CHAPTER-5
ANALYSIS AND EVALUATION OF WORKING CAPITAL

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5.1 **INTRODUCTION:**

Any person cannot ignore the necessity of funds in a business unit either a retail shop or a large manufacturing unit. Money is the only common factor in all units. Thus money management is must that is commonly known as financial management. Proper management of invested funds in a business results in effective financial management. Each and every business unit needs funds.

The uses of funds of a concern can be divided into two parts namely long-term funds and short-term funds. The long-term investment may be termed as ‘fixed investment.’ A major part of the long-term funds is invested in the fixed assets. These fixed assets are retained in the business to earn profits during the life of the fixed assets. To run the business operations short-term assets are also required.

The concept of liquidity within a business is important to understand the financial management, as it is the basic criteria to test the short-term liquidity position of the enterprise. Liquidity may be defined as the ability to realize value in money the real liquid asset. It has two dimensions (a) The time required to convert the assets money and (b) The certainty of the realizable price. Generally, liquidity means conversion of assets in to cash during normal courses of business and to have regular uninterrupted flow of cash to meet outside current liability as and when due and payable and also the ensure money for day to day business operations.

Hence the flow of current should circulate with such a rapid speed that they are converted in to cash within a year so that timely payment may be made to outsiders for interest dividend etc. if a major part of current assets are blocked in inventories and credit sales, not only ready cash will be available to pay current dept but there is a risk shrinkage in the total current assets available because of possible fall in the value of inventories or possible losses an account of bad depts.
The quality of current assets is therefore very important for analyzing liquidity. To know the liquidity position working capital analysis must be done.

5.2 CONCEPT OF WORKING CAPITAL MANAGEMENT:

There are two concepts of working capital quantitative and qualitative. Some people also define the two concepts as gross concept and net concept. According to quantitative concept, the amount of working capital refers to ‘Total of current assets’. Current assets are considered to be gross working capital in this concept.

The qualitative concept gives an idea regarding source of financing capital. According to qualitative concept the amount of working capital refers to “Excess of current assets over current liabilities.”

The excess of current assets over current liabilities is termed as ‘Net working capital’. In this concept “Net working capital” represents the amount of current assets which would remain if all current liabilities were paid. Both the concepts of working capital have their own points of importance. ‘If the objectives is to measure the size and extent to which current assets are being used, ‘Gross concept’ is useful; whereas in evaluating the liquidity position of an undertaking ‘Net concept’ becomes pertinent and preferable.

It is necessary to understand the meaning of current assets and current liabilities for learning the meaning of working capital, which is explained below.

➢ CURRENT ASSETS :-

It is rightly observed that “Current assets have a short life span. These types of assets are engaged in current operation of a business and normally used for short term operations of the firm during an accounting period.

➢ CURRENT LIABILITIES :-

The firm creates a Current Liability towards Creditors’ (sellers) from whom it has purchased raw materials on credit. This liability is also known as accounts payable and shown in the balance sheet till the payment has been made to the Creditors’. The claims or obligations which are normally expected to mature for payment within an accounting cycle are known as current liabilities.
CIRCULATING CAPITAL :-

Working capital is also known as ‘circulating capital or current capital.’ “The use of the term circulating capital instead of working capital indicates that its flow is circular in nature.”

WORKING CAPITAL MEANING :-

Working capital, like many other financial and accounting terms have been used by different people in different senses. One school of thought believes as all capital resources available to a business organization from shareholders, bondholders and Creditors” “Works” up in the business activities to generate revenues and facilitate future expansion and growth, they are to be considered as ‘Working capital’. According to them, the excess of current assets over current liabilities is to be rightly considered as the ‘working capital’ of a business organization.

Working Capital consists of that portion of the assets of a business, which are used, in current operations. It includes receivables, inventories or raw materials, stores, work-in-progress and finished goods, merchandise, bill receivable and cash.

These types of assets are normally temporary in nature. In accounting concept of working capital it is the difference between inflow and outflow of funds. In other words, working capital is the excess of current assets over current liabilities.

Working capital is defined as the excess of current assets over current liabilities; Current assets are those assets which will be converted in to cash within the current accounting period or within the next year as a result of the ordinary operations of the business. They are cash or near cash resources. These include.

- Cash and Bank balances
- Receivables
- Inventory
  - Raw materials, Stores and spares
  - Work in progress
  - Finish Goods
- prepaid expenses
- Short-term advances
- Temporary investments
The value represented by these assets circulates among several items. Cash is used to buy raw-materials, to pay wages and to meet other manufacturing expenses. Finished goods are produced. These are held as inventories. When these are sold, accounts receivables are created. The collections of accounts receivable brings cash into the firm. This is shown in.

Current liabilities are the debt of the firms that have to be paid during the current accounting period or within a year. These include:

- Creditors’ for goods purchased.
- Outstanding expense i.e. expenses due but not paid.
- Short-term borrowing.
- Advances received against sales.
- Taxes and dividends payable.
- Other liabilities maturing within a year.

Working capital is also known as circulating capital, fluctuating capital and resolving capital. The magnitude and composition keep on changing continuously in the course of business.

5.3 **SIGNIFICANCE OF WORKING CAPITAL:**

Analysis of working capital performance has importance, both of way internal and external because it has close relationship with the current or day-to-day operation of business organization “Management to pay particular attention to the planning & control of working capital.” R.D.Kennedy and S.Y.Mcmuller stated, “In –adequacy as mismanagement of working capital is the leading cause of business failures.” Working capital is the alternative measure of the changes in the financial position. Which is concerned with “the safeguarding and controlling of the firms current assets and the planning for sufficient funds to current bills?”

According to Guthaman, “Blood is very necessary in the human body to maintain life, working capital is very necessary to maintain the business. Therefore, working capital is the life blood and controlling nerve center of the business.” An enterprise cannot be run without appropriate working capital. Not only working capital is enough,
but also there should be a proper management of working capital because it is very important for the success of an enterprise and for maximizing the value. Working capital is essential element for business organization but the quantum of its requirement is different from enterprise to enterprise.

“The goal of working capital is to manage each of the firm’s current assets and current liabilities in such a way that an acceptable level of net working capital is maintained.” It is concerned with the choice of the financing mix for raising the current resources In the business there is operating cycle, which converts cash into raw materials, raw material in to goods in process, further goods. Finished goods, debtors, credit sales and debtors in to cash the cycle of above operations shown in Chart No.-5.1.

**CHART NO. - 5.1. CONVERSION OF OPERATING CYCLE**
Chapter-5

Analysis and Evaluation of Working Capital

Above diagram shows a business organization requires working capital due to its production, sales, cash payments, according Walker and Banghan “The smoother and more rapid the flow of funds, the more efficient is each dollar of working capital. In other words when the flow of working capital is smooth and rapid the amount of working capital required to produce a given output is less than when interruptions occur which cause the flow to slow down” In a dynamic economy the perfect synchronization with zero working capital is impossible and there for management should attempts to maintain an adequate level of working capital at all times.

Brown and Howard described that “Though the current liabilities are paid from cash generated by the current assets as a whole the working capital should be sufficient in relation to the current Assets provide against danger from shrinkage in the value of current assets particularly inventories.” proper management of working capital must ensure the adequate amount of working capital as per needs of business organization. It should be in good health and circulated efficiency.

Thus, policies regarding working capital have a great influence on an enterprise’s profitability, liquidity and structural construction because of management of working capital is to ensure its optimum utilization for overall profitability of an enterprise. According to Professor N.M Knandewal “working capital has also a technical role to play in the maximization of the rate of return.

The units must keep pace with the scientific and technological taking place in the field to which it pertains.” Therefore a financial manager should aware about appropriate management of working capital policies by the each of the components of working capital so as to ensure about adequate profitability and proper liquidity structure.

5.4 OBJECTIVES OF WORKING CAPITAL:

Working capital is the heart of business. If it becomes week the business is unlikely to proper and survive later it will topple down. It is an index of the solvency of a concern. Its proper calculation provides to the business. The right amount at cash to maintained, the business can avail of the cash discount facilities offered to it by supplies,
moreover. It also enhances so that the business can see itself go through periods of crisis, the morale of the business is high and efficiency is also at its highest pitch.

The need of working capital cannot be ignored as well as over emphasized. Working capital is a need of every business unit. The need of working capital comes into existence due to the time gap between production and realization of cash from sales and it is known as operating cycle. There are time gap between purchase of inventory items and production, production and sales and sales it’s conversion into cash. Thus, working capital is needed to fulfill the following objects:

- For the purchase of inventories, components and spares.
- To overcome day-to-day expenses and overheads cost such as fuel, power or electricity, office expenses.
- To pay wages and salaries to the employees.
- To provide the credit facilities to the customers.
- To meet the selling expenses i.e. packing, advertising, etc.
- For maintaining sufficient stock of raw material, work-in-process, stores and spares and finished goods.
- By optimizing the investment in current assets and by reducing the level of current liabilities, the company can reduce the looking up of funds in working capital thereby.
- It can improve the return on capital employed in the business.
- The second important objective of working capital is that the Company should always be in a position to meet its current obligations which should properly be supported by the current assets available with the firm. But maintaining excess funds in working capital means looking of funds without return.
- The firm should manage its current assets in such a ways that the marginal return on investment in these assets is not less than the cost of capital employed to finance the current assets.

These are the objects, which can be fulfilled by ready cash i.e. working capital. The amount of working capital defers with change in circumstances in the same enterprise as well as it defers from firm to firm. For determining the amount of working
capital in a business, one has to study the business under varying circumstances such as a newly started business a growing business and a matured business.

5.5 **STRUCTURE OF WORKING CAPITAL:**

The study of structure of working capital is another name for the study of working capital cycle. In other words, it can be said that the study of structure of working capital is the study of the elements of current assets viz. inventory, receivable, cash and bank balances and other liquid resources like short-term or temporary investments. Current liabilities usually comprise bank borrowings, trade credits, assessed tax and unpaid dividends or any other such things.

The study of structure of working capital management is another name for the study of working capital cycle. In other words, we can say that the study of structure of working capital is the study of the element of current assets and current liabilities. Current assets consist of inventory, bills receivable, cash is hand, stores, bank balance and others liquid resources like short term or temporary investment. Current liabilities consist of bills payable, Creditors’, unpaid dividend, unpaid taxes and other such things which are payable within a year. This study of working capital is another name for study of elements of current assets over current liabilities.

5.5.1 **CURRENT ASSETS:**

- **INVENTORY:**

Inventory is major item of current assets. The management of inventories—raw material, goods-in-process and finished goods is an important factor in the short-run liquidity positions and long-term profitability of the company. Inventory and its importance in meeting customer's needs its management becomes important. Maintaining inventories also requires investment of capital. In general manufacturing concern has mainly three kinds of inventories:

- **RAW MATERIAL INVENTORIES**

Uncertainties about the future demand for finished goods, together with the cost of adjusting production to change in demand will cause a financial manager to desire some level of raw material inventory. In the absence of such inventory, the company
could respond to increased demand for finished goods only by incurring explicit clerical and other transactions costs of ordinary raw material for processing into finished goods to meet that demand. If changes in demand are frequent, these order costs may become relatively large.

➢ **WORK-IN-PROCESS INVENTORY :-**

This inventory is built up due to production cycle. Production cycle is the time-span between introduction of raw material into production and emergence of finished product at the completion of production cycle. Till the production cycle is completed, the stock of work-in-process has to be maintained.

➢ **SUPPLIES :-**

Stores and spares and other goods, which are consumed in the creation and distribution of goods and services.

➢ **FINISHED GOODS INVENTORY :-**

Finished goods are required for reasons similar to those causing the company to hold raw materials inventories. Customer’s demand for finished goods is uncertain and variable. If a company carries no finished goods inventory, unanticipated increases in customer demand would require sudden increases in the rate of production to meet the demand. Such rapid increase in the rate of production may be very expensive to accomplish. Rather than loss of sales, because the additional finished goods are not immediately available or sustain high costs of rapid additional production, it may be cheaper to hold a finished goods inventory.

❖ **CASH :-**

Cash is one of the most important tools of day-to-day operations, because it is a form of liquid capital, which is available for assignment to any case. It is often the primary factor, which decides the course of business destiny, the decision to expand a business may be determined by the availability of cash and the borrowings of funds will frequently be dictated by cash position.

