Chapter 3

Trends and effectiveness of reemploying

Analysis of data is the key step in research work. After collection of data with the help of appropriate tools and techniques as described in the previous chapter, the next logical step is to analyze and interpret data in order to provide an empirical solution to the problem. The data analysis for the present research was done quantitatively with the help of descriptive as well as inferential statistics.

In this chapter we analyze the data that were collected from various organizations regarding the trends of hiring of new candidates vis-a-vis the rehiring of former employees over a period of three years from 2010 to 2013. The required organizational data were obtained from the human resources professionals of various organizations falling under the following two industries.
A total of 169 respondents responded to the survey which exceeded the targeted sample size of 150. A total number of 95 responses out of 169 were received from Banking and Finance sector and the remaining 74 from Healthcare sector.

**Chart 3.1 – Comparison between the participating industries**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Human Resources Managers</th>
<th>Reemployed Former Employees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking and Finance</td>
<td>41</td>
<td>54</td>
<td>95</td>
</tr>
<tr>
<td>Health Care</td>
<td>23</td>
<td>51</td>
<td>74</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>105</td>
<td>169</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”
With nearly 56.2% response from Banking and finance and the remaining 43.8% from Healthcare, it can be noted that both sectors are well represented.

**Chart 3.2 – Responses from Human Resources Managers Vs those from Rehired Employees**

It can be noted that 105 responses were from rehired employees and the remaining 64 responses were from human resources managers. Of the 105 responses from rehired employees, 51.4% was from Banking and Finance sector and the remaining 49.6% was from health care sector.
Out of the 64 responses from human resources managers, 23 human resources managers responded from Healthcare industry while 41 responded from Banking and finance sector. That is 36% of the response was from healthcare industry and 65% from banking sector.

Table 3.2 – Sex-wise distribution of responses

<table>
<thead>
<tr>
<th>Industry</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking and Finance</td>
<td>71</td>
<td>24</td>
<td>95</td>
</tr>
<tr>
<td>Health Care</td>
<td>23</td>
<td>51</td>
<td>74</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>75</td>
<td>169</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

Out of the 169 responses received, 94 respondents were males and 75 respondents were females. 71 out of 94 male respondents belong to banking and finance industry while 23 belong to health care sector. 24 out of 75 female respondents belong to banking and finance sector while 51 belong to health care sector.

It can be seen that 55.6% of the respondents were males and 44.4% of the respondents were females. This shows that the survey is equally been participated by both males and females and the survey has no gender bias.
Chart 3.3 – Showing the sex-wise response

Table 3.3 – Sex-wise distribution of responses received from human Resources Managers and Rehired Employees

<table>
<thead>
<tr>
<th></th>
<th>Human Resources Managers</th>
<th>Rehired Employees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>33</td>
<td>61</td>
<td>94</td>
</tr>
<tr>
<td>Females</td>
<td>31</td>
<td>44</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>105</td>
<td>169</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

The above table shows that 33 respondents out of 94 males were human resources managers while 61 were rehired employees. Out of the 75 female
respondents, 31 were human resources managers and 44 were rehired employees.

Chart 3.4 – Sex-wise distribution of response received from Human Resources Managers

Chart 3.5 – Sex wise response received from Rehired Employees
<table>
<thead>
<tr>
<th>Size of the organization (Number of Employees)</th>
<th>Number of Response</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;500</td>
<td>21</td>
<td>33%</td>
</tr>
<tr>
<td>500-1000</td>
<td>14</td>
<td>22%</td>
</tr>
<tr>
<td>&gt;1000</td>
<td>29</td>
<td>45%</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

The above table shows that out of the total of 64 human resources managers who responded for the questionnaire, 21 belong to the organizations that have less than 500 employees. 14 of them were from organizations with size between 500 to 1000 employees and the rest (19 respondents) belong to organization with more than 1000 employees.
Chart 3.6 - Distribution of responses by Industry Size

The Chart 3.6 shows that 33% of the responses came from the respondents who belong to organization with less than 500 employees and 67% of the responses were received from the organizations that are larger than 500 employees while more than 45% received from organizations larger than 1000 employees.
Table 3.5 – Trends in hiring of New Vs Rehired Employees from 2010 - 2013

<table>
<thead>
<tr>
<th>New VS Rehires</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total offers made</td>
<td>398</td>
<td>498</td>
<td>537</td>
<td>1433</td>
</tr>
<tr>
<td>Total offers for the new hires</td>
<td>372</td>
<td>483</td>
<td>531</td>
<td>1386</td>
</tr>
<tr>
<td>Percentage of New to Total</td>
<td>93%</td>
<td>97%</td>
<td>99%</td>
<td>97%</td>
</tr>
<tr>
<td>Total offers for the rehires</td>
<td>26</td>
<td>15</td>
<td>6</td>
<td>47</td>
</tr>
<tr>
<td>Percentage of Rehires to Total</td>
<td>7%</td>
<td>3%</td>
<td>1%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

Questionnaire I (Annexure III) was administered to the senior human resources professionals who are responsible for talent acquisition in their organization to obtain the data regarding the employment offers made to the new candidates vis – a – vis to the former employees.

