8. Most of the companies expressed that they are aware about latest inventory stock techniques about EOQ model, ABC analysis and Just in Time.

9. Most of the companies know and also using the modern techniques to maintain and control the inventory in a proper manner. It indicates the efficiency of the industry to maintain stock levels at an appropriate manner.

8. Summary of Findings and Suggestions
Introduction

The present study on “A Comparative study on Working Capital Management in Pharmaceutical Industry” is broadly divided into two parts. The first part of the study is theoretical framework in nature. It covers theoretical review of literature on Working Capital Management and the detail pertaining to the growth and development of pharmaceutical industry in India and Andhra Pradesh is also included in this part. However, the second part of the study analytical in nature, and is concerned with the analysis of Structure, Composition and Sources of Working Capital in pharmaceutical companies listed in BSE from Andhra Pradesh. Further, the evaluation of working capital performance of individual firms with the use of selected financial ratios, Comparative evaluation of working capital performance with the use of selected financial ratios, impact of working capital on profitability and analyse the Working Capital Management Practices in pharmaceutical companies have been made in this part. Findings of both the parts of the study are summarised in the following paragraphs and also suggestions to the pharmaceutical companies to management of working capital.

Working Capital Management – Theoretical Review frame work

The term “working capital” in general refers to amount invested in current assets of the concern. In fact, these assets in the ordinary course of business can converted into cash within one accounting year. The major current assets are inventories, receivables and cash. On the other hand, current liabilities are those liabilities which are intended at their inception to be paid in the ordinary course of business normally within one accounting year, out of current assets or earnings of the firm. The basic current liabilities are bank credit, trade credit and other short term sources of fund.

Working capital is like heart of a business. If it becomes weak, the business can hardly prosper and survive. Just as the heart gets blood and circulates in the body, working capital funds are generated and circulated in the business. Its proper circulation provides to the business the right amount of cash to maintain regular flow of its operation. As and when this circulation stops,
the business becomes lifeless. Due to the reason, working capital is also known as circulating capital as it circulates in the business just like blood in the human body.

The mode of administration of working capital determines to a very large extent the success or failure of overall operations of an enterprise. Many times in the event of the failure of a manufacturing concern, shortage of working capital is given out as its main cause. Therefore, proper management of working capital is of crucial importance for the success of a firm. In fact Working Capital Management is the most important aspect of overall financial management. A concern must maintain satisfactory level of working capital Current assets should be large enough to cover current liabilities in order to ensure a reasonable margin of safety. The management of working capital involves all aspects of administration of current assets and current liabilities. It involves deciding upon the amount and composition of current assets and how to finance these assets. The goal of Working Capital Management is to manage current assets and current liabilities of a firm in such a way that an adequate level of working capital is maintained. Basically, there are two concepts of working capital viz., gross working capital, which is quantitative in nature and net working capital, which is qualitative in nature. The first is the total of the current assets of the firm where as the second is the excess of current assets over current liabilities. Usually the magnitude of current assets requirement is not always not constant, it increases and decreases over time. However, there is always a minimum level of current assets which is continuously required by a concern on its business operations. This minimum level of current assets is referred as permanent or fixed working capital. The need for working capital over and above the permanent working capital is treated as variable working capital or fluctuating working capital. Generally, permanent working capital is financed from long term source where as short term sources finance to fluctuating working capital. Besides this, the fixed and fluctuating working capital is also useful for estimating working capital needs for a firm. Efficient management of working capital involves vigilant determination of working capital requirements and formulating plans for meeting them.

Growth and development of Pharmaceutical industry in India and Andhra Pradesh
The Indian Pharmaceutical industry which is considered to be pioneer is a leading force at a global level with third place with an estimated worth $4.5 billion and escalating a growth of 9% per annum. The expansion since two decades is numerically high with registered units and qualitatively best. The figurative expression includes approximately 250 large units and about 8,000 small units which form core of the Pharmaceutical Industry. The industry is highlighted for bulk drug, drug intermediates, pharmaceutical formulations, chemicals, tablets, capsules, orals and injectibles with an utilitarian of 70% needs.

India’s pharmaceutical market grew at 15.7% during December 2011. Globally India ranks third in terms of manufacturing pharmaceutical products by volume. The Indian pharmaceutical industry is expected to grow at a rate 9.9% till 2010 and after that 9.5% till 2015. The Indian pharmaceutical market is expected to touch $ 74 billion sales by 2020 from $ 11 billion. The market has the further potential to reach $ 70 billion by 2020 in an aggressive growth scenario.

The Indian pharmaceutical industry is one of the fast growing sectors of the Indian economy and has made rapid strides over the years. The industry has achieved self-sufficiency and gained global recognition as a producer of low cost high quality bulk drugs and Lower cost of innovation and highly motivated scientists and human skills. Leading Indian companies have developed infrastructure in over 60 countries including developed markets like US and Europe. In the recent past, several pharmaceutical companies have demonstrated that they possess the ability to engage in commercially viable research and development activities and become significant players in the international market.

Pharmaceutical industry in India has been facing various problems which have hampered its growth and expansion. Its capital intensive in nature, Low Research and Development Budget, Inadequate Infrastructure, Diffused Industry structure, Limitations to domestic market size, Inadequate overseas marketing infrastructure, Lack of regulatory infrastructure, dependence on imports of raw materials, Lack of modernization and improved technology etc., can be mentioned in this regard which have almost ruined its prosperity. No doubt, the industry has
achieved remarkable results during plan eras, still it has not been progressed in consonance with the increased domestic demand, especially in the quality pharmaceutical sector.

The most nascent states in country is Andhra Pradesh for its complementary contribution in Pharmaceutical sector. Andhra Pradesh is second largest exports of formulation after Maharashtra. But the growth is commensurate with efficiency because we lacking behind formulation to beat out Gujarat.

