Literature Reviews: What are the Challenges, and how can Students and new Business Researchers be Successful?

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Abstract: The literature review is a key part of a dissertation, academic or journal paper, yet it is also one that often proves challenging. The multidisciplinary nature of business and management studies adds to the demands of writing a critical review by deciding which theories, subject areas and texts to interrogate. There are a number of approaches that students and academics might take in writing a literature review that require differing emphasis, resources and timeframe. The purpose of this paper is to review the literature and develop an understanding of the complexities and challenges faced by students and new researchers in preparing journal papers. We share our experience as faculty with teaching and writing at undergraduate and postgraduate level, and identify a number of the problems typically faced. Recent trends with regard to the proliferation of open access journals are outlined, and the perspective of a journal Editor addresses common mistakes that lead to poor submissions and reviews. A popular business school text is amongst the views considered. Several examples of different types of literature review are included to illustrate the breadth of choice. Specialist types of software for analysis associated with the complexities of systematic literature reviews are outlined. We close with guidelines for success and conclusions for each of four objectives. More research is encouraged as students now have fewer opportunities to develop the skills required for critical writing; yet these are the very skills in demand for consultancy and similar professions following graduation.

Keywords: type of literature review, systematic, scoping and narrative, critical review and writing

1. Introduction

1.1 Why do students find it a challenge?

Over the past two years we have experienced a continuum of student responses to the requirement to develop an effective literature review (LR). New researchers continue to face challenges in publishing their work, often receiving criticism of the LR. In this paper we aim to identify several choices in approach and lessons within the business and management field of study. Similarly, our experience of teaching research methods and supervising students in preparing dissertations has revealed a wide range of ability, enthusiasm and interest. More recently a growing level of disinterest in undertaking a project and learning research skills has become apparent (Brown and Rich, 2020; Mitchell and Rich, 2020, Mitchell and Rich, 2021). The popularity and recent growth in eBusiness may mean that assumptions underpinning a traditional Business School curriculum cease or are at least challenged. We are concerned in this paper that the manner in which students and novice researchers, prepare LRs needs to change; and we wish to explore how open access publication and student expectations have made an impact; see Starkey & Howard (2019) and other recent critiques of Business Schools.

1.1.1 Objectives

We appreciate that a broad range of students embark on Business and Management studies; some have commercial or industrial experience but typically lack research training and skills. PhD candidates and new researchers continue to be under pressure to publish. These assumptions inform the following objectives:

1. Review the literature to better understand issues with writing LRs.
2. Consider our experience as academics and that of journal editors in identifying the criteria for an effective LR.
3. Identify several of the different approaches to writing a LR.
4. Appreciation of the differing timescales and resource requirements that are necessary.

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1.1.2 Structure of this paper

The paper explores the experience of academics in teaching students to write LRs (2.1) as well as editors in reviewing journal papers (2.3) Different approaches to writing a LR are considered (3.0) along with software and technology support (4.0). Finally, some guidelines (5.0) are developed along with conclusions (6.0). In this way we address experiences of both students writing a literature review, often for the first time; and the frustrations that researchers sometimes experience with submitting journal papers, particularly given the various stylistic approaches to a literature review that are available.

1.1.3 Multidisciplinary nature of business and management studies

The multidisciplinary nature of business and management studies adds to the demands of writing a critical review. This is particularly true of strategic, operational and organisational issues where material would be drawn from a range of traditional functional subjects that require integration and careful interpretation. Business and management students and writers therefore need to cast their net wider than those of a 'pure' science, politics, language etc. However, this is contested as other subject areas make similar claims. For example, with medicine, knowledge of developments in molecular biology, genetics and pharmacology (Collins and Fauser, 2005). In economics, a knowledge of politics, sociology, geography may be required to research supply chain, outsourcing and offshoring decisions (Mitchell, 2016).

2. Experience with teaching students and submitting journal papers

In this section we share our experience as academics of teaching students to write LRs, the supervision of dissertations as well as submitting papers to journals. We also add the experience reported by a US journal editor in chief together with our experience editing papers for a UK based business journal.

