

Materi 3

Studi Literatur



Program Studi S1 Informatika
Fakultas Ilmu Komputer UPN “Veteran” Jawa Timur
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Literature Survey

A researcher cannot progress in the area of interest without the literature survey. A literature survey can be divided into three parts

- Searching of the literature in the area of interest
- Collection/acquisition of literature or data
- Critical study of literature/review of literature in the area of interest

Literature review helps you to widen the knowledge in the selected domain. It is very important to know the contributions of other researchers in the existing area or domain. Moreover, questions like, what challenges, which problems, what advantageous and disadvantageous of the existing systems, should trigger the thought process. These questions help to focus on finding answers to those limitations and accordingly you can define your own problem statement. [3]

Background Research

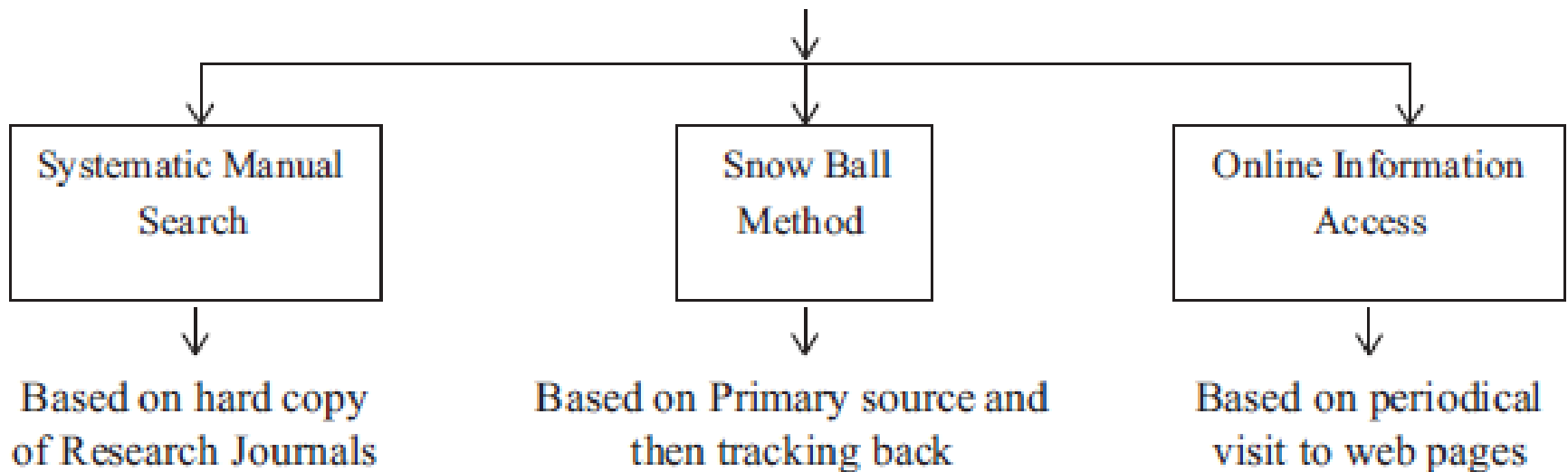
One of the important steps in devising a problem statement is the background study for it. Conducting background research is very important part of all types of research. Background study of any topic consists of explanation of the area of research and context of the problem to be studied and solved. It helps to arm yourself with general knowledge to more effectively narrow down your research topic and finding relevant source to pursue the research.

