

A Brief Note on Literature Studies

Part II

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**A brief note on literature studies –
Part II**

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A brief note on literature studies – part II

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Abstract *In this research note the author describes a methodology for doing literature reviews. The first part of the note describes a method for designing and performing the study each consisting of five steps. Following this framework a typology of strategies is proposed.*

1 Introduction

Having performed a number of literature studies during my time as a doctoral student at Copenhagen Business School, I have wondered why so little material on this discipline is to be found. Many of the textbooks on research methods reviewed¹ emphasize the importance of doing a “critical literature review” in the beginning of the research project (e.g. Bell, 1993), albeit warnings on the potential limiting effects are found as well (e.g. Bickman & Rog, 1998). Ghauri et al. (1995) are uncharacteristically diverse when stating the purposes of the (critical) literature study are to:

- “(a) frame the problem under scrutiny;*
- (b) identify relevant concepts, methods/techniques and facts; and*
- (c) position the study.” (p. 23).*

Most other text books claim only the first purpose. In Welman & Kruger (2001) and Bell (1993) entire chapters are devoted to “the critical literature review”, whereas e.g. Cooper & Schindler (2003), Ghauri et al. (1995), and Bickman & Rog (1998) have only a few pages on the subject. Some authors offer a well-defined process description (e.g. Welman & Kruger, 2001), while others are less detailed (e.g. Cooper & Schindler, 2003).

What all these more or less conflicting views on literature studies have in common is the perception that choosing the right strategy for the literature study is of critical importance as it has a definite impact on the research project, the constructs developed, the methods applied, and the conclusions arrived at.

Therefore, this note attempts to describe a typology of strategies to choose from when performing literature studies, and furthermore to describe the steps necessary. The note

¹ Reviewing literature to write a note on reviewing literature! The method applied: (1) domain = personal library plus section 303.4 at the CBS library, (2) selection = availability on September 24th, 2004, (3) relevance = the text “literature review” or “literature study” in the index, (4) validity = assumed, (5) completed = immediate - no iterations!

is organized as follows: first the generic model for performing literature studies is described, followed by a section on the typology of strategies.

As the title of the note implies, this is the second² step in developing a coherent and comprehensive framework for performing literature studies. Part I will elaborate on the impact of various epistemological positions on the literature study, its purpose, classifications and description/documentation, and part III will investigate techniques for content analysis.

2 Literature studies

The first step in doing a literature study is to try to identify the purpose of the study. Is the study a means to getting an overview over a new domain, is it to introduce the research problem in a project application for a Ph.D. position, or is it an attempt to contribute to the academic society through the publication of an overview article?

Depending on the purpose of the study several strategies are available, each having distinct characteristics. Before getting into selecting a strategy, the generic model for designing and performing a literature study is presented below.

2.1 The generic model – designing the study

When designing a literature study the following five questions must be answered:

- What is the domain (population of sources for literature)?
- What are the selection criteria (key words, subjects, authors)?
- What are the relevance criteria (academic level, “fit” with research question)?
- What are the validity criteria (methods applied, study type)?
- How is “completeness” determined?

The first two questions define the input to the literature study – enabling the impressive, all-encompassing overview of the subject in question, or the “introverted” short-listing of the critical few major contribution to a specific problem. The next two questions must be answered for each contribution as the literature study progresses. Irrelevant contributions are dropped from the study as well as the contributions deemed insufficiently valid. The resulting set of contributions are thereafter analysed for completeness – will the set of contributions identified meet the expectations of the researcher?

In the following each of the five steps are described in a little more detail.

Step D1 – Define Source: The ultimate literature study will naturally answer the first question by way of: “All!”. As most researchers are quite busy individuals, there is a tendency to limit the sources of literature a bit. The sources may be limited to the local library and the five most commonly used journals within the research area. Defining the population too narrowly will have consequences on the results of the study, whereas defining the population too widely might have consequences on the resource required to perform the study. It is not uncommon to iterate back to questions one and/or two after realizing the consequences of these “easy” choices.

² Following in the footsteps of George Lucas, the author has chosen to publish part II before part I (and has planned to write a part III as well).

Step D2 – Define selection criteria: The selection criteria might be as simple as “all bibliographical material on Wolfgang Amadeus Mozart” or more complex as “studies on bacteriology and epidemics in North Africa before 1970, or in South America after 1980, but only the studies using clinical data”. The former might result in defining the population of sources as a section of the local library and a few electronically available journals, whereas the latter might initially define the source as scores of medical journals, reports, proceedings from conferences, and a massive body of literature in dedicated university libraries across the world.

Step D3 – Define relevance criteria: The relevance criteria has the dual responsibility of on the one hand permitting material to progress to the next step in the evaluation phase, and on the other to limit the resources needed for evaluation. In case of the study on Mozart, the researcher might choose to discard a children’s book on the composer, as the research is targeted at an academic audience.

