CHAPTER-7
ANALYSIS AND EVALUATION OF ACTIVITY

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7.1 **INTRODUCTION:**

An activity ratio is one of several accounting ratios that measure how quickly a company can convert certain of its assets into cash, or revenue. Three commonly assessed activity ratios are the asset turnover ratio, the inventory turnover ratio and the receivables turnover ratio. An activity ratio, along with other accounting ratios, is used in fundamental analysis to determine the relative strength of a company compared to its competitors. The information used to calculate an activity ratio is found on a company’s balance sheet or income statement. This chapter covers concept of Activity Analysis – Analysis of Assets and Capital – Analysis of Fixed Assets – Analysis of Various Activity ratios.

7.2 **CONCEPT OF ACTIVITY ANALYSIS:**

A sale of product is the primary object of any business enterprise. It is pivotal around which all activities of business are clusters. The increase or decrease of Business profit depends on the magnitude of sale because it is the key figure in the business enterprise. Income from net sales is the lifeblood of every commercial and industrial business. Sales support life of business, more sales, more profit and less sales less profit or even there may be loss. Thus resale, are to a business enterprise what oxygen is to the human being, a very material increase in the volume of the quantity of inhaled oxygen has upon the human organism. The quantity, quality and regularity of flow of sales revenue govern the physical appearance and the internal conditions of the business organism. In fact with the higher volume of sales the business operates with greater profits and effectiveness and operations are speeded up.

It is apparent, therefore, that the significance of any business activity can be measured in terms of its contribution towards sales. Activity radios are turnover ratios.
where the significance of financial figures is measured in terms of sales of business enterprise the overall profitability of any business largely depends on two factories:

(1) The rate of return on capital employed and (2) The turnover.

The turnover means the number of times an asset flows through a business firm’s operation and in to sales. The relation between sales and profits is known as profit margin and the relation between the sales and assets is known as Assets turnover. Any change in assets turnover would affect the profitability of a business. Hence, a detailed analysis of assets turnover has been made for better study and tracing the factories responsibly for changes in the profitability.

7.3 **FINANCIAL ANALYSIS OF ACTIVITY RATIO:**

Activity ratios are concerned with how efficiency the assets of the firm are managed or utilized. These ratios indicate the rate at which different assets are turned over in the process of doing business. The greater rate of turnover or conversion, the more efficient the utilization or management, other things being equal, resulting in higher profitability. Sometimes these ratios are called efficiency ratios, or investment turnover ratios.

Thus, Turnover ratios reflect the relationship between the level of the sales and the various assets and a proper balance between assets and sales shows better management of assets. Different activity ratios have been computed for judging the effectiveness of assets utilization. These ratios are as discussed below:

- Capital Turnover Ratio
- Fixed Assets Turnover Ratio
- Current Assets Turnover Ratio
- Raw Materials to Net Sales Ratio
- Wages and Salaries to Net Sales Ratio
- Power and Fuel to Net Sales Ratio
- Selling & Distribution to Net Sales Ratio
- Depreciation to Sales Ratio
7.3.1 CAPITAL TURNOVER RATIO:

- **Meaning:**
  
  This Ratio establishes a relationship between Net sales and Capital employed.

- **Objective:**
  
  The objective of computing this ratio is to determine the efficiency with which the Capital employed are utilized.

- **Components:**
  
  1. Net sales= Gross sales – sales of returns
  2. Capital employed= Equity share capital + Reserves and surplus + preference share capital + long term debts – (miscellaneous expenditure of equity shareholder’s fund+ non trading assets)

- **Computation and interpretations:**
  
  This ratio is computed by dividing the net sales by Capital employed. This ratio is usually expressed as ‘x’ number of times. In the form of a formula, this ratio may be expressed as follows:

  \[
  \text{Capital Turnover Ratio} = \frac{\text{Net Sales}}{\text{Capital Employed}}
  \]

  This ratio indicates the firms’ ability to generate sales per rupee of investment in Capital employed. Generally, higher the ratio, the more efficient the management and utilization of Capital employed. A too high ratio may indicate the situation of over trading if current ratio is lower than that required reasonably and vice versa.

  Thus, an enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Capital Turnover Ratio of selected companies of Automobile Industry in India is given in the Table No-7.3.4.1 as follows:
### TABLE NO-7.3.1.1 CAPITAL TURNOVER RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>HMC</td>
<td>4.44</td>
<td>3.32</td>
<td>3.21</td>
<td>3.12</td>
<td>3.02</td>
<td>3.10</td>
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<td>3.31</td>
<td>3.77</td>
<td>3.94</td>
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<tr>
<td>2004-2005</td>
<td>TMC</td>
<td>4.44</td>
<td>3.32</td>
<td>3.21</td>
<td>3.12</td>
<td>3.02</td>
<td>3.10</td>
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<td>3.77</td>
<td>3.94</td>
<td>3.94</td>
</tr>
<tr>
<td>2005-2006</td>
<td>SIL</td>
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<td>3.32</td>
<td>3.21</td>
<td>3.12</td>
<td>3.02</td>
<td>3.10</td>
<td>3.18</td>
<td>3.77</td>
<td>3.94</td>
<td>3.94</td>
</tr>
<tr>
<td>2006-2007</td>
<td>LML</td>
<td>4.44</td>
<td>3.32</td>
<td>3.21</td>
<td>3.12</td>
<td>3.02</td>
<td>3.10</td>
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<td>2007-2008</td>
<td>BAL</td>
<td>4.44</td>
<td>3.32</td>
<td>3.21</td>
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<td>2008-2009</td>
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<td>2010-2011</td>
<td>MML</td>
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<tr>
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<td>3.21</td>
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<tr>
<td>2012-2013</td>
<td>TML</td>
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<td>3.32</td>
<td>3.21</td>
<td>3.12</td>
<td>3.02</td>
<td>3.10</td>
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<td>3.94</td>
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<td>3.21</td>
<td>3.12</td>
<td>3.02</td>
<td>3.10</td>
<td>3.18</td>
<td>3.77</td>
<td>3.94</td>
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<td>3.58</td>
<td>3.72</td>
<td>3.48</td>
<td>3.74</td>
<td>3.03</td>
<td>2.89</td>
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<tr>
<td>C.V.</td>
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<td>-13.69</td>
<td>1.18</td>
<td>1.14</td>
<td>1.13</td>
<td>2.89</td>
<td>2.50</td>
<td>0.99</td>
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<tr>
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<td>2.14</td>
<td>5.74</td>
<td>-2.37</td>
<td>2.45</td>
<td>2.60</td>
<td>2.06</td>
<td>1.08</td>
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<tr>
<td>Max</td>
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<td>3.90</td>
<td>5.89</td>
<td>-13.69</td>
<td>3.01</td>
<td>3.48</td>
<td>3.74</td>
<td>3.03</td>
<td>2.89</td>
<td>2.66</td>
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</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO-7.3.1.1 CAPITAL TURNOVER RATIO

The above mentioned Table No-7.3.1.1 and Graph No-7.3.1.1 the indicated a fluctuating trends of the Capital Turnover Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd:**

   Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 4.46 times in the year of 2009-10 and lowest ratio was 3.18 times in the year of 2008-09.

   In the year 2003-04 the ratio was 4.44 times which has been decreased 4.38 times in 2004-05, further it has been decreased up to 3.97 times in the year of 2005-06. During the year of 2009-10, it increased up to 4.46 times. It got fluctuated the ratios have been 3.75, 3.31, 3.18, 3.76, 3.89 and 3.97 times during the year of 2006-2009 and 2010-13 respectively. It has been also shown in the Graph No-7.3.1.1.

   So, The Average Capital Turnover Ratio is 3.91, The Standard Deviation is 0.44 and The Co-efficient variance is 11.28% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No-7.3.1.1 shows that the Capital Turnover Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 4.06 times in the year 2003-04 and the lowest ratio was 2.14 times in the year 2008-09.

   In the year 2003-04 the ratio was 4.06 times which has been decreased 3.32 times in 2004-05, further it has been increased up to 2.81 and 2.67 times in the year of 2005-07 respectively. During the year of 2008-09, it decreased up to 2.14 times. It got fluctuated the ratios have been 2.16, 2.33, 3.47, 3.49 and 3.69 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.1.1.

   So, The Average Capital Turnover Ratio is 3.02, The Standard Deviation is 0.68 and The Co-efficient variance is 22.66% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 6.33 times in the year 2011-12 and the lowest ratio was 1.46 times in the year 2005-06.

   In the year 2003-04 the ratio was 1.62 times which has been decreased 1.49 times.
in 2004-05, further it has been increased up to 1.46 times in the year of 2005-06. During the year of 2011-12, it decreased up to 6.33 times. It got fluctuated the ratios have been 2.24, 2.78, 5.74, 5.89, 4.45 and 3.48 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.1.1.

So, The Average Capital Turnover Ratio is 3.55 times, The Standard Deviation is 1.93 and The Co-efficient variance is 54.33% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

4. **LML**:

Table No-7.3.1.1 shows that the Capital Turnover Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 4.67 times in the year 2005-06 and the lowest ratio was -27.38 times in the year 2010-11.

In the year 2003-04 the ratio was 2.04 times which has been increased 2.54 times in the year 2004-05, further it has been increased up to 4.67 times in the year of 2005-06. During the year of 2010-11, it decreased up to -27.38 times. It got fluctuated and the ratios have been 3.13, -4.03, -2.37, -13.69, -1.28 and -0.78 times during the year of 2006-10 and 2011-12 respectively. It has been also shown in the Graph No-7.3.1.1.

So, The Average Capital Turnover Ratio is -3.71 times, The Standard Deviation is 9.81 and The Co-efficient variance is -264.13% which shows solvency of this company because the average Capital Turnover Ratio shows dissatisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.** :

Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 3.03 times in the year 2011-12 and the lowest ratio was 1.04 times in the year 2004-05.

In the year 2003-04 the ratio was 1.12 times which has been decreased 1.04 times in the year 2004-05, further it has been decreased up to 1.18 and 1.28 times in the year of 2005-07 respectively. During the year of 2011-12, it increased up to 3.03 times. It got fluctuated the ratios have been 2.96, 2.45, 2.70, 2.95 and 2.42 times during the year of
2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.1.1.

So, The Average Capital Turnover Ratio 2.12 times, The Standard Deviation is 0.85 and The Co-efficient variance is 40.25% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**

Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 8.33 times in the year 2012-13 and the lowest ratio was 1.74 times in the year 2003-04.

In the year 2003-04 the ratio was 1.74 times which has been increased 3.72 times in the year 2004-05, further it has been decreased up to 1.76 times during the year of 2005-06. In the year of 2012-13, it decreased up to 8.33 times. It got fluctuated the ratios have been 2.15, 2.47, 2.60, 3.58, 3.66 and 2.87 times during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.1.1.

So, The Average Capital Turnover Ratio 3.29 times, The Standard Deviation is 1.92 and The Co-efficient variance is 58.37% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**

Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.58 times in the year 2010-11 and the lowest ratio was 1.94 times in the year 2007-08.

In the year 2003-04 the ratio was 2.35 times which has been same also 2.35 times in the year 2004-05, Further it has been decreased up to 2.19 times during the year of 2005-06. During the year of 2010-11, it increased up to 2.58 times. It got fluctuated the ratios have been 1.98, 1.94, 2.06, 2.34, 2.16 and 2.18 times during the year of 2006-10 and 2011-12 respectively. It has been also shown in the Graph No-7.3.1.1.
So, the Average Capital Turnover Ratio 2.21 times, the Standard Deviation is 0.19 and the Co-efficient variance is 8.8% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.34 times in the year 2003-04 and the lowest ratio was 0.95 times in the year 2010-11.

In the year 2003-04 the ratio was 1.34 times which has been decreased 1.32 times in the year 2004-05, Further it has been decreased up to 1.14 and 1.13 times during the year of 2005-07 respectively. During the year of 2007-08, it increased up to 1.16 times. It got fluctuated the ratios have been 1.08, 1.07, 0.95, 1.23 and 1.18 times during the year of 2007-13 respectively. It has been also shown in the Graph No-7.3.1.1.

So, the Average Capital Turnover Ratio 1.16 times, the Standard Deviation is 0.12 and the Co-efficient variance is 10.13% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 2.89 times in the year 2006-07 and the lowest ratio was 1.12 times in the year 2008-09.

