Chapter 5

Data Analysis and Interpretation
CHAPTER - 5
DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

This chapter presents the various information and data collected during the study on the motivational aspects of the workers of the cement industry in Tamilnadu and an analysis of the same. An employee is motivated mainly due to (i) his personal factors, and (ii) the motivational measures provided to him by his employer.

The personal factors may motivate an employee indirectly. For example, if the length of service of an employee is more, he would have gained more knowledge in his work and would have also become mentally matured. This will make him to understand things in the real spirit and hence his performance will be meaningful and satisfactory. Thus, his job experience acts as a tool in motivating him. Needless to mention that the motivational measures provided to him by his employer will directly motivate him for higher performance. Based on these facts the personal data and the motivational measures provided to them are analysed in this chapter.

The analysis is made under five heads; viz: (1) analysis of personal data of the respondents, (2) analysis of the opinions of the respondents, (3) analysis of the impact of motivational measures on the overall performance of sample units, (4) statistical analysis of the overall motivational measures provided to the workers of the cement industry of TN, and (5) analysis of the impact of motivational measures on the overall behaviour/performance of
the respondents. The subsequent pages deal with the analysis of data in this order.

5.2 ANALYSIS OF PERSONAL DATA OF THE RESPONDENTS

In this section, personal factors such as age, educational qualification, length of service, (in years), family size (number of dependants of the workers), and nativity of the respondents are analysed. Data relating to all the study units have been separately given and analysed. Based on the analyses, interpretations have also been presented.

5.2.1 AGE-WISE CLASSIFICATION OF THE RESPONDENTS

Age plays an important part on the performance of an employee. The management of the study units has classified the workers into three categories on the basis of their age – the categories being 21 to 35 years, 35 to 50 years and 50 years and above. They have made this classification because, in their opinion, the people below the age of 35 years, though healthy to work hard, do not take much responsibility and show a lethargic attitude towards their work, the people above the age of 50 years will work with an involvement but will not have enough strength to work hard and the people in the age group of 35 to 50 years will have both interest and health to do their work efficiently. In accordance with opinion of the managements, the respondents of the present study were classified into three groups and the break-up of the figures is given in Table 5.2.1.
TABLE 5.2.1
AGE-WISE CLASSIFICATION OF RESPONDENTS

<table>
<thead>
<tr>
<th>UNITS AND SECTOR</th>
<th>Age (Years)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21 to 35</td>
<td>35 to 50</td>
<td>50 and above</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>A</td>
<td>17</td>
<td>19.3</td>
<td>39</td>
<td>44.3</td>
<td>32</td>
</tr>
<tr>
<td>B</td>
<td>13</td>
<td>17.3</td>
<td>32</td>
<td>42.7</td>
<td>30</td>
</tr>
<tr>
<td>Total (Public Sector)</td>
<td>30</td>
<td>18.4</td>
<td>71</td>
<td>43.6</td>
<td>62</td>
</tr>
<tr>
<td>C</td>
<td>65</td>
<td>67.8</td>
<td>30</td>
<td>31.2</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>22</td>
<td>45.8</td>
<td>17</td>
<td>35.4</td>
<td>9</td>
</tr>
<tr>
<td>E</td>
<td>33</td>
<td>45.2</td>
<td>27</td>
<td>37</td>
<td>13</td>
</tr>
<tr>
<td>F</td>
<td>23</td>
<td>35.4</td>
<td>21</td>
<td>32.3</td>
<td>21</td>
</tr>
<tr>
<td>G</td>
<td>15</td>
<td>51.7</td>
<td>8</td>
<td>27.6</td>
<td>6</td>
</tr>
<tr>
<td>H</td>
<td>38</td>
<td>33.6</td>
<td>37</td>
<td>32.8</td>
<td>38</td>
</tr>
<tr>
<td>Total (Private Sector)</td>
<td>196</td>
<td>46.2</td>
<td>140</td>
<td>33</td>
<td>88</td>
</tr>
<tr>
<td>Industry Total</td>
<td>226</td>
<td>38.5</td>
<td>211</td>
<td>36</td>
<td>150</td>
</tr>
</tbody>
</table>

Source: Primary Data

The above table shows that the ratio of workers below 35 years of age is less (18.4%) in the public sector than that (46.2%) of the private sector. It also shows that in each unit of the public sector, more number of workers are
in the age group of 35 to 50 years compared to the private sector units. The ratio of the workers in this age group is around 30% to the total workers in each private sector unit and it is 43.6% in the public sector. However, the ratio of workers above the age of 50 years is more in the public sector (38%) than the private sector (20.8%).

It was learnt that the major reason for this difference in the ratios between the age groups was that there was no recruitment of fresh workers during the recent past due to mechanization of the operations both in mines and factory. Even if there were a few recruitments, this recruitment was very less in the public sector due to their proposal of privatizing their units.

5.2.2 EDUCATIONAL QUALIFICATIONS OF THE RESPONDENTS

Education plays an important role not only in the behaviour but also in increasing the efficiency of every individual. We know that highly educated people will behave well and also perform well. Having this fact in mind, the educational qualifications of the respondents were studied. On the basis of their educational qualifications, they were classified into four groups, viz. (i) School education (up to 8th standard), (ii) High School education (between 9th and 12th standard), (iii) College education (UG and PG of any discipline) and (iv) Technical education (ITI and diploma). The data on the educational qualifications of the respondents are given in Table 5.2.2
### TABLE 5.2.2
EDUCATIONAL QUALIFICATIONS OF RESPONDENTS

<table>
<thead>
<tr>
<th>UNITS AND SECTOR</th>
<th>Level of Educational Qualifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>School Education</td>
<td>High School Education</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>22</td>
<td>25</td>
</tr>
<tr>
<td>B</td>
<td>22</td>
<td>29.3</td>
</tr>
<tr>
<td>Total (Public Sector)</td>
<td>44</td>
<td>27</td>
</tr>
<tr>
<td>C</td>
<td>18</td>
<td>18.7</td>
</tr>
<tr>
<td>D</td>
<td>11</td>
<td>22.9</td>
</tr>
<tr>
<td>E</td>
<td>17</td>
<td>23.3</td>
</tr>
<tr>
<td>F</td>
<td>12</td>
<td>18.6</td>
</tr>
<tr>
<td>G</td>
<td>4</td>
<td>13.8</td>
</tr>
<tr>
<td>H</td>
<td>18</td>
<td>15.9</td>
</tr>
<tr>
<td>Total (Private Sector)</td>
<td>80</td>
<td>18.7</td>
</tr>
<tr>
<td>Industry Total</td>
<td>124</td>
<td>21.1</td>
</tr>
</tbody>
</table>

Source: Primary Data

The above table shows that in total around 21.1% of the respondents have school education and around 26.9% have high school education. It is learnt that this is because a majority of the workers come from villages of the rural area who are economically weak and hence they have taken their
education from the nearby schools only. Hence, their education is only up to their local school levels. Those with college education, which is 26.7%, is very high in number. This mainly because of the managements' encouragement to study degree courses through distance education or through open university. However, it must be noted that the nature of the job of the workers does not require such a high level college education.

It must also be noted from the table that workers with technical qualifications such as ITI and diploma are 25.2%. These workers are employed in the factory on the mechanical side of operations. Further, it can be noted that the ratio of such workers is higher (26%) in the private sector compared to (23.3%) the public sector, which implies that the private sector employs more qualified persons in their organizations.

5.2.3 LENGTH OF SERVICE OF THE RESPONDENTS

The length of services of an employee plays an important role in his efficiency. It is said that more experienced people will perform well than the less experienced ones. Hence, it was decided to study the length of services of the workers (length of service in the present organization and in any other organization if previously employed).

The management of all the study units has classified workers into three groups on the basis of their total service. The groups are: (i) less than 15 years of service, (ii) 15 to 30 years of service, and (iii) above 30 years of service. This is to facilitate assignment of new jobs and/or deputing for training. In accordance with the above said classification data were collected on the total experience of the workers and they are presented in Table 5.2.3.
### TABLE 5.2.3
LENGTH OF SERVICE OF RESPONDENTS

<table>
<thead>
<tr>
<th>UNITS AND SECTOR</th>
<th>Length of Service (in years)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below 15 years</td>
<td>15 to 30 years</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>12</td>
<td>13.6</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
<td>26.7</td>
</tr>
<tr>
<td><strong>Total (Public Sector)</strong></td>
<td>32</td>
<td>19.6</td>
</tr>
<tr>
<td>C</td>
<td>18</td>
<td>18.7</td>
</tr>
<tr>
<td>D</td>
<td>8</td>
<td>16.7</td>
</tr>
<tr>
<td>E</td>
<td>11</td>
<td>1.1</td>
</tr>
<tr>
<td>F</td>
<td>10</td>
<td>15.4</td>
</tr>
<tr>
<td>G</td>
<td>18</td>
<td>62.1</td>
</tr>
<tr>
<td>H</td>
<td>18</td>
<td>15.9</td>
</tr>
<tr>
<td><strong>Total (Private Sector)</strong></td>
<td>83</td>
<td>19.6</td>
</tr>
<tr>
<td><strong>Industry Total</strong></td>
<td>115</td>
<td>19.6</td>
</tr>
</tbody>
</table>

Source: Primary Data

The above table shows that in each unit a majority of the workers (around 50%) have put in a total service of 15 to 30 years except one unit, which was started only in the year 1998-99.
Those who have put in more than 30 years of service in the public sector units are 36.2%. It is learnt that these units, when made recruitments during the initial stages, absorbed workers with some experience and those worker, alone have put in more than 30 years of experience, even though these units were started just 25 years ago. Further, in the case of private sector, this ratio is 24%. This is because, as these units, except one are functioning for a long time. The workers who are continuously working in these units right from their entry, there are more workers with more than 30 years of service.

The one unit, which was started in 1998-99, had recruited some workers with sufficient experience and hence these workers also have more experience.

Considering the workers who have less than 15 years of service, it is 19.6% in the public sector and 19.6% in the private sector. (However, around 62% of the workers have less than 15 years of service in one unit, which was started in the year 1998-99).

It is learnt that the major reason for a lesser number of workers with less than 15 years of service is that the units have not recruited more workers during the past due to mechanization of operations both in the mines and factory.
5.2.4 FAMILY SIZE (OR NUMBER OF DEPENDENTS)

The term 'Family size' is used in this report to mean the number of members in a family including the 'Karta'. It means that it refers to the number of persons who depend upon the employee (in our case) and himself.

The family size of a worker will influence his satisfaction and thereby his work efficiency. If his family size is small, he can easily meet the requirements of his dependents from his salary. This will make his dependents happy and in turn, he will also be happy. This happiness will reflect on his work performance. On the other hand, if the worker has a large family, he may find it very difficult to satisfy the requirements of his dependents, which will lead to his mental dissatisfaction and unhappiness.

This unhappiness will reflect on his work efficiency. Thus, the family size of a worker acts as a motivating factor in him. Hence the family size of each worker was studied. They were divided into three groups depending upon the number of members in a family. The data on such classification is presented in Table 5.2.4.


**TABLE 5.2.4**  
**FAMILY SIZE OF RESPONDENTS**

<table>
<thead>
<tr>
<th>UNITS AND SECTOR</th>
<th>Number of dependents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 to 3</td>
</tr>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Total (Public Sector)</td>
<td>59</td>
</tr>
<tr>
<td>C</td>
<td>52</td>
</tr>
<tr>
<td>D</td>
<td>30</td>
</tr>
<tr>
<td>E</td>
<td>30</td>
</tr>
<tr>
<td>F</td>
<td>33</td>
</tr>
<tr>
<td>G</td>
<td>13</td>
</tr>
<tr>
<td>H</td>
<td>59</td>
</tr>
<tr>
<td>Total (Private Sector)</td>
<td>217</td>
</tr>
<tr>
<td>Industry Total</td>
<td>276</td>
</tr>
</tbody>
</table>

Source: Primary Data

The above table shows that in all the units around 47% of the workers have small families, the number of members being less than three. For instance, in the public sector 36.2% and in the private sector 51.2% of the workers have small families. Similarly, 45.5% of the public sector workers and 31.4% of the private sector workers have medium sized family – each
family consisting of 4 to 6 members. And only about 17.7% (public sector 18.3% and the private sector 17.4%) of the workers have a large family, the number of members in each family being more than 7. Thus, from the table it can be understood that more number of workers (82.3%) have either a small family (47.0%) or a medium family (35.3%). This implies that more number of workers must be happy and hence be performing well.

5.2.5 NATIVITY OF RESPONDENTS

Nativity refers to an individual’s birthplace. Also, when an individual was born in a place and was living in a different place for a long-time, he considers the place of his long living as his birth-place. Hence, in this report, the term ‘nativity’ is used to mean both the places. It is understood that nativity influences the work performance of an employee. This is because, people who are living in rural areas will have poor common knowledge in all aspects as against those brought-up in urban areas who will have at least some knowledge even if they are illiterates. This common knowledge will make them to do their jobs with interest and involvement, which every management expects from its employees. Hence the aspect of ‘nativity’ of the workers was studied and the results are given in Table 5.2.5.
TABLE 5.2.5
NATIVITY OF RESPONDENTS

<table>
<thead>
<tr>
<th>UNITS AND SECTOR</th>
<th>Nativity</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Villages</td>
<td>Semi-urban</td>
<td>Urban</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>56</td>
<td>63.6</td>
<td>25</td>
<td>28.4</td>
<td>7</td>
<td>8.0</td>
</tr>
<tr>
<td>B</td>
<td>53</td>
<td>70.7</td>
<td>17</td>
<td>22.7</td>
<td>5</td>
<td>6.6</td>
</tr>
<tr>
<td>Total</td>
<td>109</td>
<td>66.9</td>
<td>42</td>
<td>25.8</td>
<td>12</td>
<td>7.3</td>
</tr>
<tr>
<td>(Public Sector)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>49</td>
<td>51.0</td>
<td>35</td>
<td>36.5</td>
<td>12</td>
<td>12.5</td>
</tr>
<tr>
<td>D</td>
<td>29</td>
<td>60.4</td>
<td>16</td>
<td>33.3</td>
<td>3</td>
<td>6.3</td>
</tr>
<tr>
<td>E</td>
<td>35</td>
<td>47.9</td>
<td>29</td>
<td>39.7</td>
<td>9</td>
<td>12.4</td>
</tr>
<tr>
<td>F</td>
<td>34</td>
<td>52.3</td>
<td>23</td>
<td>35.4</td>
<td>8</td>
<td>12.3</td>
</tr>
<tr>
<td>G</td>
<td>17</td>
<td>58.6</td>
<td>11</td>
<td>37.9</td>
<td>1</td>
<td>3.5</td>
</tr>
<tr>
<td>H</td>
<td>54</td>
<td>47.8</td>
<td>42</td>
<td>37.2</td>
<td>17</td>
<td>15.0</td>
</tr>
<tr>
<td>Total</td>
<td>218</td>
<td>51.4</td>
<td>156</td>
<td>36.8</td>
<td>50</td>
<td>11.8</td>
</tr>
<tr>
<td>(Private Sector)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry Total</td>
<td>327</td>
<td>55.7</td>
<td>198</td>
<td>33.7</td>
<td>62</td>
<td>10.6</td>
</tr>
</tbody>
</table>

Source: Primary Data

The above table shows that more than half of the workers (55.7%) belong to rural areas, 33.7% belong to semi-urban areas and the remaining 10.6% belong to urban areas. It is learnt that the major reasons for some of the workers belonging to urban areas are: (i) they have their family business in towns, and/or (ii) they depend upon their sons and/or daughters who are
living in towns due to their employment or doing their own business. As a majority of the workers belong to rural areas, their common knowledge and understanding capacity are poor and hence inducing them for higher performance is a difficult task.