❖ **RECEIVABLES :-**

The present popular practice of acquiring commodities and services in exchange for a promise of future payment rather than exchange of goods desired in ancient time. The best form of debt is 'book debt'. It is in fact an inter-firm debt. From the
seller point, it is trade debtors’ an asset and from the purchaser point of view, it is trade creditor as a liability.

❖ MARKETABLE SECURITIES :-

In modern time, it has become a practice with business enterprise to avoid too much extra cash by investing a portion of their earnings in assets, which are susceptible to easy conversion into cash. Such assets may be in form of cash, Govt. Securities, debentures, bonds or shares known as readily marketable securities. Corporate shares also come in this category.

5.5.2 CURRENT LIABILITIES :-

It is another main aspect of working capital:

❖ CURRENT TRADE CREDITORS’ :-

These debts are payable in cash within a short period of a year or less. Until this liability falls due for payment it serves as a short-term source of finance.

❖ CURRENT PROVISIONS :-

These are arising in normal course of business operation such as for taxation, dividends, interest etc. and mature for payment within a short period.

5.6 IMPORTANCE OF WORKING CAPITAL MANAGEMENT:

The aim of working capital management is to manage a firm's current assets e.g. debtors’, receivables, cash in hand, cash at bank, stock etc. and firm's current liabilities viz. Creditors’, bills payable etc. in best possible manner. If it does not maintain it in good manner, it is likely to become insolvent and may also become bankrupt. The current assets should be large enough to cover current liabilities in order to ensure a reasonable margin of safety.

Each of the current assets must be managed efficiently in order to maintain the liquidity of a concern while not keeping too high level of any one of them so that the cost increases. Each of short- term sources of finance must be continuously manageable to ensure that they are obtained and used in the best possible way. Proper management of working capital is very important for the success of a concern. "It aims at protecting the purchasing power of assets and maximizing the return on investment."
The manner of management of current assets to a very large extent determines die success of a concern. Constant management is required to maintain appropriate levels in the various working capital accounts. Cash and financial budget aid to establishing proper proportion, sales expansion, dividend declaration, plant expansion, and new product lines increased salaries and wages, rising price level etc. add strain on working capital maintenance.

“There are many aspects of working capital management which make it an important function of the financial manager”. It has been found that the largest portion of financial manager's time is utilized in the management of working capital.

It is particularly very important for small firms to manage their current assets and current liabilities very carefully. A fully equipped individual enterprise without adequate supply of materials to process or without cash to pay for workers' wages and other current expenses or a store without merchandise to sell is virtually useless. Consequently, the working capital position of any enterprise may readily become the controlling factor in determining the scope and character of its operation.

It plays technical role in maximization of the rate of return. An industrial concern can maximize its rate of return on the capital invested provided it keeps pace with the scientific and technological developments taking place in the field in which a concern operates. It is merely common abuse that as soon as some technological and scientific development takes place, an industrial concern in order to accelerate its profitability should immediately introduce the same in its productive processes.

There should be a proper planning of liquidity. If there is no proper planning of liquidity a time may come when a business may tend to drift towards liquidation. The quantum of working capital funds reflects the solvency of the business but there is no single barometer to judge the efficiency of running a business.

The adequacy or inadequacy of working capital in a business is to be judged from the nature of business, its operating cycle, the working capital turnover, the size of business and other factors. These factors influence the working capital needs of the business. The ratios may not be a guiding factor for all times to come in the life of a business. Management's attitude towards liquidity versus profitability is a vital contributing factor in assessing working capital requirements.
In a good management of working capital it is already decided that the funds are available for making payment for forthcoming obligation. When an enterprise makes payment of each obligation in time, its goodwill automatically increases. The efficiency increases by the good management of working capital. The following points throw ample light on the importance of working capital management.

- Risk Minimization
- Increase in good-will
- Increase in efficiency
- Increase in profitability
- More productivity of fixed assets

5.7 **ANALYSIS OF WORKING CAPITAL POSITION THROUGH RATIOS:**

With a view to appraising the performance in utilization of working capital by the Automobile industry and the individual companies under study, the analysis of working capital has been made from the point of view of:

- Short term creditors
- Efficiency in the use of working capital
- Investment in working capital
- The collection policy of debts

Short term creditors are primarily concerned with the analysis of short term financial position or test of liquidity, Which is valuable to management in checking the efficiency with which working capital is being employed in the business. The following ratios have been calculated to evaluate the performance of working capital:

- Current Ratio
- Quick Ratio
- Inventory To Working Capital Ratio
- Inventory Turnover Ratio
- Debtors Turnover
- Average Collection Period
- Working Capital Turnover
5.7.1 CURRENT RATIO:

- **Meaning:**
  This Ratio establishes a relationship between current assets and current liabilities.

- **Objective:**
  The objective of computing this ratio is to measure the safety margin available for short-term creditors.

- **Components:**
  1. Current Assets: it refers to those assets which are held for their conversion into cash normally within a year.
  2. Current Liabilities: it refers to those liabilities which are expected to be matured normally within a year.

- **Computation and interpretations:**
  This ratio is computed by dividing the current assets and current liabilities. This ratio is usually express as a pure ratio e.g. 2:1. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
  \]

  This ratio indicates rupees of current assets available for each rupee of current liability. Higher the ratio is greater the margin of safety for short-term creditors. Too high and too low ratio calls for further investigation since the too high ratio may indicate the presence of idea funds with the firm or the absence of investment opportunities with the firm and too low ratio may indicate the over treading or under capitalization if the capital turnover ratio is high. a current ratio of 2:1 is considered to be a satisfactory ratio. On the basis of this rule, if the current ratio is 2 or more, its means the firm is adequately liquid and has the ability to meet its current obligations but if the current ratio is less than 2, it means the firms has difficulty in meeting its current obligations.

  The Current Ratio of selected companies of Automobile Industry in India is given in the Table No-5.7.1.1 as follows:
The above mentioned Table No- 5.7.1.1 and Graph No- 5.7.1.1 the indicated a fluctuating trends of the Current Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd:**

   Table No-5.7.1.1 shows that the Current Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 0.98 times in the year of 2012-13 and lowest ratio was 0.26 times in the year of 2010-11.

   In the year 2003-04 the ratio was 0.51 times which has been increased 0.55 times in 2004-05, further it has been decreased up to 0.26 times in the year of 2010-11. During the year of 2012-13, it increased up to 0.98 times. It got fluctuated the ratios have been 0.77, 0.88, 0.71, 0.66, 0.76 and 0.60 times during the year of 2005-2010 and 2011-12 respectively. It has been also shown in the Graph No-5.7.1.1.

   So, The Average Current Ratio is 0.67 times, The Standard Deviation is 0.20 and The Co-efficient variance is 30.45% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No-5.7.1.1 shows that the Current Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 1.62 times in the year 2008-09 and the lowest ratio was 1.04 times in the year 2003-04.

   In the year 2003-04 the ratio was 1.04 times which has been increased 1.13 times in 2004-05, further it has been increased up to 1.25 and 1.43 times in the year of 2005-06 and 2006-07 respectively. During the year of 2008-09, it increased up to 1.62 times. It got fluctuated the ratios have been 1.53, 1.45, 1.22, 1.15 and 1.07 times during the year of 2007-08 and 2009-13 respectively. It has been also shown in the Graph No-5.7.1.1.

   So, The Average Current Ratio is 1.29 times, The Standard Deviation is 0.20 and The Co-efficient variance is 15.79% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No-5.7.1.1 shows that the Current Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.76 times in the year 2006-07 and the lowest ratio was 1.27 times in the year 2011-12.

   In the year 2003-04 the ratio was 2.62 times which has been decreased 2.42 times in 2004-05, further it has been increased up to 2.66 and 2.76 times in the year of 2005-06 and 2006-07 respectively. During the year of 2011-12, it decreased up to 1.27 times. It
got fluctuated the ratios have been 2.56, 1.89, 1.54, 1.41 and 2.08 times during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.1.1.

So, The Average Current Ratio is 2.12 times, The Standard Deviation is 0.56 and The Co-efficient variance is 26.52% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

4. **LML :**

Table No-5.7.1.1 shows that the Current Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 0.88 times in the year 2003-04 and the lowest ratio was 0.27 times in the year 2012-13.

In the year 2003-04 the ratio was 0.88 times which has been decreased 0.72 times in the year 2004-05, further it has been decreased up to 0.54 and 0.49 times in the year of 2009-10 respectively. During the year of 2012-13, it decreased up to 0.27 times. It got fluctuated and the ratios have been 0.45, 0.45, 0.45, 0.45 and 0.31 times during the year of 2007-12 respectively. It has been also shown in the Graph No-5.7.1.1.

So, The Average Current Ratio is 0.50 times, The Standard Deviation is 0.18 and The Co-efficient variance is 36.29% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd. :**

Table No-5.7.1.1 shows that the Current Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 3.30 times in the year 2004-05 and the lowest ratio was 0.78 times in the year 2009-10.

In the year 2003-04 the ratio was 3.05 times which has been increased 3.30 times in the year 2004-05, further it has been decreased up to 2.32 and 2.55 times in the year of 2005-07 respectively. During the year of 2009-10 it decreased up to 0.78 times. It got fluctuated the ratios have been 1.58, 1.92, 1.05, 1.61 and 1.39 times during the year of 2007-09 and 2010-13 respectively. It has been also shown in the Graph No-5.7.1.1.

So, The Average Current Ratio 1.96 times, The Standard Deviation is 0.84 and The Co-efficient variance is 42.71% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.
6. **Hindustan Motors Ltd.:**

Table No-5.7.1.1 shows that the Current Ratio of the Hindustan Motors Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1.33 times in the year 2003-04 and the lowest ratio was 0.72 times in the year 2012-13.

In the year 2003-04 the ratio was 1.33 times which has been decreased 1.12 times in the year 2004-05, further it has been decreased up to 0.94 times during the year of 2005-06. In the year of 2012-13, it decreased up to 0.72 times. It got fluctuated the ratios have been 1.20, 1.10, 0.92, 0.78, 0.80 and 0.81 times during the year of 2006-12 respectively. It has been also shown in the Graph No-5.7.1.1.

So, The Average Current Ratio 0.97 times, The Standard Deviation is 0.21 and The Co-efficient variance is 21.25% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited:**

Table No-5.7.1.1 shows that the Current Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.48 times in the year 2005-06 and the lowest ratio was 1.07 times in the year 2012-13.

In the year 2003-04 the ratio was 1.67 times which has been increased 2.44 times in the year 2004-05. Further it has been decreased up to 1.07 times during the year of 2012-13. During the year of 2005-06, it increased up to 2.48 times. It got fluctuated the ratios have been 2.19, 1.26, 1.82, 1.28, 1.62 and 1.32 times during the year of 2006-2012 respectively. It has been also shown in the Graph No-5.7.1.1.

So, The Average Current Ratio 1.72 times, The Standard Deviation is 0.51 and The Co-efficient variance is 29.63% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited:**

Table No-5.7.1.1 shows that the Current Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 3.47 times in the year 2005-06 and the lowest ratio was 2.00 times in the year 2010-11.

In the year 2003-04 the ratio was 2.86 times which has been increased 3.26 times in the year 2004-05, further it has been decreased up to 2.00 times during the year of 2010-11. During the year of 2005-07, it increased up to 3.47 and 3.27 times. It got
fluctuated the ratios have been 3.17, 2.72, 3.16, 2.10 and 2.12 times during the year of 2007-11 and 2011-13 respectively. It has been also shown in the Graph No-5.7.1.1.

So, The Average Current Ratio 2.81 times, The Standard Deviation is 0.55 and The Co-efficient variance is 19.69% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland** :

Table No-5.7.1.1 shows that the Current Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 2.24 times in the year 2004-05 and the lowest ratio was 1.19 times in the year 2011-12.

In the year 2003-04 the ratio was 2.13 times which has been increased 2.24 times in the year 2004-05, further it has been decreased up to 1.95 and 1.63 times in the year of 2005-07 respectively. During the year of 2011-12, it decreased up to 1.19 times. It got fluctuated the ratios were 1.49, 1.69, 1.60, 1.28 and 1.28 times during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.1.1.

