CHAPTER III

METHODOLOGY

3.1 Pilot Study

To determine the feasibility of the study, the researcher conducted a pilot study. A questionnaire was designed and distributed to 475 samples consisting of Professors, Associate Professors and Assistant Professors of four different institutions. The pilot study revealed that study is feasible and certain modifications were made in the questionnaire.

3.2 Descriptions of the questionnaire

The final questionnaire consists of different segmentations which are listed below:-

- Details of the Faculty Members
- Computer Knowledge
- Types of e-resources
- Subscription pattern of e-resources
- Accessing e-mail alerts
- Mode of Accessing e-resources
- Search Techniques
- Problems of search
- Payment for E-resources
- Usefulness of E-resources
Under the headings given above questions were framed, which was based on the objectives of the study.

3.3. Sample of the study

The sample of the study includes four engineering colleges in Ramanathapuram District which are listed under the scope of the study. The questionnaire has been distributed for the Professors, Associate Professors and Assistant Professors of four engineering colleges and totally 475 questionnaires were distributed. Out of which only four hundred responded and this information has been tabulated and given under table 1.

3.4 Data collection

Questionnaire was distributed between faculty members of the above four engineering institution in Ramanathapuram district, among 475 samples only 400 were responded that are indicated in the table 1.

Table 4

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sample verses Status</th>
<th>Distributed</th>
<th>Responded</th>
<th>% of Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Professor</td>
<td>125</td>
<td>80</td>
<td>64</td>
</tr>
<tr>
<td>2</td>
<td>Associate Professor</td>
<td>125</td>
<td>120</td>
<td>96</td>
</tr>
<tr>
<td>3.</td>
<td>Assistant Professor</td>
<td>225</td>
<td>200</td>
<td>88.89</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>475</td>
<td>400</td>
<td>84.21</td>
</tr>
</tbody>
</table>
It is evident from the above table that among 125 Professors only 80 responded. Similarly 120 Associate Professors out of 125 and 200 out of 225 Assistant Professors also responded.

3.5 Scope of the study

The list of institutions which are included in this study are given below:

Mohamed Sathak Engineering College, Kilakarai, Ramnathapuram District.
Syed Ammal Engineering College, Ramanathapuram
Ganapathy Chettiar College of Engineering and Technology, Paramakudi, Ramanathapuram
Anna University College of Engineering, Ramanathapuram District

3.6 Data Collection Method

The sample of the study constitutes 80 Professors, 120 Associate Professors and 200 Assistant Professors. Based on this survey the hypothesis has been framed. A questionnaire was distributed among the above mentioned colleges in Ramanathapuram district, requesting their contribution.

3.7 Hypotheses

H₀: The use pattern of institutions where they work are not related to their working pattern.
H₁: The use pattern of institutions where they work are related to their working pattern.
H₀: The teaching experience of the sample is not dependant on their designation.

H₁: The teaching experience of the sample is depended on their designation.

H₀: The computer knowledge is not related to the designations.

H₁: The computer knowledge is related to the designations.

H₀: The number of e-resources read by the sample population in a given period varies.

H₁: The number of e-resources read by the sample population in a given period does not vary.

H₀: The habit of browsing the e-resources varies among the sample population.

H₁: The habit of browsing the e-resources does not vary among the sample population.

H₀: The type of subscriptions of e-resources varies among the sample population.

H₁: The type of subscriptions of resources does not vary among the sample population.

H₀: Opinion regarding the type of e-mail alert is not found to be the same among the samples.

H₁: Opinion regarding the type of e-mail is found to be same among the samples.

H₀: The type preferred for reading is specific core e-resources

H₁: The type preferred for reading Scientific e-resources along with specific Interests
$H_0$: The usage of search engines for retrieving relevant information from the Internet differs among the samples.

$H_1$: The usage of search engines for retrieving the relevant information from the Internet does not differ among the samples.

$H_0$: The preference for reading full text e-resources varies among the samples.

$H_1$: The preference for reading full text e-resources does not vary among the samples.

$H_0$: Document search links by the sample population with the terms provided in the website is not considered as major problems.

$H_1$: Document search links by the sample population with the terms provided in the website is considered as major problems.

$H_0$: The preference for the format for reading full text e-resources varies among the sample space.

$H_1$: The preference for the format for reading full text e-resources does not vary among the sample space.

$H_0$: The choice of reading the e-resources by the sample population does not depend on title or author.

$H_1$: The choice of reading the e-resources by the sample population depends on title or author.

$H_0$: The number of screens of e-resources browsed by the sample population in a month is $\leq 5$.

$H_1$: The number of screens of e-resources browsed by the sample population in a given period $> 5$. 
H\(_0\): The choice of using e-resources by the sample population is not much useful to their work.

H\(_1\): The choice of using e-resources by the sample population is very much useful to their work.

### 3.8 Ethical Issues

Unlike print publications, electronic resources are not purchased outright and usually require a license agreement to be in place. The license should be reviewed to inform and support the valuation process, and to ensure that it reflects the selector's expectations prior to purchase in line with information gathered and assessed to date. It is preferable to obtain where possible, a standard model license agreement that describes the rights of the library in easy-to-understand and explicit language. A Shared Electronic Resource Understanding, which relies on existing the copyright Law and a mutual agreement between resource provider and library to operate within a framework of shared understanding and good faith are emerging as an alternative to a license agreement.

