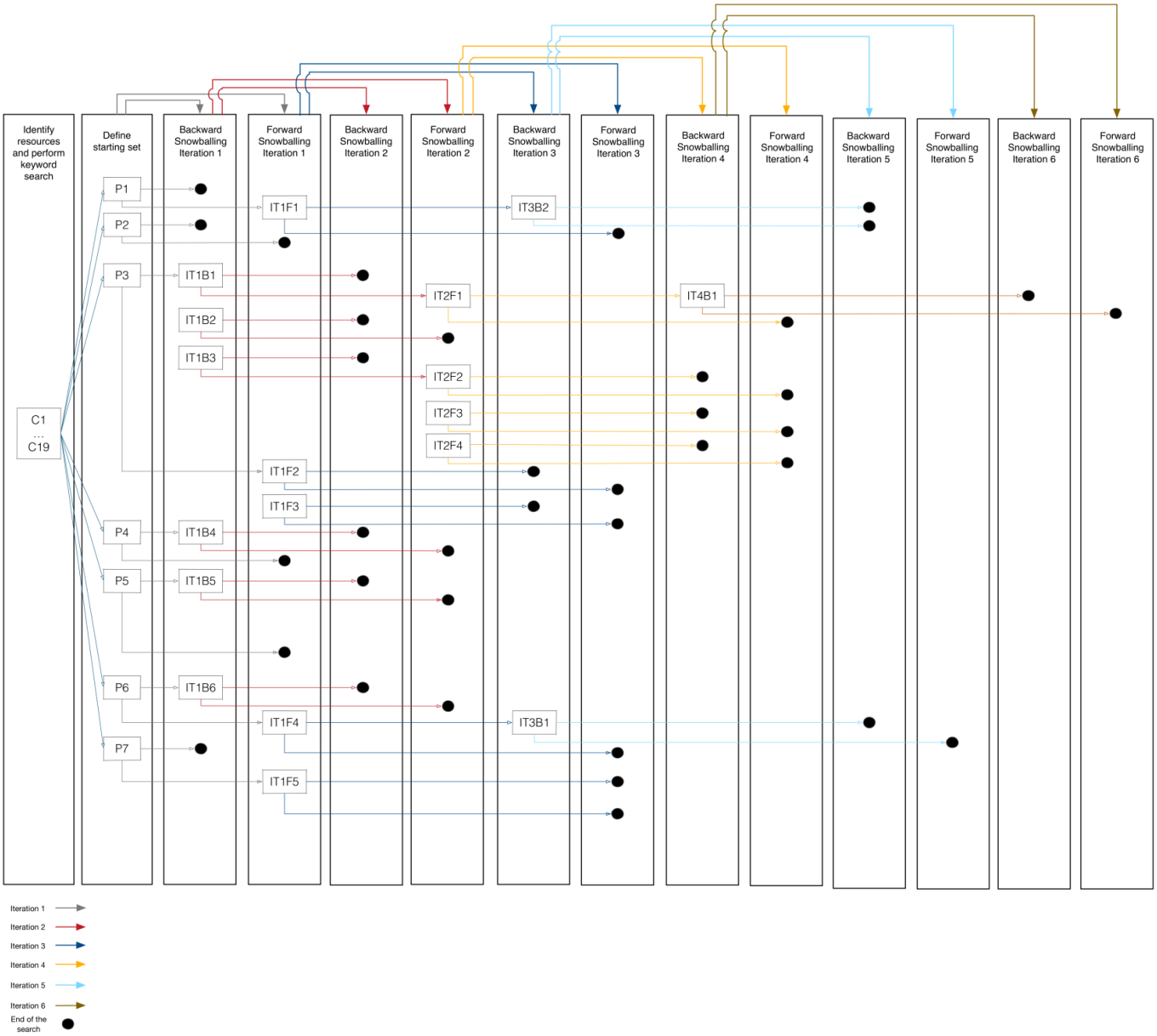
Backward Snowballing

Review the reference lists of your included studies to identify earlier work that was not retrieved by your database search. This is particularly valuable for foundational studies that established key concepts in your topic area.

Forward Snowballing

Use citation databases (Google Scholar, Web of Science, Scopus if available) to identify later papers that have cited an included study. This captures recent work that builds on established findings.

Illustration



When to Apply Snowballing

Snowballing is not a replacement for systematic database searching; it is a supplement applied after your initial screening phase when you have a confirmed set of relevant studies. Record all snowballing activity in your search logbook: the source paper, the direction (forward or backward), and the number of additional records identified.

For an indepth discussion of snowballing, see:

- Wohlin, C. (2014). Guidelines for snowballing in systematic literature studies and a replication in software engineering. In *Proceedings of the 18th International Conference on Evaluation and Assessment in Software Engineering* (pp. 1–10). ACM. doi:10.1145/2601248.2601268

Checking Grey Literature

Depending on your topic, relevant evidence may exist outside peer-reviewed journals. Grey literature includes reports from industry bodies, government agencies, NGOs, think tanks, and working papers. For business research, relevant sources include:

- **European Commission** (ec.europa.eu): policy documents, impact assessments, sector reports
- **OECD iLibrary** (oecd-ilibrary.org): working papers and statistical reports, free access
- **Statista**: industry statistics and market research (access via library portal)
- **SSRN** (ssrn.com): pre-prints and working papers in economics, finance, and management, free access

Grey literature is generally searched manually rather than by Boolean string. Record any sources checked and the date of search in your logbook, even if they yield no results.

Common Mistakes to Avoid

- **Searching without a documented string.** Running an undocumented search cannot be reported or replicated.
- **Using only one database.** No single database covers the full scope of business and management literature.
- **Forgetting to record the search date.** Database content changes; the date is required for your methods section.
- **Exporting only titles.** Abstracts are required for the screening stage; always export full records.

- **Deduplicating by eye only.** Manual deduplication of large datasets is unreliable; use a tool.

Revision #14

Created 23 February 2026 12:30:39 by Librarian

Updated 26 February 2026 10:57:01 by Librarian