2.1 Faculty experience

The authors have many years of experience at a number of global schools of teaching research methods, project supervision and as directors of MBA, MSc and BSc programmes. With 'Executive' MBA programmes (typically 5 years' plus work experience), a number of students already have a PhD, and experience little difficulty writing a LR and managing the project process (see Table 1). However, some students do lack enthusiasm for this area of study and may neither enjoy the experience nor appreciate the relevance. In recent years a number of taught master degree courses have revised the syllabus to include more group work, live case studies and simulations. As a result, there may be fewer individual assignments with less academic focus, and hence fewer opportunities for students to practice writing a LR, drafting research questions, designing a methodology, collecting and analysing data. Writing a LR is a daunting task for some. An online module (or taught alternative) on academic skills should be taught prior to a research methods module. There are also a range of affordable 'pocket books' available on study skills that are most instructive.

Bayes Business School stress in their guidance to undergraduates that writing a LR and dissertation is different from an essay in that it needs to have a distinctive, critical and analytical component. Table 1 summarises our experiences and some differences at Masters and Bachelor level.

Table 1: Comparison of postgraduate and undergraduate business and management students (authors)

	Postgraduate	**Undergraduate**
Experience/ qualifications	Those with research experience may have less difficulty with writing a LR.	Some recognise the importance for future employment e.g. consultancy, research agencies.
Timing	Early clarity on the topic and research question(s) helps with writing the LR, keeping on schedule and following the logical sequence of the dissertation.	Use of an option for a shorter 5000 words project (instead of 10000). Other options are also becoming popular.
Significance of LR	Often 20% of the dissertation word count and regarded as a key chapter.	The LR may be 30% of the marks in a full dissertation. Some students prefer something more 'practical' and less abstract. Many doubt the need for a LR and struggle to identify contingent areas of literature.
Practice	May not be a chance to practice with individual assignments as more group work and live cases dominate the curriculum.	One week teaching usually as part of a research methods module, examples and case studies.

Style	Not linear and descriptive, but thematic, comparative and critical.	Some writing workshops available as an option. The choice of supervisor is significant with regard to personal approach and level of commitment.
References	Select by theme and key word, check abstract before selecting.	Less experienced with search techniques using key words and theme headings.

For secondary research, the purpose of the LR is to summarise, synthesise and analyse the arguments of others; also, to critically assess the knowledge that exists and what gaps occur in research related to the field of interest. This should clarify the relationship with the student's research and reveal consistencies, inconsistencies and controversies with previous research. The LR should guide the subsequent development of an appropriate methodology design and subsequent data collection. The order for action learning and grounded theory approaches are often different but less usual for business and management students. Once relevant papers have been identified (ideally grouped by theme) they should be 'superficially scanned' and the abstract reviewed to check the paper's suitability in answering the research questions before reading the paper closely (Table 1 above). Those papers that do not 'fit' the research questions ought to be discarded rather than used to extend the list of references. Developing a draft list alongside the LR helps to keep track of sources especially as increasing use is made of online media. Comparing, contrasting and critiquing different authors on a particular topic helps to make the LR more interesting to read as well as avoiding plagiarism. A synthesis at the end of a LR helps to highlight the key messages, cross reference the relevant sources and develop a link to the methodology section.

Each year at Bayes Business School, a small number of undergraduate students write their projects in collaboration with the Corporate Social Responsibility (CSR) function of an employer. It is hoped to develop this option and offer it to students interested in other areas. While this is a different format, it is very clearly offered as a research activity and students are expected to undertake a LR. The employer is the source of primary data for the project. Options at other schools have included, 'Newsnight' media presentations, entrepreneurial studies and business plans.

2.2 Academic Texts

A seminal Business Schools text for research methods offers insights on critical writing (Saunders, 2019). Students should be sceptical towards rhetoric, tradition, authority, and objectivity (Mingers, 2000). Being critical in reviewing the literature is a combination of skills and the manner with which the text is read and interpreted (Saunders, 2019). This means that students should constantly consider and justify their own critical stance. This takes practice and considerable effort, especially if the student has little experience of writing LRs. Business students will find that subject areas, themes, strands, theories, overlap with one another (Danson and Arshad, 2014). For example, in marketing studies, opportunity and creativity are themes to be understood to develop marketing plans. However, opportunity and creativity themes are also discussed in entrepreneurship when seeking market gaps and developing a business plan.