In the year 2003-04 the ratio was 2.22 times which has been decreased 2.07 times in the year 2004-05, further it has been increased up to 2.53 and 2.89 times in the year of 2005-07 respectively. During the year of 2008-09, it decreased up to 1.12 times. It got fluctuated the ratios were 2.61, 1.25, 1.73, 1.81 and 1.48 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.1.1.
So, The Average Capital Turnover Ratio 1.97 times, The Standard Deviation is 0.6 and The Co-effcient variance is 30.33% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited**:

   Table No-7.3.1.1 shows that the Capital Turnover Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 2.66 times in the year 2003-04 and the lowest ratio was 0.99 times in the year 2008-09.

   In the year 2003-04 the ratio was 2.66 times which has been decreased 2.59 times in the year 2004-05, further it has been decreased up to 2.39 times in the year of 2005-06. During the year of 2008-09, it decreased up to 0.99 times. It got fluctuated the ratios were 2.50,2.02,1.11,1.19,1.43 and 1.18 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.1.1.

   So, The Average Capital Turnover Ratio 1.81 times, The Standard Deviation is 0.69 and The Co-effcient variance is 38.10% which shows solvency of this company because the average Capital Turnover Ratio shows satisfactory Ratio of during the study period.

➤ **ANOVA TEST OF CAPITAL TURNOVER RATIO**

   **Hypothesis:**

   ❖ **Ho: Null Hypothesis:**

      There is no significant difference in Capital Turnover Ratio of automobile industry under study.

   ❖ **H1: Alternative Hypothesis:**

      There is significant difference in Capital Turnover Ratio of automobile industry under study.

   ❖ **Level of Significance: 5%**
TABLE NO-7.3.1.2
CAPITAL TURNOVER RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
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<td>8.209137</td>
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</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.57

\[
F_{cal} < F_{tab} \\
0.57 < 1.98 \\
F_{cal} < F_{tab}
\]

Table No-7.3.1.2 indicates the calculate value of ‘F’ is 0.56818 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Capital Turnover Ratio of selected automobile industry under study for the period.
7.3.2 FIXED ASSETS TURNOVER RATIO

- **Meaning:**
  This Ratio establishes a relationship between Net sales and Fixed Assets.

- **Objective:**
  The objective of computing this ratio is to determine the efficiency with which the fixed assets are utilized.

- **Components:**
  1. Net sales = Gross sales – sales of returns
  2. Fixed Assets = Gross Fixed assets – depreciation

- **Computation and interpretations:**
  This ratio is computed by dividing the net sales by Fixed Assets. This ratio is usually expressed as ‘x’ number of times. In the form of a formula, this ratio may be expressed as follows:

\[
\text{Fixed Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Fixed Assets}}
\]

This ratio indicates the firms’ ability to generate sales per rupee of investment in Fixed Assets. Generally, the higher the ratio, the more efficient the management and utilization of Fixed Assets, and vice versa. It may be noted that there is no direct relationship between sales and Fixed Assets since the sales are influenced by other factors as well.

Thus, to judge whether the ratio is satisfactory or not, it should be compared with its own past ratio or with the ratio of similar firms in the same industry or with the industry average.

The Fixed Assets Turnover Ratio of selected companies of the Automobile Industry in India is given in the Table No-7.3.2.1 as follows:
### TABLE NO-7.3.2.1 FIXED ASSETS TURNOVER RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
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<td>TMC</td>
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<td>5.10</td>
<td>3.46</td>
<td>4.74</td>
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<td>3.09</td>
<td>7.05</td>
<td>0.65</td>
<td>6.70</td>
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<td>4.48</td>
<td>2.93</td>
<td>3.86</td>
<td>2.73</td>
</tr>
<tr>
<td>2008-2009</td>
<td>HML</td>
<td>7.27</td>
<td>3.54</td>
<td>6.76</td>
<td>1.14</td>
<td>5.39</td>
<td>4.01</td>
<td>4.19</td>
<td>2.70</td>
<td>1.39</td>
<td>1.72</td>
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<td>2009-2010</td>
<td>MSI</td>
<td>9.23</td>
<td>4.44</td>
<td>7.64</td>
<td>2.20</td>
<td>7.57</td>
<td>4.30</td>
<td>5.47</td>
<td>2.78</td>
<td>1.54</td>
<td>2.13</td>
</tr>
<tr>
<td>2010-2011</td>
<td>MML</td>
<td>4.70</td>
<td>6.32</td>
<td>9.31</td>
<td>4.40</td>
<td>10.56</td>
<td>5.03</td>
<td>5.81</td>
<td>2.29</td>
<td>2.29</td>
<td>2.74</td>
</tr>
<tr>
<td>2011-2012</td>
<td>ALL</td>
<td>6.17</td>
<td>6.62</td>
<td>12.64</td>
<td>3.05</td>
<td>12.82</td>
<td>3.88</td>
<td>4.26</td>
<td>3.18</td>
<td>2.45</td>
<td>2.85</td>
</tr>
<tr>
<td>2012-2013</td>
<td>TML</td>
<td>7.59</td>
<td>6.74</td>
<td>12.23</td>
<td>2.67</td>
<td>9.53</td>
<td>6.08</td>
<td>3.77</td>
<td>3.45</td>
<td>2.20</td>
<td>2.22</td>
</tr>
<tr>
<td>Average</td>
<td>HMC</td>
<td>7.79</td>
<td>4.63</td>
<td>8.47</td>
<td>2.05</td>
<td>7.54</td>
<td>4.11</td>
<td>5.04</td>
<td>3.31</td>
<td>3.15</td>
<td>3.17</td>
</tr>
<tr>
<td>S.D.</td>
<td>TMC</td>
<td>1.77</td>
<td>1.38</td>
<td>2.29</td>
<td>1.21</td>
<td>2.71</td>
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<td>0.92</td>
<td>0.69</td>
<td>1.32</td>
<td>1.07</td>
</tr>
<tr>
<td>C.V.</td>
<td>SIL</td>
<td>22.77</td>
<td>29.87</td>
<td>27.01</td>
<td>59.01</td>
<td>35.99</td>
<td>29.22</td>
<td>18.21</td>
<td>20.94</td>
<td>42.05</td>
<td>33.61</td>
</tr>
<tr>
<td>Min</td>
<td>LML</td>
<td>4.70</td>
<td>3.09</td>
<td>6.10</td>
<td>0.32</td>
<td>4.23</td>
<td>2.28</td>
<td>3.77</td>
<td>2.29</td>
<td>1.39</td>
<td>1.72</td>
</tr>
<tr>
<td>Max</td>
<td>BAL</td>
<td>10.37</td>
<td>6.74</td>
<td>12.64</td>
<td>4.40</td>
<td>12.82</td>
<td>6.08</td>
<td>6.77</td>
<td>4.42</td>
<td>4.91</td>
<td>4.62</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO-7.3.2.1 FIXED ASSETS TURNOVER RATIO

The above mentioned Table No- 7.3.2.1 and Graph No- 7.3.2.1 the indicated a fluctuating trends of the Fixed Assets Turnover Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd.**

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 10.37 times in the year of 2004-05 and lowest ratio was 4.7 times in the year of 2010-11.

In the year 2003-04 the ratio was 9.90 times which has been increased 10.37 times in 2004-05, further it has been decreased up to 8.77 times in the year of 20005-06. During the year of 2010-11, it decreased up to 4.70 times. It got fluctuated the ratios have been 7.30, 6.61, 7.27, 9.23, 6.17 and 7.59 times during the year of 2006-2010 and 2011-13 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio is 7.79, The Standard Deviation is 1.77 and The Co-efficient variance is 22.77% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 3.09 times in the year 2007-08 and the lowest ratio was 6.74 times in the year 2012-13.

In the year 2003-04 the ratio was 4.00 times which has been decreased 3.73 times in 2004-05, further it has been increased up to 3.94 times in the year of 2005-06. During the year of 2012-13, it increased up to 6.74 times. It got fluctuated the ratios have been 3.09, 3.54, 4.44, 6.32 and 6.62 times during the year of 2007-12 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio is 4.63, The Standard Deviation is 1.38 and The Co-efficient variance is 29.87% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 12.64
times in the year 2011-12 and the lowest ratio was 6.10 times in the year 2004-05.

In the year 2003-04 the ratio was 7.19 times which has been decreased 6.10 times in 2004-05, further it has been increased up to 7.11 and 8.64 times in the year of 2005-07 respectively. During the year of 2011-12, it decreased up to 12.64 times. It got fluctuated the ratios have been 7.05, 6.76, 7.64, 9.31 and 12.23 times during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio is 8.47 times, The Standard Deviation is 2.29 and The Co-efficient variance is 27.01% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

4. **LML** :

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 4.4 times in the year 2010-11 and the lowest ratio was 0.32 times in the year 2006-07.

In the year 2003-04 the ratio was 2.49 times which has been decreased 2.04 times in the year 2004-05, further it has been decreased up to 1.54 and 0.32 times in the year of 2005-07 respectively. During the year of 2010-11, it decreased up to 4.40 times. It got fluctuated and the ratios have been 0.65, 1.14, 2.20, 3.05 and 2.67 times during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio is 2.05 times, The Standard Deviation is 1.21 and The Co-efficient variance is 59.01% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.** :

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 12.82 times in the year 2011-12 and the lowest ratio was 4.23 times in the year 2003-04.

In the year 2003-04 the ratio was 4.23 times which has been increased 4.72 times in the year 2004-05, further it has been increased up to 6.56 and 7.27 times in the year of
2005-07 respectively. During the year of 2011-12 it increased up to 12.82 times. It got fluctuated the ratios have been 6.70, 5.39, 7.57, 10.56 and 9.53 times during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio 7.54 times, The Standard Deviation is 2.71 and The Co-efficient variance is 35.99% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**: 

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 6.08 times in the year 2012-13 and the lowest ratio was 2.28 times in the year 2005-06.

In the year 2003-04 the ratio was 2.44 times which has been increased 5.43 times in the year 2004-05, further it has been decreased up to 2.28 times during the year of 2005-06. In the year of 2012-13, it decreased up to 6.08 times. It got fluctuated the ratios have been 3.55, 4.15, 4.01, 4.30, 5.03 and 3.88 times during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio 4.11times, The Standard Deviation is 1.2 and The Co-efficient variance is 29.22% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**: 

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 6.77 times in the year 2005-06 and the lowest ratio was 3.77 times in the year 2012-13.

In the year 2003-04 the ratio was 4.80 times which has been increased 5.74 times in the year 2004-05, Further it has been increased up to 6.77 times during the year of 2005-06. During the year of 2012-13, it increased up to 3.77 times. It got fluctuated the ratios have been 5.10, 4.48, 4.19, 5.47, 5.81 and 4.26 times during the year of 2006-2012 respectively. It has been also shown in the Graph No-7.3.2.1.
So, The Average Fixed Assets Turnover Ratio 5.04 times, The Standard Deviation is 0.92 and The Co-efficient variance is 18.21% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 4.42 times in the year 2005-06 and the lowest ratio was 2.29 times in the year 2010-11.

In the year 2003-04 the ratio was 3.56 times which has been increased 4.38 times in the year 2004-05, Further it has been increased up to 4.42 times during the year of 2005-06. During the year of 2010-11, it decreased up to 2.29 times. It got fluctuated the ratios have been 3.46, 2.93, 2.70, 2.78, 3.18 and 3.45 times during the year of 2006-11 and 2011-13 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio 3.31times, The Standard Deviation is 0.69 and The Co-efficient variance is 20.94% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 4.91 times in the year 2005-06 and the lowest ratio was 1.39 times in the year 2008-09.

In the year 2003-04 the ratio was 3.74 times which has been increased 4.34 times in the year 2004-05, further it has been increased up to 4.91 times in the year of 2005-06. During the year of 2008-09, it decreased up to 1.39 times. It got fluctuated the ratios were 4.74, 3.86, 1.54, 2.29, 2.45 and 2.20 times during the year of 2006-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.2.1.
So, The Average Fixed Assets Turnover Ratio 3.15 times, The Standard Deviation is 1.32 and The Co-efficient variance is 42.05% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited**:

Table No-7.3.2.1 shows that the Fixed Assets Turnover Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 4.62 times in the year 2004-05 and the lowest ratio was 1.72 times in the year 2008-09.