The above table shows the total number of offers made during the three year period from 2010-11 till 2013 in 15 organization in Banking and finance sector. A total of 1433 offers were made during the said three years, of which, 1386 were made to new candidates while 47 were made to the former employees. During the said three years on an average 97% of the offers were made to new candidates while 3% were offered to the former employees.
During the year 2010-11, a total of 398 offers were made for appointments of which 372 were made to the new candidates while 26 offers were made to the former employees. It can be seen that 93% of the total offers were made to new employees while 7% offers were made to former employees.

**Chart 3.7 – Employment offers made for new candidates and the former employees from 2010 to 2013**

During the year 2011-12, a total of 498 offers were made for appointments of which 483 were made to the new candidates while 15 offers were made to the former employees. It can be seen that 97% of the total offers were made to new employees while 3% offers were made to former employees.

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During the year 2012-13, a total of 537 offers were made for appointments of which 531 were made to the new candidates while a meager 6 offers were made to the former employees. While 99% of the total offers were made to new employees, only 1% of the offers were made to former employees.

**Chart 3.8 – Percentage of new employment vs rehiring (2010 – 2013)**

While a growth of 25% was seen in 2011-12 over its previous year in total employment, a growth of 30% was seen in new hires during this period. It is important to note that there was a reduction of 42% in rehiring of former employees during the same period.

During the following year this further reduced by 60% as compared to a growth of 9.9% in new hires and 8% growth in the total employment over
2011-12. This clearly reconfirms the possibility of diluting of attention towards rehiring the former employees.

**Interpretation:**

It can be noted that while there is a gradual increase in the offers made to the new candidates for the three year period between 2010 till 2013, there is a gradual reduction in offers made to former employees during the same period.

It grew steadily from 93% to 99% while the offers made to former employees decreased from 7% in 2010-2011 to 1% in 2012-13. It can be interpreted that organizations do not focus on reemploying the former employees and whatever the employment of former employees take place is purely accidental. It can be inferred that most of the organizations do not have any specific strategy towards hiring the former employees.
Table 3.6 – Correlation between the numbers of employment offers made to new candidates with the years of hiring

<table>
<thead>
<tr>
<th>Year</th>
<th>Year</th>
<th>New employees Hired during the year</th>
<th>$x_i^2$</th>
<th>$y_i^2$</th>
<th>$x_i* y_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>10</td>
<td>372</td>
<td>100</td>
<td>138384</td>
<td>3720</td>
</tr>
<tr>
<td>2011-12</td>
<td>11</td>
<td>483</td>
<td>121</td>
<td>233289</td>
<td>5310</td>
</tr>
<tr>
<td>2011-12</td>
<td>12</td>
<td>537</td>
<td>144</td>
<td>288369</td>
<td>6444</td>
</tr>
</tbody>
</table>

$\Sigma x_i = 33$  $\Sigma y_i = 1392$  $\Sigma x_i^2 = 365$  $\Sigma y_i^2 = 660042$  $\Sigma x_i* y_i = 15477$

$\bar{x} = 11$  $\bar{y} = 464$

Source: “Data collected through primary source”

\[
r = \frac{\sum x_i y_i - n \bar{x} \bar{y}}{\sqrt{\sum x_i^2 - n \bar{x}^2} \sqrt{\sum y_i^2 - n \bar{y}^2}}
\]

\[
= \frac{15477 - 15312}{\sqrt{365 - 363} \sqrt{660042 - 645888}}
\]

\[
= \frac{15477 - 15312}{\sqrt{365 - 363} \cdot \sqrt{660042 - 645888}}
\]

\[
= \frac{165}{1.414 \cdot 118.97}
\]

\[
= \frac{165}{168.2}
\]

\[
r = 0.981
\]

The sample correlation coefficient (r) between the number of employment offers made to new candidates with the period of employment is 0.981, which means there exist a positive correlation between the employment offers made to new employees with the year of employment.
Hypothesis - 1:

Let $\rho$ denote the correlation coefficient between number of employment offers made to new candidates with the period of hiring

Null hypothesis: There is no correlation between number of employment offers made to new candidates with the period of hiring.