2.3 Journal editor

A student wishing to develop a quality dissertation may also submit to a journal paper. Sometimes this is done in conjunction with a supervisor. PhD students have always been encouraged to publish, and an awareness of the challenges set by the peer review process and journal editors is part of the preparation for a career in academia. It is becoming harder, and arguably taking longer to get papers reviewed and published in 'traditional leading' journals. The views of an editor are helpful in this regard (Jennex, 2015) as it has been suggested that the quality of many LRs is declining (Table 2). There has also been a huge rise in open access journals to support global access to research. Some open access journals are labelled as 'predatory' and frowned upon (https://www.nature.com/articles/d41586-019-03759-y), although the distinction is often unclear. This creates confusion amongst researchers and is unfair to those open access journals that do add value and meet a genuine market need. Technology has also impacted the manner in which researchers search for relevant papers and the way they reference and check scripts for plagiarism. Reviewers are encouraged to provide feedback in a positive and constructive manner to address complaints by authors.

Table 2: Reasons why reviewers decline papers (adapted from Jennex, 2015)

Content	The review must be limited to studies that have bearing on its specific research question.
Journals	The scope of the review might limit itself to high-quality journals, or journals in a particular field of study.
Authors	The study might be restricted to works by certain prominent authors.
Setting	Only studies conducted with specific industries or regions are considered.
Participants or subjects	Studies may be restricted to subjects of a certain gender, work situation, age, or other criteria.
Program or intervention	There might be a distinction made between data that is self-reported versus researcher-measured, or if subjects are self-selected into various groups.
Research design or sampling methodology	Studies might be excluded based on not using a particular research design; date of publication or of data collection, or duration of data collection
Date of publication	Studies will often be restricted to certain date ranges for data collection, or duration of data collection.
Source of financial support	Studies might be restricted to those receiving non-private funds unless there is a concern that this might be a source of bias in the results.

Common errors (Jennex, 2015) include authors not having access to relevant papers, weak search criteria, not using original source material, failure to synthesize material and translation issues for non-native speakers. Early career academics suffer the same problems as undergraduates and other specialist students, and more structured guidance would be beneficial.

2.4 Associate editors

We are both associate editors of an academic business research journal and acknowledge that it can become a rather tedious 'rite of passage' struggling to make multiple corrections or amendments before a paper is accepted for publication. Our observations on the LR include:

2.4.1 Style

A prevalent issue is that the review is linear in format referring to one reference after another in a descriptive manner. Better to group, compare and contrast, in a critical style, reference sources under a common theme. Sometimes, similar concepts will be covered by different articles but using different vocabulary, and this can usefully be highlighted in a LR.

2.4.2 Structure

A common problem is that an excellent LR fails to inform the methodology and data collection stages. This lack in linkage is a relatively easy fix. A literature review may be dispersed throughout an article or dissertation (rather than a dedicated section) subject to journal or university guidelines. When changes are required, good practice would include resubmitting a separate summary of changes with cross referencing, also the use of track changes.3

2.4.3 Editing

If there is more than one reviewer there may be conflicting advice as to what the author should do. In this case the editor can helpfully provide a suitable commentary as feedback to the author. It may be the case that the argument is contested.

2.4.4 Content

Authors should not be wary, or avoid offering their personal opinion
e.g. if Jones (19xx) argues that …… whereas Smith (20xx) suggests …… then……would be a valid consideration.
It is important to separate factual accuracy from a statement of opinion, and recognise that an article which states facts could nevertheless present them from a particular viewpoint.

2.5 Synthesis

We have reviewed literature, the views of academics, a chief editor together with our experiences. The LR is an important part of writing up a project report or dissertation but proves problematic for many, including academics, in submitting journal papers. For students new to academic and critical writing what are some of the options and suggestions for improvement?

