CHAPTER-III

RESEARCH METHODOLOGY
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NATURE OF PROBLEM

The study being empirical in nature is designed to estimate the extent of use of various documentary sources of information in the process of identification, selection, designing, execution and presentation of doctoral research studies during a specified period in the disciplines of History and Political Science. The nature of the study facilitates the identification of other relevant characteristics of literature used like form of documents, their subject wise distribution, period of citation, gender of authors of cited documents, supervisor, language, number of pages of theses, ranking of journals, books, country of publication, availability of documents and authorship pattern.

RESEARCH LOCALE

Kurukshetra University, Kurukshetra and Maharishi Dayanand University, Rohtak being major centers of education and research, provide opportunity for conducting a large numbers of doctoral studies every year and house their products in the form of 180 doctoral theses available in History and Political Science. The present study is intended to estimate the use of various documentary sources of information by doctoral researchers of the departments of History and Political Science based on doctoral theses submitted and awarded since beginning of research in these universities up to the end of 2012. Therefore, research work was conducted within premises of these two universities.

POPULATION AND SAMPLE

The study covers 180 doctoral theses which were awarded since beginning of research in these universities up to the end of 2012 in the departments of History and Political Science and were available in the university libraries. After going through a few theses it was found that all the references and foot notes given in the main body of various chapters were included in the bibliographies listed at the end of theses, therefore, bibliographies have been considered for collection of data.

DATA COLLECTION METHOD AND TECHNIQUES

There are many methods of knowing the useful sources like user survey, analysis of the library records, analysis of documents produced by the users, etc. Analysis of different types of documents and their characteristics is quite popular in Library and Information Science, and known as bibliometrics.

Bibliometrics can be defined in simple words, as numerical or statistical analysis of recorded communication in printed and non-printed sources. Bibliometrics has established
itself as a viable tool for studying different types of literature in Library Science. Analysis of citations is one of the most important bibliometric techniques involving analysis of the references forming part of primary and secondary data communication. Citations are the formal clear linkages between publications that have particular points in common with the literature used.

**CITATION ANALYSIS**

Citation analysis is an established research tool used by librarians, teachers and information scientists to indicate the relationship that exists between the cited and citing documents.

When one author cites another a relationship is established. Citation analysis uses citations in scholarly work to establish links; many different links can be ascertained such as links between author's scholarly works, journals, and fields or even between countries. Citation both from and to a certain document may be studied. One very common use of citation analysis is to determine the impact of a single author and a given field by counting the number of times, the author has been cited by others.

Citation analysis of doctoral theses reveals the literature used by doctoral students of a particular university. It shows the bibliographic forms and media preferred by researchers in different disciplines. It also helps in evaluation of the collection of university libraries. Quite a large number of such studies are regularly being conducted in different disciplines.

**DATA COLLECTION INSTRUMENTS**

1. The following information of each thesis was collected: university, year of thesis, name of supervisor, year of thesis, number of pages, language, gender of candidate, and subject dispersion.
2. The following information about each citation was collected: bibliographic form.
3. In addition to point 2, the following information about each cited book was collected: author’s name and number, gender of authors, title, language, year and place of publication.
4. In addition to point 2, the following information about each cited journal article was collected: title of journal and frequency of its use, gender and number of authors, language, year and place of publication.

For the purpose of collecting this information, a data entry Worksheet was designed in MS Office Excel 2007. The following is screen view of the Worksheet:
3.1 Data Entry Worksheet of Information Sources

In each column, the following information was collected:

Column A- Thesis code: Used for representing three information items:

1) University represented by KUK- Kurukshetra University Kurukshetra and MDU- Maharishi Dayanand University
2) P representing- Political Science and H representing- History
3) Numerals representing- number of thesis in the subject in that university

Column B- Title of thesis

Column C- Name of supervisor

Column D- Author name representing name of the candidate

Column E- Th. year representing year of the thesis

Column F- Language representing language of the thesis

Column G- Form represents eleven information items:

1- Journals
2- Books
3- Reports/archival paper
4- Government document
5- Conference/ Seminar/ Proceedings
6- Contributed paper/ Interviews
7- Web. Document
8- Dictionary/Directory/Encyclopedia
9- Newspaper/Poster/Pamphlet/Magazines
10- Thesis and Dissertations
11- Others

Column H- Author name representing name of the author of cited book
Column I- Title representing title of the book or journal
Column J- Year representing two information items:
  1- Year of book
  2- Year of journal

Column K- Cit. author represents the number of authors of cited book or journal paper in the following order:
  1- One author
  2- Two author
  3- Three author
  4- Four author
  5- Five or more authors

Column L- Gender represents gender of author of cited book or journal paper as following:
  M- Male
  F- Female

Column M- Language represents language of the cited book or journal paper as following:
  H- Hindi
  E- English

Column N- Age representing age of the book or journal paper at the time of its citation in thesis

Column O- Country/ city representing country of publication of journal and book. In the case of books, if country of publication in India, city of publication in added after a comma eg. India, Delhi

DATA COLLECTION WORK

The data were collected in the main libraries and departments of History and Political Science. The citations given at the end of each doctoral thesis are collected and recorded on the MS Excel format data sheet. Here, each bibliographic reference is considered as one unit for the purpose of counting.
DATA ANALYSIS

The data analysis of documents cited in the doctoral theses of History and Political Science of Kurukshetra University Kurukshetra, and Maharishi Dayanand University, Rohtak was done using MS Excel Worksheet. The total number of citations by counting the column and rows helped in preparation of frequency tables. The frequency tables generally contained percentage analysis of response. Whenever required, mean and standard deviation has also been calculated.

For calculation of half-life of books and journals, the following formula has been used: the formula has been used in tables 4.17, 4.18 and 4.35, 4.36 which have data arranged in columns such as time periods (Age year), number of citations and cumulative citations.

\[ \text{Half-life} = L + \frac{N}{2} - \frac{cf}{f} \times i \]

Where L = Lower Limit of the Median Class (class containing middle value)
N= Total Number of Citations
\( cf= \) Cumulative Frequency of the Class preceding the median or sum of the frequencies of all classes lower than median class.
\( f= \) Simple Frequency of the median Class
\( i= \) The Class Interval of the median Class

DATA PRESENTATION

The analysed data has been presented in tables and diagrams. A description and discussion of tables and diagrams follows immediately. The Chicago Manual of Style 16th edition has been used for writing of references and bibliographies. A sample of citations of different types of documents is given below:

1. Books

2. Journal-Print

3. Journal-Online
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4. Theses and dissertations

Verma, Seema. 2009. “Citation Analysis of Ph.D. Theses of Kurukshetra University, Kurukshetra in the Faculty of Social Sciences: A Citation Study.” M.Phil. Diss. (unpublished), Kurukshetra University, Kurukshetra.