The latent restriction of legal aspect particularly in production and pollution norms is detrimental to the growth in Pharmaceutical industry in Andhra Pradesh. Further the independence requires flexibility in said above are which may result in progress to the sector. The notable feature of Andhra Pradesh is that Anti HIV drug are produced in Andhra Pradesh and exported to western world. Aurobindo and Hetro Pharma are some leading renounced Pharmaceutical Companies in the Andhra Pradesh.

**Objectives and Methodology**

**Statement of the Problem:-**

The Indian pharmaceutical industry has proved to be country’s fastest growing segment, even in troubled times. The pharmaceutical industry has witnessed tremendous growth in last decade, fuelled by an increasing number of business expansions, acquisitions and green field projects funded both with domestic and foreign private investment.

The ultimate success of a firm is not measured only by its capacity to grow its sales, produce profits or generate cash from its operations.

An attempt has been made to analyses the Working Capital Management of pharmaceutical companies in Andhra Pradesh for a period of 10 years. As there are a few numbers of studies on this problem, the researcher preferred to study the Working Capital Management of pharmaceutical companies listed in BSE from Andhra Pradesh.
Need for the study:-

Pharmaceutical industry is the backbone of its economic growth. From the point of view of the socio economic development of the country, Pharmaceutical industry is significant enough in terms of investment, employment and exports etc., The management of working capital becomes less efficient in Pharmaceutical industry due to holding huge inventories, lower turnover, low debtors turnover and their slow recovery and holding large cash idle cash balances etc., These problems have always highlighted the need for a comprehensive study in the field of Working Capital Management. In the context of impressive performance of Pharmaceutical industry, the researcher has made an attempt to study the Working Capital Management in Pharmaceutical industry from Andhra Pradesh.

Objectives of the Study

The present study was undertaken by the researcher with the following objectives in view:

1. To ascertain the amount of working capital (both Gross and Net) and its correlation with the ‘sales’ of the pharmaceutical companies.
2. To analyse the patterns of investment in the components of gross working capital of the pharmaceutical companies.
3. To ascertain the patterns of financing the gross working capital of the pharmaceutical companies.
4. To evaluate the working capital performance of the pharmaceutical companies through the use of various financial ratios.
5. To assess the impact of working capital on profitability
6. To assess the Working Capital Management practices of pharmaceutical companies in Andhra Pradesh.
7. To suggest measures for the better utilisation of resources related to working capital management.
Sources of the Data

This study considers both primary and secondary data.

Primary data

Questionnaire was designed to collect information about the perception of the management of pharmaceutical companies in terms of receivables management, inventory management and cash management. It also attempted to assess the problems faced by the pharmaceutical companies and changes in their operations and how individual companies are cope with changing the global conditions

Questions were framed to elicit free and frank response from the respondents. No formal sequence was maintained to cross check consistency of responses.

Secondary data

The information relating to the number of sample companies and their financial statements for the period from 2002-03 to 2011-12 have been obtained from CMIE PROWESS databases. In addition, the data relating to the growth and development of pharmaceutical companies in Andhra Pradesh and other theoretical portion have been collected from different books and journals on trade and commerce.

Limitations of the Study

The study is made depending largely on the secondary financial data, obtained from the CMIE PROWESS databases. As the data collected from the above source are not detail in nature, therefore, the study incorporates all the limitation that is inherent in the published financial statements. Again, the size of the sample is small and is restricted to Eleven only; whereas, hundreds of pharmaceutical companies working in Andhra Pradesh. Therefore, the limitation of the small sample applies of the study. Limited time of research and resources may
be considered as other limitation of the study. Therefore, the researcher of the study may make use of the findings with much care and prudence.

- The present study confined to 11 select pharmaceutical companies in Andhra Pradesh which are purposely chosen, because of proximity and convenience of the researcher
- The results of the study relating to select pharmaceutical companies in Andhra Pradesh only.
- The present study is limited to 10 years only.
- The study is based on secondary data collected from the database
- Apart from few statistical analyses, the study has been carried out mainly by employing ratio technique.
- Since the company’s management staffs are very busy, all the interviews are done under limited time period. Finally, the conclusions and recommendations are based on the data analysed, hence they are valid only to the extent of the validity of the data.

**Structure, Sources and Utilisation of Working Capital Management**

The purpose of the present chapter is to examine the issues like how large is the investment in working capital and its various components and its various components have been utilised efficiently by the selected Pharmaceutical companies of Andhra Pradesh during the period of under study which are as follows.

1. Analysis of Gross and Net Working Capital trend
2. The analysis of structure and composition of working capital of the companies have been attempted.
3. Analysis of sources of working capital financing has been properly dealt.

**I Working capital analysis**

1. Aurobindo

   It has been observed during the course of analysis that the absolute figures of gross working capital of Aurobindo, on an average, increased over the period under study. However,
during the year 2011-12 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.962 with 1% level of significance for the entire period under study.

The indices of net working capital of Aurobindo showed an overall increasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years except 2011-12. However, it is to be noted that during the year 2007-08, 2009-10 and 2011-12, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.902 with 1% level significance for the entire study period under study.

2. Dr Reddys

It has been observed during the course of analysis that the absolute figures of gross working capital of Dr Reddys, on an average, increased over the period under study. However, during the year 2007-08 and 2009-10 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly
influenced by its close association between these two items was observed to be 0.969 with 1% level of significance for the entire period under study.

The indices of net working capital of Dr Reddys showed an overall increasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2003-04 and 2009-10, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.902 with 1% level significance for the entire study period under study.

3. Natco

It has been observed during the course of analysis that the absolute figures of gross working capital of Natco, on an average, increased over the period under study. However, during the year 2003-04 and 2005-06 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.937 with 1% level of significance for the entire period under study.

The indices of net working capital of Natco showed an overall increasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current
assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2009-10, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.775 with 1% level significance for the entire study period under study.