So, The Average Current Ratio 1.65 times, The Standard Deviation is 0.36 and The Co-efficient variance is 22.13% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited** :

Table No-5.7.1.1 shows that the Current Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 1.66 times in the year 2005-06 and the lowest ratio was 0.77 times in the year 2012-13.

In the year 2003-04 the ratio was 0.87 times which has been increased 1.31 times in the year 2004-05, further it has been increased up to 1.66 and 1.65 times in the year of 2005-07 respectively. During the year of 2012-13, it decreased up to 0.77 times. It got fluctuated the ratios were 1.20, 1.09, 0.79, 1.02 and 0.98 times during the year of 2007-12 respectively. It has been also shown in the Graph No-5.7.1.1.

So, the Average Current Ratio 1.13 times, The Standard Deviation is 0.32 and The Co-efficient variance is 28.38% which shows solvency of this company because the average Current Ratio shows satisfactory Ratio of during the study period.
ANOVA TEST OF CURRENT RATIO

Hypothesis:

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

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

- **Level of Significance: 5%**

<table>
<thead>
<tr>
<th>TABLE NO-5.7.1.2</th>
<th>CURRENT RATIO</th>
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</thead>
<tbody>
<tr>
<td><strong>ONE WAY ANOVA TEST</strong></td>
<td><strong>TABLE NO-5.7.1.2</strong></td>
</tr>
</tbody>
</table>

<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>7.920113</td>
<td>9</td>
<td>0.880013</td>
<td>1.434508</td>
<td>0.185359</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>55.21137</td>
<td>90</td>
<td>0.61346</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>63.13148</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’ = 1.43
  
  \[ F_{cal} < F_{lab} \]
  
  \[ 1.43 < 1.98 \]
  
  \[ F_{cal} < F_{lab} \]

Table No-5.7.1.2 indicates the calculate value of ‘F’ is 1.434508 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 Ratio of selected automobile industry under study for the period.
5.7.2 QUICK RATIO:

➤ **Meaning:**

This Ratio establishes a relationship between quick assets and quick liabilities.

➤ **Objective:**

The objective of computing this ratio is to measure the ability of the firm to meet its short term obligation as and when due without relying upon the realization of stock.

➤ **Components:**

1. Quick Assets: Current assets which can be converted into cash immediately or at a short notice without a loss of value.
2. Quick Liabilities: Quick liabilities refer to those liabilities which are expected to be matured normally within a year.

➤ **Computation and interpretations:**

This ratio is computed by dividing the quick assets and quick liabilities. This ratio is usually express as a pure ratio e.g. 2:1. In the form of a formula, this ratio may be express as follows:

\[
\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}
\]

This ratio indicates rupees of quick assets available for each rupee of current liability. Traditionally, a quick ratio of 1:1 is considered to be a satisfactory ratio. However, this traditional rule should not be used blindly since a firm having a quick ratio of more than 1(one), may not be meeting its short term obligations in time if its current assets consist of doubtful and slow paying debtors while a firm having quick ratio of less than 1(one), may be meeting is short term obligation in time because of its very efficiency inventory management.

The quick Ratio of selected companies of Automobile Industry in India is given in the Table No-5.7.2.1 as follows:
### TABLE NO-5.7.2.1 QUICK 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>0.32</td>
<td>0.52</td>
<td>1.92</td>
<td>0.52</td>
<td>2.75</td>
<td>0.69</td>
<td>1.30</td>
<td>2.29</td>
<td>1.40</td>
<td>0.60</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.34</td>
<td>0.62</td>
<td>1.73</td>
<td>0.37</td>
<td>3.01</td>
<td>0.74</td>
<td>1.89</td>
<td>2.64</td>
<td>1.65</td>
<td>1.01</td>
</tr>
<tr>
<td>2005-2006</td>
<td>HMC</td>
<td>0.55</td>
<td>0.57</td>
<td>1.79</td>
<td>0.21</td>
<td>2.10</td>
<td>0.53</td>
<td>1.90</td>
<td>2.88</td>
<td>1.16</td>
<td>1.31</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.61</td>
<td>0.74</td>
<td>1.48</td>
<td>0.18</td>
<td>2.34</td>
<td>0.72</td>
<td>1.84</td>
<td>2.71</td>
<td>0.99</td>
<td>1.26</td>
</tr>
<tr>
<td>2007-2008</td>
<td>HMC</td>
<td>0.47</td>
<td>0.73</td>
<td>1.25</td>
<td>0.17</td>
<td>1.25</td>
<td>0.63</td>
<td>0.84</td>
<td>2.56</td>
<td>0.86</td>
<td>0.92</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.45</td>
<td>1.04</td>
<td>1.09</td>
<td>0.20</td>
<td>1.64</td>
<td>0.46</td>
<td>1.52</td>
<td>2.24</td>
<td>0.98</td>
<td>0.83</td>
</tr>
<tr>
<td>2009-2010</td>
<td>HMC</td>
<td>0.64</td>
<td>1.01</td>
<td>0.88</td>
<td>0.17</td>
<td>0.56</td>
<td>0.44</td>
<td>0.87</td>
<td>2.61</td>
<td>0.97</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.14</td>
<td>0.64</td>
<td>0.63</td>
<td>0.17</td>
<td>0.80</td>
<td>0.37</td>
<td>1.22</td>
<td>1.45</td>
<td>0.57</td>
<td>0.66</td>
</tr>
<tr>
<td>2010-2011</td>
<td>HMC</td>
<td>0.34</td>
<td>0.51</td>
<td>0.64</td>
<td>0.10</td>
<td>1.34</td>
<td>0.43</td>
<td>0.95</td>
<td>1.54</td>
<td>0.57</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.68</td>
<td>0.58</td>
<td>1.06</td>
<td>0.09</td>
<td>1.14</td>
<td>0.24</td>
<td>0.72</td>
<td>1.56</td>
<td>0.71</td>
<td>0.36</td>
</tr>
<tr>
<td>Average</td>
<td>HMC</td>
<td>0.45</td>
<td>0.70</td>
<td>1.25</td>
<td>0.22</td>
<td>1.69</td>
<td>0.52</td>
<td>1.31</td>
<td>2.25</td>
<td>0.99</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.27</td>
<td>0.19</td>
<td>0.47</td>
<td>0.13</td>
<td>0.83</td>
<td>0.17</td>
<td>0.46</td>
<td>0.54</td>
<td>0.35</td>
<td>0.31</td>
</tr>
<tr>
<td>C.V.</td>
<td>HMC</td>
<td>37.77</td>
<td>27.21</td>
<td>37.48</td>
<td>60.10</td>
<td>48.85</td>
<td>31.52</td>
<td>35.29</td>
<td>23.93</td>
<td>35.15</td>
<td>38.38</td>
</tr>
<tr>
<td></td>
<td>TMC</td>
<td>0.14</td>
<td>0.51</td>
<td>0.63</td>
<td>0.09</td>
<td>0.56</td>
<td>0.24</td>
<td>0.72</td>
<td>1.45</td>
<td>0.57</td>
<td>0.36</td>
</tr>
<tr>
<td>Max</td>
<td>HMC</td>
<td>0.68</td>
<td>1.04</td>
<td>1.92</td>
<td>0.52</td>
<td>3.01</td>
<td>0.74</td>
<td>1.90</td>
<td>2.88</td>
<td>1.65</td>
<td>1.31</td>
</tr>
</tbody>
</table>

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

The above mentioned Table No- 5.7.2.1 and Graph No- 5.7.2.1 the indicated a fluctuating trends of the Quick Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd:**

Table No-5.7.2.1 shows that the Quick Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 0.68 times in the year of 2012-13 and lowest ratio was 0.14 times in the year of 2010-11.

In the year 2003-04 the ratio was 0.32 times which has been increased 0.34 times in 2004-05, further it has been increased up to 0.55 and 0.61 times in the year of 2005-07 respectively. During the year of 2010-11, it increased up to 0.14 times. It got fluctuated the ratios have been 0.47, 0.45, 0.64, 0.34 and 0.68 times during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio is 0.45 times, The Standard Deviation is 0.17 and The Co-efficient variance is 37.77% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

Table No-5.7.2.1 shows that the Quick Ratio of the TVS Motor Company Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 1.04 times in the year 2008-09 and the lowest ratio was 0.51 times in the year 2011-12.

In the year 2003-04 the ratio was 0.52 times which has been increased 0.62 times in 2004-05, further it has been increased up to 0.57 and 0.74 times in the year of 2005-07 respectively. During the year of 2011-12, it increased up to 0.51 times. It got fluctuated the ratios have been 0.73, 1.04, 1.01, 0.64 and 0.58 times during the year of 2007-2011 and 2012-13 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio is 0.70 times, The Standard Deviation is 0.19 and The Co-efficient variance is 27.21% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

Table No-5.7.2.1 shows that the Quick Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.92 times in the year 2003-04 and the lowest ratio was 0.63 times in the year 2010-11.

In the year 2003-04 the ratio was 1.92 times which has been decreased 1.73 times in 2004-05, further it has been increased up to 1.79 times in the year of 2005-06. During the year of 2010-11, it decreased up to 0.63 times. It got fluctuated the ratios have been
1.48, 1.25, 1.09, 0.88, 0.64 and 1.06 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio is 1.25 times, The Standard Deviation is 0.47 and The Co-efficient variance is 37.48% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

4. **LML**:

Table No-5.7.2.1 shows that the Quick Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 0.52 times in the year 2003-04 and the lowest ratio was 0.09 times in the year 2012-13.

In the year 2003-04 the ratio was 0.52 times which has been decreased 0.37 times in the year 2004-05, further it has been decreased up 0.21, 0.18 and 0.17 times in the year of 2005-08 respectively. During the year of 2012-13, it decreased up to 0.09 times. It got fluctuated and the ratios have been 0.20, 0.17, 0.17 and 0.10 times during the year of 2008-11 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio is 0.22 times, The Standard Deviation is 0.13 and The Co-efficient variance is 60.10% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.**:

Table No-5.7.2.1 shows that the Quick Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 3.01 times in the year 2004-05 and the lowest ratio was 0.56 times in the year 2009-10.

In the year 2003-04 the ratio was 2.75 times which has been increased 3.01 times in the year 2004-05, further it has been decreased up to 2.10 times in the year of 2005-06. During the year of 2009-10, it decreased up to 0.56 times. It got fluctuated the ratios have been 2.34, 1.25, 1.64, 0.80, 1.34 and 1.14 times during the year of 2006-09 and 2010-13 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio 1.69 times, The Standard Deviation is 0.83 and The Co-efficient variance is 48.85% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**:

Table No-5.7.2.1 shows that the Quick Ratio of the Hindustan Motors Limited
during the year from 2003-2004 to 2012-2013, the highest ratio was 0.74 times in the year 2004-05 and the lowest ratio was 0.24 times in the year 2012-13.

In the year 2003-04 the ratio was 0.69 times which has been increased 0.74 times in the year 2004-05, further it has been decreased up to 0.53 times during the year of 2005-06 respectively. During the year of 2012-13, it decreased up to 0.24 times. It got fluctuated the ratios have been 0.72, 0.63, 0.46, 0.44, 0.37 and 0.43 during the year of 2006-12 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio is 0.52 times, The Standard Deviation is 0.17 and The Co-efficient variance is 31.52% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited:**

Table No-5.7.2.1 shows that the Quick Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 1.90 times in the year 2005-06 and the lowest ratio was 0.72 times in the year 2012-13.

In the year 2003-04 the ratio was 1.30 times which has been increased 1.89 times in the year 2004-05, further it has been decreased up to 1.90 and 1.84 times during the year of 2005-07 respectively. During the year of 2012-13, it increased up to 0.72 times. It got fluctuated the ratios have been 0.84, 1.52, 0.87, 1.22 and 0.95 times during the year of 2007-2012 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio 1.31 times, The Standard Deviation is 0.46 and The Co-efficient variance is 35.29% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited :**

Table No-5.7.2.1 shows that the Quick Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 2.88 times in the year 2005-06 and the lowest ratio was 1.45 times in the year 2010-11.