$H_0: \rho = 0$

Alternative hypothesis: There exists a significant correlation between number of offers made to new candidates with the period of hiring.

$H_A: \rho \neq 0$

The test statistic is

$$t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}}$$

with (n-2) degrees of freedom.

where $r$ is the sample correlation coefficient

$$t = \frac{0.981 \sqrt{3 - 2}}{\sqrt{1 - 0.9623}}$$

$$t = \frac{0.981}{0.19401}$$
\[ t = 5.05 \]

As \( H_A \) is two sided, we shall determine the rejection regions applying two-tailed test at 5% level with one degree of freedom which comes under using Student’s \( t \)-Distribution:

\[ R: |t| > 12.706 \]

The observed value is 5.05 which is in the acceptance region and thus, \( H_0 \) is accepted and as such we conclude that there exists no significant correlation between the number of new hires with the year of hire.
Table 3.7 – Correlation between numbers of employees rehired with the years of hiring

<table>
<thead>
<tr>
<th>Year</th>
<th>$x_i$</th>
<th>Former Employees Hired during the year $y_i$</th>
<th>$x_i^2$</th>
<th>$y_i^2$</th>
<th>$x_i \cdot y_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>10</td>
<td>26</td>
<td>100</td>
<td>676</td>
<td>260</td>
</tr>
<tr>
<td>2011-12</td>
<td>11</td>
<td>15</td>
<td>121</td>
<td>225</td>
<td>165</td>
</tr>
<tr>
<td>2011-12</td>
<td>12</td>
<td>6</td>
<td>144</td>
<td>36</td>
<td>72</td>
</tr>
</tbody>
</table>

$\Sigma x_i = 33$  $\Sigma y_i = 47$  $\Sigma x_i^2 = 365$  $\Sigma y_i^2 = 937$  $\Sigma x_i \cdot y_i = 497$

$\bar{x} = 11$  $\bar{y} = 15.66$

Source: “Data collected through primary source”

\[
 r = \frac{\sum x_i y_i - n \bar{x} \bar{y}}{\sqrt{\sum x_i^2 - n \bar{x}^2} \sqrt{\sum y_i^2 - n \bar{y}^2}} \\
= \frac{497 - 516.78}{\sqrt{365 - 363} \cdot \sqrt{937 - 735.7}} \\
= \frac{-19.78}{1.41 \cdot 14.19} \\
= -0.989
\]

The sample correlation coefficient ($r$) between the number of employment offers made to the former employees with the period of employment is -0.989, which means there exist a negative correlation between the employment offers made to former with the year of employment.
Hypothesis – 2:

Let $\rho$ denote the correlation coefficient between number of employment offers made to former employees with the year of hiring.

Null hypothesis: There is no correlation between number of employment offers made to former employees with the year of hiring.

$H_0: \rho = 0$

Alternative hypothesis: There exists a significant correlation between number of offers made to former employees with the year of hiring.

$H_A: \rho \neq 0$

The test statistic is

$$t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}}$$

with (n-2) degrees of freedom, where $r$ is the sample correlation coefficient.

$$t = \frac{0.986 \sqrt{3 - 2}}{\sqrt{1 - 0.9623}}$$

$$t = \frac{0.986}{0.1667}$$
\[ t = 5.91 \]

As \( H_A \) is two sided, we shall determine the rejection regions applying two-tailed test at 5% level with one degree of freedom which comes under using Student’s \( t \)-Distribution:

\[ R:|t|>12.706 \]

The observed value is 5.91 which is in the acceptance region and thus, \( H_0 \) accepted and such we conclude that there exists no correlation between the number of rehired former employees with the year of employment.
Table 3.8 – Correlation between hiring of new employees and former employees

<table>
<thead>
<tr>
<th>Year</th>
<th>New Employees hired during the year</th>
<th>Former Employees hired during the year</th>
<th>$x_i^2$</th>
<th>$y_i^2$</th>
<th>$x_i*y_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>372</td>
<td>26</td>
<td>138384</td>
<td>676</td>
<td>9672</td>
</tr>
<tr>
<td>2011-12</td>
<td>483</td>
<td>15</td>
<td>233289</td>
<td>225</td>
<td>7245</td>
</tr>
<tr>
<td>2011-12</td>
<td>537</td>
<td>6</td>
<td>288369</td>
<td>36</td>
<td>3222</td>
</tr>
<tr>
<td>Σ $x_i$ = 1392</td>
<td>Σ $y_i$ = 47</td>
<td>Σ $y_i^2$ = 660042</td>
<td>Σ $y_i^2$ = 937</td>
<td>Σ $x_i*y_i$ = 20135</td>
<td></td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