5.3 OPINIONS ON OVERALL MOTIVATIONAL MEASURES

As already mentioned in the earlier chapter, various motivational measures are available to the workers of the cement industry in Tamilnadu. If only the workers have a positive/favourable opinion about these motivational measures, they will feel happy and as a result their performance will be satisfactory. Hence, the opinions of the workers about the various motivational measures provided to them by their managements were studied and the results are given in the following pages.

5.3.1 AWARENESS TOWARDS MOTIVATIONAL MEASURES

Awareness of something will make a person to plan his activities either to do the thing effectively or not to do the thing. Thus, even though the managements of the organizations provide many motivational measures to their employees, they will be of no use if the employees are not aware of such measures. Hence, to what extent the workers of the study units are aware of the motivational measures available to them from their managements was studied and the results of the study are given in the following table (Table 5.3.1)
TABLE 5.3.1
AWARENESS TOWARDS MOTIVATIONAL MEASURES

<table>
<thead>
<tr>
<th>UNITS AND SECTOR</th>
<th>Level of awareness towards motivational measures</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fully aware</td>
<td>Partly aware</td>
<td>Not aware</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>15</td>
<td>17.1</td>
<td>28</td>
<td>31.8</td>
</tr>
<tr>
<td>B</td>
<td>27</td>
<td>36.0</td>
<td>32</td>
<td>42.7</td>
</tr>
<tr>
<td>Total (Public Sector)</td>
<td>42</td>
<td>25.8</td>
<td>60</td>
<td>36.8</td>
</tr>
<tr>
<td>C</td>
<td>76</td>
<td>79.2</td>
<td>12</td>
<td>12.5</td>
</tr>
<tr>
<td>D</td>
<td>24</td>
<td>50.0</td>
<td>13</td>
<td>27.1</td>
</tr>
<tr>
<td>E</td>
<td>52</td>
<td>71.2</td>
<td>13</td>
<td>17.8</td>
</tr>
<tr>
<td>F</td>
<td>47</td>
<td>72.3</td>
<td>10</td>
<td>15.4</td>
</tr>
<tr>
<td>G</td>
<td>16</td>
<td>55.2</td>
<td>7</td>
<td>24.1</td>
</tr>
<tr>
<td>H</td>
<td>84</td>
<td>74.3</td>
<td>16</td>
<td>14.2</td>
</tr>
<tr>
<td>Total (Private Sector)</td>
<td>299</td>
<td>70.5</td>
<td>71</td>
<td>16.8</td>
</tr>
<tr>
<td>Industry Total</td>
<td>341</td>
<td>58.1</td>
<td>131</td>
<td>22.3</td>
</tr>
</tbody>
</table>

Source: Primary Data

The above table shows that in almost all the units of the private sector, around 70% (except two units in which the ratio is around 50%) of the workers are fully aware of the motivational measures provided to them. This ratio in the public sector is only 25.8%. This shows that the managements of the private sector units have been informing their workers about the
motivational measures provided by them and the managements of the public sector units have not taken that much initiative.

Similarly, if we consider the ratio of the workers who are not totally aware of the motivational measures, it is 12.7% in the case of private sector and 37.4% in the case of public sector. This result again confirms the poor initiative of the public sector in informing their employees about the motivational measures provided to them. This implies that steps must be taken by the managements of the public sector to create more awareness among the workers about the motivational measures provided to them. If only they are aware of the motivational measures, they will start thinking of their effects, which will result in better performance of their working.

5.3.2 LEVEL OF SATISFACTION TOWARDS MOTIVATIONAL MEASURES

Though various motivational measures are provided to the employees, all of them may not be fully satisfied with such measures. In other words, they may expect some more benefits from their managements. Hence, to what extent the workers of the study units are satisfied with the various motivational measures put together, was studied and the results are tabulated given on the next page.
motivational measures provided by them and the managements of the public sector units have not taken that much initiative.

Similarly, if we consider the ratio of the workers who are not totally aware of the motivational measures, it is 12.7% in the case of private sector and 37.4% in the case of public sector. This result again confirms the poor initiative of the public sector in informing their employees about the motivational measures provided to them. This implies that steps must be taken by the managements of the public sector to create more awareness among the workers about the motivational measures provided to them. If only they are aware of the motivational measures, they will start thinking of their effects, which will result in better performance of their working.

5.3.2 LEVEL OF SATISFACTION TOWARDS MOTIVATIONAL MEASURES

Though various motivational measures are provided to the employees, all of them may not be fully satisfied with such measures. In other words, they may expect some more benefits from their managements. Hence, to what extent the workers of the study units are satisfied with the various motivational measures put together, was studied and the results are tabulated in Table 5.3.2, given on the next page.
The above table shows that nearly 2/3 of the workers (62.2%) are fully satisfied with the various motivational measures available to them. However, when we make a sector-wise analysis, more number of workers (70.3%) in
the private sector are fully satisfied than their counterparts (41.1%) in the public sector. Similarly if we make an analysis of the workers who are not at all satisfied with the motivational measures, less number of private sector workers (only 13%) are not satisfied compared to their counterparts (24.5%) in the public sector.

Also, in the case of private sector, more number (70.3%) of workers are fully satisfied than those partly satisfied (16.7%) and not satisfied (13.0%). Similarly, in the case of public sector, only around 41.1% of the workers are fully satisfied which is less than the total of partially satisfied (34.4%) and not satisfied. (24.5%)

This analysis shows that the level of satisfaction regarding the available motivational measures is less in the case of workers of the public sector, which implies that they expect some more benefits from their management.

5.3.3 OPINION ON WORKERS' PARTICIPATION IN MANAGEMENT

The concept of workers' participation is gaining importance in the present day. This is because it is understood that when workers are also involved in decision making, they will contribute significantly to implement the decisions successfully. In fact, they will take an involvement and interest to make the organization successful by implementing the decisions efficiently. In other words, workers' participation acts as a motivator to improve the performance of the workers. Hence, to what extent the
managements of the study units have encouraged their workers to participate in management’s decision making process and what the workers feel about their participation in such decision making process was studied and the results are given in Table 5.3.3

**TABLE 5.3.3**

**OPINION ON WORKERS' PARTICIPATION IN MANAGEMENT**

| UNITS AND SECTOR | The workers have a say in the management | |
|------------------|------------------------------------------|--|--|--|--|--|--|--|
|                  | Always | % | Sometimes | No. | % | Never | No. | % | Total | No. | % |
| A                | 36     | 40.9 | 27 | 30.7 | 25 | 28.4 | 88 | 100.0 |
| B                | 42     | 56.0 | 17 | 22.7 | 16 | 21.3 | 75 | 100.0 |
| **Total (Public Sector)** | 78     | 47.9 | 44 | 27.0 | 41 | 25.1 | 163 | 100.0 |
| C                | 69     | 71.9 | 15 | 15.6 | 12 | 12.5 | 96 | 100.0 |
| D                | 34     | 70.8 | 8  | 16.7 | 6  | 12.5 | 48 | 100.0 |
| E                | 52     | 71.2 | 12 | 16.4 | 9  | 12.4 | 73 | 100.0 |
| F                | 47     | 72.3 | 10 | 15.4 | 8  | 12.3 | 65 | 100.0 |
| G                | 22     | 75.9 | 4  | 13.8 | 3  | 10.3 | 29 | 100.0 |
| H                | 80     | 70.8 | 18 | 15.9 | 15 | 13.3 | 113 | 100.0 |
| **Total (Private Sector)** | 304    | 71.7 | 67 | 15.8 | 53 | 12.5 | 424 | 100.0 |
| Industry Total   | 382    | 65.1 | 111 | 18.9 | 94 | 16.0 | 587 | 100.0 |

**Source:** Primary Data
From the above table, it can be seen that 71.7% of the workers of the private sector units feel that their managements fully encourage them to participate in decision making and this ratio in the case of public sector is only 47.9%. Similarly, only a lesser number of workers (12.5%) of the private sector opine that they never get an opportunity to participate in decision making whereas this ratio is double (25.1%) in the case of public sector. In total, around 2/3 of the workers (65.1%) of both the sectors feel that their management encourages them for their association with management in decision making.

This result also implies that the workers of the public sector units are not given much opportunity and have no much ‘say’ in decision making in their organizations. It is learnt that it is due to the interference of the government in all decisions.

5.3.4 OPINION OF WORKERS TOWARDS IMPLEMENTATION OF LABOUR LAWS

Both the Central and State governments have enacted various labour laws for the benefit of the workers employed in industrial organizations. But the workers often complain that their managements have not implemented many of these labour laws in full spirit to their benefits. When labour laws are fully implemented, it will benefit the employees on many aspects and hence they will be happy. The implementation of labour laws in toto will act as a motivator of the employees. What is the position of the implementation of these labour laws in the units of the cement industry in TN and to what
extent the workers of these units have been satisfied was considered in the study and the results are given in the following Table 5.3.4

**TABLE 5.3.4**

**LEVEL OF SATISFACTION ON THE IMPLEMENTATION OF LABOUR LAWS**

<table>
<thead>
<tr>
<th>UNITS AND SECTOR</th>
<th>Fully satisfied</th>
<th>Partly satisfied</th>
<th>Not satisfied</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>A</td>
<td>56</td>
<td>63.6</td>
<td>20</td>
<td>22.7</td>
</tr>
<tr>
<td>B</td>
<td>51</td>
<td>68.0</td>
<td>15</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>Total (Public Sector)</strong></td>
<td>107</td>
<td>65.6</td>
<td>35</td>
<td>21.5</td>
</tr>
<tr>
<td>C</td>
<td>81</td>
<td>84.4</td>
<td>9</td>
<td>9.4</td>
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<td>D</td>
<td>41</td>
<td>85.4</td>
<td>4</td>
<td>8.3</td>
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<tr>
<td>E</td>
<td>60</td>
<td>82.2</td>
<td>8</td>
<td>11.0</td>
</tr>
<tr>
<td>F</td>
<td>55</td>
<td>84.6</td>
<td>6</td>
<td>9.2</td>
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<tr>
<td>G</td>
<td>24</td>
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<tr>
<td><strong>Total (Private Sector)</strong></td>
<td>352</td>
<td>83.0</td>
<td>44</td>
<td>10.4</td>
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<tr>
<td><strong>Industry Total</strong></td>
<td>459</td>
<td>78.2</td>
<td>79</td>
<td>13.5</td>
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</tbody>
</table>

*Source: Primary Data*
From the above table it can be seen that a majority (83.0%) of the workers of the private sector are fully satisfied with the implementation of the labour laws in their organizations compared to the workers of the public sector, which is only 65.6%. Even though this ratio (65.6%) is not bad, the fact is that more number of workers of the private sector than the workers of the public sector is happy with the implementation of labour laws in their organizations.

Similarly, the number of workers who are partially satisfied (10.4%) and who are not at all satisfied (6.6%) in the private sector is only 17.0%, which is certainly less than that of the public sector, which is 34.4% (21.5% + 12.9%).

In particular, those who are not at all satisfied with the implementation of labour laws in the private sector is only 6.6% compared to that of the public sector, which is 12.9%.

These facts reveal that the implementation of labour laws in the private sector is in full and in real spirit compared to the public sector. It implies that the managements of public sector units must take sincere steps to implement all the labour laws in toto and with real spirit.
5.3.5 LEVEL OF SATISFACTION OF WORKERS TOWARDS GRIEVANCES REDRESSAL

It is a known fact that there is no employee without a grievance. But all grievances of the employees are not genuine and hence cannot be redressed to their fullest satisfaction. A fully satisfied employee will perform well and hence the redressal of grievances will act as a motivator to improve his performance. Hence, managements of organizations are taking steps to redress the grievances of their employees so that they (employees) will be happy and perform their tasks well. To what extent the workers in the cement units in TN are satisfied with regard to the redressal of their grievances was studied and the results are given in Table 5.3.5 on the next page.
TABLE 5.3.5
OPINION ON REDRESSAL OF GRIEVANCES

<table>
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<tr>
<th>UNITS AND SECTOR</th>
<th>Fully redressed</th>
<th>Partly redressed</th>
<th>Not redressed</th>
<th>Total</th>
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</thead>
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<tr>
<td></td>
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<td>No.</td>
<td>%</td>
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<tr>
<td>A</td>
<td>38</td>
<td>43.2</td>
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<td>B</td>
<td>35</td>
<td>46.7</td>
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<td>13.3</td>
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<td>Total (Public Sector)</td>
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<td>15.3</td>
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<tr>
<td>C</td>
<td>62</td>
<td>64.6</td>
<td>18</td>
<td>18.7</td>
</tr>
<tr>
<td>D</td>
<td>29</td>
<td>60.4</td>
<td>10</td>
<td>20.8</td>
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<tr>
<td>E</td>
<td>45</td>
<td>61.6</td>
<td>13</td>
<td>17.9</td>
</tr>
<tr>
<td>F</td>
<td>44</td>
<td>67.7</td>
<td>8</td>
<td>12.3</td>
</tr>
<tr>
<td>G</td>
<td>18</td>
<td>62.1</td>
<td>6</td>
<td>20.7</td>
</tr>
<tr>
<td>H</td>
<td>68</td>
<td>60.2</td>
<td>23</td>
<td>20.4</td>
</tr>
<tr>
<td>Total (Private Sector)</td>
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<td>78</td>
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<tr>
<td>Industry Total</td>
<td>339</td>
<td>57.8</td>
<td>103</td>
<td>17.5</td>
</tr>
</tbody>
</table>

Source: Primary Data

From the above table, it can be seen that a majority of the workers (57.8%) of the cement industry of TN opine that their grievances are well redressed in time. In particular, more workers (62.7%) of the private sector
are much satisfied than their counter parts in the public sector, which is 44.8%.

However, considering those who are not at all satisfied with the redressal of grievances, it is higher (39.9%) in the public sector than the private sector (18.9%).

These facts show that the managements of the cement units in TN have established a satisfactory system of grievances redressal. However, it must also be understood that the public sector units must improve their existing system of grievances redressal in a better way.