In the year 2003-04 the ratio was 2.29 times which has been increased 2.64 times in the year 2004-05, further it has been increased up to 2.88 and 2.71 times during the year of 2005-07 respectively. During the year of 2010-11, it increased up to 1.45 times. It got fluctuated the ratios have been 2.56, 2.24, 2.61, 1.54 and 1.56 times during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.2.1.
So, The Average Quick Ratio is 2.25 times, The Standard Deviation is 0.54 and The Co-efficient variance is 23.93% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No-5.7.2.1 shows that the Quick Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 1.65 times in the year 2004-05 and the lowest ratio was 0.57 times in the year 2010-11.

In the year 2003-04 the ratio was 1.40 times which has been increased 1.65 times in the year 2004-05, further it has been decreased up to 1.16, 0.99 and 0.86 times in the year of 2005-08 respectively. During the year of 2010-11 and 2011-12, it decreased up to 0.57 and 0.57 times. It got fluctuated the ratios were 0.98, 0.97 and 0.71 times during the year of 2007-09 and 2012-13 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio is 0.99 times, The Standard Deviation is 0.35 and The Co-efficient variance is 35.15% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited**:

Table No-5.7.2.1 shows that the Quick Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 1.31 times in the year 2005-06 and the lowest ratio was 0.36 times in the year 2012-13.

In the year 2003-04 the ratio was 0.60 times which has been increased 1.01 times in the year 2004-05, further it has been increased up to 1.31 times in the year of 2005-06. During the year of 2012-13, it decreased up to 0.36 times. It got fluctuated the ratios were 1.26, 0.92, 0.83, 0.59, 0.66 and 0.58 times during the year of 2006-12 respectively. It has been also shown in the Graph No-5.7.2.1.

So, The Average Quick Ratio is 0.81 times, The Standard Deviation is 0.31 and The Co-efficient variance is 38.38% which shows solvency of this company because the average Quick Ratio shows satisfactory Ratio of during the study period.
ANOVA TEST OF QUICK RATIO

Hypothesis:

- **Ho: Null Hypothesis:**
  
  There is no significant difference in Quick Ratio of automobile industry under study.

- **H1: Alternative Hypothesis:**
  
  There is significant difference in Quick Ratio of automobile industry under study.

- **Level of Significance: 5 %**

<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>6.859109</td>
<td>9</td>
<td>0.762123</td>
<td>1.585968</td>
<td>0.131397</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>43.24873</td>
<td>90</td>
<td>0.480541</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50.10783</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’ = 1.59**

\[
F_{calc} < F_{tab} \\
1.59 < 1.98 \\
F_{calc} < F_{tab}
\]

Table No-5.7.2.2 indicates the calculate value of ‘F’ is 1.585968 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 Quick Ratio of selected automobile industry under study for the period.
5.7.3 INVENTORY TO WORKING CAPITAL RATIO:

- **Meaning:**
  
  This Ratio establishes a relationship between inventory and working capital.

- **Objective:**
  
  The objective of computing this ratio is to measure the amount of working capital invested in inventory.

- **Components:**
  
  1. Inventory: it refers to raw material, semi finished good and finished goods.

- **Computation and interpretations:**
  
  This ratio is computed by dividing the inventory and working Capital or net current Assets. This ratio is usually express as a pure ratio e.g. 3:1. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Inventory to working Capital} = \frac{\text{Inventory}}{\text{Working Capital}}
  \]

  This ratio indicates that inventory should not over the working capital. Around three quarter i.e. 0.75 times of working capital generally preferred.

  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 inventory to working capital of selected companies of Automobile Industry in India is given in the Table No-5.7.3.1 as follows:
### TABLE NO-5.7.3.1 INVENTORY TO WORKING CAPITAL RATIO

<table>
<thead>
<tr>
<th>YEAR</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>-0.38</td>
<td>14.42</td>
<td>0.44</td>
<td>-3.24</td>
<td>0.15</td>
<td>1.94</td>
<td>0.54</td>
<td>0.31</td>
<td>0.65</td>
<td>-2.16</td>
</tr>
<tr>
<td>2004-2005</td>
<td>-0.44</td>
<td>3.92</td>
<td>0.48</td>
<td>-1.26</td>
<td>0.12</td>
<td>3.25</td>
<td>0.38</td>
<td>0.27</td>
<td>0.47</td>
<td>0.96</td>
</tr>
<tr>
<td>2005-2006</td>
<td>-0.90</td>
<td>2.73</td>
<td>0.53</td>
<td>-0.73</td>
<td>0.17</td>
<td>-6.53</td>
<td>0.39</td>
<td>0.24</td>
<td>0.83</td>
<td>0.54</td>
</tr>
<tr>
<td>2006-2007</td>
<td>-2.14</td>
<td>1.62</td>
<td>0.73</td>
<td>-0.62</td>
<td>0.13</td>
<td>2.39</td>
<td>0.29</td>
<td>0.25</td>
<td>1.02</td>
<td>0.60</td>
</tr>
<tr>
<td>2007-2008</td>
<td>-0.82</td>
<td>1.51</td>
<td>0.84</td>
<td>-0.51</td>
<td>0.58</td>
<td>4.58</td>
<td>1.62</td>
<td>0.28</td>
<td>1.29</td>
<td>1.41</td>
</tr>
<tr>
<td>2008-2009</td>
<td>-0.64</td>
<td>0.94</td>
<td>0.90</td>
<td>-0.46</td>
<td>0.30</td>
<td>-5.75</td>
<td>0.36</td>
<td>0.28</td>
<td>1.03</td>
<td>2.87</td>
</tr>
<tr>
<td>2009-2010</td>
<td>-0.47</td>
<td>0.97</td>
<td>1.22</td>
<td>-0.51</td>
<td>-1.01</td>
<td>-1.50</td>
<td>1.45</td>
<td>0.26</td>
<td>1.05</td>
<td>-0.95</td>
</tr>
<tr>
<td>2010-2011</td>
<td>-0.17</td>
<td>2.60</td>
<td>1.90</td>
<td>-0.51</td>
<td>4.91</td>
<td>-2.22</td>
<td>0.65</td>
<td>0.55</td>
<td>2.57</td>
<td>18.48</td>
</tr>
<tr>
<td>2011-2012</td>
<td>-0.66</td>
<td>4.23</td>
<td>2.32</td>
<td>-0.31</td>
<td>0.44</td>
<td>-1.94</td>
<td>1.16</td>
<td>0.51</td>
<td>3.25</td>
<td>-24.82</td>
</tr>
<tr>
<td>2012-2013</td>
<td>-12.45</td>
<td>7.37</td>
<td>0.94</td>
<td>-0.25</td>
<td>0.65</td>
<td>-1.68</td>
<td>5.09</td>
<td>0.50</td>
<td>2.05</td>
<td>-1.80</td>
</tr>
<tr>
<td>Average</td>
<td>-1.91</td>
<td>4.03</td>
<td>1.03</td>
<td>-0.84</td>
<td>0.64</td>
<td>-0.74</td>
<td>1.19</td>
<td>0.34</td>
<td>1.42</td>
<td>-0.49</td>
</tr>
<tr>
<td>S.D.</td>
<td>3.74</td>
<td>4.14</td>
<td>0.62</td>
<td>0.89</td>
<td>1.57</td>
<td>3.72</td>
<td>1.45</td>
<td>0.12</td>
<td>0.90</td>
<td>10.41</td>
</tr>
<tr>
<td>C.V.</td>
<td>-196.36</td>
<td>102.63</td>
<td>60.70</td>
<td>-105.78</td>
<td>243.13</td>
<td>-500.33</td>
<td>121.43</td>
<td>35.75</td>
<td>63.61</td>
<td>-2140.24</td>
</tr>
<tr>
<td>Min</td>
<td>-12.45</td>
<td>0.94</td>
<td>0.44</td>
<td>-3.24</td>
<td>-1.01</td>
<td>-6.53</td>
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</tr>
<tr>
<td>Max</td>
<td>-0.17</td>
<td>14.42</td>
<td>2.32</td>
<td>-0.25</td>
<td>4.91</td>
<td>4.58</td>
<td>5.09</td>
<td>0.55</td>
<td>3.25</td>
<td>18.48</td>
</tr>
</tbody>
</table>

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

### GRAPH NO-5.7.3.1 INVENTORY TO WORKING CAPITAL RATIO

The above mentioned Table No- 5.7.3.1 and Graph No- 5.7.3.1 the indicated a fluctuating trends of the Inventory to Working Capital Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd:**

   Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was -0.17 times in the year of 2010-11 and lowest ratio was -12.45 times in the year of 2012-13.

   In the year 2003-04 the ratio was -0.38 times which has been decreased -0.44 times in 2004-05, further it has been decreased up to -0.90 times in the year of 2005-06. During the year of 2012-13, it decreased up to -12.45 times. It got fluctuated the ratios have been -2.14, -0.82, -0.64, -0.47,-0.17 and -0.66 times during the year of 2006-12 respectively. It has been also shown in the Graph No-5.7.3.1.

   So, The Average Inventory to Working Capital Ratio is -1.91 times, The Standard Deviation is 3.74 and The Co-efficient variance is -196.36% which shows solvency of this company because the average Inventory to Working Capital Ratio shows dissatisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 14.42 times in the year 2003-04 and the lowest ratio was 0.94 times in the year 2008-09.

   In the year 2003-04 the ratio was 14.42 times which has been decreased 3.92 times in 2004-05, further it has been decreased up to 2.73, 1.62 and 1.51 times in the year of 2005-08 respectively. During the year of 2008-09, it decreased up to 0.94 times. It got fluctuated the ratios have been 0.97, 2.60, 4.23 and 7.37 times during the year of 2009-13 respectively. It has been also shown in the Graph No-5.7.3.1.

   So, The Average Inventory to Working Capital Ratio is 4.03 times, The Standard Deviation is 4.14 and The Co-efficient variance is 102.63% which shows solvency of this company because the average Inventory to Working Capital Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio
was 2.32 times in the year 2011-12 and the lowest ratio was 0.44 times in the year 2003-04.

In the year 2003-04 the ratio was 0.44 times which has been increased 0.48 times in 2004-05, further it has been increased up to 0.53, 0.73, and 0.84 times in the year of 2005-08 respectively. During the year of 2011-12, it increased up to 2.32 times. It got fluctuated the ratios have been 0.90, 1.22, 1.90 and 0.94 times during the year of 2008-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.3.1.

So, The Average Inventory to Working Capital Ratio is 1.03 times, The Standard Deviation is 0.62 and The Co-efficient variance is 60.70% which shows solvency of this company because the average Inventory to Working Capital Ratio shows satisfactory Ratio of during the study period.

4. **LML:**

Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was -0.25 times in the year 2012-13 and the lowest ratio was -3.24 times in the year 2003-04.

In the year 2003-04 the ratio was -3.24 times which has been increased -1.26 times in the year 2004-05, further it has been increased up to -0.73 and -0.62 times in the year of 2005-07 respectively. During the year of 2012-13, it increased up to -0.25 times It got fluctuated and the ratios have been -0.51, -0.46, -0.51, -0.51, and -0.31 times during the year of 2007-12 respectively. It has been also shown in the Graph No-5.7.3.1.

So, The Average Inventory to Working Capital Ratio is -0.84 times, The Standard Deviation is 0.89 and The Co-efficient variance is -105.78% which shows solvency of this company because the average Inventory to Working Capital Ratio shows dissatisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd. :**

Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 4.91 times in the year 2010-11 and the lowest ratio was -1.01 times in the year 2009-10.
In the year 2003-04 the ratio was 0.15 times which has been decreased 0.12 times in the year 2004-05, further it has been increased up to 0.17 times in the year of 2005-06. During the year of 2010-11 it increased up to 4.91 times. It got fluctuated the ratios have been 0.13, 0.58, 0.30, -1.01, 0.44 and 0.65 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.3.1.

So, The Average Inventory to Working Capital Ratio is 0.64 times, The Standard Deviation is 1.57 and The Co-efficient variance is 243.13% which shows solvency of this company because the average Inventory to Working Capital Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**

Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 4.58 times in the year 2007-08 and the lowest ratio was -6.53 times in the year 2005-06.