$$r = \frac{\sum x_i y_i - n \bar{x} \bar{y}}{\sqrt{\sum x_i^2 - n \bar{x}^2} \sqrt{\sum y_i^2 - n \bar{y}^2}}$$

$$= \frac{20135 - 21798}{\sqrt{660042 - 645888} \sqrt{937 - 735.71}}$$

$$= \frac{-1663}{118.97 \times 14.19}$$

$$r = -0.938$$

The sample correlation coefficient ( $r$ ) between the number of employment offers made to new candidates with the period of employment is 0.981, which means there exist a positive correlation between the employment offers made to new employees with the period of employment.
Hypothesis – 3:

Let $\rho$ denote the correlation coefficient between number of employment offers made to new candidates with that of the offers made to former employees.

Null hypothesis: There is no correlation between number of employment offers made to new candidates with that of the offers made to former employees.

$H_0 : \rho = 0$

Alternative hypothesis: There exists a significant correlation between number of offers made to new candidates with that of the offers made to former employees.

$H_A : \rho \neq 0$

The test statistic is

$$t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}}$$

With (n-2) degrees of freedom, where $r$ is the sample correlation coefficient.
\[
t = \frac{0.938 \sqrt{3-2}}{\sqrt{1-0.8798}}
\]

\[
t = \frac{0.938}{0.34664}
\]

\[
t = 2.706
\]

As \(H_A\) is two sided, we shall determine the rejection regions applying two-tailed test at 5% level with one degree of freedom which comes under using Student’s \(t\)-Distribution:

\[
R:|t|>12.706
\]

The observed value is 2.706 which is in the acceptance region and thus, \(H_0\) is accepted as such we conclude that there exist no correlation between the offers made to new hires and that of the offers made to former employees.
Table 3.9 – Trends in number of offers made for employment and that of acceptance by the new employees

<table>
<thead>
<tr>
<th></th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Number of Offers Made</strong></td>
<td>372</td>
<td>483</td>
<td>531</td>
<td>1386</td>
</tr>
<tr>
<td><strong>Total Number of Acceptance</strong></td>
<td>309</td>
<td>377</td>
<td>345</td>
<td>1031</td>
</tr>
<tr>
<td><strong>Acceptance to offers made for New Hires (%)</strong></td>
<td>83</td>
<td>78</td>
<td>65</td>
<td>74</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

The above table shows that during 2010-11 a total of 372 offers for employment were made to the new candidates of which 309 candidates accepted the offer and joined the company for employment.

During 2011-12, 483 offers were made to new candidates of whom 377 new candidates accepted the offer. It can be seen that during 2012-13, 531 offers were made against which only 345 accepted the offers and joined the company.

Over a period of three years from 2010-11 to 2012-13 it can be seen that a total of 1386 employment offers were made of which only 1031 new candidates accepted the employment offers and joined the organization.
A growth 29.8% in hiring was seen in 2011-12 over its previous period of 2010-11 where as 9.9% growth in hiring was seen in 2012-13 over its previous year 2011-12. As against the employment offer, the acceptance of the offers made saw a growth of 22% growth in 2011-2012 over its previous year 2010-11 where as a negative growth of 8% was seen in the year 2012-13 over its previous year 2011-12.
Chart 3.10 – Ratio of acceptance to offers made for employment for new candidates.

The above Chart shows that while 83% of the new candidates accepted the offers made to them during the year 2010-11, 78% of the new candidates accepted the offers during 2011-12. Only 65% of the new candidates accepted the employment offer made to them during the year 2012-13. On an average 74% of the new candidates accepted the offers made for employment over the three year period from 2010-11 to 2012-13.
Table 3.10 – Correlation between numbers of employment offers and the acceptance of the offer by the new candidates

<table>
<thead>
<tr>
<th>Year</th>
<th>Offer of Employment made to New Candidates $x_1$</th>
<th>Acceptance of the offers by New Candidates $y_i$</th>
<th>$x_i^2$</th>
<th>$y_i^2$</th>
<th>$x_i \times y_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>372</td>
<td>309</td>
<td>138384</td>
<td>95481</td>
<td>114948</td>
</tr>
<tr>
<td>2011-12</td>
<td>483</td>
<td>377</td>
<td>233289</td>
<td>142129</td>
<td>182091</td>
</tr>
<tr>
<td>2011-12</td>
<td>531</td>
<td>345</td>
<td>281961</td>
<td>119025</td>
<td>183195</td>
</tr>
</tbody>
</table>