Primary and Secondary Sources of Background Research

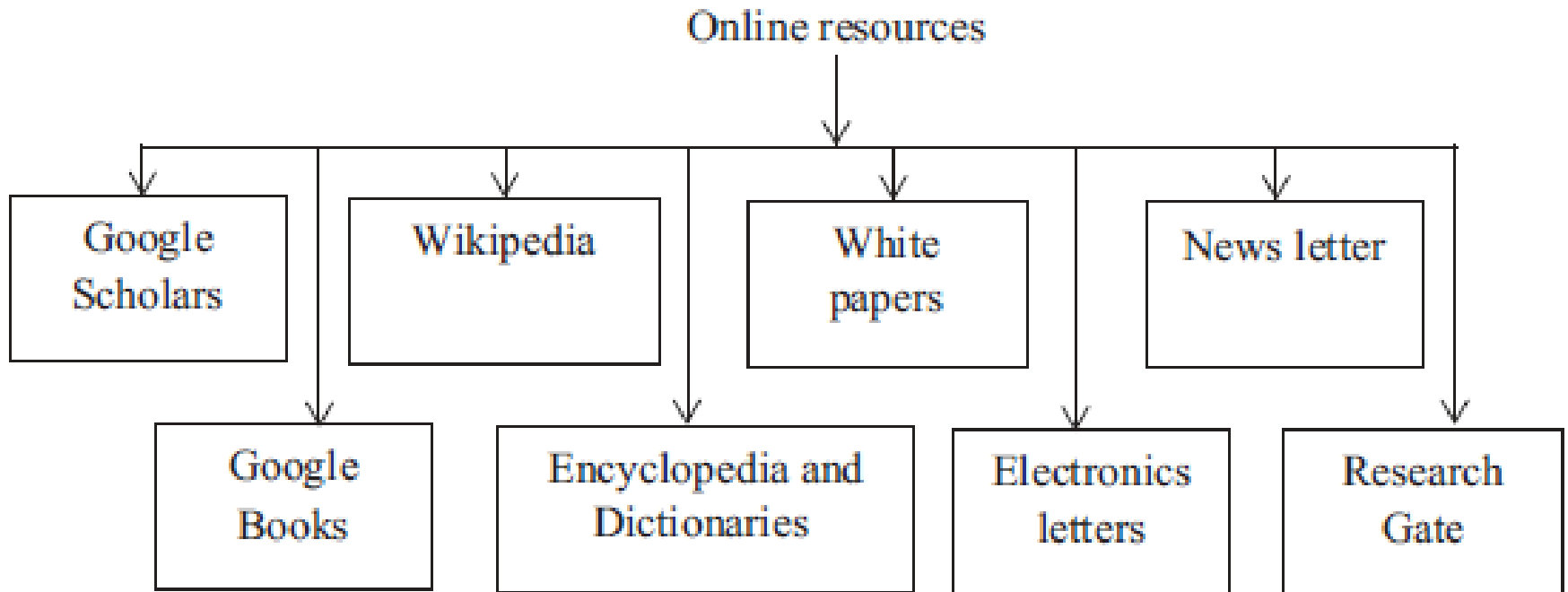
Primary Sources	Secondary Sources
<ul style="list-style-type: none">• Experiments• Clinical trials• Surveys• Qualitative studies	<ul style="list-style-type: none">• Overviews based on reviews, met analysis• Guidelines by other researchers• Decision Analysis• Economic Analysis

Resources of Literature Survey

Resources of Literature Survey



Online Resources



Literatures Evaluation

(i) **Evaluating e-Books:** Any book used for background research can be evaluated based on

- **Authority:** Information about the author and publisher of the book
- **Addressees:** Information about the book, if book is written for some specific audience in some specific context or general
- **Correctness:** Has author consulted any other authorities to find accurateness of results?
- **Neutrality:** Is book is unbiased and discusses all the possibilities of research problems?
- **Relevance on time:** Is book new or old? If it is old then is it still relevant in the current scenario?

Literatures Evaluation

- (ii) **Evaluating Journal Papers:** Journal papers are usually evaluated based on their impact factor and process of review. Papers in reputed journal are rigorously reviewed by experts. Generally, such papers give more authentic information than articles or informative websites. The following things should be taken into consideration before using any journal article for reference:
- **Source of the journal/article:** You have to look for the article from scholarly journals which are written by the experts in research area. Some references may be available, which can lead you to the additional references of article or books. For some research topic a huge database may be available. In that case you can limit your search by the type of research article, review process, an editorial or a clinical trial
 - **Date of publication of research:** We need the latest information in the research domain. Research in almost any area requires the current information available. You need to ask yourself the questions such as: Is the article/journal you are referring is up to date for your research purpose?
 - **Usefulness of the article/journal:** Is the article/journal you are referring is relevant to your research topic?