4. Divis

It has been observed during the course of analysis that the absolute figures of gross working capital of Divis, on an average, increased steadily over the period under study.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.968 with 1% level of significance for the entire period under study.

The indices of net working capital of Divis showed an overall increasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2009-10, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.486 for the entire study period under study.
5. SMS

It has been observed during the course of analysis that the absolute figures of gross working capital of SMS, on an average, increased not steadily over the period under study. However, during the year 2007-08 and 2009-10 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.885 with 1% level of significance for the entire period under study.

The indices of net working capital of SMS showed an overall increasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2009-10, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.857 with 1% significance for the entire study period under study.

6. Suven

It has been observed during the course of analysis that the absolute figures of gross working capital of Suven, on an average, increased not steadily over the period under study. However, during the year 2008-09 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.
While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.939 with 1% level of significance for the entire period under study.

The indices of net working capital of Suven showed an overall increasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2004-05, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.803 with 1% significance for the entire study period under study.

7. Vivimed

It has been observed during the course of analysis that the absolute figures of gross working capital of Vivimed, on an average, increased not steadily over the period under study. However, during the year 2003-04 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.981 with 1% level of significance for the entire period under study.
The indices of net working capital of Vivimed showed an overall increasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2003-04 and 2004-05, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.982 with 1% significance for the entire study period under study.

8. Jupiter

It has been observed during the course of analysis that the absolute figures of gross working capital of Jupiter, on an average, increased steadily over the period under study. However, during the year 2003-04 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years. While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.983 with 1% level of significance for the entire period under study.

The indices of net working capital of Jupiter showed an overall increasing trend from the year 2002-03 to 2010-11 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2004-05, the company maintained a comparatively lower volume of net working
capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.976 with 1% significance for the entire study period under study.

9. Godavari

It has been observed during the course of analysis that the absolute figures of gross working capital of Godavari, on an average, decreased not steadily over the period under study. However, during the year 2007-08 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed downward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was highly influenced by its close association between these two items was observed to be 0.650 with 5% level of significance for the entire period under study.

The indices of net working capital of Godavari showed an overall decreasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2007-08 and 2008-09, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be -0.296 with 1% significance for the entire study period under study.
10. Kerbs

It has been observed during the course of analysis that the absolute figures of gross working capital of Krebs, on an average, increased not steadily over the period under study. However, during the year 2008-09 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.

While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed downward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was very low influenced by its close association between these two items was observed to be 0.067 for the entire period under study.

The indices of net working capital of Godavari showed an overall decreasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current liabilities during the mentioned years. The reason behind it was a comparatively high growth in the amount of current assets over the current liabilities during these mentioned years. However, it is to be noted that during the year 2011-12, the company maintained a comparatively lower volume of net working capital than their respective previous year and hence, registered an ill liquidity position in the mentioned year.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.143 for the entire study period under study.

11. Vista

It has been observed during the course of analysis that the absolute figures of gross working capital of Vista, on an average, increased not steadily over the period under study. However, during the year 2003-04 the concern maintained a comparatively lower volume of the gross working capital in comparison to their respective previous years.
While examining the growth trends of sales and gross working capital of this concern, it is found that both the trends showed upward movement over the period under study, though not steadily. Moreover, it is ascertained that the gross working capital of the concern was very low influenced by its close association between these two items was observed to be 0.497 for the entire period under study.

The indices of net working capital of Vista showed an overall decreasing trend from the year 2002-03 to 2011-12 in spite of an increase in the amount of current assets during the mentioned years. The reason behind it was a comparatively high growth in the amount of current liabilities over the current assets during these mentioned years, which, in turn, worsened the fiscal health of concern during these years except 2005-06. However, it is to be noted that during the year 2005-06 the company was able to revitalize its fiscal health.

As per the statistical calculation, it is found that both sales and net working capital of the company were positively correlated to each other as the coefficient of correlation between them was found to be 0.631 for the entire study period under study.

The growth indices of both sales and gross working capital of selected Pharmaceutical companies showed overall increasing trends from 2002-03 to 2011-12. However, both the trends moved in a fluctuating trend over the years. The growth indices of both sales and net working capital of selected Pharmaceutical companies showed overall increasing trends from 2002-03 to 2011-12. However, both the trends moved in a fluctuating trend over the years and the fluctuation is more frequent in case of net working capital than sales.

The difference between actual values and trend values of Gross working Capital is Significant at 5% level of significance by using Chi Square test except Suven, Godavari, Krebs and Vista. The difference between actual values and trend values of net working Capital is Significant at 5% level of significance by using Chi Square test except Suven, Godavari and Krebs.
Analysis of variance (F Test) in Gross Working Capital (Total Industry):

The calculated value of F ratio between the years is 5.54 and F ratio between the companies is 7.92. The table value of F at 1 percent and 5 percent levels of significance for $V_1=9$ and $V_2=90$ are 2.61 and 1.98 respectively. Similarly, the values of F at 1 percent and 5 percent levels of significance for $V_1=10$ and $V_2=90$ are 2.52 and 1.93 respectively. Since the calculated values of F between the years and between the companies are more than the table values both at 1 percent and 5 percent levels of significance, the difference is the indices of Gross working capital between the years among the selected Pharmaceutical companies and indices of Gross Working Capital between the companies among the different years is significant.

Analysis of variance (F Test) in Net Working Capital (Total Industry):

The calculated value of F ratio between the years is 5.79 and F ratio between the companies is 7.41. The table value of F at 1 percent and 5 percent levels of significance for $V_1=9$ and $V_2=90$ are 2.61 and 1.98 respectively. Similarly, the values of F at 1 percent and 5 percent levels of significance for $V_1=10$ and $V_2=90$ are 2.52 and 1.93 respectively. Since the calculated values of F between the years and between the companies are more than the table values both at 1 percent and 5 percent levels of significance, the difference is the indices of Net working capital between the years among the selected Pharmaceutical companies and indices of Net Working Capital between the companies among the different years is significant.