In the year 2003-04 the ratio was 3.97 times which has been increased 4.62 times in the year 2004-05, further it has been decreased up to 4.49 and 4.25 times in the year of 2005-07 respectively. During the year of 2008-09, it decreased up to 1.72 times. It got fluctuated the ratios were 2.73, 2.13, 2.74, 2.85 and 2.22 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.2.1.

So, The Average Fixed Assets Turnover Ratio 3.17 times, The Standard Deviation is 1.07 and The Co-efficient variance is 33.61% which shows solvency of this company because the average Fixed Assets Turnover Ratio shows satisfactory Ratio of during the study period.

➢ **ANOVA TEST OF FIXED ASSETS TURNOVER RATIO**

**Hypothesis:**

❖ **Ho: Null Hypothesis:**

There is no significant difference in Fixed Assets Turnover Ratio of automobile industry under study.

❖ **H1: Alternative Hypothesis:**

There is significant difference in Fixed Assets Turnover Ratio of automobile industry under study.

❖ **Level of Significance: 5%**
### TABLE NO-7.3.2.2
**FIXED ASSETS TURNOVER RATIO**
**ONE WAY ANOVA TEST**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>33.83561</td>
<td>9</td>
<td>3.759512</td>
<td>0.525925</td>
<td>0.852223</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>643.3541</td>
<td>90</td>
<td>7.148379</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>677.1897</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.53

\[
F_{cal} < F_{tab} \\
0.53 < 1.98
\]

Table No-7.3.2.2 indicates the calculate value of ‘F’ is 0.525925 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Fixed Assets Turnover Ratio of selected automobile industry under study for the period.
7.3.3 CURRENT ASSETS TURNOVER RATIO:

- **Meaning:**
  
  This Ratio establishes a relationship between Net sales and Current Assets.

- **Objective:**
  
  The objective of computing this ratio is to determine the efficiency with which the Current Assets are utilized.

- **Components:**
  
  1. Net sales = Gross sales – sales of returns
  2. Current Assets = which Assets converted into fast cash

- **Computation and interpretations:**
  
  This ratio is computed by dividing the net sales by Current Assets. This ratio is usually expressed as ‘x’ number of times. In the form of a formula, this ratio may be expressed as follows:

  \[ \text{Current Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Current Assets}} \]

  This ratio indicates the firms’ ability to generate sales per rupee of investment in Current Assets. Generally, the higher the ratio, the more efficient the management and utilization of Capital employed, and vice versa. It may be noted that there is no direct relationship between sales and Current Assets since the sales are influenced by other factors as well.

  Thus, To judge whether the ratio is satisfactory or not, it should be compared with its own past ratio or with the ratio of similar firms in the same industry or with the industry average.

  The Current Assets Turnover Ratio of selected companies of Automobile Industry in India is given in the Table No-7.3.4.1 as follows:
### TABLE NO-7.3.3.1 CURRENT ASSETS TURNOVER RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>HMC</td>
<td>11.46</td>
<td>6.47</td>
<td>1.26</td>
<td>2.11</td>
<td>2.32</td>
<td>2.37</td>
<td>4.53</td>
<td>1.45</td>
<td>2.35</td>
<td>3.49</td>
</tr>
<tr>
<td>2004-2005</td>
<td>TMC</td>
<td>13.38</td>
<td>5.62</td>
<td>1.13</td>
<td>2.05</td>
<td>2.22</td>
<td>4.71</td>
<td>3.70</td>
<td>1.32</td>
<td>1.97</td>
<td>2.41</td>
</tr>
<tr>
<td>2005-2006</td>
<td>TMC</td>
<td>10.61</td>
<td>4.93</td>
<td>1.11</td>
<td>1.95</td>
<td>2.62</td>
<td>2.31</td>
<td>3.24</td>
<td>1.18</td>
<td>2.39</td>
<td>2.14</td>
</tr>
<tr>
<td>2006-2007</td>
<td>TMC</td>
<td>10.83</td>
<td>4.69</td>
<td>1.55</td>
<td>0.37</td>
<td>2.43</td>
<td>2.61</td>
<td>3.37</td>
<td>1.18</td>
<td>2.71</td>
<td>2.59</td>
</tr>
<tr>
<td>2007-2008</td>
<td>TMC</td>
<td>11.03</td>
<td>4.16</td>
<td>1.78</td>
<td>0.68</td>
<td>5.25</td>
<td>3.65</td>
<td>5.83</td>
<td>1.32</td>
<td>2.76</td>
<td>2.75</td>
</tr>
<tr>
<td>2008-2009</td>
<td>TMC</td>
<td>12.16</td>
<td>4.11</td>
<td>2.39</td>
<td>0.96</td>
<td>3.63</td>
<td>4.23</td>
<td>3.75</td>
<td>1.32</td>
<td>1.93</td>
<td>2.64</td>
</tr>
<tr>
<td>2009-2010</td>
<td>TMC</td>
<td>5.47</td>
<td>4.52</td>
<td>1.86</td>
<td>2.32</td>
<td>7.27</td>
<td>3.60</td>
<td>7.84</td>
<td>1.44</td>
<td>1.78</td>
<td>3.04</td>
</tr>
<tr>
<td>2010-2011</td>
<td>TMC</td>
<td>17.50</td>
<td>5.69</td>
<td>2.26</td>
<td>4.63</td>
<td>6.99</td>
<td>3.59</td>
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<td>1.88</td>
<td>2.87</td>
<td>4.33</td>
</tr>
<tr>
<td>2011-2012</td>
<td>TMC</td>
<td>15.30</td>
<td>6.81</td>
<td>2.44</td>
<td>2.00</td>
<td>4.79</td>
<td>3.71</td>
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<td>2.20</td>
<td>3.11</td>
<td>4.88</td>
</tr>
<tr>
<td>2012-2013</td>
<td>TMC</td>
<td>11.49</td>
<td>6.25</td>
<td>2.35</td>
<td>1.65</td>
<td>5.74</td>
<td>5.89</td>
<td>7.78</td>
<td>2.13</td>
<td>3.06</td>
<td>5.35</td>
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<tr>
<td>Average</td>
<td></td>
<td>11.92</td>
<td>5.32</td>
<td>1.81</td>
<td>1.87</td>
<td>4.32</td>
<td>3.67</td>
<td>5.24</td>
<td>1.54</td>
<td>2.49</td>
<td>3.36</td>
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<tr>
<td>S.D.</td>
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<td>3.17</td>
<td>0.98</td>
<td>0.53</td>
<td>1.18</td>
<td>1.95</td>
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<td>1.77</td>
<td>0.38</td>
<td>0.48</td>
<td>1.12</td>
</tr>
<tr>
<td>C.V.</td>
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<td>26.60</td>
<td>18.42</td>
<td>29.35</td>
<td>62.94</td>
<td>45.15</td>
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<td>33.86</td>
<td>24.87</td>
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<td>33.18</td>
</tr>
<tr>
<td>Min</td>
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<td>5.47</td>
<td>4.11</td>
<td>1.11</td>
<td>0.37</td>
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<td>2.31</td>
<td>3.24</td>
<td>1.18</td>
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<tr>
<td>Max</td>
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<td>17.50</td>
<td>6.81</td>
<td>2.44</td>
<td>4.63</td>
<td>7.27</td>
<td>5.89</td>
<td>7.84</td>
<td>2.20</td>
<td>3.11</td>
<td>5.35</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO-7.3.3.1 CURRENT ASSETS TURNOVER RATIO

The above mentioned Table No- 7.3.3.1 and Graph No- 7.3.3.1 the indicated a fluctuating trends of the Current Assets Turnover Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.

CHAPTER-7
1. **Hero MotoCorp Ltd**:  
Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 17.5 times in the year of 2010-11 and lowest ratio was 5.47 times in the year of 2009-10.

In the year 2003-04 the ratio was 11.46 times which has been increased 13.38 times in 2004-05, further it has been decreased up to 10.61 times in the year of 2005-06. During the year of 2010-11, it increased up to 17.50 times. It got fluctuated the ratios have been 10.83, 11.03, 12.16, 5.47, 17.50, 15.30 and 11.49 times during the year of 2006-2010 and 2011-13 respectively. It has been also shown in the Graph No-7.3.3.1.

So, The Average Current Assets Turnover Ratio is 11.92, The Standard Deviation is 3.17 and The Co-efficient variance is 26.6% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company**:  
Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 6.81 times in the year 2011-12 and the lowest ratio was 4.11 times in the year 2008-09.

In the year 2003-04 the ratio was 6.47 times which has been decreased 5.62 times in 2004-05, further it has been decreased up to 4.93 and 4.69 times in the year of 2005-07 respectively. During the year of 2008-09, it decreased up to 4.11 times. It got fluctuated the ratios have been 4.16, 4.52, 5.69, 6.81 and 6.25 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.3.1.

So, The Average Current Assets Turnover Ratio is 5.32, The Standard Deviation is 0.98 and The Co-efficient variance is 18.42% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited**:  
Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.44
times in the year 2011-12 and the lowest ratio was 1.11 times in the year 2005-06.

In the year 2003-04 the ratio was 1.26 times which has been decreased 1.13 times in 2004-05, further it has been decreased up to 1.11 times in the year of 2005-06. During the year of 2011-12, it increased up to 2.44 times. It got fluctuated the ratios have been 1.55, 1.78, 2.39, 1.86, 2.26 and 2.35 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.3.1.

So, The Average Current Assets Turnover Ratio is 1.81 times, The Standard Deviation is 0.53 and The Co-efficient variance is 29.35% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

4. LML:

Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 4.63 times in the year 2010-11 and the lowest ratio was 0.37 times in the year 2006-07.

In the year 2003-04 the ratio was 2.11 times which has been decreased 2.05 times in the year 2004-05, further it has been decreased up to 1.95 and 0.37 times in the year of 2005-06 respectively. During the year of 2010-11, it decreased up to 4.63 times. It got fluctuated and the ratios have been 0.68, 0.96, 2.32, 2.00 and 1.65 times during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-7.3.3.1.

So, The Average Current Assets Turnover Ratio is 1.87 times, The Standard Deviation is 1.18 and The Co-efficient variance is 62.94% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

5. Bajaj Auto Ltd.:

Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 7.27 times in the year 2009-10 and the lowest ratio was 2.22 times in the year 2004-05.

In the year 2003-04 the ratio was 2.32 times which has been decreased 2.22 times in the year 2004-05, further it has been increased up to 2.62 times in the year of 2005-06.
During the year of 2009-10 it increased up to 7.27 times. It got fluctuated the ratios have been 2.43, 5.25, 3.63, 6.99, 4.79 and 5.74 times during the year of 2006-09 and 2010-13 respectively. It has been also shown in the Graph No-7.3.3.1.

So, the Average Current Assets Turnover Ratio 4.32 times, The Standard Deviation is 1.95 and The Co-efficient variance is 45.15% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited :**

Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 5.89 times in the year 2012-13 and the lowest ratio was 2.31 times in the year 2005-06.

In the year 2003-04 the ratio was 2.37 times which has been increased 4.71 times in the year 2004-05, further it has been decreased up to 2.31 times year of 2005-06. During the year of 2012-13, it increased up to 5.89 times. It got fluctuated the ratios have been 2.61, 3.65, 4.23, 3.60, 3.59 and 3.71 times during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.3.1.

So, The Average Current Assets Turnover Ratio 3.67times, The Standard Deviation is 1.1 and The Co-efficient variance is 30.1% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited :**

Table No 7.3.3.1 shows that the Current Assets Turnover Ratio of the Maruti Suzuki India Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 7.84 times in the year 2009-10 and the lowest ratio was 3.24 times in the year 2005-06.

In the year 2003-04 the ratio was 4.53 times which has been increased 3.70 times in the year 2004-05, Further it has been decreased up to 3.24 times year of 2005-06. During the year of 2009-10, it increased up to 7.84 times. It got fluctuated the ratios have been 3.37, 5.83, 3.75, 6.61, 5.71 and 7.78 times during the year of 2006-09 and 20010-13 respectively. It has been also shown in the Graph No-7.3.3.1.
So, the Average Current Assets Turnover Ratio 5.24 times, The Standard Deviation is 1.77 and The Co-efficient variance is 33.86% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:  
Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the Mahindra and Mahindra Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 2.2 times in the year 2011-12 and the lowest ratio was 1.18 times in the year 2005-06, 2006-07.