3. Different approaches to writing a literature review

The traditional or critical narrative style is generally a starting point for students and academics. Different professions favour various styles of LR, as with medical research where in-depth structured evidence is the most common example of systematic LR approaches. There are other styles, and we use the key ones summarised below (Table 3) and in more detail in 3.1 to 3.3. Other approaches tend to be variants, although agreement on the types of approach and descriptions is contested, Danson and Arshad (2014) suggest that over the years, numerous types of LRs have emerged; three types are narrative, scope and systematic. An important distinction is the time typically required and the resources available. A narrative LR 1- 4 weeks, usually by one person whereas a systematic review is more likely to be in excess of 6 months with a small team of experienced researchers that require extensive library facilities. Specialist technical support for data search, storage and analysis may also be required (4.0) below.

Table 3: Types of Literature Review. Adapted from: Grant and Booth (2009).

Approach	Description
Narrative review	Generic term: published materials that provide examination of recent or current literature. Can cover wide range of subjects at various levels of completeness and comprehensiveness.
Scoping review	Preliminary assessment of potential size and scope of available research literature. Aims to identify nature and extent of research evidence (usually including ongoing research).
Systematic review	Seeks to systematically search for, appraise and synthesize research evidence, often adhering to guidelines on the conduct of a review.

The clarity, validity and auditability with which a review is developed are key tests of how structured the process is. This is applicable to a traditional narrative, scoping or more comprehensive systematic review (Booth et al, 2021). It is too easy for bias to arise whereby papers are rejected that propose an alternative argument. Resources and time are likely to be constraints, so it is important to fully outline any limitations in the chosen approach. No LR will be perfect, the reviewer who will have a particular kind of reader in mind and who they may wish to influence (Hart, 1988). A challenge for the author, reader or reviewer, is to be aware of one's own value judgements and to avoid a lack of scholarly respect for opposing values and ideas.

3.1 Narrative

The majority of LRs are narrative rather than systematic (Collins and Fauser, 2005). The approach and format are likely to change for different levels of student, also the university and journal guidelines. A project for undergraduates will tend to be more descriptive, topic focused and with analysis aimed at justification. (Hart, 1988). A master's degree dissertation will be more analytical, summative and written in critical and comparative terms. Literature, methodology and theory will be addressed. A doctoral thesis will synthesise relevant literature and theory, and will typically address greater breadth and depth than at master's level, for example discussing philosophical approaches to the problem. A scholar's intent is to think systematically, interpret and understand the literature (Hart, 1988). This may entail developing new typologies or new models for a taken-for-granted perspective.

It is suggested by Green, Johnson & Adams (2006) that within the narrative style there might also be various types of review: commentaries and overview. A commentary is typically written to express a particular opinion by an author with specific expertise, whilst its purpose may be to provoke dialogue amongst scholars who read the journal. It will be biased. A quality narrative overview will pull together relevant material in a readable format. Again, the purpose can be to provoke dialogue; and a rigorous methodology is key to creating a well agued piece. Work that is contested should also be included with reasons for concern or disagreement given.

Narrative reviews may be comprehensive and cover a wide range of issues within a given topic, but do not necessarily follow prescribed rules regarding the search for evidence or decisions about relevance and validity. Saunders (2019) suggests that it is necessary to have clearly defined research question(s) and parameters for the literature search, as well as key words or themes. The literature search may include tertiary sources and the Internet, following up reference articles previously read; scanning and browsing secondary literature. The literature should be synthesised for relevance to the research question(s) and key messages that subsequently inform the methodology.
To illustrate the diversity of approach three rather different examples of a narrative approach follow with brief insights on the purpose, approach, findings and outcome:

Thomas and Morgan (2021) identified evidenced-based job retention interventions for people with disabilities. They reported specific skills that it would be beneficial to teach adults in post-secondary or adult education to improve levels of retention. The literature addressed peer reviewed quantitative papers from 1994 to June 2019. Four studies showed interventions with statistically significant improvements in retention. These included self-advocacy skills in resolving work related challenges, social skills, managing medication and receiving on the job support. The conclusion was to replicate studies from diverse socio-economic backgrounds to more fully understand the potential of retention strategies.

A second illustration is an integrated framework for studying organizational spaces (Taylor & Spicer, 2007). The authors suggest that existing research in this field fits three categories: studies of space as distance, as the materialisation of power relations, and studies of space as experience. These approaches are drawn together using Henri Lefebvre's theory of spatial production to argue that an adequate understanding of organizational spaces would investigate how they are practised, planned and imagined. To illustrate the potential of their framework they present three studies of multiple organizational spaces, from social anthropology and economic geography. They conclude by presenting a research agenda that indicates how data collection and analysis in established fields such as employee relations and international business might become more 'space sensitive'.