On the basis of the analysis, it may be concluded that performance of individual Pharmaceutical companies is significantly different with the standards of Industry. Either the companies are above industry standards or they are below the company standards with regard to Working Capital.

II Composition of Gross working capital:

After assessing the Working Capital trends, the size of each component of Working Capital relative to total is calculated and presented in a table for each company and as well as industry.
1. **Aurobindo**

   Among the various components of gross working capital of Aurobindo, Sundry debtor got the major share of around 41%. Inventory occupied the second rank. Its share was nearly 30% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 2% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 26% of the current assets. However the sundry debtors being the major segment influenced the growth of current assets of the company during the period under study.

2. **Dr Reddys**

   Among the various components of gross working capital of Dr Reddys, Sundry debtor got the major share of around 30%. Inventory occupied the second rank. Its share was nearly 19% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 2% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 49% of the current assets. However the sundry debtors being the major segment influenced the growth of current assets of the company during the period under study.

3. **Natco**

   Among the various components of gross working capital of Natco, Inventory got the major share of around 30%. Sundry debtor occupied the second rank. Its share was nearly 26% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 6% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 38% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.
4. Divis

Among the various components of gross working capital of Divis, Inventory got the major share of around 50%. Sundry debtor occupied the second rank. Its share was nearly 36% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 1% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 13% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.

5. SMS

Among the various components of gross working capital of SMS, Inventory got the major share of around 38%. Sundry debtor occupied the second rank. Its share was nearly 32% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 6% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 24% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.

6. Suven

Among the various components of gross working capital of Suven, Inventory got the major share of around 38%. Sundry debtor occupied the second rank. Its share was nearly 29% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 1% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 38% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.

7. Vivimed
Among the various components of gross working capital of Vivimed, Sundry debtor got the major share of around 42%. Inventory occupied the second rank. Its share was nearly 36% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 2% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 20% of the current assets. However the Sundry Debtors being the major segment influenced the growth of current assets of the company during the period under study.

8. Jupiter

Among the various components of gross working capital of Jupiter, Inventory got the major share of around 47%. Sundry debtor occupied the second rank. Its share was nearly 34% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 3% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 16% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.

9. Godavari

Among the various components of gross working capital of Godavari, Inventory got the major share of around 46%. Sundry debtor occupied the second rank. Its share was nearly 15% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 1% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 38% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.

10. Krebs
Among the various components of gross working capital of Krebs, Inventory got the major share of around 38%. Sundry debtor occupied the second rank. Its share was nearly 31% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 1% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 30% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.

11. Vista

Among the various components of gross working capital of Vista, Inventory got the major share of around 46%. Sundry debtor occupied the second rank. Its share was nearly 8% of total current assets. The cash and bank balance is vital component of gross working capital. On an average, it had a share of around 20% in total volume available. The rest of the current assets as a whole termed as ‘miscellaneous current assets’. Its share was 26% of the current assets. However the Inventory being the major segment influenced the growth of current assets of the company during the period under study.

To Sum up, different companies have employed investment in inventories, debtors and cash with varying degree of efficiency. The companies show relatively high fluctuations in the components during the period under study. It may be inferred from the above analysis that inventory which has formed a major component of working capital in the selected Pharmaceutical companies registered a Fluctuated trend during the recent years. Receivables constitute the second important component of current assets followed by cash and other current assets. The other current assets also are very significant in this industry.

However the above analysis of individual companies is differing with the analysis of industry. All components of companies sum up, it may be inferred that Sundry Debtors which has formed a major component of working capital in the Pharmaceutical industry. Inventories constitute the second important component of current assets followed by cash and other current assets. The other current assets are also are very significant in this industry.
III Sources of Gross working capital

A business firm has various sources to meet its financial requirements. Normally, the current assets of a firm are supported by a combination of long term and short term sources of financing. The long term sources of finance provide support for a small part of current assets requirement which is called the net working capital or working capital margin. The short term sources of finance, referred to also current liabilities, provide the major support for current assets.

1. Aurobindo

Among all short term sources, current liabilities being the leader had provided an average of 26% of funds required for current assets. Provisions to be the second source which was financed 2% of the current assets during the study period. All the short term sources, taken together, financed 28% of the current assets of Aurobindo. The long term sources including equity and long term loans, as a whole, also provided an average of 72% of current assets of the company during the period of study.

2. Dr Reddys

Among all short term sources, current liabilities being the leader had provided an average of 27% of funds required for current assets. Provisions to be the second source which was financed 9% of the current assets during the study period. All the short term sources, taken together, financed 36% of the current assets of Dr Reddys. The long term sources including equity and long term loans, as a whole, also provided an average of 64% of current assets of the company during the period of study.
3. Natco

Among all short term sources, current liabilities being the leader had provided an average of 47% of funds required for current assets. Provisions to be the second source which was financed 2% of the current assets during the study period. All the short term sources, taken together, financed 49% of the current assets of Natco. The long term sources including equity and long term loans, as a whole, also provided an average of 51% of current assets of the company during the period of study.

4. Divis

Among all short term sources, current liabilities being the leader had provided an average of 34% of funds required for current assets. Provisions to be the second source which was financed 8% of the current assets during the study period. All the short term sources, taken together, financed 49% of the current assets of Divis. The long term sources including equity and long term loans, as a whole, also provided an average of 58% of current assets of the company during the period of study.

5. SMS

Among all short term sources, current liabilities being the leader had provided an average of 36% of funds required for current assets. Provisions to be the second source which was financed 5% of the current assets during the study period. All the short term sources, taken together, financed 41% of the current assets of SMS. The long term sources including equity and long term loans, as a whole, also provided an average of 59% of current assets of the company during the period of study.