Step D4 – Define validity criteria: The last of the questions which must be answered for the individual contribution is the question of validity. Is the contribution of a type and to a quality that justifies inclusion in the literature study? Are the tools and techniques applied correctly, and is the research design in the contribution convincing? Precisely defining the criteria for validity is often very difficult as (relevant) contributions often span wider in terms of type, methods applied etc. than expected.

Step D5 – Define criteria for “completeness”: The resulting set of contributions are evaluated for completeness, which can be based on various techniques. The simplest test is by counting the number of contributions in the resulting set, and comparing to (explicit) expectations or similar studies. Another technique is to check whether “famous” contributions are amongst the resulting set. Within a discipline there might exist a number of central contributions which can not be left out of. In case the “famous” contributions are not included, they might be referenced in the analysis of the results or the literature study can be repeated until the “famous” contributions are present in the resulting set. Finally, a cross-search test can be performed (described in detail later in this note).

2.2 The generic model – performing the study

Having defined sources and criteria the literature study can be performed.

Step P1 – Obtain access to source: Before the advent of IT-systems and databases in libraries, getting access to materials required considerable effort. Today getting an overview of material available is a matter of using a couple of search engines, and subsequently either reserving or downloading it if electronically available. In most cases obtaining access to material is but a formality.

Step P2 – List materials using selection criteria: Again, making use of the search engines enables the fast creation of overview listings. In case the source is electronically available and key word searching is permissible, the creation of lists is almost instantaneous. Otherwise “manual evaluation” is required – here the search engines normally will be able to deliver listings over material (books, journal volumes etc.). Completing this step finalizes the (initial) definition of the input material for the study.

Steps P3 – Evaluate relevance & P4 – Evaluate validity: Each entry in the list generated in step P2 will need to be evaluated in two steps: first for relevance, and

thereafter for validity. In both cases the criteria are defined and the evaluation should be straightforward albeit probably time-consuming.

Step P5 – Perform check for “completeness”: Depending on the requirements of the study the completeness of the review can be tested. Performing either a count of the contributions in the resulting set or check if the famous articles are present is quite simple. The cross-search technique requires a bit more explanation.

This method applies to studies on material accessible through search engines, e.g. journal articles. Instead of searching by journal for each database a search can be performed using appropriate search terms (e.g. subject area and/or keywords). If more databases are to be used, the results are pooled, and redundancies and matches with the resulting set are removed leaving what might be called the “control set”. Each contribution from this set is evaluated according to definitions in steps three and four, resulting in a set of valid contributions not identified in the original literature study. Three results might come out of such a cross-search test:

1. A low number of identified journals. This would imply that the literature review has been sufficiently complete, and must be accepted.
2. A large set of articles from other journals (sources). This result would indicate the choice of journals (sources) has been incomplete. The study might be repeated.
3. A large set of articles from journals (sources) in the population. This would imply that the relevance and validity criteria have been used inconsistently. The study will have to be performed again on the same sources.

Figure 1 below illustrates the process of defining and performing a literature study.

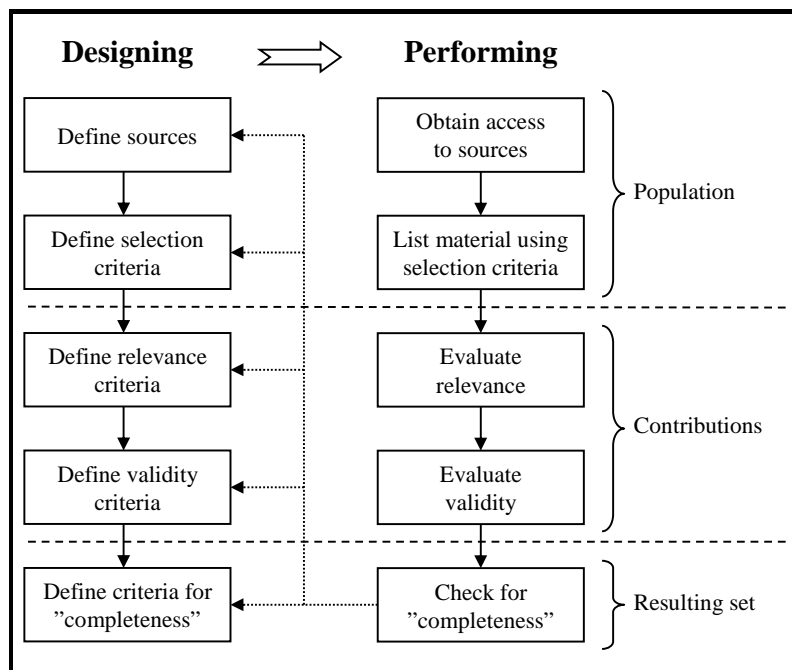


Figure 1: The process of defining and performing a literature study

The model presented so far is very stringent and forward progressing. This is naturally not the only strategy available.