The World Health Organization (WHO) claim that over 130 million people are in constant need of humanitarian assistance due to natural disasters, disease outbreaks, and conflicts (Fernandez-Luque & Imran, 2018). The literature was reviewed with the purpose of identifying challenges and opportunities for using AI in humanitarian health crises, and specifically the use of AI techniques to process social media. The search strategy was designed to get a broad overview of the different applications of AI in a humanitarian health crisis and their challenges. A total of 1,459 articles were screened, and 24 articles were included in the final analysis. Successful case studies of AI applications in a humanitarian health crisis have been reported, such as for outbreak detection. A commonly shared concern in the reviewed literature is the technical challenge of analysing large amounts of data in real time. Real time data exchange between systems is both essential and a barrier with regard to the integration of online and traditional data sources. Further work would entail identifying human and organizational aspects that might be key factors for the adoption of AI and social media. A publication bias toward high-income countries was identified. The feasibility of using AI to extract valuable information during a humanitarian health crisis was felt to be proven.

These three examples demonstrate that this approach has a limited scope, a clear purpose that helps to identify key words and data searches, identifying relevant theory and critical analysis. The format and length vary and are generally in-line with journal or university requirements.

Undergraduate students carrying out a significant project as a capstone within a Business and Management degree are expected to include a narrative LR within their work. Typically, this is the first time within their education that they have encountered the need to produce a LR. Two examples adapted from the author's experience as a supervisor are noted below.

Student 'A' set out to research the effects of gender diversity in innovative and entrepreneurial businesses. Their project included a LR and empirical work based on interviews of key players within such businesses. While it was carried out on a small scale, with 38 items identified in an initial search and 14 discussed in the paper, the LR was built around a highly structured approach with explicit criteria used to determine whether or not to include particular items. These criteria were related to the research aims set out in the student's introduction, and accommodated the inclusion of a variety of items of different types (scholarly papers, industry publications, etc) but which nevertheless carried a measure of authority. The narrative then fed into a minor revision of the student's initial stated research aim, which was discussed as an illustration of the extent to which learning took place through the research process. This student adopted grounded theory as a basis for their research and set out to develop new theory informed by their analysis.

Student 'B' set out to research the motivation of people working in a particular sector covering a range of conditions, notably varying from those who were self-employed to those working within large businesses with well-known brands. The project was based on in-depth interviews with a selection of workers in the sector to whom the student had privileged access, and the originality and distinctiveness of the project stemmed from this use of primary data. The narrative LR was structured in three sections. The first discussed literature around motivation and working conditions, notably the vitamin model identified by Warr (2007) which the student highlighted as a framework which could be applied to their primary research. Therefore, this section focused principally on summarising the vitamin model and situating it within the related literature on work and motivation. The vitamin model was used to structure the interview questions for the primary research. For an undergraduate project there was no pretence that this was a comprehensive LR: it set out to be a summary with an emphasis on one key framework relevant to the empirical analysis that followed. The second section focused on the relevant industry and again given the limitations of an undergraduate project was limited to highlights which set the scene for further research. The third section was a brief synthesis which provided a bridge to a discussion of methodology immediately following. In this case the key role of the LR was to provide a framework within which the research behind the rest of the project could be conducted.

A key difference between these two students was the way in which connections between items within the LR were drawn. Student 'A' perceived the literature as representing a complex landscape and wove together points from the different items. For instance, student A's review highlighted areas where similar concepts were adopted by different authors but often explained using different language. Each paragraph typically drew on several different items but was unified by exploring a particular theme relevant to the project. By comparison student 'B' set out to evaluate the literature and to highlight the concepts most relevant to the empirical work, but took a more linear approach in which a paragraph or sequence of paragraphs would typically address one item or one author's contribution.