5.3.6 OPINION TOWARDS PUNISHMENT

It is a common phenomenon that an erring person deserves punishment. It is true in the case of industrial workers also. But, many a time, the workers of industrial organizations argue that their managements impose punishments on them on invalid grounds. If only the workers are free from the fear of punishments being imposed on them on invalid grounds, they can be happy and this freedom from fear will motivate them for higher performance. In the present study, the opinion of the workers about the punishments imposed on them by their managements was obtained and the results are given in Table 5.3.6 on the next page.
TABLE 5.3.6
OPINION TOWARDS PUNISHMENTS

| UNITS AND SECTOR | Punishments is on valid grounds | | | | | |
|------------------|--------------------------------|---|---|---|---|---|---|
|                  | Yes | % | No | % | No | % | No | % |
| A                | 42  | 47.7 | 27 | 30.7 | 19 | 21.6 | 88 | 100.00 |
| B                | 40  | 53.3 | 17 | 22.7 | 18 | 24.0 | 75 | 100.00 |
| Total (Public Sector) | 82  | 50.3 | 44 | 27.0 | 37 | 22.7 | 163 | 100.00 |
| C                | 62  | 64.6 | 21 | 21.9 | 13 | 13.5 | 96 | 100.00 |
| D                | 34  | 70.8 | 9  | 18.8 | 5  | 10.4 | 48 | 100.00 |
| E                | 57  | 78.1 | 10 | 13.7 | 6  | 8.2  | 73 | 100.00 |
| F                | 52  | 80.0 | 8  | 12.3 | 5  | 7.7  | 65 | 100.00 |
| G                | 22  | 75.9 | 4  | 13.8 | 3  | 10.3 | 29 | 100.00 |
| H                | 71  | 62.9 | 24 | 21.2 | 18 | 15.9 | 113 | 100.00 |
| Total (Private Sector) | 298 | 70.3 | 76 | 17.9 | 50 | 11.8 | 424 | 100.00 |
| Industry Total   | 380 | 64.7 | 120| 20.4| 87 | 14.9 | 587 | 100.00 |

Source: Primary Data

The above table shows that in the case of private sector, 70.3% of the workers are of the opinion that the punishment, if any, imposed on them by their managements, is only on valid grounds, 17.9% opine that the punishment is not on valid grounds and 11.8% did not give any opinion at
all. In the case of public sector, the corresponding ratios are 50.3%, 27.0%, and 22.7% respectively. This shows that a large number of workers of private sector are satisfied with decisions of their managements in punishing the erring workers. In the case of public sector, this satisfaction rate is only 50.3%, which implies that they are not happy with their managements on handling the disciplinary actions.

However, in total, nearly 2/3 of the workers (64.7%) are satisfied that their managements impose punishments on them only on valid grounds. This shows that the managements of these units have humanitarian consideration towards their employees and their disciplinary actions are justifiable.

5.4 ANALYSIS OF THE OVERALL PERFORMANCE OF THE STUDY UNITS

The success of an organization depends upon mainly on its five M’s, namely, Market, Money, Materials, Machines and Men. There is a possibility of all the first four M’s of an organization behaving in a similar manner over a certain period. But, the last M, namely, Men, will not behave in the same manner even for a short period of time. Hence, if we assume that the first 4M’s behave in the same way in an organisation over a period, then the success of the organization will depend upon its men (ie) its employees. This means that if the employees of an organization are motivated well, then the organization will be successful. Further, the discussion with top management authorities reveal that the first four M’s behave in the same way in each unit during the past. Having these two facts in mind, the overall
performance of the sample units were studied for a period of ten years to assess the extent of the employees being motivated.

There are more yardsticks to measure the success of an organization. On the basis of the available data, the success of the study units were measured through five factors, namely, (i) Annual production, (ii) Capacity utilization, (iii) Sales, (iv) Profits, and (v) Earnings per share (EPS). The data relating to these five factors have been collected for the sample units for a period of ten years and they are presented in the following pages along with the relevant analysis.

5.4.1 PRODUCTION

Profits of an organization may be increased by increasing its sales. Sales can be increased by increasing its production, assuming that there is a standard market for its products. Thus, annual production of an organization acts as a measure of success of the organization. Hence to find out to what extent the study units have been successful based on their annual production, data relating to the production of the sample units during the study period were collected and they are presented in the following table. (Table 5.4.1) For a quicker understanding, the data has been transformed into a bar diagram given in Chart 5.4.1. (page No.161)
### TABLE 5.4.1

**ANNUAL PRODUCTION (LAKH TONNES)**

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<td>3.23</td>
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<td>4.57</td>
<td>4.72</td>
<td>4.16</td>
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<td></td>
<td>B</td>
<td></td>
<td>1.51</td>
<td>1.72</td>
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<td>1.95</td>
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<td></td>
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</table>

NA-Not Available  
(Source: Annual Reports of the respective units)
CHART 5.4.1

ANNUAL PRODUCTION (LAKH TONNES)
The above table (also the chart) shows that the production of four units (C, D, F and G) in the private sector have been steadily increasing over the period. However, in the case of the other two units (E and H) it has been fluctuating.

In the case of public sector units also, the production has been fluctuating. On enquiry, it has been understood that the seasonal changes and the government policies have been the major causes for the fluctuations in production. Further analysis shows that the units, which provided more benefits/facilities to their employees, have been increasing their production regularly and it has been fluctuating in the units, which provided lesser benefits to their employees.

5.4.2 CAPACITY UTILISATION

Capacity utilization, expressed as a percentage, establishes a relationship between the installed production capacity and the actual production. Though the managements and the production executives take sincere steps to utilize the machines to their fullest capacity, many a time, it becomes impossible. Hence, a gap is created between the actual production and the installed capacity. Under this situation, the capacity utilization varies. At the same time, by taking efficient steps, the machines can better be utilized. Under this situation, the capacity utilization may be more than the installed capacity. The capacity utilization rates of the sample units for the study period are given in Table 5.4.2. For a quicker understanding, the data is transformed into a bar diagram given in Chart 5.4.2. (page No.164)
### TABLE 5.4.2
CAPACITY UTILISATION (PERCENTAGE)

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NA-Not Available  
(Source: Annual Reports of the respective units)
CHART 5.4.2
CAPACITY UTILISATION (PERCENTAGE)
The above table and the chart show that in one unit, namely E, in the private sector, the capacity utilization has been more than 100% during the past and in another unit, namely, F, it was more than 100% only in the initial period of our study. In other units of the private sector and public sector, the capacity utilization has been less than 100% and also has been fluctuating over the period.

When the production of a company increases gradually over the period, it implies that the capacity utilization must be gradually increasing. But, the above table shows a clear fluctuation of the capacity utilization in all the units over the period. From the discussions held with the production executives of these units, it was understood that the units go on increasing their production capacity depending upon their acquiring new lime-stone mines from private parties. Though they erect the required capacity of machines to increase production it is not possible to increase production immediately due to trial runs and the problems involved in mining limestone from the newly acquired mine lands. As a result there falls a gap between the installed capacity and the actual production. Hence, in their opinion, the capacity utilization rate fluctuates. They also opine that it can be adjusted in due course so that the capacity utilization is increased.

5.4.3 SALES

Sales is another yardstick to measure the performance of an organization. If the sales of an organization shows an increasing trend, it means that the organization is a successful one. Studying the behaviour of the sales of an organization over a period will tell to what extent the organization has been successful. Hence, data relating to the sales of the sample units for a period of ten years were collected and are presented in Table 5.4.3. For a quicker understanding, the data has been transformed into a bar diagram given in Chart 5.4.3. on page 167.
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<td></td>
<td>B NA</td>
<td>NA</td>
<td>7898</td>
<td>10067</td>
<td>7424</td>
<td>6469</td>
<td>6712</td>
<td>6317</td>
<td>6783</td>
<td>6658</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C 29892</td>
<td>39209</td>
<td>41969</td>
<td>48972</td>
<td>52371</td>
<td>51907</td>
<td>62083</td>
<td>70937</td>
<td>63037</td>
<td>69982</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>D 212215</td>
<td>242302</td>
<td>252730</td>
<td>248306</td>
<td>274709</td>
<td>276022</td>
<td>303224</td>
<td>333433</td>
<td>346532</td>
<td>403820</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>E 209555</td>
<td>21309</td>
<td>21397</td>
<td>21564</td>
<td>20017</td>
<td>20248</td>
<td>20102</td>
<td>23228</td>
<td>28585</td>
<td>40258</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRIVATE</td>
<td>F 20508</td>
<td>25231</td>
<td>28655</td>
<td>29212</td>
<td>32239</td>
<td>37337</td>
<td>41408</td>
<td>41889</td>
<td>44443</td>
<td>43625</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>G -</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23481</td>
<td>26706</td>
<td>30248</td>
<td>22416</td>
<td>28914</td>
<td>31531</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H 62908</td>
<td>80644</td>
<td>83250</td>
<td>92731</td>
<td>139184</td>
<td>141966</td>
<td>145137</td>
<td>131325</td>
<td>103300</td>
<td>123688</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NA-Not Available

(Source: Annual Reports of the respective units)
CHART 5.4.3
SALES (LAKH RUPEES)
The above table and the chart clearly show that almost in all the units of the public and private sector, sales has been steadily increasing over the period except for one or two years in each unit. Even in this case, the sales variation has been found to be less than 10% over the previous year’s sales. During the discussions held with the management people and the sales executives of these units, it has been understood that the slight variations in sales has been due to changes in climatic conditions and heavy rains during such years. During rainy season construction and road lying works will have to be stopped and hence the use of cement during this period will be less. This has lead to a reduction in the sales volume of the units during such years. They also opine that no body has control over nature and hence no body can help solve such problems.

5.4.4 NET PROFITS

Profit is a very important yardstick to measure the success or failure of an organization. The term ‘profit’ is used in this report to mean the income for the organization after deducting all expenses including depreciation, interest and taxes. That is, this is the amount which is available to the owners namely, the shareholders of the organization. The data relating to such net profits were collected for the sample units and they are presented in Table 5.4.4. For a quicker understanding, the data is transformed into a bar diagram given in Chart 5.4.4. (page no.170)
<table>
<thead>
<tr>
<th>SECTOR</th>
<th>NAME OF THE UNIT</th>
<th>YEARS</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td>A NA</td>
<td>NA</td>
<td>874</td>
<td>61</td>
<td>-637</td>
<td>-1482</td>
<td>-1498</td>
<td>-668</td>
<td>-149</td>
<td>-347</td>
</tr>
<tr>
<td></td>
<td>B NA</td>
<td>NA</td>
<td>583</td>
<td>41</td>
<td>-425</td>
<td>-988</td>
<td>-999</td>
<td>-445</td>
<td>-99</td>
<td>-347</td>
</tr>
<tr>
<td></td>
<td>C 5339</td>
<td>9090</td>
<td>7774</td>
<td>3311</td>
<td>3992</td>
<td>4022</td>
<td>4840</td>
<td>3746</td>
<td>2148</td>
<td>4998</td>
</tr>
<tr>
<td></td>
<td>D 14420</td>
<td>22533</td>
<td>7732</td>
<td>1320</td>
<td>7705</td>
<td>5930</td>
<td>9123</td>
<td>16603</td>
<td>12135</td>
<td>21045</td>
</tr>
<tr>
<td></td>
<td>E 2002</td>
<td>3131</td>
<td>2559</td>
<td>1331</td>
<td>1102</td>
<td>728</td>
<td>621</td>
<td>-1190</td>
<td>-722</td>
<td>1396</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>F 2869</td>
<td>3810</td>
<td>2910</td>
<td>2619</td>
<td>2012</td>
<td>2114</td>
<td>2880</td>
<td>2546</td>
<td>1989</td>
<td>2537</td>
</tr>
<tr>
<td></td>
<td>G -</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1025</td>
<td>1456</td>
<td>2362</td>
<td>2418</td>
<td>3389</td>
<td>4656</td>
</tr>
<tr>
<td></td>
<td>H 4728</td>
<td>8090</td>
<td>8258</td>
<td>6276</td>
<td>8704</td>
<td>4731</td>
<td>5115</td>
<td>-757</td>
<td>-3073</td>
<td>-1123</td>
</tr>
</tbody>
</table>

NA-Not Available  (Source: Annual Reports of the respective units)
An analysis of the above table (also the chart) shows that the profits of the units over the periods have been fluctuating. Four units C, D, F and G in the private sector have been making profits continuously (though there are ups and downs in profits) and the other units have incurred losses during some years. The public sector units have made profits only in two years (during the study period) and have been incurring losses since 1998-99 till date. When enquired about the fluctuations in the profits, the management authorities attributed various reasons such as seasonal fluctuations, government policies on distribution and selling prices of cement, increasing labour costs due to the variations of wages and other allowances and the additional expenses incurred due to expansion and modernization programmes. In fact, they opined that without the co-operation of their employees they would not have achieved even that much results every year. This shows that the employees might have been co-operative with their managements due to the motivational measures provided by their managements.

5.4.5 EARNINGS PER SHARE

All the units of the study are companies registered under the Companies Act 1956. Hence, their capitals have been divided into shares of face value of Rs 10 or Rs 100 as the case may be. Even though the units earn profits, it must be known whether the profits are adequate or not. Hence, what is the ratio of net profits to the share capital of the company must be calculated to decide whether the net profits are meaningful or not. As the capital of the units is divided into shares, the profits earned by each share will give a meaningful measure of the performance of the concerned unit. Hence, the earnings per share of each unit during the study period have been calculated and they are presented in Table 5.4.5. For an easier understanding, the data has been transformed into a bar chart given in the chart 5.4.5. (page no. 173)
### TABLE 5.4.5

**EARNINGS PER SHARE (RUPEES)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td>A</td>
<td>NA</td>
<td>NA</td>
<td>8.09</td>
<td>5.67</td>
<td>-6.20</td>
<td>-17.00</td>
<td>-13.88</td>
<td>-6.25</td>
<td>-1.17</td>
<td>-23.21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>NA</td>
<td>NA</td>
<td>8.09</td>
<td>5.67</td>
<td>-6.20</td>
<td>-17.00</td>
<td>-13.88</td>
<td>-6.25</td>
<td>-1.17</td>
<td>-23.21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C*</td>
<td>439</td>
<td>751</td>
<td>638</td>
<td>269</td>
<td>321</td>
<td>324</td>
<td>366</td>
<td>212</td>
<td>107</td>
<td>280</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D**</td>
<td>189.29</td>
<td>273.96</td>
<td>62.00</td>
<td>9.81</td>
<td>56.24</td>
<td>NA</td>
<td>5.30</td>
<td>9.74</td>
<td>7.08</td>
<td>11.84</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>47.48</td>
<td>37.13</td>
<td>25.25</td>
<td>14.13</td>
<td>11.73</td>
<td>7.64</td>
<td>3.15</td>
<td>-2.32</td>
<td>-8.07</td>
<td>7.45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3.75</td>
<td>4.98</td>
<td>3.80</td>
<td>3.82</td>
<td>2.63</td>
<td>2.76</td>
<td>3.76</td>
<td>3.33</td>
<td>2.60</td>
<td>3.32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>20.0</td>
<td>27.0</td>
<td>40.00</td>
<td>42.0</td>
<td>59.0</td>
<td>82.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>13.32</td>
<td>22.79</td>
<td>12.83</td>
<td>9.06</td>
<td>12.57</td>
<td>3.33</td>
<td>3.25</td>
<td>-0.06</td>
<td>-14.74</td>
<td>-7.13</td>
<td></td>
</tr>
</tbody>
</table>

NA-Not Available

(Source: Annual Reports of the respective units)

* Face value of the Equity Share: Rs 100.

** Face value of the Equity Share up to the year 99-00: Rs 100; thereafter: Rs 10.

Face value of the Equity Shares of all other units: Rs 10.
CHART 5.4.5

EARNINGS PER SHARE (RUPEES)
The above table and chart clearly show that the EPS for all the units of the private sector are appreciable and this figure in the case of public sector is not that much encouraging. [EPS for public sector units has been calculated for the corporation as a whole]. There had been positive EPS for two years in the initial stages of our study and it has been negative since 1998-99 for the public sector.