In the year 2003-04 the ratio was 1.45 times which has been decreased 1.32 times in the year 2004-05, Further it has been decreased up to 1.18 times year of 2005-06. During the year of 2011-12, it increased up to 2.20 times. It got fluctuated the ratios have been 1.18, 1.32, 1.32, 1.44, 1.88 and 2.13 times during the year of 2006-11 and 2011-13 respectively. It has been also shown in the Graph No-7.3.3.1.

So, The Average Current Assets Turnover Ratio 1.54 times, The Standard Deviation is 0.38 and The Co-efficient variance is 24.87% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:  
Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 3.11 times in the year 2011-12 and the lowest ratio was 1.78 times in the year 2009-10.

In the year 2003-04 the ratio was 2.35 times which has been decreased 1.97 times in the year 2004-05, further it has been decreased up to 2.39 times in the year of 2005-06. During the year of 2011-12, it increased up to 3.11 times. It got fluctuated the ratios were 2.71, 2.76, 1.93, 1.78, 2.87 and 3.06 times during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.3.1.
So, the Average Current Assets Turnover Ratio 2.49 times, The Standard Deviation is 0.48 and The Co-efficient variance is 19.31% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

10. Tata Motors Limited:
Table No-7.3.3.1 shows that the Current Assets Turnover Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 5.35 times in the year 2012-13 and the lowest ratio was 2.14 times in the year 2005-06.

In the year 2003-04 the ratio was 3.49 times which has been decreased 2.41 times in the year 2004-05, further it has been decreased up to 2.14 times in the year of 2005-06. During the year of 2012-13, it decreased up to 5.35 times. It got fluctuated the ratios were 2.59, 2.75, 2.64, 3.04, 4.33 and 4.88 times during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.3.1.

So, The Average Current Assets Turnover Ratio 3.36 times, The Standard Deviation is 1.12 and The Co-efficient variance is 33.18% which shows solvency of this company because the average Current Assets Turnover Ratio shows satisfactory Ratio of during the study period.

➢ ANOVA TEST OF CURRENT ASSETS TURNOVER RATIO

Hypothesis:

❖ **Ho: Null Hypothesis:**
   There is no significant difference in Current Assets Turnover Ratio of automobile industry under study.

❖ **H1: Alternative Hypothesis:**
   There is significant difference in Current Assets Turnover Ratio of automobile industry under study.

❖ **Level of Significance: 5%**
TABLE NO-7.3.3.2
CURRENT ASSETS TURNOVER
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>63.15352</td>
<td>9</td>
<td>7.017058</td>
<td>0.644557</td>
<td>0.756109</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>979.7977</td>
<td>90</td>
<td>10.88664</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1042.951</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1 = 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.64

\[
\text{F}_{\text{cal}} < \text{F}_{\text{tab}} = 0.64 < 1.98
\]

Table No-7.3.3.2 indicates the calculate value of ‘F’ is 0.644557 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Current Assets Turnover Ratio of selected automobile industry under study for the period.
7.3.4. RAW MATERIALS TO NET SALES RATIO:

- **Meaning:**
  This Ratio establishes a relationship between Raw Materials and Net sales.

- **Objective:**
  The objective of computing this ratio is to determine the efficiency with which the Raw Materials are utilized.

- **Components:**
  1. Raw Materials = All material used in production
  2. Net sales = Gross sales – sales of returns

- **Computation and interpretations:**
  This ratio is computed by dividing the Raw Materials by Net sales. This ratio is usually expressed as a percentage. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Raw Materials to Net Sales Ratio} = \frac{\text{Raw Materials Consumed}}{\text{Net Sales}} \times 100
  \]

  This ratio indicates the modifier ‘raw’ is used broader sense, as this category includes the materials used in broader senses, i.e. all the material used in production whether in a nature state or change by previous processing’ in the present study raw materials means the materials used in the manufacturing process the figure of raw materials consumed has been arrived by adding the purchase of raw materials and the totals reduced by the closing stock of raw material given at the end of the financial year. Its process of the fertilizer processing unit in India

  Thus, an enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Raw material to net sales Ratio of selected companies of Automobile Industry in India is given in the Table No-7.3.4.1 as follows:
### TABLE NO-7.3.4.1 RAW MATERIALS TO NET SALES RATIO

| YEAR       | COMPANY NAME | HMC     | TMC     | SIL     | LML     | BAL     | HML     | MSI     | MML     | ALL     | TML     |
|------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 2003-2004  |              | 68.75   | 65.51   | 65.45   | 65.77   | 64.94   | 60.43   | 76.55   | 60.05   | 70.87   | 64.68   |
| 2004-2005  |              | 70.29   | 69.01   | 65.47   | 67.49   | 68.26   | 62.62   | 78.35   | 64.01   | 71.86   | 69.81   |
| 2005-2006  |              | 69.65   | 73.63   | 73.58   | 70.70   | 68.70   | 71.23   | 77.69   | 61.65   | 77.56   | 70.29   |
| 2006-2007  |              | 72.53   | 74.34   | 74.75   | 77.03   | 71.62   | 73.71   | 73.17   | 54.39   | 75.05   | 71.24   |
| 2007-2008  |              | 71.52   | 76.77   | 67.55   | 68.69   | 77.19   | 69.40   | 77.14   | 54.75   | 73.86   | 70.75   |
| 2008-2009  |              | 71.11   | 74.17   | 68.22   | 70.92   | 76.35   | 72.63   | 77.13   | 52.15   | 73.48   | 73.03   |
| 2009-2010  |              | 68.09   | 71.86   | 76.23   | 69.35   | 70.56   | 74.27   | 76.56   | 52.15   | 73.76   | 71.11   |
| 2010-2011  |              | 72.87   | 75.66   | 77.62   | 69.35   | 72.45   | 81.75   | 77.57   | 55.48   | 73.05   | 73.10   |
| 2011-2012  |              | 73.65   | 73.88   | 75.75   | 70.31   | 72.70   | 84.54   | 79.42   | 61.69   | 71.98   | 74.26   |
| 2012-2013  |              | 73.06   | 71.67   | 77.30   | 63.65   | 71.92   | 83.56   | 74.56   | 61.20   | 67.41   | 73.96   |
| **Average**|              | 71.15   | 72.65   | 72.19   | 69.32   | 71.47   | 73.41   | 76.81   | 57.75   | 72.89   | 71.23   |
| **S.D.**   |              | 1.91    | 3.33    | 4.96    | 3.55    | 3.66    | 8.19    | 1.80    | 4.41    | 2.68    | 2.78    |
| **C.V.**   |              | 2.69    | 4.58    | 6.86    | 5.12    | 5.12    | 11.16   | 2.35    | 7.64    | 3.67    | 3.90    |
| **Min**    |              | 68.09   | 65.51   | 65.45   | 63.65   | 64.94   | 60.43   | 73.71   | 52.15   | 67.41   | 64.68   |
| **Max**    |              | 73.65   | 76.77   | 77.62   | 77.03   | 84.54   | 79.42   | 74.56   | 60.05   | 77.56   | 74.26   |

(Source: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO-7.3.4.1 RAW MATERIALS TO NET SALES RATIO

The above mentioned Table No- 7.3.4.1 and Graph No- 7.3.4.1 indicated a fluctuating trend of the Raw Materials to net Sales Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd**:  
Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 73.65 % in the year of 2011-12 and lowest ratio was 68.09 % in the year of 2009-10.

In the year 2003-04 the ratio was 68.75 % which has been increased 70.29% in 2004-05, further it has been decreased up to 69.65 % in the year of 2005-06. During the year of 2011-12, it increased up to 73.65 %. It got fluctuated the ratios have been 72.53, 71.52, 71.11, 68.09, 72.87 and 73.06 percent during the year of 2006-2011 and 2012-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio is71.15, The Standard Deviation is 1.91 and The Co-efficient variance is 2.69% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company**:  
Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 76.77 % in the year 2007-08 and the lowest ratio was 65.51 % in the year 2003-04.

In the year 2003-04 the ratio was 65.51 % which has been increased 69.01% in 2004-05, further it has been increased up to 73.63, 74.34 and 76.77 percent in the year of 2005-08 respectively. During the year of 2008-09, it increased up to 74.17 %. It got fluctuated the ratios have been 71.86, 75.66, 73.88 and 71.67 percent during the year of 2009-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio is 72.65, The Standard Deviation is 3.33 and The Co-efficient variance is 4.58% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited**:  
Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 77.62
% in the year 2010-11 and the lowest ratio was 65.45 % in the year 2003-04.

In the year 2003-04 the ratio was 65.45% which has been increased 65.47 % in 2004-05, further it has been increased up to 73.58 and 74.76 percent in the year of 2005-07 respectively. During the year of 2010-11, it decreased up to 77.62%. It got fluctuated the ratios have been 67.55, 68.22, 76.23, 75.75 and 77.30 percent during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio is 72.19 %, The Standard Deviation is 4.96 and The Co-efficient variance is 6.86% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

4. **LML :**

Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 77.03 % in the year 2006-07 and the lowest ratio was 63.65 % in the year 2012-13.

In the year 2003-04 the ratio was 65.77 % which has been increased 67.49 % in the year 2004-05, further it has been increased up to 70.70 and 77.03 percent in the year of 2005-07 respectively. During the year of 2009-11 and 2012-13, it decreased up to 63.65%. It got fluctuated and the ratios have been 68.69, 70.92 and 70.31 percent during the year of 2007-09 and 2011-12 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio is 69.32 %, The Standard Deviation is 3.55 and The Co-efficient variance is 5.12% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd. :**

Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 77.19 % in the year 2007-08 and the lowest ratio was 64.94 % in the year 2003-04.
In the year 2003-04 the ratio was 64.94 % which has been increased 68.26 % in the year 2004-05, further it has been increased up to 68.70 , and 71.62 percent in the year of 2005-07 respectively. During the year of 2007-08, it increased up to 77.19%. It got fluctuated the ratios have been 76.35, 70.56, 72.45, 72.70 and 71.92 percent during the year of 2008-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, the Average Raw Materials to net Sales Ratio 69.32 %, The Standard Deviation is 3.55 and The Co-efficient variance is 5.12% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited** :

Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 84.54% in the year 2011-12 and the lowest ratio was 60.43% in the year 2003-04.

In the year 2003-04 the ratio was 60.43 % which has been increased 62.62 % in the year 2004-05, further it has been decreased up to 71.23 and 73.71 percent in the year of 2005-07 respectively . During the year of 2011-12, it decreased up to 84.54%. It got fluctuated the ratios have been 69.40, 72.63, 74.27, 81.75 and 83.56 percent during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio 73.41%, The Standard Deviation is 8.19 and The Co-efficient variance is 11.16% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited** :

Table No 7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 79.42 % in the year 2011-12 and the lowest ratio was 73.17 % in the year 2006-07.

In the year 2003-04 the ratio was 76.55% which has been increased 78.35 % in
the year 2004-05, further it has been increased up to 77.69 % during the year of 2005-06. During the year of 2011-12, it increased up to 79.42 %. It got fluctuated the ratios have been 73.17, 77.14, 77.13, 76.56, 77.57 and 74.56 percent during the year of 2006-2011 and 2012-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio 76.81 %, The Standard Deviation is 1.8 and The Co-efficient variance is 2.35% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited :**

Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 64.01 % in the year 2004-05 and the lowest ratio was 52.15 % in the year 2008-09 and 2009-10.

In the year 2003-04 the ratio was 60.05 % which has been decreased 64.01 % in the year 2004-05, Further it has been decreased up to 61.65 % during the year of 2005-06. During the year of 2008-010 respectively, it decreased up to 52.15 %. It got fluctuated the ratios have been 54.39, 54.75, 55.48, 61.69 and 61.20 percent during the year of 2007-08 and 2010-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio 57.75%, The Standard Deviation is 4.41 and The Co-efficient variance is 7.64% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland :**

Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 77.56 % in the year 2005-06 and the lowest ratio was 67.41 % in the year 2012-13.