$\Sigma x_i = 1380 \quad \Sigma y_i = 1031 \quad \Sigma x_i^2 = 653634 \quad \Sigma y_i^2 = 356635 \quad \Sigma x_i \times y_i = 480234$

$\bar{x} = 462 \quad \bar{y} = 343.66$

Source: “Data collected through primary source”

$$r = \frac{\sum x_i y_i - n \bar{x} \bar{y}}{\sqrt{\sum x_i^2 - n\bar{x}^2} \sqrt{\sum y_i^2 - n\bar{y}^2}}$$

$$= \frac{480234 - 476313}{\sqrt{653634 - 640332} \sqrt{356635 - 354320}}$$

$$= \frac{3921}{\sqrt{11533} \times 18.11}$$

$$r = 0.706$$

The sample correlation coefficient ($r$) between the number of employment offers made to new candidates with number of candidates accepting the offer is 0.706, which means there exist a positive correlation between the employment offers made to new employees with the number of candidates accepting the offer.
Hypothesis – 4 :

Let \( \rho \) denote the correlation coefficient between number of employment offers made to new candidates with the number of acceptance of the offers

Null hypothesis: There is no correlation between number of employment offers made to new candidates with the number of acceptance.

\[ H_0: \rho = 0 \]

Alternative hypothesis: There exists a significant correlation between number of offers made to new candidates with the number of acceptance.

\[ H_A: \rho \neq 0 \]

The test statistic is

\[ t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}} \]

With (n-2) degrees of freedom, where \( r \) is the sample correlation coefficient

Where \( r \) is the sample correlation coefficient
As $H_A$ is two sided, we shall determine the rejection regions applying two-tailed test at 5% level with one degree of freedom which comes under using Student’s $t$-Distribution:

$$R: |t| > 12.706$$

The observed value is 1 which is in the acceptance region and thus, $H_0$ is accepted as such we conclude that there exists no correlation between offers made to the offers accepted by the new candidates. That is if an offer is made to a new hire, one cannot be sure that he or she would accept the offer.
Table 3.11 – Trends in offers made Vs acceptance by the former employees between 2010 and 2013

<table>
<thead>
<tr>
<th></th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Offers Made</td>
<td>26</td>
<td>15</td>
<td>6</td>
<td>47</td>
</tr>
<tr>
<td>Total Number of Acceptance</td>
<td>25</td>
<td>14</td>
<td>6</td>
<td>45</td>
</tr>
<tr>
<td>Acceptance to offers made for Rehires (%)</td>
<td>96</td>
<td>93</td>
<td>100</td>
<td>96</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

The above table shows that during 2010-11 a total of 26 offers were made to the former employees of which 25 employees accepted the offer and joined the organization for employment. That is 96% of the former employees accepted the offer of employment as compared 87% of the new candidates accepted the offer made for employment during 2010-11.

During 2011-12, 15 offers for employment were made to new employees of whom 14 employees accepted the offers. That is 93% of the former employees accepted the offer as compared to only 78% of the new candidates accepted the offer of employment during that year.

In 2012-13, 6 offers were made against which all the 6 accepted the offers and joined the company. That is nearly 100% of the former employees
accepted the employment offer as compared to only 65% of the new candidates accepting the offer during 2012-13. In total, for a period of three years, 47 former employees were offered with the employment of which 45 accepted the offer and joined the organization.

Chart 3.11 – Ratio of acceptance to offers made for employment to the former employees.

A de-growth 42.3% in rehiring was seen in 2011-12 over its previous period of 2010-11 where as 60% growth in hiring was seen in 2012-13 over its previous year 2011-12.
As against the employment offer to former employees, the acceptance of the offers made saw a negative growth of 44% de-growth in 2011-2012 over its previous year 2010-11 where as a negative growth of 57.14% was seen in the year 2012-13 over its previous year 2011-12.