6. Suven

Among all short term sources, current liabilities being the leader had provided an average of 45% of funds required for current assets. Provisions to be the second source which was
financed 14% of the current assets during the study period. All the short term sources, taken together, financed 59% of the current assets of Suven. The long term sources including equity and long term loans, as a whole, also provided an average of 41% of current assets of the company during the period of study.

7. **Vivimed**

Among all short term sources, current liabilities being the leader had provided an average of 31% of funds required for current assets. Provisions to be the second source which was financed 4% of the current assets during the study period. All the short term sources, taken together, financed 35% of the current assets of Vivimed. The long term sources including equity and long term loans, as a whole, also provided an average of 65% of current assets of the company during the period of study.

8. **Jupiter**

Among all short term sources, Provisions being the leader had provided an average of 15% of funds required for current assets. Current liabilities to be the second source which was financed 10% of the current assets during the study period. All the short term sources, taken together, financed 25% of the current assets of Jupiter. The long term sources including equity and long term loans, as a whole, also provided an average of 75% of current assets of the company during the period of study.

9. **Godavari**

Among all short term sources, current liabilities being the leader had provided an average of 34% of funds required for current assets. Provisions to be the second source which was financed 3% of the current assets during the study period. All the short term sources, taken together, financed 37% of the current assets of Godavari. The long term sources including equity and long term loans, as a whole, also provided an average of 63% of current assets of the company during the period of study.
10. Krebs

Among all short term sources, current liabilities being the leader had provided an average of 34% of funds required for current assets. Provisions to be the second source which was financed 3% of the current assets during the study period. All the short term sources, taken together, financed 37% of the current assets of Krebs. The long term sources including equity and long term loans, as a whole, also provided an average of 63% of current assets of the company during the period of study.

11. Vista

Among all short term sources, current liabilities being the leader had provided an average of 240% of funds required for current assets. Provisions to be the second source which was financed 2% of the current assets during the study period. All the short term sources, taken together, financed 242% of the current assets of Vista. The long term sources including equity and long term loans, as a whole, also provided an average of -141.74% of current assets of the company during the period of study. From the above analysis the company is depend on the current liabilities to produce the goods.

The long term debts are costlier than the short term debts and are taken as the base to comment on the performance of working capital management of the company. Increasing dependence on the long term sources of financing working capital in all Pharmaceutical units depicts the incapability of the company to make efficient management of its current assets namely receivables and inventories.

**Evaluation of Working Capital performance through Ratio Analysis**

In the present section an attempt has been made to assess the liquidity position of individual companies, comparative analysis of liquidity position of pharmaceutical companies
and its relationship with the profitability in the selected Pharmaceutical companies in Andhra Pradesh during 2002-03 to 2011-12 which are as follows.

1. Assessment of liquidity position of Pharmaceutical companies (individual companies).
2. Comparative study of liquidity Position of Pharmaceutical companies.
3. Impact of Working capital on profitability

1. Assessment of liquidity position of Pharmaceutical companies

1. Aurobindo

With regard to the Aurobindo, it is observed that the current ratio had fluctuated over the study period. It showed an increasing trend, on an average, from the year 2002-03 to 2006-07. Since then, it went on decreasing over the years. This ratio was 2.86 in the year 2002-03 in the first year of the study while it was 2.73 in the last year of the study. However, the average current ratio of the company was 3.75 which is more than 2.67, the average ratio of the industry. Thus, the company managed its business with better efficiency and improved short term solvency position as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 263% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was sound in comparison to the industry.

The average Debtors turnover ratio of the company was 2.86 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 128 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore, in comparison to the industry, the company showed an inefficient collection performance.

The inventory turnover ratio of the company showed a decreasing trend during the period under study. It was 5.86 times in the year 2002-03, while in the year 2011-12 it was 3.59 times. Again, the average inventory turnover ratio of the company was 4.01 times or 94 days, while that
of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between 1.10 and 2.41 during the study period and it was highest in the year 2002-03. The wide fluctuation is obvious. The higher turnover rate in the years 2002-03, 2011-12 and 2003-04 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under

2. Dr Reddys

With regard to the Dr Reddys, it is observed that the current ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 4.49 in the year 2002-03 in the first year of the study while it was 2.49 in the last year of the study. However, the average current ratio of the company was 2.91 which is more than 2.67, the average ratio of the industry. Thus, the company managed its business with better efficiency and improved short term solvency position as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 237% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was sound in comparison to the industry.

The average debtors turnover ratio of the company was 3.72 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 100 days to collect its debts against 92 days in case of industry as a whole during the study period. Therefore, in comparison to the industry, the company showed an inefficient collection performance.

The inventory turnover ratio of the company showed a decreasing trend during the period under study. It was 6.74 times in the year 2002-03, while in the year 2011-12 it was 5.11 times.
Again, the average inventory turnover ratio of the company was 5.75 times or 65 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between 1.19 and 2.53 during the study period and it was highest in the year 2009-10. The wide fluctuation is obvious. The higher turnover rate in the years 2009-10, 2010-11 and 2011-12 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

3. Natco

With regard to the Natco, it is observed that the current ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 2.59 in the year 2002-03 in the first year of the study while it was 1.68 in the last year of the study. However, the average current ratio of the company was 2.10 which is less than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business declined and its short-term solvency position also deteriorated as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 148% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was weaker than the industry.