In the year 2003-04 the ratio was 70.87 % which has been increased 71.86 % in the year 2004-05, further it has been increased up to 77.56 % in the year of 2005-06. During the year of 2012-13, it decreased up to 67.41 %. It got fluctuated the ratios were
75.05, 73.86, 73.48, 73.76, 73.05 and 71.98 percent during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio 72.89 %, The Standard Deviation is 2.68 and The Co-efficient variance is 3.67% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

10. Tata Motors Limited:

Table No-7.3.4.1 shows that the Raw Materials to net Sales Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 74.26% in the year 2011-12 and the lowest ratio was 64.68 % in the year 2003-04.

In the year 2003-04 the ratio was 64.98 % which has been increased 69.81% in the year 2004-05, further it has been increased up to 70.29 and 71.27 % in the year of 2005-07 respectively. During the year of 2011-12, it decreased up to 74.26 %. It got fluctuated the ratios were 70.75, 73.03, 71.11, 73.10 and 73.96 percent during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.4.1.

So, The Average Raw Materials to net Sales Ratio 71.23 %, The Standard Deviation is 2.78 and The Co-efficient variance is 3.9% which shows solvency of this company because the average Raw Materials to net Sales Ratio shows satisfactory Ratio of during the study period.

➢ ANOVA TEST OF RAW MATERIALS TO NET SALES RATIO:

Hypothesis:

❖ Ho: Null Hypothesis:

There is no significant difference in Raw Materials to net Sales Ratio of automobile industry under study.

❖ H1: Alternative Hypothesis:

There is significant difference in Raw Materials to net Sales Ratio of automobile industry under study.

❖ Level of Significance: 5%
### TABLE NO-7.3.4.2

**RAW MATERIALS TO NET SALES RATIO**

**ONE WAY ANOVA TEST**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>406.309</td>
<td>9</td>
<td>45.14545</td>
<td>1.201483</td>
<td>0.304055</td>
<td>1.985595</td>
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<tr>
<td>Within Groups</td>
<td>3381.728</td>
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<td>37.57476</td>
<td></td>
<td></td>
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<td>3788.037</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1 = 99
- Table Value of ‘F’ = 1.98
- Calculate Value of ‘F’ = 1.20

\[
F_{cal} < F_{tab}
\]

\[
1.20 < 1.98
\]

\[
F_{cal} < F_{tab}
\]

Table No-7.3.4.2 indicates the calculate value of ‘F’ is 1.201483 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Raw Materials to net Sales Ratio of selected automobile industry under study for the period.
7.3.5 WAGES AND SALARIES TO NET SALES RATIO:

- **Meaning:**
  
  This Ratio establishes a relationship between Wages & Salaries and Net sales.

- **Objective:**
  
  The objective of computing this ratio is to determine the efficiency with which the Wages and Salaries are utilized.

- **Components:**
  
  1. Wages and Salaries mean wages salaries comprise of included bonus, gratuity, provident fund and other allowance and welfare expenses etc.
  2. Net sales= Gross sales – sales of returns

- **Computation and interpretations:**
  
  This ratio is computed by dividing the Wages & Salaries by Net sales. This ratio is usually expressed as percentage. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Wages and Salaries to Net sales Ratio} = \frac{\text{Wages and Salaries}}{\text{Net sales}} \times 100
  \]

  This ratio indicates a large number of labour force are required, as manufacture of industry is an extremely complex industry undertaking, in the industry labour cost have been examined by this ratio.

  Thus, An enterprise should have neither a very high nor a very low ratio, it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Wages & Salaries and Net sales Ratio of selected companies of Automobile Industry in India is given in the Table No-7.3.5.1 as follows:
### TABLE NO-7.3.5.1 WAGES AND SALARIES TO NET SALES RATIO

| YEAR  | COMPANY NAME | HMC | TMC | SIL | LML | BAL | HML | MSI | MML | ALL | TML |
|-------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2003-2004 |              | 2.84| 3.48| 18.89| 15.35| 4.10| 10.89| 1.66| 4.98| 6.79| 4.96 |
| 2005-2006 |              | 2.62| 3.71| 18.27| 18.38| 2.96| 14.20| 1.52| 3.84| 5.78| 4.33 |
| 2006-2007 |              | 2.76| 3.58| 17.75| 18.60| 2.61| 8.56 | 1.58| 3.32| 4.98| 3.80 |
| 2008-2009 |              | 2.69| 4.60| 22.92| 10.86| 3.24| 9.70 | 1.99| 3.31| 7.32| 4.84 |
| 2009-2010 |              | 2.48| 4.76| 21.63| 5.65 | 2.67| 9.85 | 1.56| 3.36| 7.26| 4.09 |
| 2010-2011 |              | 2.89| 4.44| 17.46| 11.30| 2.27| 10.81| 1.68| 3.14| 6.73| 3.91 |
| 2011-2012 |              | 2.76| 4.34| 13.39| 8.11 | 2.17| 15.03| 1.85| 2.23| 6.01| 4.04 |
| 2012-2013 |              | 3.04| 4.92| 13.86| 11.22| 2.47| 10.68| 2.07| 2.22| 6.42| 5.17 |
| Average |              | 2.74| 4.19| 18.67| 13.02| 2.92| 10.64| 1.71| 3.38| 6.37| 4.38 |
| S.D.    |              | 0.16| 0.55| 3.23 | 4.32 | 0.60| 2.34 | 0.19| 0.83| 0.71| 0.47 |
| C.V.    |              | 5.95| 13.01| 17.30| 33.15| 20.67| 21.96| 11.35| 24.54| 11.09| 10.66 |
| Min     |              | 2.48| 3.48| 13.39| 5.65 | 2.17| 7.79 | 1.51| 2.22| 4.98| 3.80 |
| Max     |              | 3.04| 4.92| 22.92| 18.60| 4.10| 15.03| 2.07| 4.98| 7.32| 5.17 |

(Source: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO-7.3.5.1 WAGES AND SALARIES TO NET SALES RATIO

The above mentioned Table No- 7.3.5.1 and Graph No- 7.3.5.1 the indicated a fluctuating trends of the Wages and Salaries to Net Sales Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. Hero MotoCorp Ltd:

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 3.04% in the year of 2012-13 and lowest ratio was 2.48% in the year of 2009-10.

In the year 2003-04 the ratio was 2.84% which has been decreased 2.57% in the year 2004-05, further it has been increased up to 2.62 % in the year of 2005-06. During the year of 2012-13, it increased up to 3.04%. It got fluctuated the ratios have been 2.76, 2.79, 2.69, 2.48, 2.89 and 2.76 percent during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio is 2.74, The Standard Deviation is 0.16 and The Co-efficient variance is 5.95% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

2. TVS Motor Company:

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 4.92% in the year 2012-13 and the lowest ratio was 3.48% in the year 2003-04.

In the year 2003-04 the ratio was 3.48% which has been decreased 3.59% in the year 2004-05, further it has been increased up to 3.71% in the year of 2005-06. During the year of 2012-13, it increased up to 4.92%. It got fluctuated the ratios have been 3.58, 4.53, 4.60, 4.76, 4.44 and 4.34 percent during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio is 4.19, The Standard Deviation is 0.55 and The Co-efficient variance is 13.01% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

3. Scooters India Limited:

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio
was 22.92% in the year 2008-09 and the lowest ratio was 13.39% in the year 2011-12.

In the year 2003-04 the ratio was 18.89% which has been increased 21.48% in the year 2004-05, further it has been decreased up to 18.27 and 17.75 percent in the year of 2005-07 respectively. During the year of 2008-09, it increased up to 22.92%. It got fluctuated the ratios have been 21.02, 21.63, 17.46, 13.39 and 13.86 percent during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio is 18.67%, The Standard Deviation is 3.23 and The Co-efficient variance is 17.3% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

4. **LML :**

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 18.6% in the year 2006-07 and the lowest ratio was 5.65% in the year 2009-10.

In the year 2003-04 the ratio was 15.35% which has been increased 16.40% in the year 2004-05, further it has been increased up to 18.38 and 18.60 percent in the year of 2005-07 respectively. During the year of 2009-10, it decreased up to 5.65%. It got fluctuated and the ratios have been 14.30, 10.86, 11.30, 8.11 and 11.22 percent during the year of 2007-09 and 2010-13 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio is 13.02%, The Standard Deviation is 4.32 and The Co-efficient variance is 33.15% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd. :**

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 4.1% in the year 2003-04 and the lowest ratio was 2.17% in the year 2011-12.
In the year 2003-04 the ratio was 4.10% which has been decreased 3.53% in the year 2004-05, further it has been decreased up to 2.96 and 2.61 percent in the year of 2005-07 respectively. During the year of 2011-12 it decreased up to 2.17%. It got fluctuated the ratios have been 3.14, 3.24, 2.67, 2.27 and 2.47 percent during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio 2.92%, The Standard Deviation is 0.6 and The Co-efficient variance is 20.67% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited:**

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 15.03% in the year 2011-12 and the lowest ratio was 7.79% in the year 2004-05.

In the year 2003-04 the ratio was 10.89% which has been decreased 7.79% in the year 2004-05, further it has been increased up to 14.20% during the year of 2005-06. In the year of 2011-12, it decreased up to 15.03%. It got fluctuated the ratios have been 8.56, 8.87, 9.70, 9.85, 10.81 and 10.68 percent during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio 10.64%, The Standard Deviation is 2.34 and The Co-efficient variance is 21.96% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited:**

Table No 7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.07% in the year 2012-13 and the lowest ratio was 1.51% in the year 2004-05.

In the year 2003-04 the ratio was 1.66% which has been decreased 1.51% in the year 2004-05, Further it has been decreased up to 1.52, 158, 1.69 and 1.99 percent during
the year of 2005-09. During the year of 2012-13, it increased up to 2.07%. It got
fluctuated the ratios have been 1.56, 1.68 and 1.85 percent during the year of 2009-2012
respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio 1.71 %, The Standard
Deviation is 0.19 and The Co-efficient variance is 11.35% which shows solvency of this
company because the average Wages and Salaries to Net Sales Ratio shows satisfactory
Ratio of during the study period.

8. Mahindra and Mahindra Limited :

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the
Mahindra and Mahindra Limited during the year from 2003-04 to 2012-2013, the highest
ratio was 4.98% in the year 2003-04 and the lowest ratio was 2.22% in the year 2012-13.

In the year 2003-04 the ratio was 4.98% which has been decreased 4.20% in the
year 2004-05, Further it has been decreased up to 3.84, 3.32 and 3.22 percent during the
year of 2005-08 receptively. During the year of 2012-13, it decreased up to 2.22%. It got
fluctuated the ratios have been 3.31, 3.36, 3.14 and 2.23 percent during the year of 2008-
12 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio 3.38% , The Standard
Deviation is 0.83 and The Co-efficient variance is 24.54% which shows solvency of this
company because the average Wages and Salaries to Net Sales Ratio shows satisfactory
Ratio of during the study period.

9. Ashok Leyland :

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the
Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 7.32
% in the year 2008-09 and the lowest ratio was 4.98 % in the year 2006-07.

In the year 2003-04 the ratio was 6.79% which has been decreased 6.11% in the
year 2004-05, further it has been decreased up to 5.78 and 4.98 percent in the year of
2005-07 respectively. During the year of 2008-09, it decreased up to 7.32%. It got
fluctuated the ratios were 6.26, 7.26, 6.73, 6.01 and 6.42 during the year of 2007-08 and
2009-13 respectively. It has been also shown in the Graph No-7.3.5.1.
So, The Average Wages and Salaries to Net Sales Ratio 6.37 %, The Standard Deviation is 0.71 and The Co-efficient variance is 11.09% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited**:

Table No-7.3.5.1 shows that the Wages and Salaries to Net Sales Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 5.17% in the year 2012-13 and the lowest ratio was 3.8 % in the year 2006-07.

In the year 2003-04 the ratio was 4.96% which has been increased 4.44% in the year 2004-05, further it has been increased up to 4.33 and 3.80 percent in the year of 2005-07 respectively. During the year of 2012-13, it decreased up to 5.17%. It got fluctuated the ratios were 4.20, 4.84, 4.09, 3.91 and 4.04 percent during the year of 2007-12 respectively. It has been also shown in the Graph No-7.3.5.1.

So, The Average Wages and Salaries to Net Sales Ratio 4.38 %, The Standard Deviation is 0.47 and The Co-efficient variance is 10.66% which shows solvency of this company because the average Wages and Salaries to Net Sales Ratio shows satisfactory Ratio of during the study period.