3.2 Scoping

Scoping reviews help to determine the coverage of a body of literature on a given topic and give clear indication of the volume of literature and studies available (Mann and Peters et al, 2018). Scoping reviews are useful for examining emerging evidence when it is still unclear what other, more specific questions can be posed and valuably addressed by a more precise systematic review. They can report the types of evidence that address and inform practice in the field and the way the research has been conducted. Scoping reviews are an increasingly a popular methodology to synthesise evidence that can be influential for policy and practice (Colquhoun et al, 2014). However, variability in the labelling, definition, methodology, and reporting currently exists, which limits their potential. The purpose may include identifying the types of available evidence, the key concepts/ definitions; an examination of how research is conducted on a certain topic, the key characteristics or factors related to a concept or knowledge gaps (Mann and Peters et al, 2018). A scoping review may be used in preparation for a more detailed systematic review.

As with other approaches to LR's, scoping reviews were developed as a technique in subjects allied to health and medicine. Arksey and O'Malley (2003) created a framework for scoping reviews and locate this in the importance of evidence-based practice in healthcare, social policy, and elsewhere. They acknowledge that there is a range of understanding of what a scoping review could entail but they highlight the need to map concepts rapidly and they suggest that the coverage is necessarily broad, but can vary in depth according to the nature of the review. In proposing a framework, they draw on their own work around support for carers of people with mental health problems. Their framework is based around five stages:

1. Identifying the research question
2. Identifying relevant studies
3. Study selection
4. Charting the data
5. Collating, summarising, and reporting the results

In their more detailed discussion of the process they note the sheer range and variety of source used, and the necessity of, to use their terminology, hand-searching of key journals in recognition that the most carefully thought through database searches will not necessarily yield the desired results. They contrast scoping reviews with systematic reviews and point out that a scoping review does not necessarily aim to come up with a particular outcome through synthesising different elements.

Unsurprisingly, given the background of the concept, scoping reviews outside subjects related to healthcare are scarce. One interesting example related to business and management (Boiral et al, 2021) has a significant public health dimension and is written in the context of the Covid-19 pandemic. In line with the expectations of a scoping review it was conducted rapidly, published in early 2021 and based on items that had been published in the spring of 2020. Research questions were identified, but these were fairly broad and while given a slant towards sustainability, in line with the open access journal within which they were published, were written in terms such as 'identifying best practice for managing Covid-19'. The articles chosen were taken from a range of sources, in this particular case covering articles in both English and French and using databases which focused on material available in print. These were mapped by categorising them according to geographical location, to the business sector to which they referred, and a number of themes which were identified by the researchers.

Significantly, the above discussion includes an observation that scoping reviews are not widely used within the study of management and that the use of such a review to pull together a disparate set of articles, which on their own may be of limited value, is a valuable contribution to understanding of research methods.

3.3 Systematic

Systematic literature reviews (SLRs) use explicit methods to methodically search, critically appraise and synthesize literature on a specific issue (Collins and Fauser, 2005). SLR's attempt to reduce reviewer bias through objective, reproducible criteria to select relevant individual publications and assess their validity. A systematic review may include a meta-analysis or statistical summary of individual study results. The aggregate of effects from several studies yield an average that is more precise than individual study results. Thus, the SLR involves explicit, transparent methods which are clearly stated, and reproducible by others. For some review topics, however, the strengths of the SLR may turn into weaknesses. The primary problem is that the narrow focus and prescribed methods of the SLR do not allow for comprehensive coverage. SLR is less suitable for students or new academics with limited time and resources compared with a traditional narrative review, where less explicit methods are the trade-off for broader coverage. Every step of the review, including the search, must be documented for reproducibility. SLR's are most commonly associated with medicine and clinical trials (Georgetown University Dahlgren Memorial Library). Publication bias can cause positive results to become exaggerated as medical researchers are less likely to submit bad results. Other fields include IT and more recently HR, operations and supply chain management.

Carcary, 2018 has applied this approach in the field of IS Management; the insights led to a better understanding of the benefits and challenges also some guidelines for future researchers. It was noted that the approach was contested and authors differed widely in the style, application and interpretation of SLRs. Carcary has applied SLR in an explicit, structured manner with a clearly formulated research question (Tricco et al 2011) to identify, select, appraise and extract data from relevant research. Softening the approach to 'comprehensive rather than exhaustive' coverage helps to make the approach practicable (Rowe, 2014). The search procedure still needs to be described explicitly to enable others to reproduce the study, (Okoli, 2015). Starting with an initial selection of 253 papers from peer reviewed journals, 46 papers were eventually selected, classified and analysed. With large data sets software tools become essential; and one example is CAQDAS (see section 4.0 below).