The average debtors turnover ratio of the company was 4.96 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 81 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore, the concern was enough prompt in collection of its debts in comparison to the industry.
The inventory turnover ratio of the company showed an increasing trend during the period under study. It was 3.15 times in the year 2002-03, while in the year 2011-12 it was 4.51 times. Again, the average inventory turnover ratio of the company was 4.11 times or 90 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between 1.36 and 4.56 during the study period and it was highest in the year 2009-10. The wide fluctuation is obvious. The higher turnover rate in the years 2009-10 and 2011-12 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

4. Divis

With regard to the Divis, it is observed that the current ratio had fluctuated over the study period. It showed a fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 1.74 in the year 2002-03 in the first year of the study while it was 2.32 in the last year of the study. However, the average current ratio of the company was 2.45 which is less than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business declined and its short-term solvency position also deteriorated as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 121% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was weaker than the industry.

The average debtors turnover ratio of the company was 3.98 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 93 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore, both, the company and the industry, showed almost equal efficiency regarding the management of debtors.
The inventory turnover ratio of the company showed an increasing trend during the period under study. It was 3.84 times in the year 2002-03, while in the year 2011-12 it was 2.86 times. Again, the average inventory turnover ratio of the company was 2.91 times or 131 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was deteriorated than the industry.

The working capital turnover ratio of the company varied between 1.80 and 4.27 during the study period and it was highest in the year 2002-03. The wide fluctuation is obvious. The higher turnover rate in the years 2002-03, 2006-07 and 2007-08 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

5. SMS

With regard to the SMS, it is observed that the current ratio had fluctuated over the study period. It showed a fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 1.79 in the year 2002-03 in the first year of the study while it was 2.39 in the last year of the study. However, the average current ratio of the company was 2.64 which is less than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business declined and its short-term solvency position also deteriorated as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 164% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was weaker than the industry.

The average debtors turnover ratio of the company was 4.37 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 89 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore, the concern was enough prompt in collection of its debts in comparison to the industry.
The inventory turnover ratio of the company showed a fluctuating trend during the period under study. It was 3.19 times in the year 2002-03, while in the year 2011-12 it was 1.69 times. Again, the average inventory turnover ratio of the company was 3.88 times or 108 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between 1.16 and 3.75 during the study period and it was highest in the year 2003-04. The wide fluctuation is obvious. The higher turnover rate in the years 2002-03, 2003-04 and 2004-05 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

6. Suven

With regard to the Suven, it is observed that the current ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 1.32 in the year 2002-03 in the first year of the study while it was 1.52 in the last year of the study. However, the average current ratio of the company was 1.75 which is less than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business declined and its short-term solvency position also deteriorated as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 119% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was weaker than the industry.

The average debtors turnover ratio of the company was 5.11 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 78 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore, the concern was enough prompt in collection of its debts in comparison to the industry.
The inventory turnover ratio of the company showed a fluctuating trend during the period under study. It was 4.08 times in the year 2002-03, while in the year 2011-12 it was 4.40 times. Again, the average inventory turnover ratio of the company was 4.30 times or 87 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between 2.40 and 5.66 during the study period and it was highest in the year 2002-03. The wide fluctuation is obvious. The higher turnover rate in the years 2002-03, 2004-05 and 2011-12 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

7. Vivimed

With regard to the Vivimed, it is observed that the current ratio had fluctuated over the study period. It showed a fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 2.74 in the year 2002-03 in the first year of the study while it was 4.33 in the last year of the study. However, the average current ratio of the company was 3.15 which is more than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business better and its short-term solvency position also improved as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 208% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was sound than the industry.

The average debtors turnover ratio of the company was 3.67 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 104 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore, in comparison to the industry, the company showed an inefficient collection performance.
The inventory turnover ratio of the company showed a fluctuating trend during the period under study. It was 4.60 times in the year 2002-03, while in the year 2011-12 it was 5.18 times. Again, the average inventory turnover ratio of the company was 4.40 times or 86 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between 1.28 and 4.95 during the study period and it was highest in the year 2003-04. The wide fluctuation is obvious. The higher turnover rate in the years 2003-04 and 2004-05 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

8. Jupiter

With regard to the Jupiter, it is observed that the current ratio had fluctuated over the study period. It showed a fluctuating trend, on an average, from the year 2002-03 to 2010-11. This ratio was 3.99 in the year 2002-03 in the first year of the study while it was 3.83 in the last year of the study. However, the average current ratio of the company was 3.84 which is more than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business better and its short-term solvency position also improved as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 207% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was sound than the industry.

The average debtors turnover ratio of the company was 4.70 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 81 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore, the concern was enough prompt in collection of its debts in comparison to the industry.
The inventory turnover ratio of the company showed a fluctuating trend during the period under study. It was 4.03 times in the year 2002-03, while in the year 2010-11 it was 3.76 times. Again, the average inventory turnover ratio of the company was 3.41 times or 108 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between 1.64 and 2.86 during the study period and it was highest in the year 2004-05. The wide fluctuation is obvious. The higher turnover rate in the years 2003-04, 2004-05 and 2005-06 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

9. **Godavari**

With regard to the Godavari, it is observed that the current ratio had fluctuated over the study period. It showed a fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 1.45 in the year 2002-03 in the first year of the study while it was 1.26 in the last year of the study. However, the average current ratio of the company was 2.10 which is less than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business declined and its short-term solvency position also deteriorated as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 116% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was weaker than the industry.

The average debtors turnover ratio of the company was 6.57 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 76 days to collect its debts as
against 92 days in case of industry as a whole during the study period. Therefore, the concern was enough prompt in collection of its debts in comparison to the industry.

The inventory turnover ratio of the company showed a fluctuating trend during the period under study. It was 5.34 times in the year 2002-03, while in the year 2011-12 it was 1.04 times. Again, the average inventory turnover ratio of the company was 2.00 times or 241 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was deteriorated than the industry.