It can also be seen that in the case of private sector, the EPS for all the units except unit F, has been more than 100% for some years. The EPS of these units fluctuate between 30% and 60% in other years except the loss making years. The EPS of unit F has been continuously between 25% and 50% over the whole period. These figures reveal that the units have been performing well during the past except for a few years due to the reasons mentioned in this section under the heading 'Net profits'.

5.5 STATISTICAL ANALYSIS OF OVERALL MOTIVATIONAL MEASURES

5.5.1. SCORES OF WORKERS AND THEIR GROUPINGS

As already mentioned, various motivational measures are available to the workers of the cement industry in T.N. A study of the opinions of these workers regarding these motivational measures is essential so that managements may concentrate on motivational measures which influence the workers more and to concentrate less on measures which influence poorly. Hence, to study the minds of the workers on the overall motivational measures, seventy statements under seven heads were included in the interview schedule. (These seven heads are the seven factors of motivation).
The respondents were asked to rate each statement on a five point scale, the rating being: Strongly Agree (SA) - 5; Agree (A) - 4; Neutral (N) - 3; Disagree (DA) - 2; and Strongly Disagree (SD) - 1. After obtaining the scores of each respondent on each statement they were analysed as under.

Since there are seventy statements, when a respondent rates each statement as ‘Strongly Agree’, he must have given a maximum score of 70x5=350 points. But, all the respondents will not rate the statements in the same way and hence will not give the maximum point for all the statements. Thus, the total scoring for each respondent may vary from one another. Hence, the overall score of a respondent will fluctuate between 70 (70x1=70) and 350 (70x5=350) points. Such scores for each respondent were determined through SPSS software system from their responses separately for the public sector and private sector workers and they are presented in the (Appendix 5.5.2.1 to Appendix 5.5.3.7)

Based on the scores of the respondents they were grouped into three categories as explained under.

Maximum score (of a respondent) : 350 points.
Minimum score (of a respondent) : 70 points.

**Difference** : 280 points

Dividing the difference of 280 points into three parts, one part shall be equal to 280/3 = 93.3 points. Hence, the limits of points for each group will be:
First group : 70 to 163 (= 70+ 93)
Second group : 164 to 256 (= 163+93)
Third group : 257 to 350 (= 256+94) after adjusting the total points of 280.

Thus, the respondents are placed in three groups as; those scoring less than 163 points as ‘LOW’, between 164 to 256 points as ‘MODERATE’ and more than 256 points as ‘HIGH’.

This grouping has been done separately for public sector and private sector workers with respect to the personal factors such as sex, age, educational qualifications, length of service, monthly income and family size. These scores were used to study whether there exists any significant difference among the workers of a particular sector with respect to the personal factors. This analysis was carried out separately for public and private sector units on each personal factor and the results are given in Sections 5.5.2 and 5.5.3 respectively.

Similarly, the existence of any significant difference among the workers of public and private sector with respect to the motivational factors was also analysed and the results of the analysis are given in Section 5.5.4.

Further, the study has reviewed the seven motivational factors to determine which of the motivational factors motivates the workers highly and which motivates poorly. This review has been made using Discriminant Function Analysis through SPSS software system, the details of which are given in Section 5.5.5.
To study whether there exists any significant difference between male and female workers regarding the overall motivational measures, the following hypothesis has been set.

Null Hypothesis \( (H_0) \): There is no significant difference between male and female workers of public sector with respect to the overall motivational measures.

This hypothesis was tested with the help of t-test. The group statistics of mean and standard deviation for the male and female workers regarding the total score on motivational measures and the t-test calculations are given in Table 5.5.2.1B.
The above table shows that the calculated t-value is 3.211 and P-value is 0.002. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the male and female workers on overall motivational measures. That is, male and female workers of the public sector accept/view the motivational measures differently. It means that the motivational measures influences the male and female workers differently.

### 5.5.2.2 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO AGE

Data relating to the aspect of the existence of any significant difference between mean total score on motivational measures of the different age groups of workers of the public sector were collected. The table 5.5.2.2A gives the frequency counts for total score on motivational measures with respect to different age groups.
**TABLE 5.5.2.2A**

FREQUENCY TABLE FOR THE TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO AGE

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>Age</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21-35 yrs</td>
<td>35-50 yrs</td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>16.7</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>25</td>
<td>83.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>30</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the various age groups regarding the total score on motivational measures are given in the Table 5.5.2.2B.
To study whether there exists any significant difference between the different age groups regarding the overall motivational measures the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different age groups of workers of the public sector with respect to the overall motivational measures.

To test this hypothesis, ANOVA test has been used and the calculations are presented in the following table.
TABLE 5.5.2.2C
ANOVA TABLE (BASED ON AGE)

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3441.175</td>
<td>2</td>
<td>1720.587</td>
<td>7.098</td>
<td>0.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>38785.451</td>
<td>160</td>
<td>242.409</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42226.626</td>
<td>162</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table shows that the calculated F-value is 7.098 and the P-value is 0.001. Since calculated P-value is lesser than 0.01, we reject the null hypothesis. This implies that there is highly significant difference among the different age groups of workers of the public sector with respect to overall motivational measures. That is, different age groups of workers of the public sector are differently influenced by motivational measures.

5.5.2.3 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO EDUCATIONAL QUALIFICATIONS

To study the difference between mean total score on motivational measures of the different educational qualifications of workers of the public sector, the data relating to this aspect were collected. The table 5.5.2.3A gives the frequency counts for total score on motivational measures with respect to different educational qualifications.
TABLE 5.5.2.3A
FREQUENCY TABLE FOR THE TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO EDUCATIONAL QUALIFICATIONS

<table>
<thead>
<tr>
<th>Educational qualification</th>
<th>TOTAL</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>5</td>
<td>11.4</td>
<td>6</td>
</tr>
<tr>
<td>High School &amp; Higher sec</td>
<td>6</td>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>College (UG&amp;PG)</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Technical (ITI &amp; Diploma)</td>
<td>3</td>
<td>7.9</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>39</td>
<td>88.6</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>86.0</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td>100.0</td>
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<td></td>
<td>35</td>
<td>92.1</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td></td>
<td>91.4</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>44</td>
<td>100.0</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>100.0</td>
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<td>38</td>
<td>100.0</td>
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<tr>
<td></td>
<td>38</td>
<td>100.0</td>
<td>163</td>
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<tr>
<td></td>
<td></td>
<td>163</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the various educational qualifications regarding the total score on motivational measures are given in the following table.
TABLE 5.5.2.3B
GROUP STATISTICS OF TOTAL SCORE ON
MOTIVATIONAL MEASURES SCORE WITH RESPECT TO
EDUCATIONAL QUALIFICATIONS

<table>
<thead>
<tr>
<th>Educational qualification</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>181.6591</td>
<td>44</td>
<td>15.5084</td>
</tr>
<tr>
<td>High school &amp; Higher sec</td>
<td>181.0465</td>
<td>43</td>
<td>16.3590</td>
</tr>
<tr>
<td>College (UG&amp;PG)</td>
<td>190.4474</td>
<td>38</td>
<td>12.9044</td>
</tr>
<tr>
<td>Technical (ITI &amp; Diploma)</td>
<td>194.2105</td>
<td>38</td>
<td>15.8731</td>
</tr>
<tr>
<td>Total</td>
<td>186.4724</td>
<td>163</td>
<td>16.1449</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between the different educational qualifications regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis ($H_0$): There is no significant difference among the different educational qualifications of workers of the public sector with respect to the overall motivational measures.

To test this hypothesis, ANOVA test has been applied and the calculations are given below
The above table shows that the calculated F-value is 7.380 and the P-value is 0.000. Since calculated P-value is lesser than 0.01, we reject the null hypothesis. This implies that there is highly significant difference among the different educational qualifications of workers of the public sector with respect to the overall motivational measures. That is, different qualifications of the workers of the public sector have different influences on the motivational measures.

### 5.5.2.4 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO LENGTH OF SERVICE

Data relating to the existence of any significant difference between mean total score on motivational measures on different lengths of services (in years) of the workers of the public sector were collected. The table on the next page presents the frequency counts for total score on motivational measures with respect to different lengths of services of workers.
TABLE 5.5.2.4A
FREQUENCY TABLE FOR THE TOTAL SCORE ON
MOTIVATIONAL MEASURES WITH RESPECT TO
LENGTH OF SERVICE

<table>
<thead>
<tr>
<th>Total score on</th>
<th>Work experience</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>motivational</td>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>measures</td>
<td>Below 15 yrs</td>
<td>No.</td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>6</td>
<td>18.8</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>26</td>
<td>81.3</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>93.1</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>94.9</td>
<td></td>
</tr>
<tr>
<td>149</td>
<td>91.4</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>32</td>
<td>100.0</td>
</tr>
<tr>
<td>72</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for different lengths of service (in years) regarding the total score on motivational measures are given in table 5.5.2.4B.
TABLE 5.5.2.4B
GROUP STATISTICS OF TOTAL SCORE ON
MOTIVATIONAL MEASURES SCORE WITH RESPECT TO
LENGTH OF SERVICE

<table>
<thead>
<tr>
<th>Work experience</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 15 yrs</td>
<td>178.2188</td>
<td>32</td>
<td>18.2346</td>
</tr>
<tr>
<td>15-30 yrs</td>
<td>184.0694</td>
<td>72</td>
<td>13.1045</td>
</tr>
<tr>
<td>Above 30 yrs</td>
<td>193.8814</td>
<td>59</td>
<td>15.4764</td>
</tr>
<tr>
<td>Total</td>
<td>186.4724</td>
<td>163</td>
<td>16.1449</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between the different lengths of service regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis ($H_0$): There is no significant difference among the different lengths of service (in years) of the workers of the public sector with respect to the overall motivational measures.

To test this hypothesis, ANOVA test has been applied and the calculations are given in the following table.
5.5.2.4C

ANOVA TABLE (BASED ON LENGTH OF SERVICE)

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5834.335</td>
<td>2</td>
<td>2917.167</td>
<td>12.825</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>36392.291</td>
<td>160</td>
<td>227.452</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42226.626</td>
<td>162</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.2.4C shows that the calculated F-value is 12.825 and the P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the different lengths of service (in years) of the workers of the public sector with respect to the overall motivational measures. That is, workers of the public sector with different years of service are differently influenced by the motivational measures.

5.5.2.5 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO MONTHLY SALARY

To study whether there exists any significant difference between mean total score on motivational measures of different monthly salary of the workers of the public sector, data relating to this aspect were collected. The following table presents the frequency counts for the total score on motivational measures with respect to different monthly salary of the workers.
### TABLE 5.5.2.5A

**FREQUENCY TABLE FOR THE TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO MONTHLY SALARY**

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>Monthly salary</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Rs.3000</td>
<td>Rs.3000-4000</td>
</tr>
<tr>
<td>Low (≤163)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16</td>
<td>31</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the various monthly salaries of the workers of the public sector regarding the total score on motivational measures are given in Table 5.5.2.5B.
TABLE 5.5.2.5B

GROUP STATISTICS OF TOTAL SCORE ON MOTIVATIONAL MEASURES SCORE WITH RESPECT TO MONTHLY SALARY

<table>
<thead>
<tr>
<th>Monthly salary</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Rs.3000</td>
<td>178.9375</td>
<td>16</td>
<td>20.5084</td>
</tr>
<tr>
<td>Rs.3000-4000</td>
<td>178.3871</td>
<td>31</td>
<td>14.3659</td>
</tr>
<tr>
<td>Rs.4000-5000</td>
<td>186.7778</td>
<td>63</td>
<td>13.8941</td>
</tr>
<tr>
<td>Above Rs.5000</td>
<td>193.1132</td>
<td>53</td>
<td>15.4915</td>
</tr>
<tr>
<td>Total</td>
<td>186.4724</td>
<td>163</td>
<td>16.1449</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between the different monthly salary of the workers regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different monthly salary of the workers of the public sector with respect to the overall motivational measures.

To test the above hypothesis, ANOVA test has been administered and the calculations are given in the following table.
5.5.2.5C

ANOVA TABLE (BASED ON MONTHLY SALARY)

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5278.124</td>
<td>3</td>
<td>1759.375</td>
<td>7.571</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>36948.502</td>
<td>159</td>
<td>232.381</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42226.626</td>
<td>162</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.2.5C shows that the calculated F-value is 7.571 and the P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the different monthly salaries of the workers of the public sector with respect to the overall motivational measures. That is, workers of the public sector with different monthly salary are differently influenced by the motivational measures.

5.5.2.6 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO FAMILY SIZE

Data to study the existence of any significant difference between mean total score on motivational measures on the family size of the workers of the public sector were collected. The following table gives the frequency counts for total score on motivational measures with respect to the family size of the workers.
### TABLE 5.5.2.6A

**FREQUENCY TABLE FOR TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO FAMILY SIZE**

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>No. of dependents</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3 members</td>
<td>4-6 members</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Low (≤163)</td>
<td>5</td>
<td>8.5</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>54</td>
<td>91.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>59</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the different sizes of the families of the workers of the public sector regarding the total scores on motivational measures are given in Table 5.5.2.6B.
To study whether there exists any significant difference between the different sizes of families of the workers regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different sizes of families of the workers of the public sector with respect to the overall motivational measures.

To test the above hypothesis, ANOVA test has been administered and the calculations are given in the Table 5.5.2.6C.
5.5.2.6C

ANOVA TABLE (BASED ON FAMILY SIZE)

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1083.398</td>
<td>2</td>
<td>541.699</td>
<td>2.107</td>
<td>Ns</td>
</tr>
<tr>
<td>Within Groups</td>
<td>41143.228</td>
<td>160</td>
<td>257.145</td>
<td>1.125</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42226.626</td>
<td>162</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.2.6C shows that the calculated F-value is 2.107 and the P-value is 0.125. As the calculated P-value is greater than 0.01, the null hypothesis is accepted. This implies that there is no significant difference among the sizes of the families of the workers of the public sector with respect to the overall motivational measures. That is, the size of the family of the workers of the public sector does not differently influence motivational measures. This means that all the workers of the public sector units with any size of their families are motivated in the same way.

5.5.3 ANALYSIS OF MOTIVATIONAL MEASURES OF WORKERS IN PRIVATE SECTOR

In this section, the mean score on overall motivational measures of the workers of the private sector units with respect to their personal factors have been tested one by one.
5.5.3.1 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO SEX

To study whether there exists any significant difference between mean total score on motivational measures of the male and female workers of the private sector, data relating to these aspects were collected. The table 5.5.3.1A gives the frequency counts for total score on motivational measures with respect to male and female workers of the private sector.

TABLE 5.5.3.1A
FREQUENCY TABLE FOR THE TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO SEX

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>Male</th>
<th>Female</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (&lt;=163)</td>
<td>1</td>
<td>.3</td>
<td>1</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>339</td>
<td>96.6</td>
<td>411</td>
</tr>
<tr>
<td>High (&gt;=257)</td>
<td>11</td>
<td>3.1</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL</td>
<td>351</td>
<td>100.0</td>
<td>424</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between male and female workers regarding the overall motivational measures, the following hypothesis has been set.
Null Hypothesis ($H_0$): There is no significant difference between male and female workers of private sector with respect to the overall motivational measures.