In the year 2003-04 the ratio was 1.94 times which has been increased 3.25 times in the year 2004-05, further it has been decreased up to -6.53 times during the year of 2005-06. During the year of 2007-08, it increased up to 4.58 times. It got fluctuated the ratios have been 2.39, -5.75, -1.50, -2.22, -1.94 and -1.68 times during the year of 2006-07 and 2008-13 respectively. It has been also shown in the Graph No-5.7.3.1.

So, The Average Inventory to Working Capital Ratio is -0.74 times, The Standard Deviation is 3.72 and The Co-efficient variance is -500.33% which shows solvency of this company because the average Inventory to Working Capital Ratio shows dissatisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**

Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Maruti Suzuki India Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 5.09 times in the year 2012-13 and the lowest ratio was 0.29 times in the year 2006-07.

In the year 2003-04 the ratio was 0.54 times which has been decreased 0.38 times in the year 2004-05, further it has been decreased up to 0.39 and 0.29 times in the year of
2005-07 respectively. During the year of 2012-13, it increased up to 5.09 times. It got fluctuated the ratios have been 1.62, 0.36, 1.45, 0.65, 1.16 times during the year of 2007-12 respectively. It has been also shown in the Graph No-5.7.3.1.

So, The Average Inventory to Working Capital Ratio is 1.19 times, The Standard Deviation is 1.45 and The Co-efficient variance is 121.43% which shows solvency of this company because the average Inventory to Working Capital Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**

Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Mahindra and Mahindra Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 0.55 times in the year 2010-11 and the lowest ratio was 0.24 times in the year 2005-06.

In the year 2003-04 the ratio was 0.31 times which has been decreased 0.27 times in the year 2004-05, further it has been decreased up to 0.24 and 0.25 times in the year of 2005-07 respectively. During the year of 2010-11, it increased up to 0.55 times. It got fluctuated the ratios have been 0.28, 0.28, 0.26, 0.51 and 0.50 times during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.3.1.

So, The Average Inventory to Working Capital Ratio is 0.34 times, The Standard Deviation is 0.12 and The Co-efficient variance is 35.75% which shows solvency of this company because the average Inventory to Working Capital Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**

Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 3.25 times in the year 2011-12 and the lowest ratio was 0.47 times in the year 2004-05.

In the year 2003-04 the ratio was 0.65 times which has been decreased 0.47 times in the year 2004-05, further it has been increased up to 0.83, 1.02 and 1.29 times in the year of 2005-08 respectively. During the year of 2011-12, it increased up to 3.25 times. It got fluctuated the ratios were 1.03, 1.05, 2.57 and 2.05 times during the year of 2008-11.
and 2012-13 respectively. It has been also shown in the Graph No-5.7.3.1.

So, The Average Inventory to Working Capital Ratio is 1.42 times, The Standard Deviation is 0.90 and The Co-efficient variance is 63.61% which shows solvency of this company because the average Inventory to Working Capital Ratio shows satisfactory Ratio of during the study period.

10. Tata Motors Limited:

Table No-5.7.3.1 shows that the Inventory to Working Capital Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 18.48 times in the year 2010-11 and the lowest ratio was -24.82 times in the year 2011-12.

In the year 2003-04 the ratio was -2.16 times which has been increased 0.96 times in the year 2004-05, further it has been decreased up to 0.54 times in the year of 2005-06 respectively. During the year of 2010-11, it increased up to 18.48 times. It got fluctuated the ratios were 0.60, 1.41, 2.87, -0.95, -24.82 and -1.80 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.3.1

So, The Average Inventory to Working Capital Ratio is -0.49 times, The Standard Deviation is 10.41 and The Co-efficient variance is -2140.24% which shows solvency of this company because the average Inventory to Working Capital Ratio shows satisfactory Ratio of during the study period.

➢ ANOVA TEST OF INVENTORY TO WORKING CAPITAL RATIO

Hypothesis:

❖ Ho: Null Hypothesis:

There is no significant difference in Inventory to Working Capital Ratio of automobile industry under study.

❖ H1: Alternative Hypothesis:

There is significant difference in Inventory to Working Capital Ratio of automobile industry under study.

❖ Level of Significance: 5 %
TABLE NO-5.7.3.2
INVENTORY TO WORKING CAPITAL 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>122.7809</td>
<td>9</td>
<td>13.64233</td>
<td>0.787329</td>
<td>0.628601</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1559.462</td>
<td>90</td>
<td>17.32736</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td>1682.243</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’ = 0.79

\[
F_{cal} < F_{tab} \\
0.79 < 1.98 \\
F_{cal} < F_{tab}
\]

Table No-5.7.3.2 indicates the calculate value of ‘F’ is 0.787329 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 Inventory to Working Capital Ratio of selected automobile industry under study for the period.
5.7.4 STOCK TURNOVER RATIO:

❖ Meaning:

This Ratio establishes a relationship between Cost of Goods Sold and Average Stock.

❖ Objective:

The objective of computing this ratio is to determine the efficiency with which the Stock is converted into sales.

❖ Components:

1. Cost of Goods sold = Net sales – Gross Profit
2. Average Stock = (opening Stock + closing Stock)/2

❖ Computation and Interpretations:

This ratio is computed by dividing the cost of goods sold by the average Stock. This ratio is usually express as an ‘x’ number of times. In the form of a formula, this ratio may be express as follows:

\[
\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods sold}}{\text{Average Inventory}}
\]

This ratio indicates the speed with which the Stock is converted into sales. In general, a high ratio indicate efficient performance since an improvement in the ratio shows that either the same volume of sales has been minted with a lower investment in stocks, or the volume of sales has increased without any increase in the amount of stock. A too high ratio may be the result of very low Stock levels which may result in frequent stock-outs and thus the firm may incur high stock out costs.

Thus, a firm 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 Stock Turnover Ratio of selected companies of Automobile Industry in India is given in the Table No-5.7.4.1 as follows:
TABLE NO-5.7.4.1 STOCK 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>2005-2006</td>
<td></td>
<td>33.35</td>
<td>10.06</td>
<td>3.84</td>
<td>4.21</td>
<td>23.69</td>
<td>5.73</td>
<td>12.96</td>
<td>6.43</td>
<td>6.46</td>
<td>9.81</td>
</tr>
<tr>
<td>2006-2007</td>
<td></td>
<td>33.89</td>
<td>9.75</td>
<td>4.02</td>
<td>1.08</td>
<td>25.81</td>
<td>6.66</td>
<td>15.47</td>
<td>6.84</td>
<td>6.66</td>
<td>10.65</td>
</tr>
<tr>
<td>2007-2008</td>
<td></td>
<td>29.58</td>
<td>7.71</td>
<td>3.52</td>
<td>1.43</td>
<td>22.30</td>
<td>6.89</td>
<td>17.18</td>
<td>6.77</td>
<td>6.21</td>
<td>10.28</td>
</tr>
<tr>
<td>2009-2010</td>
<td></td>
<td>33.37</td>
<td>13.71</td>
<td>6.07</td>
<td>3.09</td>
<td>22.84</td>
<td>8.50</td>
<td>23.76</td>
<td>7.13</td>
<td>4.49</td>
<td>12.07</td>
</tr>
<tr>
<td>2010-2011</td>
<td></td>
<td>34.52</td>
<td>14.51</td>
<td>5.08</td>
<td>5.95</td>
<td>24.01</td>
<td>7.42</td>
<td>25.15</td>
<td>6.97</td>
<td>5.38</td>
<td>12.75</td>
</tr>
<tr>
<td>2011-2012</td>
<td></td>
<td>32.68</td>
<td>12.06</td>
<td>5.56</td>
<td>5.16</td>
<td>25.06</td>
<td>6.27</td>
<td>20.42</td>
<td>8.47</td>
<td>5.56</td>
<td>12.11</td>
</tr>
<tr>
<td>2012-2013</td>
<td></td>
<td>30.63</td>
<td>12.38</td>
<td>4.77</td>
<td>2.86</td>
<td>23.68</td>
<td>10.91</td>
<td>21.63</td>
<td>7.84</td>
<td>5.95</td>
<td>9.46</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>31.54</td>
<td>11.31</td>
<td>4.48</td>
<td>3.46</td>
<td>22.90</td>
<td>7.33</td>
<td>18.90</td>
<td>7.25</td>
<td>5.89</td>
<td>10.78</td>
</tr>
<tr>
<td>S.D.</td>
<td></td>
<td>3.04</td>
<td>2.04</td>
<td>0.97</td>
<td>1.65</td>
<td>2.08</td>
<td>1.77</td>
<td>3.82</td>
<td>0.73</td>
<td>0.90</td>
<td>1.15</td>
</tr>
<tr>
<td>C.V.</td>
<td></td>
<td>9.64</td>
<td>18.02</td>
<td>21.62</td>
<td>47.68</td>
<td>9.10</td>
<td>24.11</td>
<td>20.22</td>
<td>10.14</td>
<td>15.28</td>
<td>10.72</td>
</tr>
<tr>
<td>Min</td>
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<td>7.71</td>
<td>2.96</td>
<td>1.08</td>
<td>18.48</td>
<td>4.49</td>
<td>12.96</td>
<td>6.43</td>
<td>4.47</td>
<td>9.46</td>
</tr>
<tr>
<td>Max</td>
<td></td>
<td>34.52</td>
<td>14.51</td>
<td>6.07</td>
<td>5.95</td>
<td>25.81</td>
<td>10.91</td>
<td>25.15</td>
<td>8.47</td>
<td>7.04</td>
<td>12.75</td>
</tr>
</tbody>
</table>

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

GRAPH NO-5.7.4.1 STOCK TURNOVER RATIO

The above mentioned Table No- 5.7.4.1 and Graph No- 5.7.4.1 the indicated a fluctuating trends of the Stock Turnover Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. Hero MotoCorp Ltd:

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 34.52 times in the year of 2010-11 and lowest ratio was 24.08 times in the year of 2003-04.

In the year 2003-04 the ratio was 24.08 times which has been increased 31.15 times in 2004-05, further it has been increased up to 33.35 and 33.89 times in the year of 2005-07 respectively. During the year of 2007-08, it decreased up to 29.58 times. It got fluctuated the ratios have been 32.17, 33.37, 34.52, 32.68 and 30.63 times during the year of 2008-2013 respectively. It has been also shown in the Graph No-5.7.4.1.

So, The Average Stock Turnover Ratio is 31.54 times, The Standard Deviation is 3.04 and The Co-efficient variance is 9.64% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

2. TVS Motor Company:

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the TVS Motor Company Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 14.51 times in the year 2010-11 and the lowest ratio was 7.71 times in the year 2007-08.

In the year 2003-04 the ratio was 11.73 times which has been decreased 11.50 times in 2004-05, further it has been decreased up to 10.06, 9.75 and 7.71 times in the year of 2005-08 respectively. During the year of 2010-11, it increased up to 14.51 times. It got fluctuated the ratios have been 9.74, 13.71, 12.06 and 12.38 times during the year of 2008-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.4.1.

So, The Average Stock Turnover Ratio is 11.31 times, The Standard Deviation is 2.04 and The Co-efficient variance is 18.02% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

3. Scooters India Limited:

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 6.07 times...
in the year 2009-10 and the lowest ratio was 2.96 times in the year 2003-04.

In the year 2003-04 the ratio was 2.96 times which has been increased 3.99 times in 2004-05, further it has been increased up to 3.84 and 4.02 times in the year of 2005-07 respectively. During the year of 2009-10, it increased up to 6.07 times. It got fluctuated the ratios have been 3.52, 4.95, 5.08, 5.56 and 4.77 times during the year of 2007-09 and 2010-13 respectively. It has been also shown in the Graph No-5.7.4.1.

So, The Average Stock Turnover Ratio is 4.48 times, The Standard Deviation is 0.97 and The Co-efficient variance is 21.62% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

4. **LML :**

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 5.95 times in the year 2010-11 and the lowest ratio was 1.08 times in the year 2006-07.

In the year 2003-04 the ratio was 3.88 times which has been increased 4.97 times in the year 2004-05, further it has been decreased up to 4.21 and 1.08 times in the year of 2005-07 respectively. During the year of 2010-11, it increased up to 5.95 times. It got fluctuated and the ratios have been 1.43, 1.99, 3.09, 5.16 and 2.86 times during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.4.1.