The working capital turnover ratio of the company varied between 0.54 and 7.13 during the study period and it was highest in the year 2002-03. The wide fluctuation is obvious. The higher turnover rate in the years 2002-03, 2007-08 and 2011-12 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

11. Krebs

With regard to the Krebs, it is observed that the current ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 3.27 in the year 2002-03 in the first year of the study while it was 1.83 in the last year of the study. However, the average current ratio of the company was 2.83 which are more than 2.67, the average ratio of the industry. Therefore, the efficiency with which the company managed its business better and its short-term solvency position also improved as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 174% of its current liabilities during study period, while in case of industry it was 176%. However, this ratio pointed out that, the immediate liquidity position of the concern was weaker than the industry.
The average debtor’s turnover ratio of the company was 2.95 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 169 days to collect its debts as against 92 days in case of industry as a whole during the study period. Therefore in comparison to the industry, the concern was showed an inefficient collection performance.

The inventory turnover ratio of the company showed a fluctuating trend during the period under study. It was 5.40 times in the year 2002-03, while in the year 2011-12 it was 2.49 times. Again, the average inventory turnover ratio of the company was 2.18 times or 221 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was deteriorated than the industry.

The working capital turnover ratio of the company varied between 0.56 and 2.01 during the study period and it was highest in the year 2011-12. The wide fluctuation is obvious. The higher turnover rate in the years 2002-03 and 2011-12 indicated that the fiscal health of the company was weaker and it did have a lower proportion of net working capital in these mentioned years than in the rest of the years under the study.

11. Vista

With regard to the Vista, it is observed that the current ratio had fluctuated over the study period. It showed a fluctuating trend, on an average, from the year 2002-03 to 2011-12. This ratio was 0.44 in the year 2002-03 in the first year of the study while it was 0.29 in the last year of the study. However, the average current ratio of the company was 2.19 which is less than 2.67, the average ratio of the industry. This ratio is showed on an average from 2002-03 to 2011-12 was 0.42 excluding the year 2005-06. This is due to the increase this ratio during period in 2005-06 at 18.08. Therefore, the efficiency with which the company managed its business declined and its short-term solvency position also deteriorated as compared to the industry as a whole.

Quick ratio, a more stringent test showed that the company on an average had the liquid assets equivalent to 193% of its current liabilities during study period, while in case of industry it was 176%. This ratio is showed on an average from 2002-03 to 2011-12 was 0.22 excluding the
year 2005-06. This is due to the increase this ratio during period in 2005-06 at 17.31. However, this ratio pointed out that, the immediate liquidity position of the concern was weaker than that of the industry.

The average debtor’s turnover ratio of the company was 4.43 times, while that of industry was 4.31 times. It means, the company had taken, on an average, 16 days to collect its debts as against 92 days in case of industry as a whole during the study period. However, this is due to the company is not finding debtors from 2006-07 to 2011-12. As a result debtors stand for the years from 2002-03 to 2005-06 only at an average of 11.08 (40 days). Therefore in comparison to the industry, the concern was showed an efficient collection performance.

The inventory turnover ratio of the company showed a fluctuating trend during the period under study. It was 5.75 times in the year 2002-03, while in the year 2011-12 it was 3.15 times. Again, the average inventory turnover ratio of the company was 5.48 times or 82 days, while that of the industry was 3.81 times or 119 days. Therefore, the efficiency with which company sold its inventory was better than the industry.

The working capital turnover ratio of the company varied between -10.90 and 0.47 during the study period and it was highest in the year 2005-06. The wide fluctuation is obvious. The negative turnover rate from 2002-03 to 2011-12 except 2005-06 indicated that the concern was suffering from a severe deficiency of working capital in these mentioned years and hence the company was the worst of all the years under study.

Comparative evaluation of working capital performance with the use of selected financial ratios

With regard to the all companies, it is observed that the current ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. The average current ratio of the industry was 2.67. If it is compared with the individual units, Aurobindo(3.75), Dr Reddys(2.91), Vivimed(3.15), Jupiter(3.84) and Krebs(2.83) are higher.
than the current ratio of industry(2.67). Therefore, the efficiency with which the companies managed its business better and its short-term solvency position also improved as compared to the industry as whole. While Natco(2.10), Divis(2.45), SMS(2.64), Suven(1.75), Godavari(2.10) and Vista(2.19) is less than the current ratio of industry(2.67). Therefore, the efficiency with which the companies managed its business declined and its short-term solvency position also deteriorated as compared to the industry as a whole.

Analysis of variance (F Test) in Current Ratio (Total Industry)

The calculated value of F ratio between the years is 0.80 and F ratio between the companies is 1.37. The table value of F at 1 percent and 5 percent levels of significance for $V_1=9$ and $V_2=90$ are 2.61 and 1.98 respectively. Similarly, the values of F at 1 percent and 5 percent levels of significance for $V_1=10$ and $V_2=90$ are 2.52 and 1.93 respectively. Since the calculated values of F between the years and between the companies are less than the table values both at 1 percent and 5 percent levels of significance, the difference is the Current Ratio between the years among the selected Pharmaceutical companies and Current ratio between the companies among the different years is not significant.

With regard to the all companies, it is observed that the Quick ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. The average Quick ratio of the industry was 1.76. If it is compared with the individual units, Aurobindo(2.63), Dr Reddys(2.37), Vivimed(2.08), Jupiter(2.07) and Vista(1.93) are higher than the Quick ratio of industry(1.76). However, these ratios pointed out that, the immediate liquidity position of the concerns were sound than that of the industry. While Natco(1.48), Divis(1.21), SMS(1.64), Suven(1.19), Godavari(1.16) and krebs(1.74) is less than the Quick ratio of industry(1.76). However, these ratios pointed out that, the immediate liquidity position of the concerns were weaker than that of the industry.

Analysis of variance (F Test) in Quick Ratio (Total Industry)

The calculated value of F ratio between the years is 0.83 and F ratio between the companies is 0.83. The table value of F at 1 percent and 5 percent levels of significance for $V_1=9$ and $V_2=90$ are 2.61 and 1.98 respectively. Similarly, the values of F at 1 percent and 5 percent
levels of significance for $V_1=10$ and $V_2=90$ are 2.52 and 1.93 respectively. Since the calculated values of $F$ between the years and between the companies are less than the table values both at 1 percent and 5 percent levels of significance, the difference is the Current Ratio between the years among the selected Pharmaceutical companies and Current ratio between the companies among the different years is not significant.