To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the male and female workers regarding the total score on motivational measures and the t-test calculations are given in the following table.

**TABLE 5.5.3.1B**

GROUP STATISTICS FOR TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO SEX

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivational</td>
<td>Male</td>
<td>351</td>
<td>222.7578</td>
<td>18.9241</td>
<td>1.085</td>
<td>422</td>
</tr>
<tr>
<td>measures</td>
<td>Female</td>
<td>73</td>
<td>220.1096</td>
<td>19.1946</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.3.1B shows that the calculated t-value is 1.085 and P-value is 0.278. As the calculated P-value is greater than 0.05, the null hypothesis is accepted. This implies that there is no significant difference among the male and female workers on overall motivational measures. That is, male and female workers of the private sector accept/view the motivational measures in the same way. This means that the motivational measures influence the male and female workers at the same level.
5.5.3.2 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO AGE

Data, to study the existence of any significant difference between mean total score on motivational measures of the different age groups of workers of the private sector, were collected. The following table gives the frequency counts for total score on motivational measures with respect to different age groups.

**TABLE 5.5.3.2A**

**FREQUENCY TABLE FOR THE TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO AGE**

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>Age</th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21-35 yrs</td>
<td>36-50 yrs</td>
<td>51 &amp; above</td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>189</td>
<td>96.4</td>
<td>138</td>
</tr>
<tr>
<td>High (&gt;=257)</td>
<td>6</td>
<td>3.1</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>196</td>
<td>100.0</td>
<td>140</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the various age groups of workers regarding the total score on motivational measures are given below.
To study whether there exists any significant difference between the different age groups regarding the overall motivational measures the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different age groups of workers of the private sector with respect to the overall motivational measures.

To test this hypothesis, ANOVA test has been used and the calculations are presented in the following table.
TABLE 5.5.3.2C
ANOVA TABLE (BASED ON AGE)

<table>
<thead>
<tr>
<th>Sources of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4228.420</td>
<td>2</td>
<td>2114.210</td>
<td>6.011</td>
<td>0.003</td>
</tr>
<tr>
<td>Within Groups</td>
<td>148064.938</td>
<td>421</td>
<td>351.698</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>152293.358</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.3.2C shows that the calculated F-value is 6.011 and the P-value is 0.003. Since calculated P-value is lesser than 0.01, we reject the null hypothesis. This implies that there is highly significant difference among the different age groups of workers of the private sector with respect to overall motivational measures. That is, different age groups of workers of the private sector are differently influenced by the motivational measures.

5.5.3.3 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO EDUCATIONAL QUALIFICATIONS

To study the difference between mean total score on motivational measures of the different educational qualifications of workers of the private sector, the data relating to this aspect were collected. The table next page gives the frequency counts for total score on motivational measures with respect to different educational qualifications.
TABLE 5.5.3.3A
FREQUENCY TABLE FOR THE TOTAL SCORE ON MOTIVATIONAL MEASURES WITH RESPECT TO EDUCATIONAL QUALIFICATIONS

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>Educational qualification</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>School</td>
<td>High school &amp; Higher sec</td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Moderate (164 – 256)</td>
<td>78</td>
<td>114</td>
</tr>
<tr>
<td>High (&gt;=257)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>80</td>
<td>115</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the various educational qualifications regarding the total score on motivational measures are given in the following table.
To study whether there exists any significant difference between the different educational qualifications regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different educational qualifications of workers of the private sector with respect to the overall motivational measures.

To test this hypothesis, ANOVA test has been applied and the calculations are given in Table 5.5.3.3C.
TABLE 5.5.3.3C
ANOVA TABLE (BASED ON DUCATINAL QUALIFICATION)

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>36545.202</td>
<td>3</td>
<td>12181.734</td>
<td>44.202</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>115748.156</td>
<td>420</td>
<td>275.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>152293.358</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.3.3C shows that the calculated F-value is 44.202 and the P-value is 0.000. Since calculated P-value is lesser than 0.01, we reject the null hypothesis. This implies that there is highly significant difference among the different educational qualifications of the workers of the private sector with respect to the overall motivational measures. That is, different qualifications of the workers of the private sector have different influences on the motivational measures.

5.5.3.4 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO LENGTH OF SERVICE (IN YEARS)

To study whether there exists any significant difference between mean total score on motivational measures on different lengths of services (in years) of workers of the private sector, data relating to this aspect were collected. The following table presents the frequency counts for total score on motivational measures with respect to different lengths of services of workers.
TABLE 5.5.3.4A
FREQUENCY TABLE FOR THE TOTAL SCORE ON
MOTIVATIONAL MEASURES WITH RESPECT TO
LENGTH OF SERVICE (IN YEARS)

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>Work experience</th>
<th>TOTAL.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below 15 yrs</td>
<td>15-30 yrs</td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>82</td>
<td>98.8</td>
</tr>
<tr>
<td>High (&gt;=257)</td>
<td>8</td>
<td>3.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>83</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for different lengths of service (in years) regarding the total score on motivational measures are given in Table 5.5.3.4B.
TABLE 5.5.3.4B
GROUP STATISTICS OF TOTAL SCORE ON MOTIVATIONAL MEASURES SCORE WITH RESPECT TO LENGTH OF SERVICE

<table>
<thead>
<tr>
<th>Work experience</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 15 yrs</td>
<td>207.4578</td>
<td>83</td>
<td>18.8183</td>
</tr>
<tr>
<td>15-30 yrs</td>
<td>225.0879</td>
<td>239</td>
<td>18.1746</td>
</tr>
<tr>
<td>Above 30 yrs</td>
<td>227.8529</td>
<td>102</td>
<td>14.5401</td>
</tr>
<tr>
<td>Total</td>
<td>222.3019</td>
<td>424</td>
<td>18.9745</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between the different lengths of service regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different lengths of service (in years) of the workers of the private sector with respect to the overall motivational measures.

To test this hypothesis, ANOVA test has been applied and the calculations are given in Table 5.5.3.4C.
TABLE 5.5.3.4C
ANOVA TABLE (BASED ON LENGTH OF SERVICE)

<table>
<thead>
<tr>
<th>Sources of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>23286.807</td>
<td>2</td>
<td>11643.404</td>
<td>37.997</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>129006.551</td>
<td>421</td>
<td>306.429</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>152293.358</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.3.4C shows that the calculated F-value is 37.997 and the P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the different lengths of service (in years) of the workers of the private sector with respect to the overall motivational measures. That is, workers of the private sector with different years of service are differently influenced by the motivational measures.

5.5.3.5 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO MONTHLY SALARY

To study whether there exists any significant difference between mean total score on motivational measures of different monthly salaries of the workers of the private sector, data relating to this aspect were collected. The following table presents the frequency counts for the total score on motivational measures with respect to different monthly salary of the workers.
TABLE 5.5.3.5A
FREQUENCY TABLE FOR THE TOTAL SCORE ON
MOTIVATIONAL MEASURES WITH RESPECT
TO MONTHLY SALARY

<table>
<thead>
<tr>
<th>Monthly salary</th>
<th>TOTAL</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Rs.3000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rs.3000-4000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rs.4000-5000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above Rs.5000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>1</td>
<td>1.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Moderate (164-256)</td>
<td>66</td>
<td>98.5</td>
<td>149</td>
<td>96.8</td>
<td>124</td>
<td>97.6</td>
<td>72</td>
<td>94.7</td>
<td>411</td>
</tr>
<tr>
<td>High (&gt;=257)</td>
<td>5</td>
<td>3.2</td>
<td>3</td>
<td>2.4</td>
<td>4</td>
<td>5.3</td>
<td>12</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>67</td>
<td>100.0</td>
<td>154</td>
<td>100.0</td>
<td>127</td>
<td>100.0</td>
<td>76</td>
<td>100.0</td>
<td>424</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the various monthly salaries of the workers of the private sector regarding the total score on motivational measures are given in Table 5.5.3.5B.
TABLE 5.5.3.5B
GROUP STATISTICS OF TOTAL SCORE ON
MOTIVATIONAL MEASURES SCORE WITH RESPECT TO
MONTHLY SALARY

<table>
<thead>
<tr>
<th>Monthly salary</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Rs.3000</td>
<td>206.2388</td>
<td>67</td>
<td>17.9638</td>
</tr>
<tr>
<td>Rs.3000-4000</td>
<td>223.6039</td>
<td>154</td>
<td>19.8581</td>
</tr>
<tr>
<td>Rs.4000-5000</td>
<td>225.0472</td>
<td>127</td>
<td>16.1072</td>
</tr>
<tr>
<td>Above Rs.5000</td>
<td>229.2368</td>
<td>76</td>
<td>14.5188</td>
</tr>
<tr>
<td>Total</td>
<td>222.3019</td>
<td>424</td>
<td>18.9745</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between the different monthly salaries of the workers regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different monthly salary of the workers of the private sector with respect to the overall motivational measures.

To test the above hypothesis, ANOVA test has been administered and the calculations are given in Table 5.5.3.5C.
The table 5.5.3.5C shows that the calculated F-value is 23.841 and the P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the different monthly salaries of the workers of the private sector with respect to the overall motivational measures. That is, workers of the private sector with different monthly salary are differently influenced by the motivational measures.

5.5.3.6 OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO FAMILY SIZE

Data to study the existence of any significant difference between mean total score on motivational score on the family size of the workers of the private sector were collected. The following table gives the frequency counts for total score on motivational measures with respect to the family size of the workers.
TABLE 5.5.3.6A
FREQUENCY TABLE FOR TOTAL SCORE ON
MOTIVATIONAL MEASURES WITH RESPECT TO FAMILY SIZE

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>No. of dependents</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3 members</td>
<td>4-6 members</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>207</td>
<td>95.4</td>
</tr>
<tr>
<td>High (&gt;=257)</td>
<td>10</td>
<td>4.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>217</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The group statistics of mean and standard deviation for the different sizes of the families of the workers of the private sector regarding the total score on motivational measures are given Table 5.5.3.6B
TABLE 5.5.3.6B
GROUP STATISTICS OF TOTAL SCORE ON
MOTIVATIONAL MEASURES SCORE WITH RESPECT TO
FAMILY SIZE

<table>
<thead>
<tr>
<th>No. of dependents</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 members</td>
<td>225.5207</td>
<td>217</td>
<td>19.8620</td>
</tr>
<tr>
<td>4-6 members</td>
<td>220.4211</td>
<td>133</td>
<td>16.9939</td>
</tr>
<tr>
<td>7 &amp; above</td>
<td>216.2432</td>
<td>74</td>
<td>17.9518</td>
</tr>
<tr>
<td>Total</td>
<td>222.3019</td>
<td>424</td>
<td>18.9745</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between the different sizes of families of the workers regarding the overall motivational measure, the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference among the different sizes of families of the workers of the private sector with respect to the overall motivational measures.

To test the above hypothesis, ANOVA test has been administered and the calculations are given in Table 5.5.3.6C.
TABLE 5.5.3.6C
ANOVA TABLE (BASED ON FAMILY SIZE)

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5435.159</td>
<td>2</td>
<td>2717.580</td>
<td>7.791</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>146858.199</td>
<td>421</td>
<td>348.832</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>152293.358</td>
<td>423</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.3.6C shows that the calculated F-value is 7.791 and the P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sizes of the families of the workers of the private sector with respect to the overall motivational measures. That is, the size of the family of the workers of the private sector differently influences the motivational measures.

5.5.4 TEST FOR MEAN SCORE BETWEEN THE PUBLIC AND PRIVATE SECTORS WITH RESPECT TO MOTIVATIONAL FACTORS

We have mentioned already about the seven motivational factors, which motivate the workers of both public and private sector units of the cement industry in TN.
In this section, the existence of any significant difference among the public and private sector workers for each of the motivational factor is analysed.

5.5.4.1. ANALYSIS OF FINANCIAL SUPPORT SCORE WITH RESPECT TO SECTORS

Data relating to the existence of any significant difference between mean total score on financial support of the public and private sector workers were collected. The table 5.5.4.1A gives the frequency counts for total score on financial support with respect to public and private sector.

<table>
<thead>
<tr>
<th>Financial support score</th>
<th>Sector</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Low (&lt;=23)</td>
<td>15</td>
<td>67</td>
</tr>
<tr>
<td>Moderate (24 - 36)</td>
<td>132</td>
<td>343</td>
</tr>
<tr>
<td>High (&gt;=37)</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>TOTAL</td>
<td>163</td>
<td>424</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the financial support, the following hypothesis has been set.
Null Hypothesis ($H_0$): There is no significant difference between public and private sector workers with respect to financial support.

To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on financial support and the t-test calculations are given in the following table.

### TABLE 5.5.4.1B

**GROUP STATISTICS FOR TOTAL SCORE ON FINANCIAL SUPPORT WITH RESPECT TO SECTORS**

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial support score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>163</td>
<td>30.0920</td>
<td>4.9376</td>
<td>4.956</td>
<td>585</td>
<td>0.000</td>
</tr>
<tr>
<td>Private</td>
<td>424</td>
<td>27.8962</td>
<td>4.7573</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.4.1B shows that the calculated t-value is 4.956 and P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sectors (between public and private) with respect to financial support. That is, both sectors accept the financial support differently. This means that financial support influences the public and private sector workers differently.
5.5.4.2 SERVICE CONDITION SCORE WITH RESPECT TO SECTORS

Data, to study whether there exists any significant difference between mean total score on service conditions among the public and private sector, were collected. The following table gives the frequency counts for total score on service conditions with respect to public and private sector.

TABLE 5.5.4.2A
FREQUENCY TABLE FOR THE TOTAL SCORE ON SERVICE CONDITIONS WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Service conditions score</th>
<th>Sector</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>Low (&lt;=33)</td>
<td>32 19.6</td>
<td>3 .7</td>
</tr>
<tr>
<td>Moderate (34 - 50)</td>
<td>129 79.1</td>
<td>309 72.9</td>
</tr>
<tr>
<td>High (&gt;=51)</td>
<td>2 1.2</td>
<td>112 26.4</td>
</tr>
<tr>
<td></td>
<td>163 100.0</td>
<td>424 100.0</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the service conditions, the following hypothesis has been set.

Null Hypothesis (H₀): There is no significant difference between public and private sector workers with respect to service conditions.
To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on service conditions and the t-test calculations are given in the following table.

**TABLE 5.5.4.2B**

**GROUP STATISTICS FOR TOTAL SCORE ON SERVICE CONDITIONS WITH RESPECT TO SECTORS**

<table>
<thead>
<tr>
<th>Service conditions score</th>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>163</td>
<td>37.9755</td>
<td>5.0917</td>
<td>18.653</td>
<td>585</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>424</td>
<td>47.0684</td>
<td>5.3632</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table shows that the calculated t-value is 18.653 and P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sectors (between public and private) with respect to service conditions. That is, the service conditions differently influence the workers of public and private sectors.
5.5.4.3 WORK AND WORKING CONDITIONS SCORE WITH RESPECT TO SECTORS

Data on the existence of any significant difference between mean total score on work and working conditions among the public and private sector were collected. The table 5.5.4.3A gives the frequency counts for total score on work and working conditions with respect to public and private sector.