➢ **ANOVA TEST OF WAGES AND SALARIES TO NET SALES RATIO**

Hypothesis:

- **Ho: Null Hypothesis:**
  
  There is no significant difference in Wages and Salaries to Net Sales Ratio of automobile industry under study.

- **H1: Alternative Hypothesis:**
  
  There is significant difference in Wages and Salaries to Net Sales Ratio of automobile industry under study.

- **Level of Significance: 5%**
### TABLE NO-7.3.5.2
WAGES AND SALARIES TO NET SALES RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>25.62106</td>
<td>9</td>
<td>2.846784</td>
<td>0.083567</td>
<td>0.999801</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3065.942</td>
<td>90</td>
<td>34.06602</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3091.563</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.08

\[ F_{cal} < F_{tab} \]
\[ 0.08 < 1.98 \]
\[ F_{cal} < F_{tab} \]

Table No-7.3.5.2 indicates the calculate value of ‘F’ is 0.083567 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Wages and Salaries to Net Sales Ratio of selected automobile industry under study for the period.
7.3.6 POWER AND FUEL (ENERGY) TO NET SALES RATIO:

- **Meaning:**
  This Ratio establishes a relationship between Power & Fuel and Net sales.

- **Objective:**
  The objective of computing this ratio is to determine the efficiency with which the Power Fuel are utilized.

- **Components:**
  1. Power and Fuel means it used to production
  2. Net sales = Gross sales – sales of returns

- **Computation and interpretations:**
  This ratio is computed by dividing the Power & Fuel by Net sales. This ratio is usually expressed as percentage. In the form of a formula, this ratio may be express as follows:

\[
\text{Power and Fuel to Net sales Ratio} = \frac{\text{Power and Fuel}}{\text{Net sales}} \times 100
\]

  This ratio indicates an essential requirement not only in its continues availability but also in adequate supply.

  Thus, an enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Power & Fuel and Net sales Ratio of selected companies of Automobile Industry in India is given in the Table No-7.3.6.1 as follows:
TABLE NO-7.3.6.1  POWER AND FUEL TO NET SALES RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HMC</td>
</tr>
<tr>
<td>2003-2004</td>
<td>0.51</td>
</tr>
<tr>
<td>2004-2005</td>
<td>0.44</td>
</tr>
<tr>
<td>2005-2006</td>
<td>0.54</td>
</tr>
<tr>
<td>2006-2007</td>
<td>0.53</td>
</tr>
<tr>
<td>2007-2008</td>
<td>0.55</td>
</tr>
<tr>
<td>2008-2009</td>
<td>0.60</td>
</tr>
<tr>
<td>2009-2010</td>
<td>0.51</td>
</tr>
<tr>
<td>2010-2011</td>
<td>0.52</td>
</tr>
<tr>
<td>2011-2012</td>
<td>0.48</td>
</tr>
<tr>
<td>2012-2013</td>
<td>0.54</td>
</tr>
<tr>
<td>Average</td>
<td>0.52</td>
</tr>
<tr>
<td>S.D.</td>
<td>0.04</td>
</tr>
<tr>
<td>C.V.</td>
<td>7.96</td>
</tr>
<tr>
<td>Min</td>
<td>0.44</td>
</tr>
<tr>
<td>Max</td>
<td>0.60</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

GRAPH NO-7.3.6.1  POWER AND FUEL TO NET SALES RATIO

The above mentioned Table No- 7.3.6.1 and Graph No- 7.3.6.1 the indicated a fluctuating trends of the Power and Fuel to Net Sales Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd**: 

   Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 0.6 % in the year of 2008-09 and lowest ratio was 0.44 % in the year of 2004-05.

   In the year 2003-04 the ratio was 0.51% which has been decreased 0.44% in 2004-05, further it has been increased up to 0.54% in the year of 2005-06. During the year of 2008-09, it increased up to 0.60%. It got fluctuated the ratios have been 0.53, 0.55, 0.51, 0.52, 0.48 and 0.54 percent during the year of 2006-2008 and 2009-13 respectively. It has been also shown in the Graph No-7.3.6.1.

   So, The Average Power and Fuel to Net Sales Ratio is 0.52, The Standard Deviation is 0.04 and The Co-efficient variance is 7.96% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company**: 

   Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 1.3 % in the year 2007-08 and the lowest ratio was 0.95 % in the year 2004-05.

   In the year 2003-04 the ratio was 1.04% which has been decreased 0.95% in 2004-05, further it has been increased up to 1.13% in the year of 2005-06. During the year of 2007-08, it increased up to 1.30%. It got fluctuated the ratios have been 1.12, 1.26, 1.15, 1.08, 1.26 and 1.28 percent during the year of 2006-07 and 2008-13 respectively. It has been also shown in the Graph No-7.3.6.1.

   So, The Average Power and Fuel to Net Sales Ratio is 1.16, The Standard Deviation is 0.11 and The Co-efficient variance is 9.93% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited**: 

   Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio
was 2.9 % in the year 2003-04 and the lowest ratio was 1.76 % in the year 2011-12.

In the year 2003-04 the ratio was 2.90 % which has been decreased 2.67 % in 2004-05, further it has been decreased up to 2.32 and 2.23 percent in the year of 2005-07 respectively. During the year of 2011-12, it decreased up to 1.76%. It got fluctuated the ratios have been 2.46, 2.26, 2.10, 2.20 and 2.25 percent during the year of 2007-11 and 2012-13 respectively. It has been also shown in Graph No-7.3.6.1.

So, The Average Power and Fuel to Net Sales Ratio is 2.31 %, The Standard Deviation is 0.31 and The Co-efficient variance is 13.45% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

4. **LML** :

Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 5.68 % in the year 2006-07 and the lowest ratio was 3.3 % in the year 2013-12.

In the year 2003-04 the ratio was 3.57% which has been increased 3.98% in the year 2004-05, further it has been increased up to 4.75 and 5.68 percent in the year of 2005-07 respectively. During the year of 2011-12, it decreased up to 3.30%. It got fluctuated and the ratios have been 4.42, 4.53, 3.73, 3.73 and 4.83 percent during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.6.1.

So, The Average Power and Fuel to Net Sales Ratio is 4.25 %, The Standard Deviation is 0.72 and The Co-efficient variance is 17.02% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.** :

Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1.31 % in the year 2003-04 and the lowest ratio was 0.52 % in the year 2011-12.

In the year 2003-04 the ratio was 1.31% which has been decreased 0.96% in the year 2004-05, further it has been decreased up to 0.79% in the year of 2005-06. During
the year of 2011-12, it decreased up to 0.52%. It got fluctuated the ratios have been 0.85, 0.80, 0.72, 0.61, 0.53 and 0.61 percent during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.6.1.

So, The Average Power and Fuel to Net Sales Ratio 0.77 %, The Standard Deviation is 0.24 and The Co-efficient variance is 31.01% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

6. Hindustan Motors Limited:

Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 3.62% in the year 2012-13 and the lowest ratio was 1.94% in the year 2007-08.

In the year 2003-04 the ratio was 2.97% which has been decreased 2.66% in the year 2004-05, further it has been decreased up to 2.77, 2.42 and 1.94 percent in the year of 2005-07 respectively. During the year of 2012-13, it increased up to 3.62%. It got fluctuated the ratios have been 2.04, 2.41, 2.56 and 2.94 percent during the year of 2008-12 respectively. It has been also shown in the Graph No-7.3.6.1.

So, The Average Power and Fuel to Net Sales Ratio 2.63%, The Standard Deviation is 0.49 and The Co-efficient variance is 18.51% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

7. Maruti Suzuki India Limited:

Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.12% in the year 2012-13 and the lowest ratio was 0.47% in the year 2005-06.

In the year 2003-04 the ratio was 1.05% which has been decreased 0.53 % in the year 2004-05, further it has been decreased up to 0.47% in the year of 2005-06. During the year of 2012-13, it increased up to 1.12%. It got fluctuated the ratios have been 0.66, 0.82, 0.94, 0.73, 0.57 and 0.64 percent during the year of 2006-2012 respectively. It has been also shown in the Graph No-7.3.6.1.
So, The Average Power and Fuel to Net Sales Ratio 0.75%, The Standard Deviation is 0.22 and The Co-efficient variance is 29.59% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.96 % in the year 2007-08 and the lowest ratio was 0.78 % in the year 2004-05.

In the year 2003-04 the ratio was 0.88% which has been decreased 0.78% in the year 2004-05, further it has been increased up to 1.26 and 1.53 percent in the year of 2005-06 respectively. During the year of 2006-07, it increased up to 1.96%. It got fluctuated the ratios have been 1.91, 1.75, 1.63, 1.46 and 1.36 percent during the year of 2008-13 respectively. It has been also shown in the Graph No-7.3.6.1.

So, The Average Power and Fuel to Net Sales Ratio 1.45%, The Standard Deviation is 0.4 and The Co-efficient variance is 27.3% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 1.41% in the year 2003-04 and the lowest ratio was 0.57 % in the year 2007-08, 2010-2011.

In the year 2003-04 the ratio was 1.41% which has been decreased 1.17% in the year 2004-05, further it has been decreased up to 0.78 and 0.62 percent in the year of 2005-07 respectively. During the year of 2007-08, it decreased up to 0.57 %. It got fluctuated the ratios were 0.63, 0.60, 0.57, 0.58 and 0.65 percent during the year of 2008-13 respectively. It has been also shown in the Graph No-7.3.6.1.
So, the Average Power and Fuel to Net Sales Ratio 0.76%, The Standard Deviation is 0.29 and The Co-efficient variance is 38.69% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited** :

Table No-7.3.6.1 shows that the Power and Fuel to Net Sales Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 1.66% in the year 2003-04 and the lowest ratio was 1.00% in the year 2010-11.

In the year 2003-04 the ratio was 1.66% which has been decreased 1.39 % in the year 2004-05, further it has been increased up to 1.27, 1.20 and 1.14 percent in the year of 2005-08 respectively. During the year of 2010-11, it decreased up to 1.00%. It got fluctuated the ratios were 1.21, 1.04, 1.01 and 1.08 percent during the year of 2008-10 and 2011-13 respectively. It has been also shown in the Graph No-7.3.6.1.

So, The Average Power and Fuel to Net Sales Ratio 1.2 %, The Standard Deviation is 0.2 and The Co-efficient variance is 17.00% which shows solvency of this company because the average Power and Fuel to Net Sales Ratio shows satisfactory Ratio of during the study period.

> **ANOVA TEST OF POWER AND FUEL TO NET SALES RATIO**

**Hypothesis:**

- **Ho: Null Hypothesis:**

  There is no significant difference in Power and Fuel to Net Sales Ratio of automobile industry under study.

- **H1: Alternative Hypothesis:**

  There is significant difference in Power and Fuel to Net Sales Ratio of automobile industry under study.

- **Level of Significance: 5%**
### TABLE NO-7.3.6.2

**POWER AND FUEL TO NET SALES RATIO**

**ONE WAY ANOVA TEST**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1.285102</td>
<td>9</td>
<td>0.142789</td>
<td>0.096795</td>
<td>0.999635</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>132.7647</td>
<td>90</td>
<td>1.475164</td>
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<td>Total</td>
<td>134.0498</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.10

\[
F_{cal} < F_{tab} \\
0.10 < 1.98
\]

Table No-7.3.6.2 indicates the calculate value of ‘F’ is 0.096795 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Power and Fuel to Net Sales Ratio of selected automobile industry under study for the period
7.3.7 SELLING & DISTRIBUTION TO NET SALES RATIO:

❖ Meaning:
This Ratio establishes a relationship between Selling & Distribution expenses and Net sales.

❖ Objective:
The objective of computing this ratio is to determine the efficiency with which the Selling & Distribution or Marketing expenses are utilized.