So, The Average Stock Turnover Ratio is 3.46 times, The Standard Deviation is 1.65 and The Co-efficient variance is 47.68% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd. :**

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 25.81 times in the year 2006-07 and the lowest ratio was 18.48 times in the year 2003-04.

In the year 2003-04 the ratio was 18.48 times which has been increased 21.80 times in the year 2004-05, further it has been decreased up to 23.69 times in the year of
2005-06. During the year of 2006-07, it increased up to 25.81 times. It got fluctuated the ratios have been 22.30, 21.36, 22.84, 24.01, 25.06 and 23.68 times during the year of 2007-12 respectively. It has been also shown in the Graph No-5.7.4.1.

So, The Average Stock Turnover Ratio is 22.90 times, The Standard Deviation is 2.08 and The Co-efficient variance is 9.10% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 10.91 times in the year 2012-13 and the lowest ratio was 4.49 in the year 2003-2004.

In the year 2003-04 the ratio was 4.49 times which has been increased 8.06 times in the year 2004-05, further it has been decreased up to 5.73 times during the year of 2005-06. During the year of 2012-13, it increased up to 10.91 times. It got fluctuated the ratios have been 6.66, 6.89, 8.33, 8.50, 7.42 and 6.27 times during the year of 2006-12 respectively. It has been also shown in the Graph No-5.7.4.1.

So, The Average Stock Turnover Ratio is 7.33 times, The Standard Deviation is 1.77 and The Co-efficient variance is 24.11% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 25.15 times in the year 2010-11 and the lowest ratio was 12.96 times in the year 2005-06.

In the year 2003-04 the ratio was 16.97 times which has been decreased 16.62 times in the year 2004-05, further it has been decreased up to 12.96 times during the year of 2005-06. During the year of 2010-11, it decreased up to 25.15 times. It got fluctuated the ratios have been 15.47, 17.18, 18.81, 23.76, 20.42 and 21.63 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.4.1.
So, the Average Stock Turnover Ratio is 18.90 times, the Standard Deviation is 3.82 and the Co-efficient variance is 20.22% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited:**

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 8.47 times in the year 2011-12 and the lowest ratio was 6.43 times in the year 2005-06.

In the year 2003-04 the ratio was 8.43 times which has been decreased 6.98 times in the year 2004-05, further it has been decreased up to 6.43 times during the year of 2005-06. During the year of 2011-12, it increased up to 8.47 times. It got fluctuated the ratios have been 6.84, 6.77, 6.63, 7.13, 6.97 and 7.84 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.4.1.

So, the Average Stock Turnover Ratio is 7.25 times, the Standard Deviation is 0.73 and the Co-efficient variance is 10.14% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland:**

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 7.04 times in the year 2004-05 and the lowest ratio was 4.47 times in the year 2008-09.

In the year 2003-04 the ratio was 6.67 times which has been increased 7.04 times in the year 2004-05, further it has been decreased up to 6.46 times in the year of 2005-06. During the year of 2008-09, it decreased up to 4.47 times. It got fluctuated the ratios were 6.66, 6.21, 4.49, 5.38, 5.56 and 5.95 times during the year of 2006-09 and 2010-13 respectively. It has been also shown in the Graph No-5.7.4.1.
So, The Average Stock Turnover Ratio is 5.89 times, The Standard Deviation is 0.90 and The Co-efficient variance is 15.28% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

10. Tata Motors Limited:

Table No-5.7.4.1 shows that the Stock Turnover Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 12.75 times in the year 2010-11 and the lowest ratio was 9.46 times in the year 2012-13.

In the year 2003-04 the ratio was 9.73 times which has been increased 10.90 times in the year 2004-05, further it has been decreased up to 9.81 times in the year of 2005-06. During the year of 2009-10, it decreased up to 12.75 times. It got fluctuated the ratios were 10.65, 10.28, 10.00, 12.07, 12.11 and 9.46 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.4.1.

So, The Average Stock Turnover Ratio is 10.78 times, The Standard Deviation is 1.15 and The Co-efficient variance is 10.72% which shows solvency of this company because the average Stock Turnover Ratio shows satisfactory Ratio of during the study period.

➤ ANOVA TEST OF STOCK TURNOVER RATIO

Hypothesis:

❖ **H0: Null Hypothesis:**

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

❖ **H1: Alternative Hypothesis:**

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

❖ **Level of Significance: 5%**
### TABLE NO-5.7.4.2

**STOCK 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>108.0723</td>
<td>9</td>
<td>12.00803</td>
<td>0.137335</td>
<td>0.998498</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>7869.26</td>
<td>90</td>
<td>87.43622</td>
<td></td>
<td></td>
<td></td>
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<td>Total</td>
<td>7977.332</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’ = 0.14

\[
F_{cal} < F_{tab} \\
0.14 < 1.98 \\
F_{cal} < F_{tab}
\]

Table No-5.7.4.2 indicates the calculate value of ‘F’ is 0.137335 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 Stock Turnover Ratio of selected automobile industry under study for the period.
5.7.5 DEBTORS TURNOVER RATIO:

- **Meaning:**
  This Ratio establishes a relationship between net credit sales and average debtors + Bills Receivable.

- **Objective:**
  The objective of computing this ratio is to determine the efficiency with which the trade debtors are converted into cash.

- **Components:**
  1. Net credit sales which mean gross credit sales minus sales return.
  2. Average Debtors and Bill Receivable

- **Computation and interpretations:**
  This ratio is computed by dividing the Net Credit sales by the Average Debtors and Bill Receivable. This ratio is usually express as a ‘x’ number of times. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Debtors}}
  \]

  This ratio indicates both the quality of Debtors and the credit collection efforts of the enterprise. It’s also the speed with which the Debtors are converted into cash in the year. In general, a high ratio indicates the shorter collection period which implies prompt payments by Debtors and a low ratio indicates a longer collection period which implies delayed payment by Debtors.

  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 Debtors Turnover Ratio of selected companies of Automobile Industry in India is given in the Table No-5.7.5.1 as follows:
### TABLE NO-5.7.5.1 DEBTORS TURNOVER RATIO

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COMPANY NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HMC</td>
</tr>
<tr>
<td>2004-2005</td>
<td>111.26</td>
</tr>
<tr>
<td>2005-2006</td>
<td>70.19</td>
</tr>
<tr>
<td>2006-2007</td>
<td>40.07</td>
</tr>
<tr>
<td>2007-2008</td>
<td>32.67</td>
</tr>
<tr>
<td>2009-2010</td>
<td>122.00</td>
</tr>
<tr>
<td>2010-2011</td>
<td>162.34</td>
</tr>
<tr>
<td>2011-2012</td>
<td>117.05</td>
</tr>
<tr>
<td>2012-2013</td>
<td>50.72</td>
</tr>
<tr>
<td>Average</td>
<td>82.43</td>
</tr>
<tr>
<td>S.D.</td>
<td>42.86</td>
</tr>
<tr>
<td>C.V.</td>
<td>52.00</td>
</tr>
<tr>
<td>Max</td>
<td>162.34</td>
</tr>
</tbody>
</table>

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

### GRAPH NO-5.7.5.1 DEBTORS TURNOVER RATIO

The above mentioned Table No-5.7.5.1 and Graph No-5.7.5.1 the indicated a fluctuating trends of the Debtors Turnover Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.

**CHAPTER-5**

[228]
1. **Hero MotoCorp Ltd:**

   Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 162.34 times in the year of 2010-11 and lowest ratio was 32.67 times in the year of 2007-08.

   In the year 2003-04 the ratio was 62.94 times which has been increased 111.26 times in 2004-05, further it has been decreased up to 70.19 times in the year of 2005-06. During the year of 2010-11, it increased up to 162.34 times. It got fluctuated the ratios have been 40.07, 32.67, 55.07, 122.00, 117.05 and 50.72 times during the year of 2006-10 and 2011-2013 respectively. It has been also shown in the Graph No-5.7.5.1.

   So, The Average Debtors Turnover Ratio is 82.43 times, The Standard Deviation is 42.86 and The Co-efficient variance is 52.00% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

2. **TVS Motor Company:**

   Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 66.19 times in the year 2005-06 and the lowest ratio was 21.69 times in the year 2009-10.

   In the year 2003-04 the ratio was 54.18 times which has been increased 62.89 times in 2004-05, further it has been increased up to 66.19 times in the year of 2005-06. During the year of 2009-10, it decreased up to 21.69 times. It got fluctuated the ratios have been 45.46, 32.31, 27.25, 25.59, 29.84 and 27.78 times during the year of 2006-2009 and 2010-13 respectively. It has been also shown in the Graph No-5.7.5.1.

   So, The Average Debtors Turnover Ratio is 39.32 times, The Standard Deviation is 16.51 and The Co-efficient variance is 41.99% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

3. **Scooters India Limited:**

   Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 76.75 times
in the year 2011-12 and the lowest ratio was 7.23 times in the year 2005-06.

In the year 2003-04 the ratio was 11.22 times which has been decreased 8.02 times in 2004-05, further it has been decreased up to 7.23 times in the year of 2005-06. During the year of 2011-12, it increased up to 76.75 times It got fluctuated the ratios have been 10.94, 24.04, 27.78, 40.26, 53.96 and 75.74 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.5.1.

So, The Average Debtors Turnover Ratio is 33.59 times, The Standard Deviation is 27.05 and The Co-efficient variance is 80.53% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

4. LML:

Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was 261.13 times in the year 2011-12 and the lowest ratio was 11.58 times in the year 2006-07.

In the year 2003-04 the ratio was 26.45 times which has been increased 39.09 times in the year 2004-05, further it has been increased up to 45.15 times in the year of 2005-06. During the year of 2011-12, it decreased up to 261.13 times It got fluctuated and the ratios have been 11.58, 16.00, 26.46, 42.18, 76.13 and 241.04 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.5.1.

So, The Average Debtors Turnover Ratio is 78.52 times, The Standard Deviation is 92.84 and The Co-efficient variance is 118.23% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

5. Bajaj Auto Ltd. :

Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 54.72 times in the year 2010-11 and the lowest ratio was 21.51 times in the year 2007-08.
In the year 2003-04 the ratio was 31.60 times which has been increased 36.97 times in the year 2004-05, further it has been decreased up to 31.26, 22.35 and 21.51 times in the year of 2005-08 respectively. During the year of 2010-11 it increased up to 54.72 times. It got fluctuated the ratios have been 26.62, 38.48, 49.90 and 33.60 times during the year of 2008-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.5.1.

So, The Average Debtors Turnover Ratio is 34.70 times, The Standard Deviation is 10.88 and The Co-efficient variance is 31.36% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited :**

Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 44.00 times in the year 2010-11 and the lowest ratio was 6.89 times in the year 2003-04.

In the year 2003-04 the ratio was 6.89 times which has been increased 15.84 times in the year 2004-05, further it has been decreased up to 9.70 times during the year of 2005-06. During the year of 2010-11, it increased up to 44.00 times. It got fluctuated the ratios have been 14.89, 16.67, 20.16, 42.43, 26.77 and 35.80 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.5.1

So, The Average Debtors Turnover Ratio is 23.31 times, The Standard Deviation is 13.32 and The Co-efficient variance is 57.14% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited :**

Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 45.47 times in the year 2010-11 and the lowest ratio was 13.46 times in the year 2003-04.
In the year 2003-04 the ratio was 13.46 times which has been increased 17.06 times in the year 2004-05, further it has been increased up to 19.44, 21.29 and 25.75 times during the year of 2005-08 respectively. During the year of 2010-11, it increased up to 45.47 times. It got fluctuated the ratios have been 25.94, 33.86, 40.96 and 37.53 times during the year of 2008-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.5.1.

So, The Average Debtors Turnover Ratio is 28.07 times, The Standard Deviation is 10.84 and The Co-efficient variance is 38.60% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**

Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 13.07 times in the year 2012-13 and the lowest ratio was 6.68 times in the year 2008-09.

In the year 2003-04 the ratio was 8.95 times which has been decreased 8.74 times in the year 2004-05, further it has been decreased up to 7.82, 7.22, 6.82 and 6.68 times during the year of 2005-09 respectively. During the year of 2012-13, it increased up to 13.07 times. It got fluctuated the ratios have been 8.63, 9.94 and 12.43 times during the year of 2009-12 respectively. It has been also shown in the Graph No-5.7.5.1.

So, The Average Debtors Turnover Ratio is 9.03 times, The Standard Deviation is 2.21 and The Co-efficient variance is 24.51% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**

Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 17.66 times in the year 2007-08 and the lowest ratio was 7.45 times in the year 2003-04.

In the year 2003-04 the ratio was 7.45 times which has been increased 9.83 times in the year 2004-05, further it has been increased up to 12.07 and 15.46 times in the year
of 2005-07 respectively. During the year of 2007-08, it decreased up to 17.66 times. It got fluctuated the ratios were 9.14, 7.48, 10.44, 11.17 and 9.91 times during the year of 2008 -13 respectively. It has been also shown in the Graph No-5.7.5.1.

So, The Average Debtors Turnover Ratio is 11.06 times, The Standard Deviation is 3.28 and The Co-efficient variance is 29.63% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

10. **Tata Motors Limited:**

Table No-5.7.5.1 shows that the Debtors Turnover Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 36.28 times in the year 2006-07 and the lowest ratio was 16.52 times in the year 2003-04.

In the year 2003-04 the ratio was 16.52 times which has been increased 24.18 times in the year 2004-05, further it has been increased up to 26.79 times in the year of 2005-06. During the year of 2006-07, it increased up to 36.28 times. It got fluctuated the ratios were 29.84, 21.53, 19.47, 18.85, 20.45 and 19.78 times during the year of 2007-13 respectively. It has been also shown in the Graph No-5.7.5.1.

So, The Average Debtors Turnover Ratio is 23.37 times, The Standard Deviation is 6.04 and The Co-efficient variance is 25.83% which shows solvency of this company because the average Debtors Turnover Ratio shows satisfactory Ratio of during the study period.

- **ANOVA Test of Debtors Turnover Ratio**

**Hypothesis:**

- **Ho: Null Hypothesis:**
  
  There is no significant difference in Debtors Turnover Ratio of automobile industry under study.

- **H1: Alternative Hypothesis:**
  
  There is significant difference in Debtors Turnover Ratio of automobile industry under study.

- **Level of Significance: 5%**
Table No-5.7.5.2

DEBTORS 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>
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<tbody>
<tr>
<td>Between Groups</td>
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<td>9</td>
<td>2281.562</td>
<td>1.426641</td>
<td>0.18862</td>
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<tr>
<td>Within Groups</td>
<td>143932.9</td>
<td>90</td>
<td>1599.255</td>
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<td>164467</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’ = 1.43

\[
F_{cal} < F_{tab} \\
1.43 < 1.98
\]

Table No-5.7.5.2 indicates the calculate value of ‘F’ is 1.426641 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 Debtors Turnover Ratio of selected automobile industry under study for the period.
5.7.6 AVERAGE COLLECTION PERIOD:

- **Meaning:**
  This Ratio establishes a relationship between Average Debtors, Net Credit sales and no of days in the year.

- **Objective:**
  The objective of computing this ratio is to determine the period shows an average period which the credit sales.

- **Components:**
  1. Average Debtors which refer to Trade Debtors
  2. Net Credit Sales which refers gross credit sales - sales return
  3. No of Days = 365 days

- **Computation and interpretations:**
  This ratio is computed by dividing the Average debtors by the net credit sales multiplied by 365 days. This ratio is usually express as days. In the form of a formula, this ratio may be express as follows:

  \[
  \text{Average Collection Period} = \frac{\text{Average Debtors}}{\text{Net Credit Sales}} \times \text{No. of Days (365)}
  \]

  This ratio indicates an average period for which the credit sales remain outstanding or the average credit period actually enjoyed by the debtors. It measures the quality of debtors it indicates the rapidity or slowness with which the money is collected form debtors.

  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 Average Collection period of selected companies of Automobile Industry in India is given in the Table No-5.7.6.1 as follows:
### TABLE NO-5.7.6.1 AVERAGE COLLECTION PERIOD

<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>
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<td>7</td>
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<td>14</td>
<td>12</td>
<td>53</td>
<td>27</td>
<td>41</td>
<td>49</td>
<td>22</td>
</tr>
<tr>
<td>2004-2005</td>
<td>TMC</td>
<td>3</td>
<td>6</td>
<td>46</td>
<td>9</td>
<td>10</td>
<td>23</td>
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<td>42</td>
<td>37</td>
<td>15</td>
</tr>
<tr>
<td>2005-2006</td>
<td>SIL</td>
<td>5</td>
<td>6</td>
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<td>8</td>
<td>12</td>
<td>38</td>
<td>19</td>
<td>47</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>2006-2007</td>
<td>LML</td>
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<td>8</td>
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<td>32</td>
<td>16</td>
<td>25</td>
<td>17</td>
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<td>2007-2008</td>
<td>BAL</td>
<td>11</td>
<td>11</td>
<td>15</td>
<td>23</td>
<td>17</td>
<td>22</td>
<td>14</td>
<td>54</td>
<td>21</td>
<td>12</td>
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<tr>
<td>2008-2009</td>
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<td>15</td>
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<td>22</td>
<td>14</td>
<td>54</td>
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<td>2009-2010</td>
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<td>14</td>
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<tr>
<td>2010-2011</td>
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<td>17</td>
<td>22</td>
<td>14</td>
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<td>14</td>
<td>54</td>
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<tr>
<td>2012-2013</td>
<td>TML</td>
<td>11</td>
<td>11</td>
<td>15</td>
<td>23</td>
<td>17</td>
<td>22</td>
<td>14</td>
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</tr>
<tr>
<td>Average</td>
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<tr>
<td>C.V.</td>
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<td>80.62</td>
<td>82.02</td>
<td>30.00</td>
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<td>21.85</td>
<td>26.31</td>
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<td>1</td>
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<td>8</td>
<td>8</td>
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<td>53</td>
<td>27</td>
<td>55</td>
<td>49</td>
<td>22</td>
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</tr>
</tbody>
</table>

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

### GRAPH NO-5.7.6.1 AVERAGE COLLECTION PERIOD

The above mentioned Table No- 5.7.6.1 and Graph No- 5.7.6.1 the indicated a fluctuating trends of the Average Collection period of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd:**

Table No-5.7.6.1 shows that the Average Collection period of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest days was 11 days in the year of 2007-08 and lowest days was 2 days in the year of 2010-11.

In the year 2003-04 the days was 6 days which has been decreased 3 days in year 2004-05, further it has been increased up to 5 and 9 days in the year of 2005-07 respectively. During the year of 2007-08, it increased up to 11 days. It got fluctuated the days have been 7, 3, 2, 3 and 7 days during the year of 2008-2013 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period is 5.67, The Standard Deviation is 2.92 and The Co-efficient variance is 51.44% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

2. **TVS Motor Company:**

Table No-5.7.6.1 shows that the Average Collection period of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest days was 17 days in the year 2009-10 and the lowest days was 6 days in the year 2004-05 and 2005-06.

In the year 2003-04 the days was 7 days which has been decreased 6 and 6 days in 2004-05 and 2005-06 respectively, further it has been increased up to 8 days in the year of 2006-07. During the year of 2009-10, it increased up to 17 days respectively. It got fluctuated the days have been 11, 13, 14, 12 and 13 days during the year of 2007-09 and 2010-13 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period is 10.72, The Standard Deviation is 3.94 and The Co-efficient variance is 36.76% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

3. **Scooters India Limited:**

Table No-5.7.6.1 shows that the Average Collection period of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest days was 50 days in
the year 2005-06 and the lowest days was 5 days in the year 2011-12 and 2012-13.

In the year 2003-04 the days was 33 days which has been increased 46 days in 2004-05, further it has been increased up to 50 days in the year of 2005-06. During the year of 2011-13, it increased up to 5 days respectively. It got fluctuated the days have been 33, 15, 13, 9 and 7 days during the year of 2006-11 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period is 21.56, The Standard Deviation is 17.38 and The Co-efficient variance is 80.62% days which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

4. **LML :**

Table No-5.7.6.1 shows that the Average Collection period of the LML during the year from 2003-2004 to 2012-2013, the highest days was 32 days in the year 2006-07 and the lowest days was 1 days in the year 2011-12.

In the year 2003-04 the days was 14 days which has been decreased 9 days in the year 2004-05, further it has been decreased up to 8 days in the year of 2005-06. During the year of 2006-07, it increased up to 32 days. It got fluctuated and the days have been 23, 14, 9, 5 and 2 days during the year of 2007-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period is 11.57, The Standard Deviation is 9.49 and The Co-efficient variance is 82.02% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

5. **Bajaj Auto Ltd. :**

Table No-5.7.6.1 shows that the Average Collection period of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest days was 17 days in the year 2007-08 and the lowest days was 7 days in the year 2010-11 and 2011-12.

In the year 2003-04 the days was 12 days which has been increased 10 days in the year 2004-05, further it has been increased up to 12 ,16 and 17 days in the year of
2005-08 respectively. During the year of 2010-12, it decreased up to 7 and 7 days respectively. It got fluctuated the days have been 14, 9 and 11 days during the year of 2008-10 and 2012-13 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period 11.44, The Standard Deviation is 3.43 and The Co-efficient variance is 30.00% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

6. **Hindustan Motors Limited**

Table No-5.7.6.1 shows that the Average Collection period of the Hindustan Motors Limited during the year from 2003-2004 to 2012-2013, the highest days was 53 days in the year 2003-04 and the lowest days was 8 days in the year 2010-11.

In the year 2003-04 the days was 53 days which has been decreased 23 days in the year 2004-05, further it has been increased up to 38 days in the year 2005-06. During the year of 2010-11, it decreased up to 8 days. It got fluctuated the days have been 25, 22, 18, 9, 14 and 10 days during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period 21.89, The Standard Deviation is 14.16 and The Co-efficient variance is 64.68% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

7. **Maruti Suzuki India Limited**

Table No-5.7.6.1shows that the Average Collection period of the Maruti Suzuki India Limited during the year from 2003-2004 to 2012-2013, the highest days was 27 days in the year 2003-04 and the lowest days was 8 days in the year 2010-11.

In the year 2003-04 the days was 27 days which has been decreased 21 days in the year 2004-05, further it has been increased up to 19, 17, 14 and 14 days in the year 2005-09. During the year of 2010-11, it decreased up to 8 days. It got fluctuated the days have been 11, 9 and 10 days during the year of 2009-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.6.1.
So, The Average of Average Collection period 15.01, The Standard Deviation is 6.14 and The Co-efficient variance is 40.91% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

8. **Mahindra and Mahindra Limited:**

Table No-5.7.6.1 shows that the Average Collection period of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest days was 55 days in the year 2008-09 and the lowest days was 28 days in the year 2012-13.

In the year 2003-04 the days was 41 days which has been increased 42 days in the year 2004-05, further it has been increased up to 47, 51 and 54 days in the year 2005-08 respectively. During the year of 2012-13, it decreased up to 28 days. It got fluctuated the days have been 55, 42, 37 and 29 days during the year of 2008-12 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period 42.43, The Standard Deviation is 9.27 and The Co-efficient variance is 21.85% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

9. **Ashok Leyland:**

Table No-5.7.6.1 shows that the Average Collection period of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest days was 49 days in the year 2009-10 and the lowest days was 21 days in the year 2007-08.

In the year 2003-04 the days was 49 days which has been decreased 37 days in the year 2004-05, further it has been decreased up to 30, 24 and 21 days in the year of 2005-08 respectively. During the year of 2009-10, it increased up to 49 days. It got fluctuated the days were 40, 35, 33 and 37 days during the year of 2008-09 and 2010-13 respectively. It has been also shown in the Graph No-5.7.6.1.
So, The Average of Average Collection period 35.38, The Standard Deviation is 9.31 and The Co-efficient variance is 26.31% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

10. Tata Motors Limited:

Table No-5.7.6.1 shows that the Average Collection period of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest days was 22 days in the year 2003-04 and the lowest days was 10 days in the year 2006-07.