**TABLE 5.5.4.3A**
FREQUENCY TABLE FOR THE TOTAL SCORE ON WORK AND WORKING CONDITIONS WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Work &amp; Working conditions score</th>
<th>Sector</th>
<th>Total</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (&lt;=21)</td>
<td>53</td>
<td>40</td>
<td>93</td>
<td>15.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate (22 - 32)</td>
<td>108</td>
<td>193</td>
<td>301</td>
<td>51.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High (&gt;=33)</td>
<td>2</td>
<td>191</td>
<td>193</td>
<td>32.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>163</td>
<td>424</td>
<td>587</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the work and working conditions, the following hypothesis has been set.
Null Hypothesis ($H_0$): There is no significant difference between public and private sector workers with respect to work and working conditions.

To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on work and working conditions and the t-test calculations are given in the following table.

**TABLE 5.5.4.3B**

**GROUP STATISTICS FOR TOTAL SCORE ON WORK AND WORKING CONDITIONS WITH RESPECT TO SECTORS**

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work &amp; Working conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>163</td>
<td>24.1472</td>
<td>4.4600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>424</td>
<td>31.0330</td>
<td>5.7763</td>
<td>13.725</td>
<td>585</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The table 5.5.4.3B shows that the calculated t-value is 13.725 and P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sectors (between public and private) with respect to work and working conditions. That is, the work and working conditions differently influence the workers of public and private sectors.
5.5.4.4 BENEFITS FOR DEPENDENTS SCORE WITH RESPECT TO SECTORS

To study whether there exists any significant difference between mean total score on Benefits for dependents among the public and private sectors the relevant data were collected. The following table gives the frequency counts for total score on benefits for dependents with respect to public and private sectors.

TABLE 5.5.4.4A
FREQUENCY TABLE FOR THE TOTAL SCORE ON BENEFITS FOR DEPENDENTS WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Benefits for dependents score</th>
<th>Sector</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Low (&lt;=23)</td>
<td>25</td>
<td>108</td>
</tr>
<tr>
<td>Moderate (24 - 36)</td>
<td>129</td>
<td>304</td>
</tr>
<tr>
<td>High (&gt;=37)</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL</td>
<td>163</td>
<td>424</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the benefits for dependents, the following hypothesis has been set.
Null Hypothesis (H₀): There is no significant difference between public and private sector workers with respect to benefits for dependents.

To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on benefits for dependents and the t-test calculations are given in the following table.

### TABLE 5.5.4.4B

**GROUP STATISTICS FOR TOTAL SCORE ON BENEFITS FOR DEPENDENTS WITH RESPECT TO SECTORS**

<table>
<thead>
<tr>
<th>Benefits for dependents score</th>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>163</td>
<td>27.8160</td>
<td>4.6164</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>424</td>
<td>27.0755</td>
<td>5.1082</td>
<td>1.614</td>
<td>585</td>
<td>0.107</td>
</tr>
</tbody>
</table>

The above table shows that the calculated t-value is 1.614 and P-value is 0.107. As the calculated P-value is greater than 0.01, the null hypothesis is accepted. This implies that there is no significant difference among the sectors (between public and private) with respect to Benefits for dependents. That is, the Benefits for dependents do not differently influence the workers of public and private sectors. They are influenced in the same way.
5.5.4.5 ANALYSIS OF PERSONAL DEVELOPMENT SCORE WITH RESPECT TO SECTORS

Data relating to the existence of any significant difference between mean total score on personal development of the public and private sector workers were collected. The following table gives the frequency counts for total score on personal development with respect to public and private sector workers.

**TABLE 5.5.4.5A**

FREQUENCY TABLE FOR THE TOTAL SCORE ON PERSONAL DEVELOPMENT WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Personal development score</th>
<th>Sector</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Low (&lt;=16)</td>
<td>61</td>
<td>71</td>
</tr>
<tr>
<td>Moderate (17 - 25)</td>
<td>92</td>
<td>242</td>
</tr>
<tr>
<td>High (&gt;=26)</td>
<td>10</td>
<td>111</td>
</tr>
<tr>
<td>TOTAL</td>
<td>163</td>
<td>424</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the personal development, the following hypothesis has been set.
Null Hypothesis (H₀): There is no significant difference between public and private sector workers with respect to personal development.

To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on personal development and the t-test calculations are given in the table 5.5.4.5B.

**TABLE 5.5.4.5B**

**GROUP STATISTICS FOR TOTAL SCORE ON PERSONAL DEVELOPMENT WITH RESPECT TO SECTORS**

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>163</td>
<td>18.2086</td>
<td>4.6314</td>
<td>8.281</td>
<td>585</td>
<td>0.000</td>
</tr>
<tr>
<td>Private</td>
<td>424</td>
<td>22.0519</td>
<td>5.1825</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table shows that the calculated t-value is 8.281 and P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sectors (between public and private) with respect to personal development. That is, both the sectors accept the personal development differently. This means that personal development influences the workers of public and private sectors differently on the motivational aspect.
5.5.4.6 ANALYSIS OF PHILOSOPHY OF MANAGEMENT SCORE WITH RESPECT TO SECTORS

For studying the existence of any significant difference between mean total score on Philosophy of Management of the public and private sector workers were collected. The table 5.5.4.6A gives the frequency counts for total score on philosophy of management with respect to public and private sector workers.

**TABLE 5.5.4.6A**

FREQUENCY TABLE FOR THE TOTAL SCORE ON PHILOSOPHY OF MANAGEMENT WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Philosophy of management score</th>
<th>Sector</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Low (&lt;=23)</td>
<td>78</td>
<td>61</td>
</tr>
<tr>
<td>Moderate (24 - 36)</td>
<td>73</td>
<td>200</td>
</tr>
<tr>
<td>High (&gt;=37)</td>
<td>12</td>
<td>163</td>
</tr>
<tr>
<td>TOTAL</td>
<td>163</td>
<td>424</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the philosophy of management, the following hypothesis has been set.
Null Hypothesis ($H_0$): There is no significant difference between public and private sector workers with respect to philosophy of management.

To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on philosophy of management and the t-test calculations are given in the following table.

**TABLE 5.5.4.6B**

**GROUP STATISTICS FOR TOTAL SCORE ON PHILOSOPHY OF MANAGEMENT WITH RESPECT TO SECTORS**

<table>
<thead>
<tr>
<th>Philosophy of management score</th>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>163</td>
<td>25.5644</td>
<td>7.9381</td>
<td>10.953</td>
<td>585</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>424</td>
<td>33.2241</td>
<td>7.4497</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table 5.5.4.6B shows that the calculated t-value is 10.953 and P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sectors (between public and private) with respect to philosophy of management. This means that philosophy of management influences the workers of public and private sectors differently on the motivational aspect.
5.5.4.7 ANALYSIS OF PERSONAL INVOLVEMENT SCORE WITH RESPECT TO SECTORS

To study the existence of any significant difference between mean total score on personal involvement among the public and private sector workers, the relevant data were collected. The following table gives the frequency counts for total score on personal involvement with respect to public and private sectors.

TABLE 5.5.4.7A
FREQUENCY TABLE FOR THE TOTAL SCORE ON PERSONAL INVOLVEMENT WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Personal involvement score</th>
<th>Sector</th>
<th></th>
<th></th>
<th></th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>No.</td>
<td>%</td>
<td>Private</td>
<td>No.</td>
</tr>
<tr>
<td>Low (&lt;=23)</td>
<td></td>
<td>100</td>
<td>61.3</td>
<td>6</td>
<td>1.4</td>
</tr>
<tr>
<td>Moderate (24 - 36)</td>
<td></td>
<td>61</td>
<td>37.4</td>
<td>308</td>
<td>72.6</td>
</tr>
<tr>
<td>High (&gt;=37)</td>
<td></td>
<td>2</td>
<td>1.2</td>
<td>110</td>
<td>25.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>163</td>
<td>100.0</td>
<td>424</td>
<td>100.0</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the personal involvement, the following hypothesis has been set.
Null Hypothesis (H₀): There is no significant difference between public and private sector workers with respect to personal involvement.

To test the hypothesis, t-test has been used. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on personal involvement and the t-test calculations are given in the following table.

**TABLE 5.5.4.7B**

GROUP STATISTICS FOR TOTAL SCORE ON PERSONAL INVOLVEMENT WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Involvement score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>163</td>
<td>22.6687</td>
<td>5.0651</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>424</td>
<td>33.9528</td>
<td>4.3746</td>
<td>26.756</td>
<td>585</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The above table shows that the calculated t-value is 26.756 and P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sectors (between public and private) with respect to personal involvement. That is, both the sectors accept the personal development differently. This means that personal involvement influences the workers of public and private sectors differently on the motivational aspect.
5.5.4.8 ANALYSIS OF TOTAL SCORE ON OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO SECTORS

To study the existence of any significant difference between mean total score on overall motivational measures among the public and private sector workers, the relevant data were collected. The following table gives the frequency counts for total score on the overall motivational measures of the workers with respect to the public and private sectors.

TABLE 5.5.4.8A
FREQUENCY TABLE FOR THE TOTAL SCORE ON OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO SECTORS

<table>
<thead>
<tr>
<th>Total score on motivational measures</th>
<th>Sector</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Low (&lt;=163)</td>
<td>14 8.6</td>
<td>1 .2</td>
</tr>
<tr>
<td>Moderate (164 - 256)</td>
<td>149 91.4</td>
<td>411 96.9</td>
</tr>
<tr>
<td>High (&gt;=257)</td>
<td>0 0</td>
<td>12 2.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>163 100.0</td>
<td>424 100.0</td>
</tr>
</tbody>
</table>

To study whether there exists any significant difference between public and private sector workers regarding the overall motivational measures, the following hypothesis has been set.
Null Hypothesis ($H_0$): There is no significant difference between public and private sector workers with respect to overall motivational measures.

This hypothesis was tested with the help of t-test. The group statistics of mean and standard deviation for the public and private sector workers regarding the total score on overall motivational measures and the t-test calculations are given in table 5.5.4.8B.

### TABLE 5.5.4.8B

**GROUP STATISTICS FOR TOTAL SCORE ON OVERALL MOTIVATIONAL MEASURES WITH RESPECT TO SECTORS**

<table>
<thead>
<tr>
<th>Sector</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total score on motivational measures score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>163</td>
<td>186.4724</td>
<td>16.1449</td>
<td>21.320</td>
<td>585</td>
<td>0.000</td>
</tr>
<tr>
<td>Private</td>
<td>424</td>
<td>222.3019</td>
<td>18.9745</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table shows that the calculated t-value is 21.320 and P-value is 0.000. As the calculated P-value is lesser than 0.01, the null hypothesis is rejected. This implies that there is highly significant difference among the sectors (between public and private) with respect to overall motivational measures. This means that there is highly significant difference among the sectors with respect to the overall motivational measures. This implies that the workers in the public and private sectors are influenced differently by the overall motivational measures.
5.5.5 DISCRIMINANT FUNCTION ANALYSIS

We have already listed financial support, service conditions, work and working conditions, benefits for dependents, personal development, philosophy of management and personal involvement as the seven motivational factors responsible for motivating the workers of the public and private sector units of the cement industry in TN. Now, the question is among the seven factors, which are significantly discriminate the respondents of one group (public sector) from the other group (private sector) in their opinions towards factors responsible for motivational measures. Discriminant Function Analysis answers this question in three stages, namely; (i) Construction of Discriminant Function, (ii) Classification and (iii) Interpretation. These aspects are explained in the following pages.

5.5.5.1 CONSTRUCTION OF DISCRIMINANT FUNCTION:

Discriminant Function Analysis attempts to construct a function with these and other variables so that the respondents belonging to either of these two groups are differentiated at the maximum. The linear combination of the variables is known as Discriminant Function and its parameters are called Discriminant Function coefficients. A typical Discriminant Function will be of the form,

\[ Z = a_0 + a_1 X_1 + a_2 X_2 + \ldots + a_n X_n \]

where,

- \( a_0 \) - constant
- \( a_1, a_2, \ldots, a_n \) - Discriminant Function coefficients of the independent variables \( X_1, X_2, \ldots, X_n \), respectively.
Variable Selection Method:

In constructing the function, all variables, which contribute to differentiate these two groups maximally, are examined. Among the several methods available for selection of variables, 'Mahalanobis Minimum D Square' method was employed for this study. The Mahalanobis procedure is based on the generalised Square Euclidean distance that adjusts for unequal variances in the variables. The major advantage of this procedure is that it is computed in the original space of the predictor (independent) variables rather than as a collapsed version, which is used in other methods. In general, 'Mahalanobis Minimum D Square' is the preferred procedure because we are interested in the maximum use of available information.

Stepwise Selection:

In the process of constructing Discriminant Function, after deciding about Mahalanobis Minimum D Square method, the type of computation is also to be decided. One is Simultaneous Method and the other one is Stepwise Method. The Simultaneous Method involves computing the Discriminant Function so that all the Independent variables are considered concurrently regardless of the discriminating power of each independent variable.

The Stepwise Method is an alternative to the above discussed method. It involves entering the independent variables in the Discriminant Function one at a time on the basis of their discriminating power. The stepwise approach begins by choosing the single best discriminating variable. The initial variable is then paired with each of the other
independent variables one at a time, and a second variable is chosen. The second variable is the one that is best able to improve the discriminating power of the Function in combination with the first variable. The third and any subsequent variables are selected in a similar manner. As additional variables are included, some already selected variables may be removed if the information they contain about group differences is available in some combination of the other already included variables (Multicollinearity). Eventually either all independent variables will have been included in the function or the excluded variables will have been judged as not contributing significantly to further discrimination. By sequentially selecting the next best discriminating variable at each step, variables that are not useful in discriminating between the groups are eliminated and a reduced set of variables is identified. The reduced set typically is almost as good as, and sometimes better than, the complete set of variables.

Now let us begin the first stage of Discriminant Function Analysis by examining Table 5.5.5.1. This table shows the group means and standard deviations for each of the independent variables identified for analysis based on the sample size of 587.
### TABLE 5.5.5.1.