**Chart 3.12 – Percentage of acceptance to offers made for employment to former employees**

The above Chart shows that while 96% of the former accepted the offers made to them during the year 2010-11, 93% of the new candidates accepted the offers during 2011-12. Almost the entire 100% of the employees accepted the employment offer made to them during the year 2012-13. On an average 96% of the new candidates accepted the offers made for employment over the three year period from 2010-11 to 2012-13.
Table 3.12 – Correlation between numbers of employment offers made to and that of the acceptance by the former employees

<table>
<thead>
<tr>
<th>Year</th>
<th>$x_i$</th>
<th>Former Employees Hired during the year $y_i$</th>
<th>$x_i^2$</th>
<th>$y_i^2$</th>
<th>$x_i y_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>26</td>
<td>25</td>
<td>676</td>
<td>625</td>
<td>650</td>
</tr>
<tr>
<td>2011-12</td>
<td>15</td>
<td>14</td>
<td>225</td>
<td>196</td>
<td>210</td>
</tr>
<tr>
<td>2011-12</td>
<td>6</td>
<td>6</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

| $\Sigma x_i = 47$ | $\Sigma y_i = 45$ | $\Sigma x_i^2 = 937$ | $\Sigma y_i^2 = 857$ | $\Sigma x_i y_i = 896$ |

$\bar{x} = 15.67$ $\bar{y} = 15$

Source: “Data collected through primary source”

$$r = \frac{\sum x_i y_i - n\bar{x}\bar{y}}{\sqrt{\sum x_i^2 - n\bar{x}^2} \sqrt{\sum y_i^2 - n\bar{y}^2}}$$

$$= \frac{896 - 705}{\sqrt{937 - 736} \sqrt{857 - 675}}$$

$$= \frac{191}{14.16 \times 13.49}$$

$$r = 0.999$$

The sample correlation coefficient ($r$) between the number of employment offers made to former employees with the number of acceptance is 0.999, which shows there exists a strong positive correlation between the employment offers made to new employees with the number of acceptance.
Hypothesis – 5:

Let $\rho$ denote the correlation coefficient between number of employment offers made to former employees with the number of acceptance of the offer

Null hypothesis: There is no correlation between number of employment offers made to former employees with the number of acceptance of such offers

$H_0: \rho = 0$

Alternative hypothesis: There exists a significant correlation between number of offers made to former employees with the number of acceptance.

$H_A: \rho \neq 0$

The test statistic is

$$t = \frac{r \sqrt{n - 2}}{\sqrt{1 - r^2}}$$

with (n-2) degrees of freedom, where $r$ is the sample correlation coefficient
\[ t = \frac{0.999 \times \sqrt{3-2}}{\sqrt{1-0.998}} \]

\[ t = \frac{0.999}{0.0447} \]

\[ t = 22.34 \]

As \( H_A \) is two sided, we shall determine the rejection regions applying two-tailed test at 5% level with one degree of freedom which comes under using Student’s \( t \)-Distribution:

\[ R:|t|>12.706 \]

The observed value is 22.34 which is in the rejection region and thus, we reject \( H_0 \) in favor of \( H_a \) and as such we conclude that there exist a significant positive correlation between the total number of offers made and accepted by the former employees.

That means when an offer is made to a former employee, there is a high level of certainty about his or her acceptance of the offer and eventually joining the organization.
Hypothesis – 6 :

Null hypothesis: There is no difference between new hires and the rehires with reference to the acceptance of offers made to them

$$H_0: P_1 = P_2$$

Alternate hypothesis: The acceptance of the offers made to new hires and the rehires is significantly different from each other.

$$H_a: P_1 > P_2$$

$$p_1 = \text{Proportion of acceptance of rehires of the sample} = 0.96$$

$$q_1 = 1 - p_2 = 0.04$$

$$n_1 = \text{Total offers made to rehires} = 47$$

$$p_2 = \text{Proportion of acceptance of new hires of the sample} = 0.74$$

$$q_2 = 1 - p_2 = 0.26$$

$$n_2 = \text{Total offers made to New hires} = 1386$$

$$z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\frac{\hat{p}_1 \hat{q}_1}{n_1} + \frac{\hat{p}_2 \hat{q}_2}{n_2}}}$$
As Ha is two sided, we shall determine the rejection regions applying two-tailed test at 5% level which comes under using normal curve area table:

\[ R: |z| > 1.645 \]

The observed value is 7.119 which is in the rejection region and thus, Ho is rejected in favor of Ha and as such we conclude that the difference between the acceptance rate of rehires and the new hires is significantly different and the data shows that acceptance rate of former employees is significantly higher than that of the new hires.

That means the recruitment of former employees is much more effective as they tend to accept the offers and hence the probability of success is significantly more than the new hires.
Table 3.13 – Trends in attrition of new employees within one year of joining between 2010 and 2013

<table>
<thead>
<tr>
<th></th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of new hires</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>accepting the offer</td>
<td>309</td>
<td>377</td>
<td>345</td>
<td>1031</td>
</tr>
<tr>
<td>Number of Employee Attrition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>within 1 year of joining</td>
<td>105</td>
<td>87</td>
<td>45</td>
<td>237</td>
</tr>
<tr>
<td>Attrition to acceptance of New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees within 1 year (%)</td>
<td>34</td>
<td>23</td>
<td>13</td>
<td>23</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

First one year of employment is very critical for both the employees as well as the employers. During this period, company spends lot of time, effort and money to train the new candidates to prepare them to suit to the culture of the organization and deliver the service as expected out of them. Practically the candidates will be of little or of no use to the organization during this period. Only when the candidates complete the first year successfully, they will prove to be beneficial to the organization.

