Chapter - 5

Research Methodology

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5.1 Introduction

“Research is a scholarly, scientific, and systematic investigation to establish facts or principles, or to collect information on a subject to be presented in a detailed and accurate manner. Research is driven by a question or problem that guides the process for seeking information clear goal in mind. In the other words, research is the collection and interpretation of data in an attempt to resolve a problem at hand or to answer question. It goes beyond facts and out-of-date ideas by taking a new look at the information and making a fresh stand”.

“This chapter deals with methodology adopted for the present research study. It describes the design, sample, tools used, procedure of data collection and statistical techniques used for data analysis”.

5.2 Research Design

“Research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximal information with minimal expenditure of effort, time and money”.

The research design must focus attention on the following

- Objective of the study
- Designing the methods of the data collection
- Selecting Sample
- Data Collection
- Processing and analyzing the data
- Reporting the finding
5.3 Objectives

- To identify the awareness and use of library resources and services by the faculty and students.
- To identify the information seeking behavior of the faculty and students.
- To identify the impact of surrounding environment on faculty and students regarding information.
- To identify the dependence of faculty and students on information technology on usage of library resources and services.
- To identify the satisfaction of faculty and students with the present library resources and services.
- To identify the problems, which act as obstacles in the use of a library.

5.4 Study Design

“This study based on survey research. It is one of the most important areas of measurement in applied social research. The broad area of survey research encompasses any measurement procedures that involve asking questions of respondents”. Structured questionnaires were used for the study, which are less time-consuming and economical for a scattered population. Separate closed ended questionnaires were constructed for the students (Appendix I) and faculty (Appendix II). They cover issues regarding user’s knowledge about library resources and services, purposes for using the library, use of new information technology, satisfaction, and problems.

Merits of Questionnaire

- Low cost
- Respondents have adequate time to give well thought out answers
Easily approachable to large sample

Respondents, who are not easily approachable, can also be reached out conveniently through questionnaire

It is free from the bias of the interviewer

5.5 Data Sampling

Haryana state is divided into four main division namely Ambala, Gurgaon, Hisar, Rohtak, with in these there are 21 districts. Population for the study comprised of twenty private Engineering Colleges in Haryana from all four divisions. These colleges were mostly established after year 2004 and all colleges types are private. Colleges were mostly affiliated with MDU, Rohtak and approved by AICTE. Sampling was resorted at two stages. At first stage, the engineering colleges were shortlisted as per their intake capacity (http://techeduhry.nic.in) and popularity in Haryana. Selected colleges are popular in their districts. The good engineering colleges which are popular are seen in the rating by different private magazines and websites outlook, india today, careers 360, career connect and (www.engineering.careers360.com). For popularity (best) colleges were selected from website (www.engineering.careers360.com) from all four division (popularity measure in placement, infrastructure, faculty, admissions and long-run growth). Further, twenty engineering colleges were selected for the sampling.

5.5.1 Limitation

All the twenty engineering colleges in Haryana were approached for collection of data. Respondents from only fourteen engineering colleges agreed to fill the questionnaire and six colleges did not agree to provide the data. Thus, the final sample of engineering colleges consists of fourteen colleges. All fourteen colleges are from three division Ambala, Gurgaon, and Rohtak.
### Table: 5.1 Engineering colleges included in the sample

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of Colleges</th>
<th>Year of Establishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Advanced institute of technology and management Palwal</td>
<td>2006</td>
</tr>
<tr>
<td>2</td>
<td>Satya college of engineering and technology Faridabad.</td>
<td>2008</td>
</tr>
<tr>
<td>3</td>
<td>Echelon institute of technology kabulpur Faridabad</td>
<td>2007</td>
</tr>
<tr>
<td>4</td>
<td>Dronacharya college of engineeringg. Farukhnagar Gurgaon</td>
<td>1998</td>
</tr>
<tr>
<td>5</td>
<td>Global Institute of technology and management Gurgaon</td>
<td>2008</td>
</tr>
<tr>
<td>7</td>
<td>Gurgaon institute of technology of management Gurgaon</td>
<td>2005</td>
</tr>
<tr>
<td>8</td>
<td>kamra Institute of Technology Sohna Road Gurgaon</td>
<td>2004</td>
</tr>
<tr>
<td>9</td>
<td>PDM college engineering sarai aurangabad Bahadurgarh District</td>
<td>1999</td>
</tr>
<tr>
<td>10</td>
<td>Geeta Institute of management and technology Kurukshtra</td>
<td>2007</td>
</tr>
<tr>
<td>11</td>
<td>NC collage of engineering ISRANA Panipat</td>
<td>1998</td>
</tr>
<tr>
<td>12</td>
<td>Panipat institute of engg and technology Panipat</td>
<td>2006</td>
</tr>
<tr>
<td>13</td>
<td>Shri Balwant Institute of Technology Sonipat</td>
<td>2006</td>
</tr>
<tr>
<td>14</td>
<td>Haryana engineering college Yamunanagar</td>
<td>1998</td>
</tr>
</tbody>
</table>

At the second stage, 1400 questionnaires in all, were distributed comprising of faculty and students (30 Faculty and 70 Students from each college) which were randomly selected.

### 5.6 Scale and Measurement

Likert scale is a psychometric scale, commonly involved in research that employs questionnaires. It is the most widely used approach to scaling responses in survey research, so much so that the term is often used interchangeably with rating scale, or more accurately the Likert-type scale, even though the two are not synonymous. The rating scale may be either a graphic rating scale or an itemized rating scale. The graphic rating scale is quite simple and is commonly used in practice. Under it the various points are usually put along the line to form a continuum and the rater indicates his rating by simply making a mark at the appropriate point on a line that runs from one extreme to the other. The itemized rating scale (also known as
numerical scale) presents a series of statements from which a respondent selects one as best reflecting his evaluation. In this study a 5 point rating scale was used instead of a 7 point scale because 5 point scale reduces the level of frustration among respondents, and increases the rate and quality of the responses. The responses measured on a 5 point scale (Never=1, Seldom=2, Sometimes=3, Often=4, Constantly=5).

5.7 Data Collection

Collection of data has been through questionnaire method. The objective being that this method is quite popular, particularly in case of big inquiries. In this method a questionnaire was sent to the persons personally or by post to the persons concerned with the request to answer the questions and return the questionnaire. However the 1400 Questionnaire were distributed and collected to different colleges majorly, personally and with the help of friends. Further it was found, out of this only 1019 completely filled in questionnaires were received. The remaining 381 questionnaires were either not received back or were incomplete. It was felt that 1019 completely filled in questionnaires are sufficiently representative sample for this type of study.

5.8 Data Analysis and Interpretation

After the data have been collected, it turn to the task of analyzing them. The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulating and then drawing statistical computations. When a mass data has been assembled, it becomes necessary for the researcher to arrange the same in some kind of concise and logical order. This procedure is referred to as tabulation. In a broader sense, tabulation is an orderly arrangement of data in columns and rows. The data collected through questionnaire were organized and tabulated by using statistical methods, a simple percentage analysis was carried out, percentage refers to a special kind of ratio. Percentage are used in making comparison two or more series of data to describe the relationship. After percentage the data was organize into tables and charts. Tables and charts were closely analyzed and interpreted. Tables, charts and test of significance were generated by using statistical tools SPSS.
References