**GROUP STATISTICS**

<table>
<thead>
<tr>
<th>Variables selected</th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>Financial support score</td>
<td>30.09</td>
<td>4.94</td>
<td>27.90</td>
</tr>
<tr>
<td>Service conditions score</td>
<td>37.98</td>
<td>5.09</td>
<td>47.07</td>
</tr>
<tr>
<td>Work &amp; Working conditions score</td>
<td>24.15</td>
<td>4.46</td>
<td>31.03</td>
</tr>
<tr>
<td>Benefits for dependents score</td>
<td>27.82</td>
<td>4.62</td>
<td>27.08</td>
</tr>
<tr>
<td>Personal development score</td>
<td>18.21</td>
<td>4.63</td>
<td>22.05</td>
</tr>
<tr>
<td>Philosophy of management score</td>
<td>25.56</td>
<td>7.94</td>
<td>33.22</td>
</tr>
<tr>
<td>Personal involvement score</td>
<td>22.67</td>
<td>5.07</td>
<td>33.95</td>
</tr>
</tbody>
</table>

A look at the mean scores reveals that except Financial Support Score, private Sector scores are higher than the public sector scores on many factors of motivational measures adopted by the respective managements. Benefits for dependents score is found to be almost the same between Public and Private sectors.
TABLE 5.5.5.2.
TESTS OF EQUALITY OF GROUP MEANS

<table>
<thead>
<tr>
<th>Variables</th>
<th>F</th>
<th>df1</th>
<th>Df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial support score</td>
<td>24.557</td>
<td>1</td>
<td>585</td>
<td>6.678</td>
</tr>
<tr>
<td>Service conditions score</td>
<td>347.947</td>
<td>1</td>
<td>585</td>
<td>6.678</td>
</tr>
<tr>
<td>Work &amp; Working conditions score</td>
<td>188.377</td>
<td>1</td>
<td>585</td>
<td>6.678</td>
</tr>
<tr>
<td>Benefits for dependents score</td>
<td>2.606</td>
<td>1</td>
<td>585</td>
<td>3.857</td>
</tr>
<tr>
<td>Personal development score</td>
<td>68.576</td>
<td>1</td>
<td>585</td>
<td>6.678</td>
</tr>
<tr>
<td>Philosophy of management score</td>
<td>119.968</td>
<td>1</td>
<td>585</td>
<td>6.678</td>
</tr>
<tr>
<td>Personal involvement score</td>
<td>715.862</td>
<td>1</td>
<td>585</td>
<td>6.678</td>
</tr>
</tbody>
</table>

Above table shows the One-Way ANOVA used to assess the significance between the means of the two groups, for each of the independent variables. It is seen from the table that all variables (factors) except 'Benefits for Dependents score' contribute significantly in differentiating between Public Sector and Private Sector workers in their opinion expressed on motivational measures using the seven factors. Since the objective is to determine the variables, which discriminate most efficiently between Public and Private sectors, all the factors were retained for further analysis and the stepwise approach was used to remove any insignificant factor. The stepwise procedure begins with examining all the variables for inclusion in the function. The variable, if selected, that maximizes the Mahalanobis Minimum D Square between the groups is entered the function first. In order to restrict all the variables being entered
the equation, a minimum F value of 1.00 is fixed as entry criterion for inclusion in the Discriminant Function.

TABLE 5.5.5.3.

VARIABLES IN THE ANALYSIS
(At each step, the variable that maximizes the Mahalanobis distance Between the two groups is entered.)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables included</th>
<th>Tolerance</th>
<th>F to Remove</th>
<th>Min. D Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Personal involvement score</td>
<td>1.000</td>
<td>715.862</td>
<td>6.080</td>
</tr>
<tr>
<td>2</td>
<td>Personal involvement score</td>
<td>.975</td>
<td>363.792</td>
<td>2.955</td>
</tr>
<tr>
<td></td>
<td>Service conditions score</td>
<td>.975</td>
<td>95.733</td>
<td>6.080</td>
</tr>
<tr>
<td>3</td>
<td>Personal involvement score</td>
<td>.974</td>
<td>298.411</td>
<td>4.348</td>
</tr>
<tr>
<td></td>
<td>Service conditions score</td>
<td>.973</td>
<td>78.842</td>
<td>7.438</td>
</tr>
<tr>
<td></td>
<td>Work &amp; Working conditions score</td>
<td>.996</td>
<td>55.530</td>
<td>7.891</td>
</tr>
<tr>
<td>4</td>
<td>Personal involvement score</td>
<td>.973</td>
<td>286.531</td>
<td>4.906</td>
</tr>
<tr>
<td></td>
<td>Service conditions score</td>
<td>.970</td>
<td>80.081</td>
<td>7.985</td>
</tr>
<tr>
<td></td>
<td>Work &amp; Working conditions score</td>
<td>.975</td>
<td>64.498</td>
<td>8.297</td>
</tr>
<tr>
<td></td>
<td>Financial support score</td>
<td>.974</td>
<td>26.914</td>
<td>9.116</td>
</tr>
<tr>
<td>5</td>
<td>Personal involvement score</td>
<td>.969</td>
<td>262.894</td>
<td>5.394</td>
</tr>
<tr>
<td></td>
<td>Service conditions score</td>
<td>.970</td>
<td>77.029</td>
<td>8.321</td>
</tr>
<tr>
<td></td>
<td>Work &amp; Working conditions score</td>
<td>.929</td>
<td>47.046</td>
<td>8.955</td>
</tr>
<tr>
<td></td>
<td>Financial support score</td>
<td>.973</td>
<td>25.405</td>
<td>9.452</td>
</tr>
<tr>
<td></td>
<td>Philosophy of management score</td>
<td>.947</td>
<td>12.422</td>
<td>9.768</td>
</tr>
</tbody>
</table>
The table 5.5.5.3 gives the list of variables considered for analysis at each step, with corresponding F-to-remove and D square values to examine the possible inclusion of variables in the equation. A look at the table will reveal that the entry criterion has eliminated the variables 'Personal Development' and 'Benefits for Dependents' from possible inclusion in the equation. Also this table gives the information as which should be the variable, which is entered first. By examining D square value, which maximises the distance between the two groups, it is seen that at each step a variable is entered, the Dsquare value has increased, thereby increasing the discrimination between the two groups. The variable which maximum discriminated between the two groups can be identified from the variable, which was entered first. Here it was Personal Involvement score. At each step a variable is entered, the significance of the function is tested using Wilk's Lambda (λ) and D square values arrived for this function. Both the statistics show that the Discriminant Function is significant at 1% level. The results are given in Table 5.5.5.4

**TABLE 5.5.5.4.**

**WILKS' LAMBDA**

<table>
<thead>
<tr>
<th>Step</th>
<th>Number of Variables</th>
<th>Lambda</th>
<th>df1</th>
<th>df2</th>
<th>df3</th>
<th>Exact F Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>.450</td>
<td>1</td>
<td>1</td>
<td>585</td>
<td>715.862</td>
<td>1</td>
<td>585.000</td>
<td>6.878</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>.386</td>
<td>2</td>
<td>1</td>
<td>585</td>
<td>463.760</td>
<td>2</td>
<td>584.000</td>
<td>4.642</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>.353</td>
<td>3</td>
<td>1</td>
<td>585</td>
<td>356.552</td>
<td>3</td>
<td>583.000</td>
<td>3.815</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>.337</td>
<td>4</td>
<td>1</td>
<td>585</td>
<td>286.029</td>
<td>4</td>
<td>582.000</td>
<td>3.351</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>.330</td>
<td>5</td>
<td>1</td>
<td>585</td>
<td>235.798</td>
<td>5</td>
<td>581.000</td>
<td>3.049</td>
</tr>
</tbody>
</table>
Once entered in the equation, at each step, the variables already entered are further examined for positive removal from the equation. A variable is removed if high multicollinearity exists between the included independent variables. Like entry criterion, the removal criterion is also fixed at 1.00. This process of selection, inclusion and removal continues until all the variables satisfying above entry and removal conditions are satisfied.

**TABLE 5.5.5.5**

**SUMMARY TABLE**

<table>
<thead>
<tr>
<th>Step</th>
<th>Entered</th>
<th>Min. D Square</th>
<th>F-Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Personal involvement score</td>
<td>6.080</td>
<td>715.862</td>
<td>1</td>
<td>585.000</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>Service conditions score</td>
<td>7.891</td>
<td>463.760</td>
<td>2</td>
<td>584.000</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>Work &amp; Working conditions score</td>
<td>9.116</td>
<td>356.552</td>
<td>3</td>
<td>583.000</td>
<td>0.00</td>
</tr>
<tr>
<td>4</td>
<td>Financial support score</td>
<td>9.768</td>
<td>286.029</td>
<td>4</td>
<td>582.000</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>Philosophy of management score</td>
<td>10.083</td>
<td>235.798</td>
<td>5</td>
<td>581.000</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The above table provides the overall stepwise discriminant analysis results after all significant variables have been included in the Discriminant Function. The summary table indicates that out of seven variables considered for the analysis five variables were included in the model, leaving two variables namely Personal Development and Benefits for Dependents from the function. The significance of the discriminating
variables were tested using Wilk's Lambda (λ) and Min D² values which are given in the table 5.5.5.4 ad 5.5.5.5.

CANNONICAL DISCRIMINANT FUNCTION:

Table 5.5.5.6 provides the multivariate aspect of the model given under the heading 'Canonical Discriminant Function'. Note that Discriminant Function is significant at 1% level and displays a correlation of 0.818. By squaring it we get (0.818)²=0.6691 and may be interpreted as 66.91% of the variation in the dependent variable Sector, may be explained by all the discriminating variables included in the model and the Wilk's Lambda and its chi-square value explains that the model is significant in discriminating between two sectors at 1% level.

\[ \text{TABLE 5.5.5.6.} \]

<table>
<thead>
<tr>
<th>Canonical Correlation (R)</th>
<th>Wilks' Lambda</th>
<th>Chi-square</th>
<th>Df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.818</td>
<td>0.330</td>
<td>645.592</td>
<td>5</td>
<td>15.086</td>
</tr>
</tbody>
</table>

DISCRIMINANT FUNCTION COEFFICIENTS:

Table 5.5.5.7 gives the coefficients of the discriminating variables finally derived for the Discriminant Function.
The Discriminant Function (Z) for the problem under study can be written as,

\[ Z = -9.336 \times FS + 0.053 \times SC + 0.080 \times WC + 0.064 \times WC + 0.024 \times PM + 0.151 \times PI \]  

where,

- FS - Financial support score
- SC - Service conditions score
- WC - Work & Working conditions score
- PM - Philosophy of management score
- PI - Personal involvement score
5.5.5.2. CLASSIFICATION:

Once the Discriminant Function is arrived at, then the efficiency of the function as to, how accurately it predicts the respondents into the respective groups must be assessed. For this a classification matrix is to be developed using ‘original’ and ‘predicted’ group membership of the respondents.

Before a Classification Matrix can be considered, the group centroids (means), cutting score and prior probabilities of each group must be decided.

Group Centroids:

Using the Discriminant Function given in (A) the discriminant score for each respondent is calculated by substituting the values for discriminating variables from the study data. Then mean scores for Public Sector \((Z_0)\) and Private \((Z_1)\) are calculated, which are called Group Centroids. The results of these Group centroids are given in Table 5.5.5.8.

Cutting Score:

Using the sample sizes and centroids for these two groups, Cutting Score is calculated as follows:

\[
Z_c = \frac{[N_0 \times Z_0] + [N_1 \times Z_1]}{N_0 + N_1}
\]

where,

\(Z_c = \text{Cutting Score}\)
\( Z_0 \) = Centroid for Public Sector

\( Z_1 \) = Centroid for Private Sector

\( N_0 \) = Sample size of Public Sector

\( N_1 \) = Sample size of Private Sector

Hence substituting the respective values, the cutting score is

\[
Z_c = \frac{[163x(-2.294)+424x(.882)]}{(163+424)} = 0.00008.
\]

Against this Cutting Score each respondent’s discriminant score is examined. If his score is less than \( Z_c \) value, then he is classified in Public Sector group, otherwise in Private Sector group.

**TABLE 5.5.5.8.**

**UNSTANDARDIZED CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>-2.294</td>
</tr>
<tr>
<td>Private</td>
<td>.882</td>
</tr>
</tbody>
</table>
### TABLE 5.5.5.9.

**PRIOR PROBABILITIES FOR GROUPS**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Prior</th>
<th>Cases Used in Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>278</td>
<td>163</td>
</tr>
<tr>
<td>Private</td>
<td>.722</td>
<td>424</td>
</tr>
<tr>
<td>Total</td>
<td>1.000</td>
<td>587</td>
</tr>
</tbody>
</table>

**Prior Probabilities:**

Prior probabilities are calculated for each group based on the proportionate size of the sample in the respective groups and the results are given in table 5.5.5.9. Using these prior probabilities, centroids and cutting score, the Classification Matrix is formed. (given in Table 5.5.5.10)

### TABLE 5.5.5.10.

**CLASSIFICATION RESULTS**

<table>
<thead>
<tr>
<th>Original</th>
<th>Predicted Group Membership</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sector</td>
<td>Public</td>
</tr>
<tr>
<td>No.</td>
<td>Public</td>
<td>147</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>14</td>
</tr>
<tr>
<td>%</td>
<td>Public</td>
<td>90.2</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>3.3</td>
</tr>
</tbody>
</table>

From the above table, it can be understood that $94.99\% = \left( \frac{147 + 410}{587} \right) \times 100$. 
of the original cases have been correctly classified. This implies that the technique of discriminant function analysis is highly valid.

Table 5.5.5.10 is the Classification Matrix giving how many of the respondents were correctly classified the respective groups and the overall correct classification percentage. Thus it is seen that the Discriminant Function has predicted 90.2% of the cases correctly in the Public Sector group and 96.7% of the cases in the Private Sector group and on the whole classified 94.9% of the cases correctly.

5.5.5.3. INTERPRETATION:

Once the Discriminant Function and its classification efficiency are assessed, then the next question remains to be answered is: how efficient are the discriminating variables in the Discriminant Function? This cannot be answered directly. However, the discriminating power or the contribution of each variable to the function can sufficiently answer the question. Consider the following table 5.5.5.11.
TABLE 5.5.5.11.
STRUCTURE MATRIX
(Correlations between discriminating variables and canonical
discriminant function. Variables ordered by absolute
size of correlation within function.)

<table>
<thead>
<tr>
<th>Variables</th>
<th>R</th>
<th>R² %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal involvement score</td>
<td>.777</td>
<td>60.4</td>
</tr>
<tr>
<td>Service conditions score</td>
<td>.541</td>
<td>29.3</td>
</tr>
<tr>
<td>Work &amp; Working conditions score</td>
<td>.398</td>
<td>15.8</td>
</tr>
<tr>
<td>Philosophy of management score</td>
<td>.318</td>
<td>10.1</td>
</tr>
<tr>
<td>Financial support score</td>
<td>-.144</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Table 5.5.5.11 gives the structural correlations, which measure the simple linear correlations between each independent variable and the Discriminant Function. The R²% gives the percent contribution of each variable to Discriminant Function. It is seen from the table that nearly 60.4% of the variation in the Discriminant Function is due to Personal Involvement score, which contributes maximally, in discriminating between Public and Private sector employees in their opinion towards motivational measures. Next comes, service conditions score, which contributes about 29.3% in discriminating between the two sectors followed by Working Conditions and Philosophy of Management. Financial Support seems to contribute least in discriminating between Public and Private Sector employees, in their assessment towards motivational measures adopted by the respective managements.
5.6 IMPACT OF OVERALL MOTIVATIONAL MEASURES

MOTIVATION AND ITS IMPACT

As pointed out earlier, many motivational measures are provided to the workers of the cement industry in TN. Having enjoyed the benefits of these measures, they might have been motivated. If they have been motivated, then it will reflect mainly on the important aspects such as absenteeism, labour turnover, accidents, violation of rules and regulations, and loss of man-days due to strikes. Thus, by studying these aspects we can decide to what extent the workers have been motivated. Hence, data relating to these aspects were collected from the records of the respective units and were analysed. The data thus collected and the analysis of the same are given in the subsequent pages.