All the efforts of recruiting them will bear fruits only when then continue to work beyond the first year of employment. If the candidates leave the
organization within the first year, the entire cost of training them will prove to be futile and the organization has to once again repeat the entire exercise of filling the vacancies created.

**Chart 3.13 – Attrition of the new employees during the three year period within one year from the date of joining.**

Table 3.13 shows that during 2010-11 out of the 309 new candidates who accepted the offer and joined the organization, 105 of them resigned from the employment and left the organization where as only 204 candidates went on to continue to work after one year of employment with the organization.
During 2011-12, out of the 377 new candidates who accepted the offer and joined the organization, 87 of them chose to quit the organization and nearly 290 of them went on to continue with the organization after one year of service with the organization.

During 2012-13, out of the 345 new candidates who accepted the offer, 45 of them resigned from the employment and quit the organization within one year of employment.

**Chart 3.14 – Percentage of attrition of the new employees within one year from the date of joining**

<table>
<thead>
<tr>
<th>Year</th>
<th>Attrition (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>34</td>
</tr>
<tr>
<td>2011-12</td>
<td>23</td>
</tr>
<tr>
<td>2012-13</td>
<td>13</td>
</tr>
</tbody>
</table>
From the Chart 3.14, it can be seen that during 2010-11 34% of the new candidates resigned from the employment and quit the organization within one year from the date of employment. Whereas 23% of the new candidates resigned during 2011-12 while 13% of the new candidates resigned from the employment during 2012-13 within one year of employment. On an average 23% of the total new candidates hired between 2010-11 and 2012-13 resigned from the employment within one year of employment.

One other significant thing that can be noticed is that the attrition of the employees fell gradually from 2010-11 to 2012-13 from 34% to 13%. One of the reasons for this phenomenon is the gradual decline in the job market due to poor economy that the country was facing during the 3 year of study.
Table 3.14 – Trends in attrition of new employees within one year of joining in between 2010 and 2013

<table>
<thead>
<tr>
<th></th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Acceptance</td>
<td>25</td>
<td>14</td>
<td>6</td>
<td>47</td>
</tr>
<tr>
<td>Number of Employees Leaving</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>within one year of joining</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Attrition to acceptance of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rehires within one year (%)</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

The table 3.14 shows that during the year 2010-11 a total of 25 former employees had accepted the offer and joined the organization. One rehired former employee quit the organization once again before completion of one year. During 2011-12 a total of 14 rehired employees who had accepted the offer and joined the organization, one of them again left the organization within one year, where as in 2012-13 out of the six rehired employees no one left within one year of completion in the organization.
Chart 3.15 – Attrition of the new employees during the three year period within one year from the date of joining.

Chart 3.16 – Ratio of attrition within one year from the date of joining to acceptance of new employees and rehired employees for a period of three years between 2010 and 2013.
Chart 3.16 shows that the attrition of the rehired employees who left the organization within one year of joining varied between 0 to 7% for a three year period between 2010-11 and 2012-13 with an average of 4.2% of the rehired employees. As compared to this the attrition of new employees who left the organization within one year of joining varied between 13 to 34% for a three year period between 2010-11 and 2012-13 with an average of 23% of the rehired employees which is significantly higher than that of former employees.
Hypothesis – 7:

Null hypothesis: There is no difference between the attrition rate of new hires and that of the rehires within one year of joining the organization.

Let $P_1$ and $P_2$ denote the population attrition rates for new hires and the rehired employees respectively

$$H_0: P_1 = P_2$$

Alternate hypothesis: The attrition rate of new hires within one year is significantly higher compared to the attrition rate of rehired employees.

$$H_a: P_1 > P_2$$

Sample rates:

$$p_1 = \text{rate of attrition of new hires within one year of joining} = 0.23$$

$$q_1 = 1 - p_1 = 0.77$$

$$n_1 = \text{Total number of New hires} = 1031$$

$$p_2 = \text{attrition rate of rehires within one year of joining the organization} = 0.042$$
\[ q_2 = 1 - p_2 = 0.9574 \]

\[ n_2 = \text{Total number of rehires} = 45 \]

\[ z = \frac{q_1 - q_2}{\sqrt{\frac{q_1(1-q_1)}{n_1} + \frac{q_2(1-q_2)}{n_2}}} \]

\[ z = 5.75 \]

