Chapter IV

Research Design

Aims, Objectives and Methodology of the Study

4.1 Introduction
4.2 Statement of the problem
4.3 Scope and limitations
4.4 Aims and Objectives of the Study
4.5 Hypotheses
4.6 Methodology
   i. Sample population
   ii. Pilot Survey
   iii. Variable Taken
   iv. Data collection procedures
   v. Data Analysis method
4.7 Tools Used For The Study
   4.7.1 Sample Population
   4.7.2 Variable Taken
   4.7.3 Pilot Survey
   4.7.4 Data Collection Procedure
   4.7.5 Data Analysis Method: Analytical Tools
      i. Arithmetic Mean
      ii. Standard Deviation (S.D.)
      iii. Coefficient of Variation
      iv. Skewness
      v. Chi-square test
      vi. Kurtosis
4.8 Conclusion

References
Chapter -IV
Research Design, Aims, Objectives and Methodology of the Study

4.1 Introduction: This chapter deals with aims, objectives and the methodology used in the study and has been discussed under the following headings:

Statement of the problem

Scope and limitations

Aims and Objectives of the Study

Hypotheses

Methodology

Sample population
Pilot Survey
Variable Taken
Data collection procedures
Data Analysis method

4.2 STATEMENT OF THE PROBLEM

The problem for the present study is entitled "Information Seeking Behavior of the Members of Legislative Assembly of Uttar Pradesh and Rajasthan: A comparative study".

4.3 Scope and Limitations

The scope of this study is confined to analysis of the information seeking behavior of the Members of Legislative Assembly of Uttar Pradesh and Rajasthan.

Information seeking behavior is defined to include aspects like motives and purpose of information seeking, and the mode and means to access, search, identify and require information and use on their own as well as others consulted.
Personal traits such as psychological factors, social roles, etc. are kept outside the scope and only their approach to information seeking behavior to seek their requirements has been questioned and tested as per the mentioned objectives and hypotheses.

### 4.4 Aims and Objectives of the Study

Due to tremendous growth of literature including information records and sources each person needs specific information. This complex situation appears to be ambiguous in nature and information needs of a particular group of users and information flow from a specific situation are difficult to determine. Again the use of information is so complex that a system can not cope up with the task of effective retrieval without assessing specific needs of the users. This situation has given rise to the concept of information searching and manner of determining the pattern of searching.

To assess users’ need

Users and their information use studies is the largest single body of research literature in librarianship\(^1\).

Crawford\(^2\) estimates that well over 1000 users' behavior and information system use studies have appeared in print.

The recent developments in this field have added new dimensions to the research literature. It can be expanded by new approaches to citation studies, automated searching, text retrieval and scaling of bibliographical databases.

The body of literature on user behavior within the framework of librarianship is considerably increasing day-by-day.

The growth of various aspects of the subject has led researchers to concentrate more on service aspects in order to refine the services or redesign the information system.

To crystallize the situation, different roles played by the users appear to be essential for an early assessment because, such an assessment results in improving the existing system and generating new ideas and thoughts related to information products and services.

To understand the psychological attribute
Current research on information retrieval and dissemination pays greater attention to the study of information seeking habits and needs of the users.

It has also been said that the user should be viewed more broadly as existing within interacting cognitive, emotional and social systems. While considering the user as the central focus of information needs, the emphasis is shifted to the personal, political and psychological attributes of the users that would provide good understanding of the dimensions of the study.

Hence, the emerging concept of information seeking behavior becomes the focus of investigation, which needs a detailed analysis.

**The main objectives of the present study are as follow:**

- To find out the awareness of users regarding the various information sources keeping MLAs informed on current affairs and issues.
- To identify the nature, purpose and type of Information sought by users.
- To gather data about the sources of information available to MLAs.
- To find out the extent of application of information technology in the library and the users' awareness of the same.
- To identify strengths and weaknesses in observed approaches to information seeking.
- To elicit the users' opinion regarding the various types of facilities provided.
- To find out the users' strategy searching to the document required by them.
- To determine the factors that influence information needs and information seeking habits of assembly Library users.
- To determine the information needs of the MLAs in state assemblies.
- To find out which among the services provided by the Legislative Assembly, impress the most.
- To know the user opinion about the perception of information.
- To know the degree of assistance which MLAs require in using information in assembly debates.
- To find out the users opinion about the language which they prefer.
- To discover which environmental and user characteristics impacted upon information seeking behavior.
4.5 Hypotheses

Keeping in mind the objective of right information at right time to right users, the hypothetical assumptions for the present study with the help of available theoretical literature and in pursuance of above-mentioned objectives are as follows the major hypotheses are framed to throw light on the Information Seeking Behavior of members of the legislative assembly of the UP and Rajasthan.