5.6.1 IMPACT OF MOTIVATIONAL MEASURES ON ABSENTEEISM

Absenteeism refers to the non-availability of a person to his assigned work during the allotted time. When an employee stays away from duty, his absence may be legal or illegal. When he is absent from duty on a leave to which he is entitled to receive salary, it is called legal absence and when he is not eligible to receive salary, it is called illegal. The cement industry of TN has taken into account both these type of absence in determining the rate of absenteeism. No doubt, absence of employee from duty will spoil the regular work, which will ultimately lead to lower production resulting in decreased profits.
It is said that the satisfied employee will absent himself from work very rarely compared to a more dissatisfied employee. Knowing this fact, the organizations are providing many benefits to provide satisfaction to their employees. Even then, a large number of employees are not satisfied with what they get and hence absent themselves from work habitually. The data on the rate of absenteeism of the workers of the study units were collected and are given in the following table. (Table 5.6.1). For an easy and quicker understanding, the data has been transformed into a bar diagram which is given in Chart 5.6.1.(page no. 246)
<table>
<thead>
<tr>
<th>UNITS</th>
<th>1994-95</th>
<th>95-96</th>
<th>96-97</th>
<th>97-98</th>
<th>98-99</th>
<th>99-00</th>
<th>00-01</th>
<th>01-02</th>
<th>02-03</th>
<th>03-04</th>
<th>UNIT AVERAGE</th>
<th>SECTOR AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>21.5</td>
<td>21.4</td>
<td>20.9</td>
<td>20.8</td>
<td>20.5</td>
<td>19.8</td>
<td>20.7</td>
<td>21.3</td>
<td>20.5</td>
<td>19.7</td>
<td>20.7</td>
<td>20.45</td>
</tr>
<tr>
<td>B</td>
<td>21.8</td>
<td>20.3</td>
<td>20.5</td>
<td>20.9</td>
<td>19.7</td>
<td>19.6</td>
<td>20.1</td>
<td>20.4</td>
<td>19.5</td>
<td>18.9</td>
<td>20.2</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>17.8</td>
<td>17.2</td>
<td>16.6</td>
<td>16.1</td>
<td>15.5</td>
<td>15.1</td>
<td>16.8</td>
<td>16.3</td>
<td>14.9</td>
<td>14.2</td>
<td>16.1</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>15.8</td>
<td>15.8</td>
<td>15.7</td>
<td>15.9</td>
<td>14.7</td>
<td>14.0</td>
<td>14.8</td>
<td>15.0</td>
<td>14.2</td>
<td>14.1</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>15.9</td>
<td>15.8</td>
<td>15.8</td>
<td>15.6</td>
<td>15.2</td>
<td>14.9</td>
<td>14.8</td>
<td>14.6</td>
<td>14.6</td>
<td>14.4</td>
<td>15.2</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>14.8</td>
<td>14.7</td>
<td>14.2</td>
<td>13.8</td>
<td>13.1</td>
<td>12.9</td>
<td>13.5</td>
<td>13.6</td>
<td>12.8</td>
<td>12.8</td>
<td>13.6</td>
<td>14.71</td>
</tr>
<tr>
<td>G</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>13.5</td>
<td>13.1</td>
<td>13.8</td>
<td>13.7</td>
<td>12.9</td>
<td>12.7</td>
<td>13.3</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>16.2</td>
<td>16.1</td>
<td>16.0</td>
<td>15.7</td>
<td>15.5</td>
<td>15.0</td>
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<td>14.1</td>
<td>13.8</td>
<td>13.5</td>
<td>15.1</td>
<td></td>
</tr>
</tbody>
</table>

Source: Records of the respective units
CHART 5.6.1

RATE OF ABSENTEEISM (PERCENTAGE)

Rate of Absenteeism (Percentage)

Years


A   B   C   D   E   F   G   H
From the above table and also chart, it can be understood that in all the organizations, the absenteeism rate has been decreasing gradually over the past but for a few years. This table also shows that the average absenteeism rate in public sector is 20.45%, whereas it is only 14.7% in the private sector. These figures reveal that the absenteeism rate is significantly higher in public sector than the private sector. Though the leave facilities (which is as per the regulations of the cement wage board) provided to the employees of both the sectors remain the same, the reasons for significant difference in the rates of absenteeism are attributed to the different kinds of motivational measures provided to the employees of these sectors. It is understood that the motivational measures (both financial and non-financial) provided to the employees of the private sector units are more and hence the absenteeism rate in these units is lesser.

The table also shows that though the absenteeism rate in all the units is decreasing gradually over the period, during the years 2000-01 and 2001-02 it has shown an increase. It is understood that the major reason for this was that the general elections to the State Assembly were held during this period and a majority of the employees took part in the election work in support of the political parties to which they have affiliation. This made them to be away from their regular work and hence the absenteeism rates were high during this period.

But for this reasons, the absenteeism rates in all the units are decreasing gradually. This implies that the employees attend to their work regularly which may perhaps be due to their satisfaction with their organizations. In turn, this satisfaction they might have acquired mainly
from the various motivational measures available to them in their organizations. Thus, it can be concluded that the various motivational measures provided by their organizations have reduced the absenteeism rates.

5.6.2 IMPACT OF MOTIVATIONAL MEASURES ON LABOUR TURN-OVER

Labour turn-over refers to the number of employees who leave their organizations. The reasons for an employee leaving his organization may be any one of (i) resignation, (ii) voluntary retirement, (iii) retrenchment, (iv) regular retirement on attaining a specified age and (v) termination based on disciplinary action. All the units of the cement industry in TN consider the different ways of an employee leaving the organization except the regular retirement to determine labour turn-over ratio. Usually, this ratio is expressed as a percentage of the number of employees who left the organization to the total number of employees of the respective organization during a period of one year. The data on such labour turnover are in table 5.6.2. For easy reference, the data has been represented in the form of a bar diagram given in Chart 5.6.2. (on page no. 250)
### TABLE 5.6.2

LABOUR TURN OVER (PERCENTAGE)

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>YEARS</th>
<th>UNIT AVERAGE</th>
<th>SECTOR AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td>UNIT</td>
<td>94-95</td>
<td>95-96</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>7.12</td>
<td>6.55</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>7.55</td>
<td>7.77</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>UNIT</td>
<td>7.24</td>
<td>7.02</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>8.22</td>
<td>8.01</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>8.15</td>
<td>7.99</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>9.55</td>
<td>9.32</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>8.33</td>
<td>8.22</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>7.15</td>
<td>6.95</td>
</tr>
</tbody>
</table>

Source: Records of the respective units
CHART 5.6.2
LABOUR TURN OVER (PERCENTAGE)
The above table and the chart clearly show that the labour turnover rates in both public and private sectors have been decreasing gradually. However, the table also reveals that the average labour turnover of workers in public sector (6.61%) is lesser than that in the private sector (7.02%). The major reasons attributed to this lesser rate in the public sector are; (i) the workers feel that their workload in their organizations is satisfactory, and (ii) they are free and have no tension in their jobs. But in the case of private sector units, the workers feel that many a time they have to work with stress and strain and hence those who are much frustrated leave the organizations even before regular retirement. As a result, the labour turnover of workers in private sector units is more compared to public sector units.

Further, it can be noted that in the public sector units, this ratio was more during the year 2002-03 compared to other years, because, during this year, the Voluntary Retirement Scheme (VRS) was introduced in the public sector units and many workers used this opportunity to leave the organization with best benefits.

5.6.3 OCCURANCE OF ACCIDENTS

The Workmen’s Compensation Act 1923 defines an accident as ‘a mishap or untoward event, which is not expected or designed’. That is, it is an unforeseen event. This accident may result in an injury to the employee or not. However, it will disturb the normal functioning of an event or the environment.
As the proverb says 'To err is Human', accidents are prone to happen. However, it is a general faith that a satisfied and motivated employee will not cause accidents. Because, a motivated employee will perform his work with interest and involvement. Under that circumstance, the possibility of happening an unexpected incident in his work will be much less. Conversely, if the number of accidents made by an employee is less, he is said to be a motivated employee. Thus, to what extent the employee is motivated can be studied through the number of accidents that occurred in the organization. (However, it must be noted that minor accidents – the impact of which are negligible – will not be recorded and hence they are not considered here). Based on this phenomenon, the accidents reported and recorded in the study units were collected and they are presented in the following table. (Table 5.6.3). For easier understanding data has been represented in the Chart 5.6.3. (on page no. 254)
### TABLE 5.6.3

**NUMBER OF ACCIDENTS REPORTED AND RECORDED**

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>NAME OF THE UNIT</th>
<th>YEARS</th>
<th>94-95</th>
<th>95-96</th>
<th>96-97</th>
<th>97-98</th>
<th>98-99</th>
<th>99-20</th>
<th>00-01</th>
<th>01-02</th>
<th>02-03</th>
<th>03-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td>A</td>
<td></td>
<td>15</td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>14</td>
<td>13</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td></td>
<td>17</td>
<td>14</td>
<td>13</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>PUBLIC SECTOR AVERAGE</td>
<td></td>
<td></td>
<td>16</td>
<td>13</td>
<td>12</td>
<td>10</td>
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<td>12</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>C</td>
<td></td>
<td>11</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>6</td>
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<td></td>
<td>D</td>
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<td>10</td>
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<td>9</td>
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<td>6</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>G</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>12</td>
<td>9</td>
<td>8</td>
<td>6</td>
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<td></td>
<td>H</td>
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<td>9</td>
<td>10</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>PRIVATE SECTOR AVERAGE</td>
<td></td>
<td></td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>INDUSTRY AVERAGE</td>
<td></td>
<td></td>
<td>13</td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

*Source: Records of the respective units*
CHART 5.6.3

NUMBER OF ACCIDENTS REPORTED AND RECORDED

No. of Accidents

Years


A B C D E F G H
A look at the above table (and also at the chart) clearly makes us to understand that the number of reported accidents show a decreasing trend in each unit over the past ten years except for some years. Also, on the whole, the average number of reported accidents shows a decreasing trend except the year 1998-99. This decreasing trend in the number of accidents clearly shows that the workers of the cement industry are becoming gradually motivated.

Comparing the average number of accidents in the public and private sector units separately, the average numbers of accidents in the private sector units are lesser than that of the public sector units. This shows that the workers of the private sector units are more motivated than those of public sector units.

5.6.4 VIOLATION OF RULES AND REGULATIONS

The mines and factory workers are doing somewhat risky jobs in which accidents may occur resulting in injuries to them. So to protect them from accidents (and to avoid paying compensation for injuries under Workmen’s Compensation Act 1923), the managements of all the units have provided many safety wears such as helmets, shoes, glouse, etc. Also, the welders are provided with goggles to protect their eyes in addition to other protective wears. Needless to mention that if they have awareness on protective aspect, they will certainly adopt the protective measures. In other words, motivated employees will not hesitate to adopt such protective measures while they are working. To What extent, the workers have an awareness on the protective aspects and have been motivated can be
understood from the number of cases of not adopting the protective measures. Hence, the relevant data were collected and are presented below. For easy reference, the data has been represented in the form of a bar diagram given in chart 5.6.4 (on page no. 258).
### TABLE 5.6.4
NUMBER OF CASES REPORTED ON NOT USING PROTECTIVE WEARS

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>NAME OF THE UNIT</th>
<th>YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
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<td>21</td>
</tr>
<tr>
<td></td>
<td>B</td>
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</tr>
<tr>
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<td></td>
<td>22</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>C</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>7</td>
</tr>
<tr>
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<td></td>
<td>10</td>
</tr>
<tr>
<td>INDUSTRY AVERAGE</td>
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<td>14</td>
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</table>

Source: Records of the respective units
CHART 5.6.4
NUMBER OF CASES REPORTED ON NOT USING PROTECTIVE WEARS

No. of Cases of not using protective wear

Years

[Legend: A B C D E F G H]
A look at the table shows that the average number of reported cases of not using the protective wears for the whole industry has been decreasing over the past ten years. In fact it has decreased from 14 to 9 cases, a year.

Also, the number of such cases has shown a decreasing trend in all the individual units during the past except for stray cases in one or two years. If we consider the public and private sectors separately, they also show a decreasing trend in the number of such cases. Further, a comparison of these two sectors reveal that such cases is less in the case of private sector than the public sector. This shows that the private sector workers are more aware of the need and importance of adopting protective measures, which implies that the violation of rules and regulations is less in this sector.

5.6.5. LOSS OF MANDAYS

We know that strike is used by the employees’ unions as a tool to achieve their demands from their managements. When strike takes place, production is affected and hence organization may not be in a position to honour its promises of supplying goods to their customers and dealers. This will spoil the image of the company. Hence, no doubt, managements are taking a number of steps to prevent employees from striking work. Inspite of it employees state that they are forced to strike work for one reason or other. The same thing has happened in the cement industry in Tamilnadu.

When strike takes place, the production will be affected in proportion to the number of man-days lost. To maintain and increase production the
man-days lost must be brought to minimum. Hence a study of the loss of man-days in the cement industry of TN assumes importance.

When an employee works either in the mines or factory for one shift, it is taken as one man-day. If that employee refuses to work during the shift, it means one man-day of work is lost. Thus, the man-days lost may be calculated by multiplying the number of workers employed in mines and factory by the number of days on which they struck work. The data on man-days lost thus were collected from the records of the study units and the figures are given in the following table 5.6.5. For easier understanding the data has been transformed into bar chart given in Chart 5.6.5. (on page No. 262)
<table>
<thead>
<tr>
<th>SECTOR</th>
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<th>YEARS</th>
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<tr>
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<td>F</td>
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<td>1204</td>
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</tr>
<tr>
<td>H</td>
<td>2040</td>
<td>1542</td>
</tr>
</tbody>
</table>

Source: Records of the respective units
CHART 5.6.5

LOSS OF MANDAYS

|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
The above table does not show a clear trend about the man-days lost in each unit. However, it can be seen that in the case of public sector units, the man-days lost is present in each year. It was understood that every year there arises a problem between the management and the employees’ unions regarding annual bonus or a disciplinary action against an employee. In the case of annual bonus the managements offers the minimum bonus of 8.33% and unions demand a minimum of 20%. In the case of disciplinary actions against employees, the management says that the employee has committed a grave mistake and the unions say that he has not. There may be other reasons also which lead to strikes resulting in man-days lost. The man-days lost in these units are more in the year 2001-02. The reason for this was that in this year, the State Government announced the proposal of privatization of these units and the unions struck work to protest the decision of the government.

In case of private sector units, with effect from the year 2000-01, the trend is that there had been either no man-days lost or it had been very less. In fact, in one unit there was no strike at all from its inception. It is understood that this is because of two reasons; viz, (i) operations such as mining, loading and transportation have been contracted to private parties and hence there is a lesser number of permanent workers, and (ii) as there are lesser number of workers, they are constantly watched and controlled.
Similarly, in the case of other units, there had been no strikes after 2000-01 or strikes in one or two units only. As a result, the man-days lost are minimum. These things show that the relationship between the management and the unions is cordial or the employees might have started realizing the problems of the managements and the evil effects of strikes. The major reason attributed to the change of mind of the work force may perhaps be due to the various motivational measures provided to them by their managements.

5.7 CONCLUSION

In this chapter, we have analysed the primary data and the secondary data collected during the study. Primary data relating to personal aspects, opinion of the respondents about motivational measures available to them, and the rating of these motivational measures have been analysed. Similarly, secondary data relating to the performance of each unit of study during the study period and also the impact of the overall motivational measures on the behaviour and performance of these units have been analysed. Also, of the various motivational factors, which of the factors much motivate the workers and which do not have that much influence in motivating the workers have also been studied. Thus, this chapter will give an idea to the managements on which factor they must concentrate to motivate their workers.