As Ha is one sided, we shall determine the rejection regions applying one-tailed test at 5% level which comes under using normal curve area table:

\[ R: |z| > 1.645 \]

The observed value is 5.75 which is in the rejection region and thus, Ho is rejected in favor of Ha and as such we conclude that the attrition rate within one year of joining of new hires is significantly higher than the attrition rate of rehires.
Table 3.15 – The average and standard deviation of length of service of new hires Vs Rehired Employees

<table>
<thead>
<tr>
<th></th>
<th>Sample size</th>
<th>Average Length of Service (in Days)</th>
<th>Standard deviation (in Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Hires</td>
<td>72</td>
<td>636</td>
<td>445</td>
</tr>
<tr>
<td>Rehires</td>
<td>58</td>
<td>1064</td>
<td>541</td>
</tr>
</tbody>
</table>

Source: “Data collected through primary source”

The above table shows that a sample of 72 new employees were taken who left the organizing during 2012-13 and their average tenure was found to be 636 days with a standard deviation of 445 days. This was compared to the average tenure of a sample 58 rehired employees. This was found to be 1064 days with a standard deviation of 541 days.
Chart 3.17 – Average length of Service of new hires Vs Rehired Employees

The above Chart shows that the average length of service of rehired employees is almost 67% more than that of the new hires.
Hypothesis – 8:

Null hypothesis: There is no difference between average length of service of rehired employees ($m_1$) and the average length of service new hires ($m_2$) in the population

\[ H_0: m_1 = m_2 \]

Where $m_1$ and $m_2$ are the population means

Alternative hypothesis: The average length of service of rehired employees is significantly higher compared to the average tenure of new hires

\[ H_a: m_1 > m_2 \]

$\bar{X}_1$ = Sample average length of service of rehires in days

$= 1064$

$\sigma_{s1}$ = Sample Standard deviation length of service of rehires

$= 541$

$n_1$ = Sample size = 58

$\bar{X}_2$ = Sample average length of service of new hires in days
\[
\sigma_{s2} = \text{Sample Standard deviation of length of service new hires} = 636
\]

\[
\sigma_{s2} = 445
\]

\[n_2 = \text{Sample size} = 72\]

\[
z = \frac{X_1 - X_2}{\sqrt{\frac{(n_1-1)\sigma_{s1}^2 + (n_2-1)\sigma_{s2}^2}{n_1 + n_2 - 2}}} \left( \frac{1}{n_1} \right) \left( \frac{1}{n_2} \right)
\]

\[z = 7.119\]

As Ha is one sided, we shall determine the rejection regions applying one-tailed test at 5\% level which comes under using normal curve area table:

R: |z| > 1.645

The observed value is 7.119 which is in the rejection region and thus, Ho is rejected in favor of Ha and as such we conclude that the average tenure of former employees is significantly higher than that of the new hires.

With this we can conclude that the retention of former employees is much easier and effective than that of the new hires. Whenever a former employee comes back to the organization, he/she will come back with a greater resolution to work longer and make sure that he/she is coming back with
greater clarity in his/her mind regarding the career goal. This kind of mindset is very beneficial to the organization to extract better productivity from such employees for a longer period.

**Chapter Summary:**

In this chapter the data received from the senior human resources professional responsible for talent acquisition with respect to hiring of new candidates vis a vis the former employees were analyzed and interpreted. The data from fifteen companies that belong to Banking and Finance sector was received for a period of three years between 2010 and 2013. The senior human resources professionals belonging to Health Care sector did not respond to the questionnaire as they felt the data was sensitive and confidential.

It was noticed that while there is a gradual increase in the offers made to the new candidates for the three year period between 2010 till 2013, there is a gradual reduction in offers made to former employees during the same period. It can be interpreted that organizations do not focus on reemploying the former employees and whatever the employment of former employees take place is purely accidental. This despite the fact that the probability of acceptance of the offers made to new candidates is significantly lower compared to that of rehired employees.
It was also noticed that the attrition rate of new candidates who would leave the organization within one year of employment is significantly higher compared to that of former employees. The average tenure of former employees after they were rehired is significantly more than that of the new candidates showing that the retention of former employees is significantly higher than the new candidates.

It was found that there is a high positive correlation between the number of employment offers made to former employees and the acceptance of offers made by them, indicating that employing former employees is far more effective and beneficial compared to the new candidates.