Schaltegger et al (2022) use a SLR to explore Sustainability Management Accounting and they list among the aims of their review to establish how effectively this technique in fact impacts sustainability beyond the boundary of one organisation. The paper is explicit about the search strings and databases used to identify suitable papers and also the conditions used to exclude papers. The four authors each reviewed thirty articles as part of a highly structured process to determine how to identify those suitable for further analysis. The review focused on different levels at which Sustainability Management Accounting could take place and therefore included papers which discussed linkages between these levels. The conclusions pointed to areas where there were gaps in understanding the practice at different levels.

To summarise, the following table clarifies some of the differences in rigour and resources required for systematic reviews.

Table 4: Comparison of Narrative v Systematic Literature Review approaches (adapted from Ferrari (2015); Collins and Fauser (2005) and University of Alabama

	Narrative	Systematic
Authors	One or more authors usually experts in the topic.	Two or more authors are involved in good quality systematic reviews, may comprise experts at different stages.
Protocol	No study protocol.	Written protocol that includes details of the methods to be used.
Research Question	Range from broad to specific, hypothesis not stated.	Specific question that may have all or some of PICO components e.g. medical research (Population, Intervention, Comparator, and Outcome). Hypothesis is stated.
Search Strategy	No detailed search strategy; probably conducted using keywords.	Detailed and comprehensive search strategy is developed.
Sources of Literature	Not usually stated and non-exhaustive, usually well-known articles. Prone to publication bias.	List of databases, websites and other sources of included studies are listed. Published and unpublished literature are considered.
Selection Criteria	No specific selection criteria, usually subjective. Prone to selection bias.	**Specific inclusion and exclusion criteria.**
Critical appraisal	Variable evaluation of study quality or method.	**Rigorous appraisal of study quality.**
Synthesis	**Often qualitative synthesis of evidence.**	Narrative, quantitative or qualitative synthesis.
Conclusions	Sometimes evidence based but can be influenced by author's personal belief.	Conclusions drawn are evidence based.
Reproducibility	Findings cannot be reproduced. Conclusions may be subjective.	**Accurate documentation of method means results can be reproduced**
Update	**Cannot be continuously updated.**	Systematic reviews can be periodically updated to include new evidence

Section 3 has reviewed several of the different approaches to writing a LR, and contexts where a choice is appropriate, A number of examples are provided.

4. Use of Software / Technology

Students usually have access to Google Scholar and university library databases, and should be encouraged to use them. MAXQDA may be helpful for developing a comprehensive LR. It works with a wide range of data types and offers powerful tools for LRs, such as reference management, qualitative, vocabulary, and text analysis tools, and more. Highly structured approaches e.g. SLRs, require the use of specialist software and Technology (Carcary, 2018) particularly where a large volume of studies is involved. The use of Computer-assisted (or aided) qualitative data analysis software (CAQDAS) offer tools that assist with qualitative research such as transcription analysis, coding and text interpretation, recursive abstraction, content analysis, discourse analysis, and grounded theory methodology. Optimal searches in SLR's could search Embase, MEDLINE and Web of Science as a minimum requirement to guarantee adequate and efficient coverage. Most universities have access to this software which is necessary for the highly detailed data analytics associated with the large number of papers. One of the authors had significant experience of guiding students through use of two CAQDAS packages, Atlas.ti and Nvivo in a university whose software licence allowed students to install it on their personal computers for use at home. This software is intended to facilitate qualitative analysis and researchers can use it to extract themes and to search considerable volumes of text for key words and patterns. It is useful for searching and analysing large volumes of text but is not a substitute for manual analysis.

5. Guidelines for success

Having reviewed some of the challenges, issues and alternatives we are left with the question of 'how to decide on what approach to use for a specific type of review?' (Snyder, 2019)

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Table 5: Defining characteristics of traditional literature reviews, scoping reviews and systematic reviews. Adapted from:

https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/s12874-018-0611-x/tables/1

	Narrative	Scoping	Systematic
Protocol based on theoretical deduction	No	Yes (some)	Yes
PROSPERO registration of the review protocol	No	No	Yes
Explicit, transparent, peer reviewed search strategy	No	Yes	Yes
Standardized data extraction forms	No	Yes	Yes
Mandatory Critical Appraisal (Risk of Bias Assessment)	should be	should be	Yes
Synthesis of findings from individual studies and the generation of 'summary' findings	Yes	Yes	Yes

The project research question(s) and purpose of the review should determine the right strategy to use. While the SLR is perhaps the most accurate and rigorous approach to collect articles with certainty that all relevant data have been covered, this approach requires a narrow research question, and might not be feasible or suitable for all projects. This is where a scoping review can be useful, but this approach is also problematic. While the methodology for SLR's is straightforward the scoping review process requires tailoring to the specific project. A form of scoping review may be helpful with grounded research where an initial brief LR is required while the main LR follows later. Researchers need to develop their own standards and a detailed plan to ensure the appropriate literature is covered to both answer the research question and be transparent about the process. However, if done properly, this can be a highly effective way of covering more areas and broader topics than a systematic review can handle. In addition, when it comes to the narrative review, it becomes even more demanding, which puts responsibility on and requires more skills of the researchers, as there are fewer standards and guidelines. There is a contradiction here in that for students this is usually seen as the most straightforward and common choice. Successfully conducting a critical, thematic review and contributing with a new conceptual model or theory, can be significant reward and suit most purposes.

6. Conclusion

Four objectives were set for this paper (1.1). Reported evidence from the literature together with our experience is set out below in answer to each of the objectives posed.

6.1.1 Objective 1.1.2a: Literature

Undergraduates find the process of writing a LR demanding if they have received little training in research methods, and have had few opportunities to practice critical writing through assignments and course work. Exploring what has gone before, finding gaps in literature, identifying relevant theory are important aspects of research. Critical writing, thematic literature search, comparisons of literature is an important skill. Postgraduates have an advantage especially if they have previously experienced a research degree (2.1-2.2).

6.1.2 Objective 1.1.2b: Experience

As students, an ability to summarise, synthesise, interpret and justify arguments is key to producing a good LR. As academics, submitting papers to journals can be a demanding process where common mistakes include not having access to relevant papers, weak search criteria, not using original source material, failure to synthesize the material and translation issues for non-native speakers (2.1-2.3).

6.1.3 Objective 1.1.2c: Choice of approach

A key message is the need for an appreciation of critical skills writing, and the possibility that students today may have less chance to write a LR in advance of a dissertation (1.1). There are a number of distinct approaches plus variants that have become popular over the years. Choice of the most popular types is contested and here we have chosen narrative, scoping and systematic. In fields such as medicine, the rigour and ability to repeat and check experimental data makes systematic approaches a clear leader. There are examples of a systematic approach being taken within business and management e.g. IT and Operations, but this choice is for those who are experienced academics with time, library, budget and software resources. For students with broader research questions and scope, limited timescales and less academic experience of LRs then a traditional narrative style is a practical and realistic choice (3.0).

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6.1.4 Objective 1.1.2d: Timescales and resource

An important distinction is the time and resources that are available. A narrative LR takes 1- 4 weeks, usually by one person whereas a systematic review is more likely to be in excess of 6 months and with a small team of researchers requiring extensive library facilities. Specialist technical support for data search, storage and analysis may also be required. Software includes MAXQDA, and CAQDAS, see 4.0 (Carcary, 2018).

Overall, the choice of approach is dependent upon the aim, scope, research questions and experience of the writer. A systematic style is the most rigorous and designed so that reported experiments can be repeated and checked. However, it is highly structured, time and resource intensive requiring experience. For students, a narrative or traditional style is still demanding but more suitable for 'business projects' (5.0). We acknowledge that the writing of a LR is indeed a challenge for many, but as suggested there are a range of options and approaches to consider and some relatively easy steps to follow when seeking refinements. Given that the impact an effective review will have on the rest of the paper or thesis it is arguably one of the most critical sections and deserves our attention. We remain concerned that a number of academic courses now provide less support for research methods and the practice of writing LR's.

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