❖ Components:
1. Selling & Distribution Expenses means all expense of selling or marketing for example commission and discount of sales, travelling expenses, advertisement, salaries of sales and publicity staff, expensed of branches and agencies etc.
2. Net sales = gross sales – sales of returns

❖ Computation and interpretations:
This ratio is computed by dividing the Selling & Distribution by Net sales. This ratio is usually expressed as percentage. In the form of a formula, this ratio may be express as follows:

\[
\text{Selling & Distribution Expenses to Net sales Ratio} = \frac{\text{Selling & Distribution Expenses}}{\text{Net sales}} \times 100
\]

This ratio indicates an essential for creating new customer and for selling goods in the market. For new enterprise, these expenses increase considerably because they have to establish themselves in the market selling and distribution expenses. Thus, an enterprise should have neither a very high nor a very low ratio, it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

The Selling & Distribution to Net sales Ratio of selected companies of Automobile Industry in India is given in the Table No-7.3.7.1 as follows:
### TABLE NO-7.3.7.1 SELLING & DISTRIBUTION TO NET SALES RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td></td>
<td>7.20</td>
<td>13.92</td>
<td>6.28</td>
<td>23.67</td>
<td>6.55</td>
<td>12.37</td>
<td>5.82</td>
<td>10.97</td>
<td>7.15</td>
<td>5.01</td>
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<tr>
<td>2005-2006</td>
<td></td>
<td>8.40</td>
<td>13.82</td>
<td>4.90</td>
<td>27.09</td>
<td>4.87</td>
<td>12.57</td>
<td>5.89</td>
<td>9.84</td>
<td>8.12</td>
<td>4.86</td>
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<tr>
<td>2006-2007</td>
<td></td>
<td>8.84</td>
<td>13.04</td>
<td>4.63</td>
<td>25.54</td>
<td>5.61</td>
<td>12.68</td>
<td>6.36</td>
<td>12.42</td>
<td>7.82</td>
<td>4.87</td>
</tr>
<tr>
<td>2007-2008</td>
<td></td>
<td>8.74</td>
<td>12.04</td>
<td>7.12</td>
<td>16.05</td>
<td>5.20</td>
<td>12.46</td>
<td>6.35</td>
<td>12.51</td>
<td>7.24</td>
<td>5.03</td>
</tr>
<tr>
<td>2008-2009</td>
<td></td>
<td>8.50</td>
<td>10.22</td>
<td>4.98</td>
<td>13.95</td>
<td>5.40</td>
<td>13.63</td>
<td>7.48</td>
<td>11.78</td>
<td>7.95</td>
<td>5.57</td>
</tr>
<tr>
<td>2010-2011</td>
<td></td>
<td>7.20</td>
<td>9.22</td>
<td>2.94</td>
<td>14.18</td>
<td>3.38</td>
<td>6.69</td>
<td>7.98</td>
<td>8.73</td>
<td>7.42</td>
<td>5.60</td>
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<td>2011-2012</td>
<td></td>
<td>4.90</td>
<td>8.32</td>
<td>2.13</td>
<td>11.82</td>
<td>3.60</td>
<td>6.93</td>
<td>8.05</td>
<td>7.42</td>
<td>9.52</td>
<td>6.44</td>
</tr>
<tr>
<td>2012-2013</td>
<td></td>
<td>5.86</td>
<td>10.17</td>
<td>2.30</td>
<td>13.40</td>
<td>3.74</td>
<td>3.95</td>
<td>8.53</td>
<td>7.40</td>
<td>12.36</td>
<td>7.81</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>7.61</td>
<td>11.67</td>
<td>4.64</td>
<td>18.47</td>
<td>4.85</td>
<td>10.52</td>
<td>6.88</td>
<td>10.09</td>
<td>8.38</td>
<td>5.49</td>
</tr>
<tr>
<td>S.D.</td>
<td></td>
<td>1.36</td>
<td>2.04</td>
<td>1.74</td>
<td>6.01</td>
<td>1.07</td>
<td>3.39</td>
<td>1.10</td>
<td>1.86</td>
<td>1.57</td>
<td>0.97</td>
</tr>
<tr>
<td>C.V.</td>
<td></td>
<td>17.85</td>
<td>17.47</td>
<td>37.39</td>
<td>32.53</td>
<td>21.98</td>
<td>32.27</td>
<td>16.00</td>
<td>18.48</td>
<td>18.79</td>
<td>17.57</td>
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<td>3.95</td>
<td>5.29</td>
<td>7.40</td>
<td>7.15</td>
<td>4.65</td>
</tr>
<tr>
<td>Max</td>
<td></td>
<td>8.89</td>
<td>13.92</td>
<td>7.12</td>
<td>27.09</td>
<td>6.55</td>
<td>13.63</td>
<td>8.53</td>
<td>12.51</td>
<td>12.36</td>
<td>7.81</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO-7.3.7.1 SELLING & DISTRIBUTION TO NET SALES RATIO

The above mentioned Table No- 7.3.7.1 and Graph No- 7.3.7.1 the indicated a fluctuating trends of the Selling & Distribution to Net Sales Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd:**

   Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 8.89 % in the year of 2009-10 and lowest ratio was 4.9 % in the year of 2011-12.

   In the year 2003-04 the ratio was 7.20% which has been increased 7.59% in the year 2004-05, further it has been increased up to 8.40% in the year of 2005-06. During the year of 2009-10, it increased up to 8.89%. It got fluctuated the ratios have been 8.84, 8.74, 8.50, 7.20, 4.90 and 5.86 percent during the year of 2006-2009 and 2010-13 respectively. It has been also shown in the Graph No-7.3.7.1.

   So, The Average Selling & Distribution to Net Sales Ratio is 7.61, The Standard Deviation is 1.36 and The Co-efficient variance is 17.85% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 13.92 % in the year 2003-04 and the lowest ratio was 8.32 % in the year 2011-12.

   In the year 2003-04 the ratio was 13.92 % which has been decreased 13.57% in the year 2004-05, further it has been increased up to 13.82% in the year of 2005-06. During the year of 2011-12, it decreased up to 8.32%. It got fluctuated the ratios have been 13.04, 12.04, 10.22, 12.40, 9.22 and 10.17 percent during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.7.1.

   So, The Average Selling & Distribution to Net Sales Ratio is 11.67, The Standard Deviation is 2.04 and The Co-efficient variance is 17.47% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 7.12 % in the year 2007-08 and the lowest ratio was 2.13 % in the year 2011-12.
In the year 2003-04 the ratio was 6.28% which has been increased 6.50% in the year 2004-05, further it has been decreased up to 4.90 and 4.63 percent in the year of 2005-07 respectively. During the year of 2007-08, it increased up to 7.12%. It got fluctuated the ratios have been 4.98, 4.65, 2.94, 2.13 and 2.30 percent during the year of 2008-13 respectively. It has been also shown in the Graph No-7.3.7.1.

So, The Average Selling & Distribution to Net Sales Ratio is 4.64 %, The Standard Deviation is 1.74 and The Co-efficient variance is 37.39% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

4. **LML :**

Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 27.09 % in the year 2005-06 and the lowest ratio was 11.82 % in the year 2011-12.

In the year 2003-04 the ratio was 23.67% which has been increased 24.86% in the year 2004-05, further it has been increased up to 27.09% in the year of 2005-06. During the year of 2011-12, it decreased up to 11.82%. It got fluctuated and the ratios have been 25.54, 16.05, 13.95, 14.18, 14.18 and 13.40 percent during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.7.1.

So, The Average Selling & Distribution to Net Sales Ratio is 18.47 %, The Standard Deviation is 6.01 and The Co-efficient variance is 32.53% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd. :**

Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 6.55 % in the year 2003-04 and the lowest ratio was 3.38 % in the year 2010-11.

In the year 2003-04 the ratio was 6.55% which has been decreased 5.88% in the year 2004-05, further it has been decreased up to 4.87% in the year of 2005-06. During the year of 2010-11 it decreased up to 3.38%. It got fluctuated the ratios have been 5.61, 5.20, 5.40, 4.29, 3.60 and 3.74 percent during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-7.3.7.1.
So, The Average Selling & Distribution to Net Sales Ratio 4.85 %, The Standard Deviation is 1.07 and The Co-efficient variance is 21.98% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**

Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 13.63% in the year 2008-09 and the lowest ratio was 3.95% in the year 2012-13.

In the year 2003-04 the ratio was 12.37% which has been decreased 10.71% in the year 2004-05, further it has been increased up to 12.57 and 12.68 percent during the year of 2005-07 respectively. During the year of 2008-09, it decreased up to 13.63%. It got fluctuated the ratios have been 12.46, 13.22, 6.69, 6.93 and 3.95 percent during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.7.1.

So, The Average Selling & Distribution to Net Sales Ratio 10.52%, The Standard Deviation is 3.39 and The Co-efficient variance is 32.27% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**

Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 8.53% in the year 2012-13 and the lowest ratio was 5.29% in the year 2004-05.

In the year 2003-04 the ratio was 5.82 % which has been decreased 5.29% in the year 2004-05, further it has been increased up to 5.89 and 6.36 percent during the year of 2005-07 respectively. During the year of 2012-13, it increased up to 8.53%. It got fluctuated the ratios have been 6.35, 7.48, 7.04, 7.98 and 8.05 percent during the year of 2007-2012 respectively. It has been also shown in the Graph No-7.3.7.1.
So, The Average Selling & Distribution to Net Sales Ratio 6.88 %, The Standard Deviation is 1.1 and The Co-efficient variance is 16.00% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

8. Mahindra and Mahindra Limited :

Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 12.51 % in the year 2007-08 and the lowest ratio was 7.4 % in the year 2012-13.

In the year 2003-04 the ratio was 10.97% which has been decreased 9.75% in the year 2004-05, further it has been increased up to 9.84 and 12.43 percent during the year of 2005-07 respectively. During the year of 2007-08, it increased up to 12.51%. It got fluctuated the ratios have been 11.78, 10.07, 8.73, 7.42 and 7.40 percent during the year of 2008-13 respectively. It has been also shown in the Graph No-7.3.7.1.

So, The Average Selling & Distribution to Net Sales Ratio 10.09%, The Standard Deviation is 1.86 and The Co-efficient variance is 18.48% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

9. Ashok Leyland :

Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 12.36% in the year 2012-13 and the lowest ratio was 7.15% in the year 2003-04.

In the year 2003-04 the ratio was 7.15% which has been increased 7.53% in the year 2004-05, further it has been increased up to 8.12% in the year of 2005-06. During the year of 2012-13, it increased up to 12.36%. It got fluctuated the ratios have been 7.82, 7.24, 7.95, 8.68, 7.42 and 9.52 percent during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.7.1.
So, The Average Selling & Distribution to Net Sales Ratio 8.38 %, The Standard Deviation is 1.57 and The Co-efficient variance is 18.79% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

10. Tata Motors Limited:

Table No-7.3.7.1 shows that the Selling & Distribution to Net Sales Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 7.81 % in the year 2012-13 and the lowest ratio was 4.65 % in the year 2004-05.

In the year 2003-04 the ratio was 5.01% which has been decreased 4.65% in the year 2004-05, further it has been increased up to 4.86, 4.87 and 5.03 percent in the year of 2005-08 respectively. During the year of 2012-13, it decreased up to 7.81%. It got fluctuated the ratios were 5.57, 5.10, 5.60 and 6.44 percent during the year of 2008-12 respectively. It has been also shown in the Graph No-7.3.7.1.

So, The Average Selling & Distribution to Net Sales Ratio 5.49%, The Standard Deviation is 0.97 and The Co-efficient variance is 17.57% which shows solvency of this company because the average Selling & Distribution to Net Sales Ratio shows satisfactory Ratio of during the study period.

- ANOVA TEST OF SELLING & DISTRIBUTION TO NET SALES RATIO:

Hypothesis:

- Ho: Null Hypothesis:
  There is no significant difference in Selling & Distribution to Net Sales Ratio of automobile industry under study.

- H1: Alternative Hypothesis:
  There is significant difference in Selling & Distribution to Net Sales Ratio of automobile industry under study.

- Level of Significance: 5%
### TABLE NO-7.3.7.2
SELLING & DISTRIBUTION TO NET SALES RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>127.9212</td>
<td>9</td>
<td>14.21347</td>
<td>0.633232</td>
<td>0.765865</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2020.132</td>
<td>90</td>
<td>22.44591</td>
<td></td>
<td></td>
<td></td>
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<td>Total</td>
<td>2148.053</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.63

\[
F_{cal} < F_{tab} \quad 0.63 < 1.98
\]

Table No-7.3.7.2 indicates the calculate value of ‘F’ is 0.633232 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Selling & Distribution to Net Sales Ratio of selected automobile industry under study for the period.
7.3.8 DEPRECIATION TO NET SALES RATIO:

- **Meaning:**
  This Ratio establishes a relationship between Depreciation and Net sales.