### 3.9 C++ Programming Code

The collected data has been tested by using a C++ programme language.

**Programme**

```cpp
#include <iostream.h>
#include <conio.h>
#include <iomanip.h>
#include <stdio.h>
```
const int N = 3;
char st[20];
char na[N][50] = { "Professor", "Associate Professor", "Assistant Professor"};
int r1[N];
int ori[N] = {80, 120, 200};
int r2[N];

void line()
{
    for (int i = 1; i <= 60; i++)
    {
        cout << "-";  
    }
    cout << endl << endl;
}

void input()
{
    for (int i = 0; i < N; i++)
    {
        cout << "Enter the Number of " " : ";
        cin >> r1[i];
        r2[i] = ori[i] - r1[i];
    }
}

void main()
{
    float cs[N] = {0};
    float e[N*2] = {0};
    float o_e[N*2] = {0}, f[N*2] = {0};
    float r1s, r2s, s = 0;
    clrscr(); input();
    r1s = r2s = s = 0;
    for (int i = 0; i < N; i++)
    {
        r1s = r1s + r1[i];
    }
}
for (i = 0; i < N; i++)
    r2s = r2s + r2[i];
for (i = 0; i < N; i++)
    cs[i] = r1[i] + r2[i];
for (i = 0; i < N; i++)
    e[i] = float(r1s) * cs[i] /
            (r1s+r2s);
for (i = 0; i < N; i++)
    e[3+i]=float(r2s)*cs[i]/
            (r1s+r2s);
for (i = 0; i < N; i++)
{
    float p = r1[i] - e[i];
    o_e[i] = p*p;
}
int j = N;
for (i = 0; i < N; i++, j++)
{
    float p = r2[i] - e[j];
    o_e[j] = p*p;
}
for (i = 0; i < N*2; i++)
    f[i] = o_e[i]/e[i];
cout.precision(2);
cout.setf(ios::fixed|ios::showpoint);
cout <<"\nEnter the Hypothesis   : ";
gets(st);
cout << endl;   line();
cout << "Total  = "<<"\t"<<r1s "\t"
<<r2s << endl << endl;
cout <<"subtotal = \t";
for (i = 0; i < N; i++)
{
    cout << cs[i] <<"\t";
}
cout << endl << endl;
line();
cout <<"\\n\\nFinal Total \n\\n\\n\\n(0-E)^2/E\\n\\n\\n\\n";
cout <<" O\t E\t (O-E)^2\t\t (O-E)^2/E\\n\\n\\n\\n";
line();
for (i = 0,j=0; i < N; i++,j++)
{
    cout << setw(7) << r1[i]
        << setw(15)
        << e[j] << setw(15) << o_e[j]
        << setw(15) << f[j] << endl
        << endl;
}
for (i = 0; i < N; i++,j++)
{
    cout << setw(7) << r2[i]
        << setw(15) << e[j]
        << setw(15) << o_e[j]
        << setw(15) << f[j]
        << endl << endl;
}
line();
for (i = 0; i < 6; i++)
    s = s + f[i];

cout<<endl<< setw(52)<< s<< endl;
line();  getch();
}
3.10 C++ Programming Execution

Enter the Number of Professor : 23
Enter the Number of Associate Professor : 62
Enter the Number of Assistant Professor : 95
Enter the Hypothesis : Institutions Vs Designations

------------------------------------------------------------
Total = 180.00 220.00
subtotal = 80.00 120.00 200.00
------------------------------------------------------------
Final Total

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>E</td>
<td>(O-E)^2 (O-E)^2/E</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>-------------------</td>
</tr>
<tr>
<td>23</td>
<td>36.00</td>
<td>169.00 4.69</td>
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<tr>
<td>62</td>
<td>54.00</td>
<td>64.00 1.19</td>
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<td>95</td>
<td>90.00</td>
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<td>57</td>
<td>44.00</td>
<td>169.00 3.84</td>
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<td>58</td>
<td>66.00</td>
<td>64.00 0.97</td>
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<td>105</td>
<td>110.00</td>
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<tr>
<td>---</td>
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<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

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11.20
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Enter the Number of Professor : 0

Enter the Number of Associate Professor : 36

Enter the Number of Assistant Professor : 78

Enter the Hypothesis : Teaching Experience Vs Designation

------------------------------------------------------------

Total = 114.00 286.00
subtotal = 80.00 120.00 200.00

------------------------------------------------------------

Final Total

<table>
<thead>
<tr>
<th>O</th>
<th>E</th>
<th>(O-E)^2</th>
<th>(O-E)^2/E</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>22.80</td>
<td>519.84</td>
<td>22.80</td>
</tr>
<tr>
<td>36</td>
<td>34.20</td>
<td>3.24</td>
<td>0.09</td>
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<tr>
<td>78</td>
<td>57.00</td>
<td>441.00</td>
<td>7.74</td>
</tr>
<tr>
<td>80</td>
<td>57.20</td>
<td>519.84</td>
<td>9.09</td>
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<tr>
<td>84</td>
<td>85.80</td>
<td>3.24</td>
<td>0.04</td>
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<tr>
<td>122</td>
<td>143.00</td>
<td>441.00</td>
<td>3.08</td>
</tr>
</tbody>
</table>

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42.84

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