In the year 2003-04 the days was 22 days respectively which has been decreased 15 days in the year 2004-05, further it has been decreased up to 14 days in the year of 2005-06. During the year of 2006-07, it decreased up to 10 days. It got fluctuated the days were 12, 17, 19, 19, 18 and 18 days during the year of 2007-13 respectively. It has been also shown in the Graph No-5.7.6.1.

So, The Average of Average Collection period 16.45, The Standard Deviation is 3.65 and The Co-efficient variance is 22.22% which shows solvency of this company because the average of Average Collection period shows satisfactory Days of during the study period.

➢ ANOVA TEST OF AVERAGE COLLECTION PERIOD

Hypothesis:

❖ Ho: Null Hypothesis:

There is no any significant difference in Average Collection period of automobile industry under study.

❖ H1: Alternative Hypothesis:

There is significant difference in Average Collection period of automobile industry under study.

❖ Level of Significance: 5%
### TABLE NO-5.7.6.2
### AVERAGE COLLECTION PERIOD
### ONE WAY ANOVA TEST

<table>
<thead>
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<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>
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<tbody>
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<td>0.496377</td>
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<tr>
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<td>90</td>
<td>201.07</td>
<td></td>
<td></td>
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<td>Total</td>
<td>19794.19</td>
<td>99</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.94

\[
\frac{F_{cal}}{F_{tab}} < 0.94 < 1.98
\frac{F_{cal}}{F_{tab}} < \frac{F_{cal}}{F_{tab}}
\]

Table No-5.7.6.2 indicates the calculate value of ‘F’ is 0.938251 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 Average Collection Period of selected automobile industry under study for the period.
5.7.7 WORKING CAPITAL TURNOVER RATIO:

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

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

- **Components:**
  
  1. **Net Sales** = Gross sales - Sales return
  2. **Working capital** = Current Assets – Current liabilities

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

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

  This ratio indicates the firm’s ability to generate sales per rupee of working capital. In generally is higher ratio the more efficient the management and utilization of working capital and vice versa.

  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 working Capital turnover ratio of selected companies of Automobile Industry in India is given in the Table No-5.7.7.1 as follows:
The above mentioned Table No- 5.7.7.1 and Graph No- 5.7.7.1 the indicated a fluctuating trends of the Working Capital Turnover Ratio of selected Automobile industry in India from 2003-2004 to 2012-2013.
1. **Hero MotoCorp Ltd:**

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Hero MotoCorp Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was -6.12 times in the year of 2010-11 and lowest ratio was -464.67 times in the year of 2012-13.

In the year 2003-04 the ratio was -11.78 times which has been decreased -16.08 times in the year 2004-05, further it has been decreased up to -34.62 and -76.91 times in the year of 2005-07 respectively. During the year of 2010-11, it increased up to -6.12 times. It got fluctuated the ratios have been -26.62, -24.04, -17.08, -22.91 and -464.67 times during the year of 2007-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is -70.08 times, The Standard Deviation is 140.02 and The Co-efficient variance is -199.79% which shows solvency of this company because the average Working Capital Turnover Ratio shows dissatisfactory Ratio of during the study period.

2. **TVS Motor Company:**

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the TVS Motor Company during the year from 2003-2004 to 2012-2013, the highest ratio was 187.76 times in the year 2003-04 and the lowest ratio was 10.79 times in the year 2008-09.

In the year 2003-04 the ratio was 187.76 times which has been decreased 48.37 times in the year 2004-05, further it has been decreased up to 24.66, 15.71 and 11.97 times in the year of 2005-08 respectively. During the year of 2008-09, it decreased up to 10.79 times. It got fluctuated the ratios have been 14.65, 30.97, 51.69 and 102.23 times during the year of 2009-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is 49.88 times, The Standard Deviation is 55.90 and The Co-efficient variance is 112.07% which shows solvency of this company because the average Working Capital Turnover Ratio shows satisfactory Ratio of during the study period.
3. **Scooters India Limited**:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Scooters India Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 11.45 times in the year 2011-12 and the lowest ratio was 1.77 times in the year 2005-06.

In the year 2003-04 the ratio was 2.04 times which has been decreased 1.93 times in the year 2004-05, further it has been decreased up to 1.77 times in the year of 2005-06. During the year of 2011-12, it increased up to 11.45 times. It got fluctuated the ratios have been 2.43, 2.92, 5.05, 5.32, 7.71 and 4.53 times during the year of 2006-11 and 2012-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is 4.51 times, The Standard Deviation is 31.10 and The Co-efficient variance is 68.64% which shows solvency of this company because the average Working Capital Turnover Ratio shows satisfactory Ratio of during the study period.

4. **LML**:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the LML during the year from 2003-2004 to 2012-2013, the highest ratio was -0.35 times in the year 2006-07 and the lowest ratio was -16.11 times in the year 2003-04.

In the year 2003-04 the ratio was -16.11 times which has been increased -5.18 times in the year 2004-05, further it has been increased up to -2.29 times in the year of 2005-06. During the year of 2006-07, it increased up to -0.35 times. It got fluctuated and the ratios have been -0.56, -0.77, -1.89, -3.79, -0.90 and -0.60 times during the year of 2007-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is -3.24 times, The Standard Deviation is 4.79 and The Co-efficient variance is -147.66% which shows solvency of this company because the average Working Capital Turnover Ratio shows dissatisfactory Ratio of during the study period.

5. **Bajaj Auto Ltd.**:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Bajaj Auto Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 147.24
times in the year 2010-11 and the lowest ratio was -26.01 times in the year 2009-10.

In the year 2003-04 the ratio was 3.44 times which has been decreased 3.18 times in the year 2004-05, further it has been increased up to 4.59 times in the year of 2005-06. During the year of 2010-11 it increased up to 147.24 times. It got fluctuated the ratios have been 4.01, 14.28, 7.59, -26.01, 12.67 and 20.44 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is 19.14 times, The Standard Deviation is 46.66 and The Co-efficient variance is 243.72% which shows solvency of this company because the average Working Capital Turnover Ratio shows satisfactory Ratio of during the study period.

6. **Hindustan Motors Limited**:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Hindustan Motors Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 45.45 times in the year 2004-05 and the lowest ratio was 48.47 times in the year 2008-09.

In the year 2003-04 the ratio was 9.52 times which has been increased 45.45 times in the year 2004-05, further it has been decreased up to -34.49 times during the year of 2005-06. During the year of 2008-09, it decreased up to 48.47 times. It got fluctuated the ratios have been 15.45, 39.37, -12.58, -14.60, -15.52 and -14.90 times during the year of 2006-08 and 2009-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is -3.08 times, The Standard Deviation is 30.23 and The Co-efficient variance is -981.88% which shows solvency of this company because the average Working Capital Turnover Ratio shows dissatisfactory Ratio of during the study period.

7. **Maruti Suzuki India Limited**:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Maruti Suzuki India Ltd during the year from 2003-2004 to 2012-2013, the highest ratio was 122.56 times in the year 2012-13 and the lowest ratio was 5.42 times in the year 2005-06.
In the year 2003-04 the ratio was 11.34 times which has been decreased 6.27 times in the year 2004-05, further it has been decreased up to 5.42 times during the year of 2005-06. During the year of 2012-13, it increased up to 122.56 times. It got fluctuated the ratios have been 6.19, 28.14, 8.35, 35.40, 17.18 and 23.37 times during the year of 2006-2012 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is 26.42 times, The Standard Deviation is 35.33 and The Co-efficient variance is 133.69% which shows solvency of this company because the average Working Capital Turnover Ratio shows satisfactory Ratio of during the study period.

8. **Mahindra and Mahindra Limited**:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Mahindra and Mahindra Limited during the year from 2003-2004 to 2012-2013, the highest ratio was 4.20 times in the year 2011-12 and the lowest ratio was 1.66 times in the year 2005-06.

In the year 2003-04 the ratio was 2.23 times which has been decreased 1.90 times in the year 2004-05, further it has been decreased up to 1.66 times during the year of 2005-06. During the year of 2011-12, it increased up to 4.20 times. It got fluctuated the ratios have been 1.70, 1.92, 2.09, 2.10, 3.75 and 4.05 times during the year of 2006-11 and2012-13respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is 2.56 times, The Standard Deviation is 1.01 and The Co-efficient variance is 39.58% which shows solvency of this company because the average Working Capital Turnover Ratio shows satisfactory Ratio of during the study period.

9. **Ashok Leyland**:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Ashok Leyland during the year from 2003-2004 to 2012-2013, the highest ratio was 19.51 times in the year 2011-12 and the lowest ratio was 3.55 times in the year 2004-05.

In the year 2003-04 the ratio was 4.42 times which has been decreased 3.55 times in the year 2004-05, further it has been increased up to 4.91 , 7.00 and 8.37 times in the
year of 2005-08 respectively. During the year of 2011-12, it increased up to 19.51 times. It got fluctuated the ratios were 4.72, 4.75, 13.26 and 14.17 times during the year of 2008-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is 8.47 times, The Standard Deviation is 5.38 and The Co-efficient variance is 63.58% which shows solvency of this company because the average Working Capital Turnover Ratio shows satisfactory Ratio of during the study period.

10. Tata Motors Limited:

Table No-5.7.7.1 shows that the Working Capital Turnover Ratio of the Tata Motors Limited during the year from 2003-2004 to 2012-13, the highest ratio was 223.63 times in the year 2010-11 and the lowest ratio was -293.74 times in the year 2011-12.

In the year 2003-04 the ratio was -24.22 times which has been increased 10.22 times in the year 2004-05, further it has been decreased up to 5.40 times in the year of 2005-06. During the year of 2010-11, it increased up to 223.63 times. It got fluctuated the ratios were 6.55, 16.62, 32.32, -11.29, -293.74 and -18.08 times during the year of 2006-10 and 2011-13 respectively. It has been also shown in the Graph No-5.7.7.1.

So, The Average Working Capital Turnover Ratio is -5.26 times, The Standard Deviation is 124.08 and The Co-efficient variance is -2359.80% which shows solvency of this company because the average Working Capital Turnover Ratio shows dissatisfactory Ratio of during the study period.

ANOVA TEST OF WORKING CAPITAL TURNOVER RATIO

Hypothesis:

❖ Ho: Null Hypothesis:

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

❖ H1: Alternative Hypothesis:

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

❖ Level of Significance: 5%
### TABLE NO-5.7.7.2

**WORKING 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>
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<tbody>
<tr>
<td>Between Groups</td>
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<td>9</td>
<td>3477.069</td>
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<td>0.692403</td>
<td>1.985595</td>
</tr>
<tr>
<td>Within Groups</td>
<td>436701.6</td>
<td>90</td>
<td>4852.24</td>
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<td>Total</td>
<td>467995.2</td>
<td>99</td>
<td></td>
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</tr>
</tbody>
</table>

- Degree of freedom = 100-1= 99
- Table Value of ‘F’ =1.98
- Calculate Value of ‘F’ = 0.72

\[
F_{cal} < F_{tab} \\
0.72 < 1.98 \\
F_{cal} < F_{tab}
\]

Table No-5.7.7.2 indicates the calculate value of ‘F’ is 0.71659 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 Average Collection Period of selected automobile industry under study for the period.
5.8 CONCLUSION:

Chapter titled “Analysis and Evaluation of Working Capital” describe that its one of the important measurement of the financial position of the business organization. The concept and nature of working capital or current assets denotes that Investment in current assets is turned over many times in a year. Investment in current assets such as inventories and book debts is realized during the firms operating cycle which is usually less than year.

Therefore measurement liquidity has its own important. Importance of liquidity describes that it’s lifeblood and controlling nerve center of the business. Without circulation of blood no one can live, just like without circulation of liquidity business can’t maintain. The performance of liquidity can be judged by investment in working capital, short-term creditors, and efficiency in working capital. In the present study there were six types of ratios was calculated i.e. current ratio, quick ratio, and inventory turnover ratio working capital turnover ratio, debtor turnover ratio, and average collection period. Thus above analysis describe that the need for liquidity to rub day-to-day business activities can’t be over emphasized.
5.9 **REFERENCES:**

A thesis submitted for the degree of Ph.D., Dept. of commerce and business administration” Saurashtra university, Rajkot,1990, P.12.
<table>
<thead>
<tr>
<th>No.</th>
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