- **Objective:**
  The objective of computing this ratio is to determine the efficiency with which the Depreciation are utilized.

- **Components:**
  1. Depreciation means the part of cost long term physical assets allocated an expensans to each accounting period in the asset useful life.

- **Computation and interpretations:**
  This ratio is computed by dividing the Depreciation by Net sales. This ratio is usually expressed as percentage. In the form of a formula, this ratio may be express as follows:

\[
\text{Depreciation to Net sales Ratio} = \frac{\text{Depreciation}}{\text{Net sales}} \times 100
\]

  This ratio indicates the fixed assets help to generate income over a long period. To determine a period ‘s net income correctly, import part of cost in each period expired portion of original outlay for an asset and the cost related to the use of fixed assets must properly match against revenue. Depending on th type of assets involved cost of expired portion of original fixed asset is called depreciation, depletion or amortization. The amount of depreciation can be judged with in relation to sales or in relation to gross block.

  Thus, an enterprise should have neither a very high nor a very low ratio; it should have a satisfactory ratio. To judge whether the ratio is satisfactory or not, it should be compare with its own past ratio or with the ratio of similar firm in the same industry or with the industry average.

  The Depreciation to Net sales Ratio of selected companies of Automobile Industry in India is given in the Table No-7.3.8.1 as follows:
### TABLE NO-7.3.8.1 DEPRECIATION TO NET SALES RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
<th>HMC</th>
<th>TMC</th>
<th>SIL</th>
<th>LML</th>
<th>BAL</th>
<th>HML</th>
<th>MSI</th>
<th>MML</th>
<th>ALL</th>
<th>TML</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>1.26</td>
<td>2.83</td>
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<td>5.44</td>
<td>3.20</td>
<td>2.80</td>
<td>2.97</td>
</tr>
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<td>2004-2005</td>
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<td>1.20</td>
<td>3.12</td>
<td>1.18</td>
<td>8.68</td>
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<td>2005-2006</td>
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<td>1.32</td>
<td>2.90</td>
<td>1.06</td>
<td>12.20</td>
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<td>3.95</td>
<td>2.39</td>
<td>2.46</td>
<td>2.36</td>
<td>2.57</td>
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<td>2006-2007</td>
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<td>3.49</td>
<td>1.86</td>
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<td>2.24</td>
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<td>3.03</td>
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<td>2.44</td>
<td>1.06</td>
<td>12.04</td>
<td>1.87</td>
<td>3.64</td>
<td>3.36</td>
<td>2.80</td>
<td>2.56</td>
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<td>1.07</td>
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<td>57.14</td>
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<td>11.63</td>
<td>19.27</td>
</tr>
<tr>
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<td>0.64</td>
<td>4.58</td>
<td>0.75</td>
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<td>1.86</td>
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<tr>
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<td></td>
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<td>1.42</td>
<td>38.87</td>
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<td>5.30</td>
<td>5.44</td>
<td>3.20</td>
<td>2.93</td>
<td>4.06</td>
</tr>
</tbody>
</table>

(Sources: Annual Reports and Accounts from 2003-2004 to 2012-2013)

### GRAPH NO-7.3.8.1 DEPRECIATION TO NET SALES RATIO

The above mentioned Table No-7.3.8.1 and Graph No-7.3.8.1 indicated a fluctuating trend of the Depreciation to Net Sales Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd :**

   Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 4.8 % in the year of 2012-13 and lowest ratio was 1.2 % in the year of 2004-05.

   In the year 2003-04 the ratio was 1.26% which has been decreased 1.20% in the 2004-05, further it has been increased up to 1.32% in the year of 2005-06. During the year of 2012-13, it increased up to 4.80%. It got fluctuated the ratios have been 1.41, 1.55, 1.47, 1.22, 2.07 and 4.65 percent during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.8.1.

   So, The Average Depreciation to Net Sales Ratio is 2.1, The Standard Deviation is 1.41 and The Co-efficient variance is 67.33% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 3.12 % in the year 2004-05 and the lowest ratio was 1.65 % in the year 2011-12.

   In the year 2003-04 the ratio was 2.83% which has been increased 3.12% in the year 2004-05, further it has been decreased up to 2.90 % in the year of 2005-06. During the year of 2011-12, it decreased up to 1.65%. It got fluctuated the ratios have been 2.27, 2.94, 2.80, 2.35, 1.71 and 1.85 percent during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-7.3.8.1.

   So, The Average Depreciation to Net Sales Ratio is 2.44, The Standard Deviation is 0.55 and The Co-efficient variance is 22.71% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.42 % in the year 2008-09 and the lowest ratio was 0.64 % in the year 2011-12.
In the year 2003-04 the ratio was 0.95% which has been increased 1.18% in the year 2004-05, further it has been decreased up to 1.06% in the year of 2005-06. During the year of 2008-09, it decreased up to 1.42%. It got fluctuated the ratios have been 1.23, 1.39, 1.16, 0.83, 0.64 and 0.69 percent during the year of 2006-08 and 2009-13 respectively. It has been also shown in the Graph No-7.3.8.1.

So, The Average Depreciation to Net Sales Ratio is 1.06 %, The Standard Deviation is 0.27 and The Co-efficient variance is 25.75% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

4. **LML**

Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 38.87 % in the year 2006-07 and the lowest ratio was 4.58 % in the year 2011-12.

In the year 2003-04 the ratio was 6.79% which has been increased 8.68% in the year 2004-05, further it has been increased up to 12.20% in the year of 2005-06. During the year of 2006-07, it increased up to 38.87%. It got fluctuated and the ratios have been 19.11, 11.23, 6.80, 6.80, 4.58 and 5.34 percent during the year of 2007-12 respectively. It has been also shown in the Graph No-7.3.8.1.

So, The Average Depreciation to Net Sales Ratio is 12.04%, The Standard Deviation is 10.35 and The Co-efficient variance is 85.99% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.**

Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 3.78 % in the year 2003-04 and the lowest ratio was 0.75 % in the year 2010-11, 2011-12.

In the year 2003-04 the ratio was 3.78% which has been decreased 3.23 % in the year 2004-05, further it has been decreased up to 2.56, 2.05 and 2.01 percent in the year of 2005-08 respectively. During the year of 2010-12 respectively, it decreased up to 0.75%. It got fluctuated the ratios have been 2.01, 1.54, 1.19 and 0.82 during the year of 2006-10 and 2012-13 respectively. It has been also shown in the Graph No-7.3.8.1.
So, the Average Depreciation to Net Sales Ratio is 1.87%, The Standard Deviation is 1.07 and The Co-efficient variance is 57.14% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**

Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 5.3% in the year 2003-04 and the lowest ratio was 2.56% in the year 2010-11.

In the year 2003-04 the ratio was 5.30% which has been decreased 4.58% in the year 2004-05, further it has been decreased up to 3.95, 3.49 and 3.00 percent during the year of 2005-08 respectively. In the year of 2010-11, it decreased up to 2.56%. It got fluctuated the ratios have been 3.27, 2.86, 4.41 and 3.04 percent during the year of 2008-10 and 2011-13 respectively. It has been also shown in the Graph No-7.3.8.1.

So, The Average Depreciation to Net Sales Ratio 3.64%, The Standard Deviation is 0.88 and The Co-efficient variance is 24.23% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**

Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 5.44% in the year 2003-04 and the lowest ratio was 1.86% in the year 2006-07.

In the year 2003-04 the ratio was 5.44% which has been decreased 4.20% in the year 2004-05, further it has been decreased up to 2.39% in the year of 2005-06. During the year of 2006-07, it increased up to 1.86%. It got fluctuated the ratios have been 3.17, 3.47, 2.84, 2.78, 3.22 and 4.27 percent during the year of 2007-2013 respectively. It has been also shown in the Graph No-7.3.8.1.

So, The Average Depreciation to Net Sales Ratio 3.36%, The Standard Deviation is 1.04 and The Co-efficient variance is 30.92% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.
8. Mahindra and Mahindra Limited:

Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 3.2% in the year 2003-04 and the lowest ratio was 2.29% in the year 2006-07.

In the year 2003-04 the ratio was 3.20% which has been decreased 2.70% in the year 2004-05, further it has been decreased up to 2.46% in the year of 2005-06. During the year of 2006-07, it increased up to 2.29%. It got fluctuated the ratios have been 2.60, 3.03, 2.99, 2.64, 3.03 and 3.03 during the year of 2007-13 respectively. It has been also shown in the Graph No-7.3.8.1.

So, The Average Depreciation to Net Sales Ratio 2.80%, The Standard Deviation is 0.3 and The Co-efficient variance is 10.72% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

9. Ashok Leyland:

Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 2.93% in the year 2008-09 and the lowest ratio was 2.06% in the year 2006-07.

In the year 2003-04 the ratio was 2.80% which has been decreased 2.57% in the year 2004-05, further it has been decreased up to 2.36% in the year of 2005-06. During the year of 2006-07, it decreased up to 2.06%. It got fluctuated the ratios were 2.24, 2.93, 2.76, 2.34, 2.64 and 2.90 percent during the year of 2007-13 respectively. It has been also shown in the Graph No-7.3.8.1.

So, The Average Depreciation to Net Sales Ratio 2.56 %, The Standard Deviation is 0.3 and The Co-efficient variance is 11.63% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.
10. **Tata Motors Limited:**

Table No-7.3.8.1 shows that the Depreciation to Net Sales Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 4.06% in the year 2012-13 and the lowest ratio was 2.16% in the year 2006-07.

In the year 2003-04 the ratio was 2.97% which has been decreased 2.63% in the year 2004-05, further it has been decreased up to 2.57% in the year of 2005-06. During the year of 2012-13, it decreased up to 4.06%. It got fluctuated the ratios were 2.16, 2.29, 3.48, 2.95, 2.89, and 2.96 during the year of 2006-12 respectively. It has been also shown in the Graph No-7.3.8.1.

So, The Average Depreciation to Net Sales Ratio 2.89%, The Standard Deviation is 0.56 and The Co-efficient variance is 19.27% which shows solvency of this company because the average Depreciation to Sales Ratio shows satisfactory Ratio of during the study period.

> **ANOVA TEST OF DEPRECIATION TO NET SALES RATIO:**

**Hypothesis:**

- **Ho: Null Hypothesis:**
  
  There is no significant difference in Depreciation to Net Sales Ratio of automobile industry under study.

- **H1: Alternative Hypothesis:**

  There is significant difference in Depreciation to Net Sales Ratio of automobile industry under study.

- **Level of Significance: 5%**
### TABLE NO-7.3.8.2
DEPRECIATION TO NET SALES RATIO
ONE WAY ANOVA TEST

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Square</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-value</th>
<th>F-critical</th>
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<tbody>
<tr>
<td>Between Groups</td>
<td>75.90281</td>
<td>9</td>
<td>8.433645</td>
<td>0.42024</td>
<td>0.92119</td>
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<td>Within Groups</td>
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<td>20.06865</td>
<td></td>
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</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.42
  
  \[ F_{cal} < F_{tab} \]
  
  \[ 0.42 < 1.98 \]
  
  \[ F_{cal} < F_{tab} \]

Table No-7.3.8.2 indicates the calculate value of ‘F’ is 0.42024 and the table value of ‘F’ at 5% levels of significance is 1.98. So, the calculate value ‘F’ which is less than the table value. It indicates that the Null Hypothesis is accepted and Alternate Hypothesis is rejected. So, it indicates that there is no significant difference in Depreciation to Net Sales Ratio of selected automobile industry under study for the period.
7.4 CONCLUSION:

Chapter titled Analysis and Evaluation of Activity describes the conceptual framework of Activity and operational efficiency analysis is concerned with measuring the efficiency in assets management. So, these analyses are also called analysis of assets utilization. The efficiency with which the assets are used would be reflected in the speed and rapidity with which assets are converted into sales. The greater rate of turnover, the more efficient the utilization, other things being equal. For this reason, such ratios are called turnover ratio. Turnover is the primary mode for measuring the extent of efficient employment of assets by relating the assets to sales.

Depending upon the various types of assets, there are various types of activity ratios, which are total assets turnover ratio, net fixed assets turnover ratio, current assets turnover ratio and capital turnover ratio. All these ratios are used for measuring the performance of activity and operational efficiency of automobile companies under study during the years 2003-04 to 2012-13.
7.5 REFERENCES: