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Writing a Literature Review Research Paper: A step-by-step approach

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Abstract – *Writing a literature review in the pre or post-qualification, will be required to undertake a literature review, either as part of a course of study, as a key step in the research process. A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. It demands a range of skills, such as learning how to define topics for exploration, acquiring skills of literature searching and retrieval, developing the ability to analyze and synthesize data as well as becoming adept at writing and reporting, often within a limited time scale. The aim of this article is to present a step-by-step approach to writing a literature review research paper to facilitate student and novice reviewers' understanding.*

Key Words – *Literature review; Literature searching; Writing a review.*

1 Introduction

A literature review discusses published information in a particular subject area, and sometimes information in a particular subject area within a certain time period. A literature review of a mature topic addresses the need for a critique of, and the potential reconceptualization of, the expanding and more diversified knowledge base of the topic as it continues to develop. The second kind of literature review addresses new or emerging topics that would benefit from a holistic conceptualization and synthesis of the literature. Because these topics are relatively new and have not yet undergone a comprehensive review of the literature, the review is more likely to lead to an initial or preliminary conceptualization of the topic like a new model or framework.

The reasons for undertaking a literature review are numerous and include eliciting information for developing policies and evidence-based care, a step in the research process and as part of an academic assessment. To many qualified students faced with undertaking a literature review the task appears daunting. Frequently-asked questions range from where to start, how to select a subject, and how

many articles to include, to what is involved in a review of the literature (Cronin, et. al., 2008). A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. A summary is a recap of the important information of the source, but a synthesis is a re-organization, or a reshuffling, of that information. It might give a new interpretation of old material or combine new with old interpretations. Or it might trace the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant (writingcenter.unc.edu).

2 What is a Literature Review

A literature review is a surveys scholarly articles, books and other sources relevant to a particular issue, area of research, or theory, and by so doing, providing a description, summary, and critical evaluation of these works. Literature reviews are designed to provide an overview of sources you have explored while researching a particular topic and to demonstrate to your readers how your research fits into the larger field of study (libguides.usc.edu, n.d.). A literature review is a description of the literature relevant to a particular field or topic. It gives an overview of what has been said, who the key writers are, what are the prevailing theories and hypotheses, what questions are being asked, and what methods and methodologies are appropriate and useful. As such, it is not in itself primary research, but rather it reports on other findings (Emerald Group Publishing, n.d.).

The primary reports used in the literature may be verbal, but in the vast majority of cases reports are written documents. The types of scholarship may be empirical, theoretical, critical analytic, or methodological in nature. Second a literature review seeks to describe, summarise, evaluate, clarify and/ or integrate the content of primary reports (Cooper, 1988).

A literature review is an objective, thorough summary and critical analysis of the relevant available research and non-research literature on the topic being studied (Hart, 1998; Cronin, et al., 2008). Its goal is to bring the reader up-to-date with current literature on a topic and form the basis for another goal, such as the justification for future research in the area. A good literature review gathers information about a particular subject from many sources. It is well written and contains few if any personal biases. It should contain a clear search and selection strategy (Carnwell and Daly, 2001; Cronin, et al., 2008). Good structuring is essential to enhance the flow and readability of the review (Colling, 2003).

Literature review is different from an academic research paper. The main focus of an academic research paper is to develop a new argument, and a research paper will contain a literature review as one of its parts. In a research paper, you use the literature as a foundation and as support for a new insight that you contribute. The focus of a literature review, however, is to summarize and synthesize the arguments and ideas of others without adding new contributions.

The vast majority of literature reviews serve as a section of a primary research article that provides the theoretical foundation for the main study that is the subject of the article. In that capacity, Fink (2005) describes multiple purposes for literature reviews. A literature review anchors the rest of a scholarly article. It describes the content and quality of knowledge already available, and readily presents the reader the significance of previous work (Okoli & Schabram, 2010). As an academic piece, the review cannot simply regurgitate the subject matter, but rather must contribute to the work in its dual approach of synthesizing the available material and offering a scholarly critique of theory (Okoli & Schabram, 2010).

3 Systematic Literature Review

The purpose of a systematic literature review is to provide as complete a list as possible of all the published and unpublished studies relating to a particular subject area. It is different with traditional reviews that attempt to summarize results of a number of studies, systematic reviews use explicit and rigorous criteria to identify, critically evaluate and synthesize all the literature on a particular topic (Cronin, et al, 2008). Primary purpose of this article is to provide the reader with a comprehensive background for understanding current knowledge and highlighting the significance of new research. It can inspire research ideas by identifying gaps or inconsistencies in a body of knowledge, thus helping the researcher to determine or define research questions or hypotheses.

Beecroft et. al. (2006) argue that a sufficiently focused research question is essential before undertaking a literature review. Equally, however, it can help refine or focus a broad research question and is useful for both topic selection and topic refinement. It can also be helpful in developing conceptual or theoretical frameworks (Coughlan, et al, 2007; Cronnin, et al, 2008).

Parahoo (2006) suggests that a systematic review should detail the time frame within which the literature was selected, as well as the methods used to evaluate and synthesize findings of the studies in question. In order for the reader to assess the reliability and validity of the review (see figure 1), the reviewer needs to present the precise criteria used to: (a) Formulate the research question; (b) Set inclusion or exclusion criteria; (c) Select and access the literature; (d) Asses the quality of the literature include in the review; (e) Analyse, synthesize and disseminate the findings.

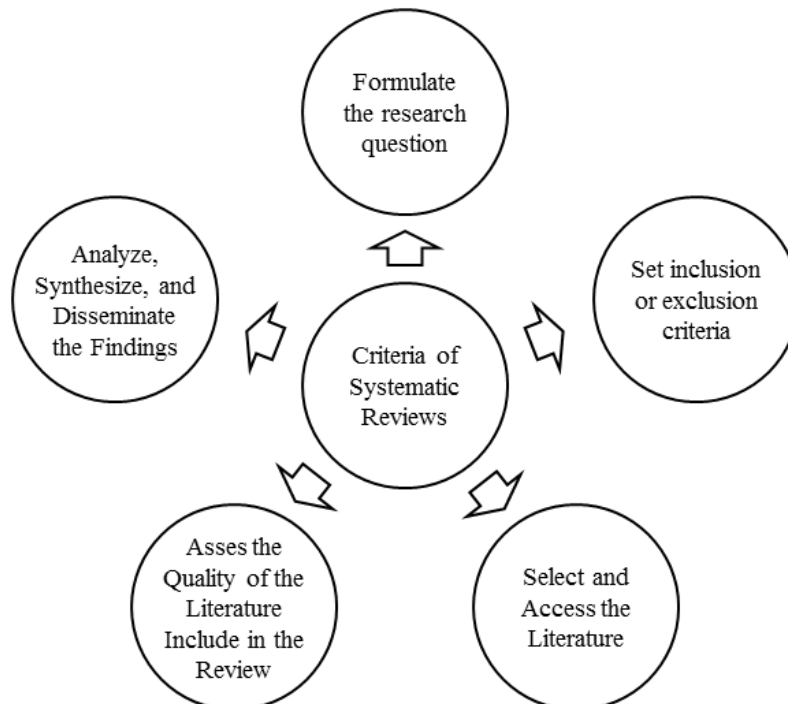


Fig.1: Criteria used to systematic review

4 Steps in the Literature Review Process

Given the particular processes involved in systematic reviews, meta-analysis and meta-synthesis, the focus of the remainder of this article is on the steps involved in undertaking a traditional or narrative review of the literature. Cronin et. al. (2008) argue that the first step involves identifying the subject of the literature review. The researcher undertaking a quantitative study may have decided this already. However, for the individual undertaking a non-research based literature review this will be the first step.