2.3 A typology of strategies

Depending on the type of research project, and the researcher's experience with and knowledge of the area of research, different strategies might be applied. In case the researcher has previously done work in the area, a quick review of the latest issues of the relevant journals might suffice, whereas the researcher entering a new domain might need a more thorough analysis of the available literature. Furthermore, the purpose of the study will have an impact on the time to be spend on the study, the project might encompass a number of studies, and as this part of the research can be quite time consuming, one might want to apply the resources where most appropriate.

To accommodate the various requirements of researchers, a number of strategies can be identified.

The **domain-based** strategy takes its starting point in a (hopefully) precise definition of what is under scrutiny. This most closely resembles the process described in the previous section. Often this type of research will be performed by researchers entering a new domain – or if the purpose of the research is to produce an overview article classifying the literature for other researchers' convenience. The definition of domain might consist of a list of (academic) journals, of an index range in the library, a keyword for e-database searches, news databases etc. most often combined with a criterion on the date of publication. Most often (if not always) the date criterion will be a result of a trial-and-error process, based on the relevance and the number of contributions identified. Disadvantages of this strategy are that it is quite time-consuming and requires a considerable degree of discipline in analysing and categorizing the contributions. Advantages are that the review is complete and that categories match the purpose of the research to be performed subsequently. Except in instances where references are made to internet pages which tend to be updated often and archived only in rare cases, the study can be repeated at a later time.

The **trusted-review** strategy relies, as indicated by the name, on a review of the subject area published by a trusted source, e.g. a highly ranked journal. Working within an established area of research one will often be able to find review articles, describing and classifying the contributions identified. In case the trusted review is quite new and the classifications fit the purpose of the research, it will simply be a matter of updating the existing body of knowledge. Alternatively it might be necessarily to include more journals, to re-do the analysis to accommodate other categories etc. Even if all the categories conflict with the intended framework, the literature study from a trusted source represents a time-saver in terms of having identified the contributions.

The last strategy to be mentioned here is the **snow-balling** strategy. It provides the least structured result, thereby delivering the least valid result of the strategies described here. The process of performing a study of this type starts with the identification of at least one article of relevance, and then reading the sources referenced. One of several thing might occur from this "backtracking": either the contours of the subject matter is getting clearer in terms of keywords, authors active within the field, or perhaps the subject is dropped. In case the subject is not dropped the further search might be performed by keyword

search in e-databases, in the journals identified, by searching for the authors etc. Using current internet-enabled tools forward searching is possible as well, perhaps searching in citation-databases, personal homepages for newer contributions, or other methods not described in detail here.

Combining the five steps with the three strategies might look like Table 1 below.

Table 1: Strategies for performing literature studies

Step	Study type	Domain-based	Trusted-source	Snow-balling
1. Source		Domain in question.	Trusted source, e.g. review article.	Not precisely defined, starts from e.g. overview article or “famous” article on the subject.
2. Selection		Dependent on study.	All references in trusted source.	Not precisely defined.
3. Relevance		“Fit” with purpose of study.	“Fit” with purpose of study.	“Fit” with purpose of study.
4. Validity		The subjective evaluation of the researcher	Assumed.	The subjective evaluation of the researcher
5. Completeness		Relevant, probably using the cross-search test.	Might be relevant.	Not relevant.

2.4 Combining the strategies

In reality, it might not be possible to perform a “trusted-source” study without the elements of the “snow-balling” strategy. The trusted source might be outdated, or might have an orientation that does not completely cover the domain. Following the stringent procedure outlined in the “domain-based” strategy might be unrealistically time-consuming if applied across all source types, therefore the “domain-based” strategy might be applied for selected journals and the “snow-balling” strategy for all other sources (books etc.).

Applying a mixed-strategy approach thereby confuses the requirement for the overall literature study, and disqualifies the credibility of the study if not addressed. One way of dealing with the complexity is to report each sub-study separately, and combining the studies in a following discussion. Alternatively, the overall study might be perceived as a study of the “snow-balling” type.

3 A final word of caution...

As mentioned earlier, the choice of strategy will have dependencies to the epistemological “stance” in the overall research initiative. E.g. choosing the domain-based strategy will imply the possibility to make firm statements about the object studied, fulfilling an aspiration to report the results as a “complete” study. As for all types of studies the overall criteria is the criteria of coherence, choosing the appropriate strategy and defining the desired objectives of the study before performing it.

The planned “part I” will thereby enable the researcher to ensure coherence between epistemology and the strategy chosen. In a similar fashion, the planned “part III” will enable the discussion of appropriate strategies for content analysis dependent on epistemology and research strategy.

So far a model for designing and performing literature studies has been described, and a typology of strategies proposed. Following these guidelines will ensure internal coherency, for external coherence please refer to “part I” and “part III”, available at a department near you sometime in the future!

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