**HO1** - **The null hypothesis (H₀)** assumes that the select state “Members of Legislative Assembly” of U.P. and Rajasthan have not been aware of political information needs and have not clearly defined their information problems; however the alternate hypothesis surmises that there are clearly defined information problems, when there is requirements for information.

**HO2** - **The null hypothesis (H₀)** assumes that the select state “Members of Legislative Assembly” of U.P. and Rajasthan have not been properly pursuing the information seeking behavior pattern to fulfill self needs; however the alternate hypothesis surmises that there is appropriate information seeking in congruence with users’ needs.

**HO3** - **The null hypothesis (H₀)** presumes that the select “Members of Legislative Assembly” of U.P. and Rajasthan have not been aware about all the information sources available and a large number of MLAs are not utilizing the facilities and services available in assembly. In case the null hypothesis is disproved, the alternate hypothesis holds true that they are aware of the sources and utilizing them properly.

**HO4** - **The null hypothesis (H₀)** assumes that the select state “Members of Legislative Assembly” of U.P. and Rajasthan have not been aware of what sources and types of information are used to cope with their political problems; however the alternate hypothesis surmises that they know which and what information sources are the most appropriate.

**HO5** - **The Null hypothesis (H₀)** of the study assumes that in the select state legislative assembly most of the users have never used electronic networks and have not visited any other libraries for political purpose, in accordance with the needs of
the users. However, the alternate hypothesis will be accepted in case the null hypothesis is disapproved.

H06- **The Null hypothesis (H₀)** of the study assumes that in the select state legislative assembly most of the members are not aware about computer use and services etc. in accordance with the needs of the users. However, the alternate hypothesis will be accepted in case the null hypothesis is disapproved.

H07- **The Null hypothesis (H₀)** of the study assumes that owing to the dearth of knowledge/facilities large number of user are not aware and are not using internet facility in the legislative assembly to keep up-to-date; however, the alternate hypothesis accepts the wide applicability of IT in the information seeking behavior.

### 4.6 Methodology

Research/survey is the most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment to accomplish his purpose, and to resolve his conflicts. It is oriented towards the discovery of the relationships that exist among the phenomena of the world in which we live.

The categorization, of the proposed investigation into a certain type of research/survey, a corresponding method or method designed for it and appropriate techniques for collecting and analyzing data are together known as Methodology. **There is several survey techniques used for studies such as:**

- Questionnaire Technique
- Observation Technique
- Interview Technique
- Documentary Technique

(i) **Questionnaire Technique**

Questionnaire is “a formal list of questions, especially as used in an official enquiry” Questionnaire is constructed translating the aims and objectives of the survey study. This is a major and popular instrument of survey studies. This method of data collection is quite popular, particularly in case of big enquires. It is called heart of survey operation. The questions are formed in such a way that the relation of one question to another can be readily apparent to the respondent, question sequence must be clear and answer can be given by checking Yes or No by selecting one of the possible answer provided in the questionnaire.
Questionnaires are of two types

**Open Questionnaire:** - In this type of questionnaire, no answer is given against question. Respondent supplies the answer in his/her own words.

**Closed Questionnaire:** - In this type of questionnaire answer is given against the question the respondent has to select the alternate answer written against the question, so the work of the respondent is to tick on the right answers.

(ii) **Observation Technique**

Observation is at once the most primitive and the most refined of modern research techniques. P.V. Young[^1] defines observation as “Systematic viewing, coupled with consideration of the seen phenomena in which main consideration must be given to the larger unit of activity by which the specific observed phenomena occurred”.