Literatures Evaluation

- (ii) **Evaluating Journal Papers:** Journal papers are usually evaluated based on their impact factor and process of review. Papers in reputed journal are rigorously reviewed by experts. Generally, such papers give more authentic information than articles or informative websites. The following things should be taken into consideration before using any journal article for reference:
- **SCOPUS:** This gives a list of results including the number of citations that papers have received. SCOPUS is the largest citation and abstract database of peer-reviewed literature. SCOPUS indexing includes scientific journals, books and conference proceedings. Scopus h-index is used to measure the published work of scholar or scientist. It measures both the impact and productivity of published work of a scholar or scientist. H-index is not a static value; it is calculated live on a set of results each time you look it up.

Literatures Evaluation

- (ii) **Evaluating Journal Papers:** Journal papers are usually evaluated based on their impact factor and process of review. Papers in reputed journal are rigorously reviewed by experts. Generally, such papers give more authentic information than articles or informative websites. The following things should be taken into consideration before using any journal article for reference:
- **Google Scholar:** This search provides data on citations of authors and their published work. It searches for journals, books and chapters in the book. Google scholar shows information on the number of citations a paper has received among the different documents available in its database
 - **Indexed Journals:** The quality of journals considered by the indexation of the journal. Indexed journals are of higher scientific quality as compared to non-indexed journals. There are various indexation services developed such as SCOPUS, EBSCO, PubMed, EMBASE, MedLine and SCIRUS

Literatures Evaluation

(iii) **Evaluating websites:** Authenticity of data available on various web sites is many times questionable. In this era of the World Wide Web, information about anything and everything is available on one click in the form of websites, blogs, social media pages, and so on. Checking the authenticity of such material is very important before using it for research. Anybody can add to such information without having actual knowledge of topic. To check whether information is genuine or not, check who are the authors providing the information? If the author is working in the same domain then information can be considered as authentic. Also check the references and bibliography given by author.

Reputed Journals/Impact Factor Journals

- **IEEE electronic library:** It is basically for electrical and electronics engineering researchers
- **ASCE (American Society of Civil engineers):** It is for civil engineering researcher
- **ASME (American Society of Mechanical Engineering):** It is for mechanical engineering researcher
- **Nature:** Nature is a weekly International Journal publishing the finest peer-reviewed research. It is in all fields of science and technology on the basis of its originality, importance, interdisciplinary interest, timeliness, accessibility, elegance and surprising conclusions
- **Springer:** This is an American publishing company of academic journals and books
- **IEEE Explore:** This provides full text access to IEEE transactions, journals, magazines and conference proceedings. It is published since 1988
- **Science Direct:** This is the worlds best resource for research journals, abstract databases and reference

Reputed Journals/Impact Factor Journals

- **SciFinder scholar:** This provides the most accurate and comprehensive chemical and related scientific information
- **Math SciNet:** This includes world mathematical literature since 1940
- **JCCC: J-gate Custom Content for Consortia:** JCCC is a customized solution for sharing and accessing journal literature, which is subscribed by IITs, IISc and IIMs
- **JCCC@JNDEST:** It is a common gateway for accessing e-journals from different publishers subscribed by IITs, IISc and IIMs
- **ACM:** Association for Computing Machinery
- **SCOPUS:** This is the Indexed Journal most commonly used for literature survey

Exploring Ideas

(i) Interviews

Research interview explores the outlook, understanding, and perspective of individuals on problem under research. Interviews are a qualitative method which provides a profound understanding of problem. They are predominantly suitable when the people may not want to discuss about the issues in a group environment.

(ii) Focus groups

A focus group is more than the structured data collection from multiple individuals in one place. A focus group is a facilitated group interview with individuals that have something in common. In this, combined information and various perspectives about some specific problems can be gathered.

(iii) Questionnaire

Questions are framed to get the answer from a group of people. Questionnaires are generally a fixed set of questions. These questions are used to collect the information for analysis. The questions are like the questions such as, Are you aware of the product available in the market? What are the weaknesses and strengths of the specific technique/method? and so on.

Summary

Literature survey and its review plays an important role in the definition of the problem statement. As a result, the different ways of performing the literature survey and review is explained in detail. This chapter is a treasure for those who would like to understand the concepts behind the literature survey and review. The different ways of collecting the information or data through interviews, focus groups and questionnaire are explained. Based on literature survey and review the researchers should be able to define their own problem statement. Hence this chapter can serve as an important chapter for identifying problem statement for post graduate students as well as research scholars.



Thank You!
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