4.1 Choosing a review topic

The first task to tackle, often the most difficult, in writing a review of literature is choosing a topic (Timmins and McCabe, 2005; Cronin, et al, 2008). Often the task is especially difficult because of a lack of knowledge in the content area. Below are some hints for facilitating your selection of a topic. First, skim through your textbook and identify broad topics in the discipline that interest you. Second, read the chapters associated with the topics you pick to develop familiarity with the vocabulary (key words), primary investigators, and issues or controversies in the area. Third, talking to others, such as expert, or reading around a topic can also help to identify what areas of the subject the reviewer is interested in and may help indicate how much information exists on the topic (Timmins and McCabe, 2005). The next step, after choosing a topic, is to go to the library and search for journal articles published in the area. Use key words to find article titles for specific topics; sometimes abstracts are provided for the reader's reference. Abstracts can be useful, time saving devices because they aid in weeding good, associated literature from unrelated, peripheral articles.

Cronin (2008) explained that having sufficient literature is also important, particularly when the review is an academic assignment. These academic exercises usually have short deadlines, so having enough literature is key from the perspective of being able to do the review and submit it on time. Literature reviews that are part of academic coursework usually have strictly enforced word limits and it is important to adhere to that limit. Topics that are too broad will result in reviews that are either too long or too superficial. As a rule of thumb, it is better to start with a narrow and focused topic, and if necessary broaden the scope of the review as you progress. It is much more difficult to cut content successfully, especially if time is short.

4.2 Searching and selecting appropriate articles

The next step after selected a topic is to identify, in a structured way, the appropriate and related information. A systematic approach is considered most likely to generate a review that will be beneficial in informing practice (Hek and Langton, 2000; Cronin et al, 2008). Newell and Burnard (2006) suggest that comprehensiveness and relevance are what reviewers need to consider and add that the more specific the topic or question being searched is, the more focused the result will be (Cronin et al, 2008).

The type of articles that are selected for a good review of literature are theoretical presentations, review articles, and empirical research articles. Choosing the work of a single researcher may be one method for starting a literature review. Your presentation will be more powerful if conflicting theoretical positions and findings are presented along with the position or prediction that you support in your paper. You should choose several researchers' works that have added to the knowledge base in

a specific area. Strive to eliminate (or explain away) articles that have faulty methods or that use faulty reasoning to support their findings.

Nowadays, literature searches are undertaken most commonly using computers and electronic databases. Computer databases offer access to vast quantities of information, which can be retrieved more easily and quickly than using a manual search (Younger, 2004). There are numerous electronic databases, many of which deal with specific fields of information. It is important therefore to identify which databases are relevant to the topic (Cronin et al, 2008). Existing literature reviews and systematic reviews can also be important sources of data. They can offer a good overview of the research that has been undertaken, so that the relevance to the present work can be determined (Cronin et al, 2008).

Cronin et. al. (2008) argue when undertaking a literature search an important question in determining whether a publication should be included in your review is defining the type of source. The four main types of sources are outlined in Table 1. In conducting the literature search it is important to keep a record of the keywords and methods used in searching the literature as these will need to be identified later when describing how the search was conducted (Timmins and McCabe, 2005).

Table 1. Defining the types of sources for a review

Source	Definitions
Primary source	Usually a report by the original researchers of a study
Secondary source	Description or summary by somebody other than the original researcher, e.g. a review article
Conceptual/ theoretical	Papers concerned with description or analysis of theories or concepts associated with the topic
Anecdotal/ opinion	Views or opinions about the subject that are not research, review or theoretical in nature

Source: Cronin et. al. (2008) p. 41

It is always more desirable to use primary sources whenever possible. Primary sources in science are usually in the form of articles published in reputable journals. Generally, journals are regarded as being more up-to-date than books as sources of information (Cronin, et al, 2008). Secondary sources include textbooks and review articles or Description or summary by somebody other than the original researcher. Like your literature review, secondary sources do not contain new information. A look at secondary sources is often a good move when starting a literature review, but you never rely solely on secondary sources and always review the primary sources as a check against possible errors.

4.3 Analysing and synthesizing the literature

After you have collected the articles you intend to use in your literature review, you are ready to analyze each one (break it down and identify the important information in it) and then synthesize the collection of articles (integrate them and identify the conclusions that can be drawn from the articles as a group).

Initially, it is advisable to undertake a first read of the articles that have been collected to get a sense of what they are about. Most published articles contain a summary or abstract at the beginning of the

paper, which will assist with this process and enable the decision as to whether it is worthy of further reading or inclusion. At this point, it may also be of benefit to undertake an initial classification and grouping of the articles by type of source (Cronin, et al, 2008).

There are a number of tools that can help us analyze and synthesize our key sources. Table 2 show about using a synthesis matrix to organize the sources in your literature review and integrate them into a unique interpretation that not only serves as the foundation of your study but also contributes to the dialogue in your field and establishes your credibility as a scholar. There are limitless ways of structuring a matrix (Sally, 2013).

For example is a synthesis matrix organized by the key studies on your specific topic. Identify six to twelve studies that are closely related to the focus of your study and that you will use as the foundation for your proposed research. In the first column along the vertical axis of the table, list the author and date of publication for each study (Sally, 2013). Then create columns to identify the purpose or research questions the authors posed, the method used in the study, characteristics of the sample, the major findings of the study, the main ideas or themes distilled from the findings, how the findings confirm those of other studies (similarities), and how the findings differ from other studies or offer information not found in other sources.

Table 2. A synthesis matrix organized by the key studies

Author & Date	Purpose	Method	Sample	Finding	Similarities	Uniqueness
Sources 1						
...						
Sources n						

Sources, (Sally, 2013).

Another tools for analyze and synthesize is undertake an initial classification and grouping of the articles by type of source. Once the initial overview has been completed it is necessary to return to the articles to undertake a more systematic and critical review of the content. It is recommended that some type of structure is adopted during this process such as that proposed by Cohen (1990). This simple method is referred to as the Preview, Question, Read, Summarize (PQRS) system and it not only keeps you focussed and consistent but ultimately facilitates easy identification and retrieval of material particularly if a large number of publications are being reviewed (Cronin, et al, 2008).

Following the preview stage, a reviewer may end up with four stacks of articles that are deemed relevant to the purpose of the review (Cronin, et al, 2008). In the question stage, questions are asked of each publication. Here several writers have suggested using an indexing or summary system (or a combination of both) to assist the process (Timmins and McCabe, 2005; Cronin et al, 2008).

Although there are slight variations in the criteria proposed in the indexing and summary systems, generally they are concerned with the title of the article, the author, the purpose and the method applied in a research study, and findings and outcomes. It is also useful to incorporate comments or key thoughts on your response to the article after it has been reviewed. For the purpose of good record keeping, it is suggested that the source and full reference are also included. It can be very frustrating trying to locate a reference or a key point among a plethora of articles at a later stage (Cronin, et al, 2008).

As it is likely that not all of the articles will be primary sources, you may wish to adapt your summary system to accommodate other sources, such as systematic reviews or non-research literature. Possible headings, adapted from appraisal tools for various types of literature are outlined in Table 3. Although it may be laborious at times, each article should be read while trying to answer the questions. It is worth noting, however, that if any aspect of the appraisal is not clear, it may be beneficial to access more detailed tools or checklists that facilitate further analysis or critique (Cronin, et al, 2008).

Table 3. Summary of information required in review

Primary sources	Secondary sources -review	Non-research literature
Title:	Title:	Title:
Author and year:	Author and year:	Author and year:
Journal (full reference):	Journal (full reference):	Journal (full reference):
Purpose of study:	Review questions/ purpose:	Purpose of paper:
Type of study:	Key definitions:	Credibility:
Setting:	Review boundaries:	Quality:
Data collection method:	Appraisal criteria:	Content:
Major findings:	Synthesis of studies:	Coherence:
Recommendations:	Summary/ conclusions:	Recommendations:
Key thoughts/ comments, e.g. strengths/ weakness:	Key thoughts/ comments, e.g. strengths/ weakness:	Key thoughts/ comments, e.g. strengths/ weakness:

Source: Cronin et. al. (2008) p. 41

The final stage of appraisal is to write a short summary of each article and may include key thoughts, comments, strengths and weaknesses of the publication. It should be written in your own words to facilitate your understanding of the material. It also forms a good basis for the writing of the review (Cronin, et al, 2008).

4.4 Organization of writing the review

The main aim in structuring your review of the literature is to lead your reader to understand the need to conduct precisely the form of literature review or research paper that you propose or have done. The key to a good literature review or research paper is the ability to present the findings in such a way that it demonstrates your knowledge in a clear and consistent way (Cronin, et al, 2008).

The introduction and conclusion to your review of the literature should show how your research project will join the on-going conversation: identify the key terms and concepts and indicate how your research will resolve unresolved questions in others' work. You can also outline the structure of the review itself — by preview in the introduction, or review in the conclusion — and you can then foreshadow the direction of the next section/ chapter.

4.4.1 Introduction

Cronin, et al (2008) argue that the introduction should include the purpose of the review and a brief overview of the 'problem'. It is important that the literature sources and the key search terms are

outlined. The introduction will not only present the main topic, but will also make a statement about the status of knowledge in this area of research.

Some areas of concern in preparing the introduction is (a) Define or identify the general topic or area of concern to provide a context for reviewing the literature; (b) Point out overall trends, conflicts in theory, methodology, evidence and conclusions, or gaps in research and scholarship, to identify a particular problem; (c) Establish your purpose for reviewing the literature or point of view; explain the criteria used to select and evaluate the literature; explain what it included or excluded (scope); and forecast the organization or sequence of the review.

4.4.2 Main body

The main body of the report presents and discusses the findings from the literature. There are several ways in which this can be done (Cronin et al, 2008; Carnwell & Daly, 2001). Regardless of the manner in which the main body of the review is framed, there are key points that must be considered. First, Group research studies and other literature according to common denominators such as qualitative or quantitative approaches, purposes, theories, methodologies, or conclusions. Second, summarize individual studies in detail appropriate to its comparative importance in the literature and to its relevance for your research. Third, Use figures and/ or tables to present your own synthesis of the original data or to show key data taken directly from the original papers.

In order for your reader to move through your information with ease while keeping the big picture in view, order your body paragraphs in the same way that you did in the statement about how your literature review will proceed. Order the abstractions (main ideas) from general to specific, deciding which sources have contributions to make to which concepts. You will then present more specific information from the sources, using in-text citation, to discuss the abstractions in more detail and to point out areas of agreement or debate among sources. Your body paragraphs should work to not only summarize what sources have said, but to demonstrate relationships between them.

4.4.3 Conclusion

The conclusion should provide a summary of findings from the literature review. Explain what your analysis of the material leads you to conclude about the overall state of the literature, what it provides and where it is lacking. Cronin et al (2008) mention that the review should conclude with a concise summary of the findings that describes current knowledge and offer a rationale for conducting future research. In a review, which forms part of a study, any gaps in knowledge that have been identified should lead logically to the purpose of the proposed study. In some cases, it may also be possible to use the developed themes to construct a conceptual framework that will inform the study. In all reviews, some recommendations or implications for practice, education and research should be included.

4.4.4 References

The literature review should conclude with a full bibliographical list of all the books, journal articles, reports and other media, which were referred to in the work. Regardless of whether the review is part of a course of study or for publication, it is an essential part of the process that all sourced material is acknowledged. This means that every citation in the text must appear in the reference. Omissions or

errors in referencing are very common and students often lose vital marks in assignment because of it. A useful strategy is to create a separate file for references and each time a publication is cited, it can be added to this list immediately (Cronin et al, 2008).

5 Conclusion

This article has presented a detailed guide to developing a systematic literature review. This guide presents a step-by-step approach to carrying out the rigorous, scientific methodology of a systematic literature review. While written generally enough to be applicable to a broad range of fields, especially specific to social sciences and management.

Whether the approach is qualitative or quantitative will often dictate when and how it is carried out. Various types of literature reviews may be used depending on the reasons for carrying out the review and the overall aims and objectives of the research. Writing a review of the literature is a skill that needs to be learned. By conducting them, student or researchers can be involved in increasing the knowledge through evidence-based practice.

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