This method implies the collection of information by way of the investigator’s own observation, without interviewing the respondent. In this method we observe things around us. It is a well-established technique for collection of data. It is the method of acquiring knowledge normally employed in measuring, testing, characterizing human behavior.

(iii) **Interview Technique**

Contemporary investigators use interview technique as a social survey tool. Young[^4] defined “a systematic method by which a person enters more or less imaginatively into the life of comparative strangers”. The interview technique is more direct and has greater flexibility. This method is unique because the collection of data is through direct verbal interaction between individuals. In this method interviewer asks questions generally in a face to face contact to the other persons or respondents.

(iv) **Documentary Technique**

It has been an important source of information. Through documentary technique the researchers make use of many documents on records, published or unpublished to extract necessary information. Documents are a very important, dependable and valuable source of information as they are record that contains important information about a problem or aspect of study.[^5]

4.7 Tools Used For the Study
Questionnaire, observation, informal interview and documentary analysis techniques are used as the tools for the study for collecting necessary data.

### 4.7.1 Sample Population

It is not easy to collect large quantity of data from the entire population. Sample is a small portion of population selected for observation. By making observation on the appropriate sample, it is possible to draw reliable inferences or make generalizations on the population as a whole from where the sample has been drawn.

The present study is conducted on a sample of 134 MLAs of UP and 67 MLAs of Rajasthan. A total number of 200 questionnaires were distributed among UP MLAs and 100 questionnaires were distributed among the Rajasthan MLAs. A total number of 156 and 75 filled questionnaires were returned back by the users. The investigator selected only 134 and 67 questionnaires out of 156 and 75 for the analysis of data and 22 & 8 questionnaires were rejected because of incomplete responses from the respondents.

<table>
<thead>
<tr>
<th>States</th>
<th>Total Members</th>
<th>Questionnaire Distributed</th>
<th>Returned Questionnaire</th>
<th>Selected Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttar Pradesh</td>
<td>400</td>
<td>200 (50%)</td>
<td>156 (78%)</td>
<td>134 (67%)</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>200</td>
<td>100 (50%)</td>
<td>75 (75%)</td>
<td>67 (67%)</td>
</tr>
</tbody>
</table>
4.7.2. Variable Taken

In order to achieve the objective of the study and to get the meaningful conclusion mainly two variables (of place) are taken from detailed analysis are:

1. MLAs of UP and
2. MLAs of Rajasthan
4.7.3 Pilot Survey

A study preceding the main study usually to check the viability of the study design is known as pilot study or survey \[^6\]. A pilot survey was conducted with eight MLAs four of each state to assess the strengths and weaknesses of the questionnaire and modifications were made accordingly. The questionnaires were then administered to all of them. In May 2006, a postal survey was mailed to the home addresses of the entire member. A cover letter sent with the questionnaire explained the purpose of the research and guaranteed confidentiality. A letter from the supervisor encouraging members to co-operate was also enclosed. Four weeks after these questionnaires were posted, a letter of reminder was sent to all of these MLAs. All questionnaires were posted independently and no personal information regarding any of the MLAs in either of the sample groups was available to the researcher.

Pilot survey was undertaken to ensure that the questionnaire were as meaningful to the average respondent as they were to the investigator and to decide which questions relevant for the purpose of the study. About 8 questionnaires were distributed between them for the pilot study, which was very helpful in modifying the questionnaire suitably.

4.7.4 Data Collection Procedure

Investigator also visited Lucknow and Jaipur city where are there the offices and official residence provided by the government and approached the users to collect the necessary data. Questionnaires were administrated to the users and filled questionnaires were collected back. Besides this, observation method also used to observe the functioning and working conditions of assembly library.

4.7.5 Data Analysis Method

The data collected through questionnaire, observation and informal interview are organized and tabulated by using statistical methods, tables and percentage.

Analytical Tools:

The popular statistical tools that have been used for the analysis interpretation and presentation are: Mean, Maxima, Minima, Median, Mode, AVEDEV, PEARSON, Standard Deviation and Coefficient of Variance Percentage, Kurtosis, F test and HARMMEAN. Considering the technical nature of certain analysis the
Researcher has applied important statistical tools and thus they have been frequently repeated for better interpretations.[7]

(i) **Arithmetic Mean:**

It has been calculated by summing all the observations in a batch and then dividing the total by the number of items involved, i.e.

\[
\bar{X} = \frac{\sum X}{N}
\]

Where, \( \sum X \) = Total value of the observations

\( N \) = Number of Observation

(ii) **Standard Deviation (S.D.)**

The S.D. is a measure of the variation in the data that have been used to determine the percentage of data values that reside within any specified distance from their mean.

\[
\sigma = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}
\]

Where, \( X - \bar{X} \) = Deviation taken from the actual mean

\( N \) = Number of observation

(iii) **Coefficient of Variation (C.V.)**

The C.V. is a measure of relative variation. It expresses the standard deviation as percentage of arithmetic mean.

\[
C.V. = \frac{\sigma}{\bar{X}} \times 100
\]

Where, \( \sigma \) Standard Deviation

\( \bar{X} \) = Mean of Observation
(IV) Skewness:

Skewness has been used to test the hypotheses. As a matter of fact, skewness characterizes the degree of asymmetry of a distribution around its mean.

The equation applied for skewness is defined as:

$$\sum_{i=1}^{N} \frac{(Y_i - \overline{Y})^3}{(N-1)s^3}$$

Where $\overline{Y}$ is the mean, $s$ is the standard deviation and $N$ is the number of data points. The skewness for a normal distribution is zero, and any symmetric data should have skewness near zero.

(v) The Chi-Square Test: In probability theory and statistics, the chi-square distribution (also chi-squared or $\chi^2$ distribution) is one of the most widely used theoretical probability distributions in inferential statistics, reasonable assumptions, easily calculated quantities can be proven to have distributions that approximate to the chi-square distribution if the null hypothesis is true. The best-known situations in which the chi-square distribution is used are the common chi-square tests for goodness of fit of an observed distribution to a theoretical one, and of the independence of two criteria of classification of qualitative data. However, many other statistical tests lead to a use of this distribution.

The chi-square statistic for an experiment with $k$ possible outcomes, performed $n$ times, in which $Y_1, Y_2, ..., Y_k$ are the number of experiments which resulted in each possible outcome, with probabilities of each outcome $p_1, p_2, ..., p_k$ is:

$$\chi^2 = \sum_{1 \leq s \leq k} \frac{(Y_s - np_s)^2}{np_s}$$

$\chi^2$ will be larger to the extent that the observed results diverge from those expected by chance. The probability $Q$ that a $\chi^2$ value calculated for an experiment with $d$ degrees of freedom (where $d=k-1$, one less the number of possible outcomes) is.
(vi) Kurtosis:
Kurtosis is defined as: takings the kurtosis of a data set. Kurtosis characterizes the relative peakedness or flatness of a distribution compared with the normal distribution. Positive kurtosis indicates a relatively peaked distribution. Negative kurtosis indicates a relatively flat distribution.

For a sample of n values the sample kurtosis is

\[ g_2 = \frac{m_4}{m_2^2} - 3 = \frac{\frac{1}{n} \sum_{i=1}^{n} (x_i - \bar{x})^4}{\left(\frac{1}{n} \sum_{i=1}^{n} (x_i - \bar{x})^2\right)^2} - 3 \]

A distribution with positive kurtosis is called leptokurtic. In terms of shape, a leptokurtic distribution has a more acute "peak" around the mean (i.e. a higher probability than a normally distributed variable of values near the mean) and "fat tails" (i.e. a higher probability than a normally distributed variable of extreme values). A distribution with negative kurtosis is called platykurtic. In terms of shape, a platykurtic distribution has a smaller "peak" around the mean (i.e. a lower probability than a normally distributed variable of values near the mean) and "thin tails" (i.e. a lower probability than a normally distributed variable of extreme values). Examples of platykurtic distributions include the continuous or discrete uniform distributions, and the raised cosine distribution.

4.8 Conclusion: In this chapter has dealt with the statement of the problem and the methodology, statistical tools appropriately elaborated along with the need and importance of the study, research design and framework of the study evolved in terms of demarcating the scope and setting the objectives and based thereupon hypotheses. In the next chapter five will analyze the data from the study, while chapter six will outline testing of hypotheses the findings and recommendations. Appendices include questions.
References

4. ibid.