With regard to the all companies, it is observed that the Debtors turnover ratio had fluctuated over the study period except Vista. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. But in case of Vista it showed a decreasing trend from 2002-03 to 2005-06 and thereafter there is no debtors for the rest of the study period. The average Debtors turnover ratio of the industry was 4.31(92 days). If we compare this with the individual units, Natco(4.96), SMS(4.37), Suven(5.11), Jupiter (4.70) Godavari (6.57) and Vista (4.43) is more than the industrial average of debtors turnover ratio. Thus, it can be said that there was promptness in the collection of debts by the respective concerns over the study period. Accordingly, its collection period compare this with the individual units, Natco (81 days), SMS (89 days), Suven (78 days), Jupiter (81 days), Godavari (76 days) and Vista (16 days) is less than the industrial average collection period of 92 days. This is good sign for the future of the respective concerns as average time lag in no of days between the credit sales and collection thereof was narrowing. Therefore in comparison to the industry, the concerns were showed an efficient collection performance. While Aurobindo (2.86), Dr Reddys(3.72), Divis (3.98), Vivimed(3.67) and krebs(2.95) is lower than the industrial average of debtors turnover ratio. Thus it can say that there was laxity in the collection of debts by respective concerns over the study period. Accordingly, its collection period compare this with the individual units as per Table 4.48, Aurobindo(128 days), Dr Reddys ( 100 days), Divis (93 days), Vivimed (104 days) and krebs(170 days) is more than the combined average collection period of 92 days. This is not a good sign for the future of the respective concerns as average time lag between the credit sales and collection thereof was widening. Therefore, the efficiency with which companies sold its inventory was deteriorated than the industry.

Analysis of variance (F Test) in Debtors Turnover Ratio (Total Industry):
The calculated value of F ratio between the years is 0.86 and F ratio between the companies is 1.78. The table value of F at 1 percent and 5 percent levels of significance for $V_1=9$ and $V_2= 90$ are 2.61 and 1.98 respectively. Similarly, the values of F at 1 percent and 5 percent levels of significance for $V_1=10$ and $V_2=90$ are 2.52 and 1.93 respectively. Since the calculated values of F between the years and between the companies are less than the table values both at 1 percent and 5 percent levels of significance, the difference is the Debtors turnover ratio between the years among the selected Pharmaceutical companies and Debtors turnover ratio between the companies among the different years is not significant.

Analysis of variance (F Test) in Average Collection Period (Total Industry):

The calculated value of F ratio between the years is 1.54 and F ratio between the companies is 13.13. The table value of F at 1 percent and 5 percent levels of significance for $V_1=9$ and $V_2= 90$ are 2.61 and 1.98 respectively. Similarly, the values of F at 1 percent and 5 percent levels of significance for $V_1=10$ and $V_2=90$ are 2.52 and 1.93 respectively. Since the calculated values of F between the years are less than the table values both at 1 percent and 5 percent levels of significance, the difference is the Average collection period between the years among the selected Pharmaceutical companies is not significant. Since the calculated values of F between the companies are more than the table values both at 1 percent and 5 percent levels of significance, the difference is the Average collection period between the companies among the selected Pharmaceutical companies is significant.

With regard to the all companies, it is observed that the Inventory Turnover ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. The average Inventory turnover ratio of the industry was 3.81(119 days). If it is compare this with the individual units, Aurobindo (4.01), Dr Reddys (5.75), Natco (4.11), SMS (3.88), Suven (4.30), Vivimed(4.40), and Vista (5.48) is more than the industrial average of inventory turnover ratio. So, it implies an efficient management of inventories over the period of study. Accordingly, its stockholding period compare this with the individual units, Aurobindo (94 days), Dr Reddys (65 days), Natco (90 days), SMS (108 days), Suven (87 days), Vivimed(87 days), and Vista (82 days) is less than the industrial average collection period of 119 days. From the above analysis, it can be concluded that the inventory management of the companies
were better in comparison to the industry as a whole. While Divis (2.91), Godavari (2.00) and krebs (2.18) is lower than the industrial average of debtors turnover ratio. So, it implies an inefficient management of inventories over the period of study. Accordingly, its stock holding period compare this with the individual units, While Divis (132 days), Godavari (241.87 days) and krebs (2.21 days) is more than the industrial average collection period of 119 days. From the above analysis, it can be concluded that the inventory management of the companies were worse in comparison to the industry as a whole.

Analysis of variance (F Test) in Inventory Turnover Ratio (Total Industry):

The calculated value of F ratio between the years is 2.30 and F ratio between the companies is 11.19. The table value of F at 1 percent and 5 percent levels of significance for $V_1=9$ and $V_2=90$ are 2.61 and 1.98 respectively. Similarly, the values of F at 1 percent and 5 percent levels of significance for $V_1=10$ and $V_2=90$ are 2.52 and 1.93 respectively. Since the calculated values of F between the years and between the companies are more than the table values both at 5 percent levels of significance, the difference is inventory turnover between the years among the selected Pharmaceutical companies and inventory turnover ratio between the companies among the different years is significant.

Since the calculated values of F between the years are less than the table values at 1 percent levels of significance, the difference is inventory turnover between the years among the selected Pharmaceutical companies among the different years is not significant.

Since the calculated values of F between the years are more than the table values at 1 percent levels of significance, the difference is inventory turnover between the companies among the selected Pharmaceutical companies among the different companies is significant.

Analysis of variance (F Test) in Average Collection Period (Total Industry)

The calculated value of F ratio between the years is 1.87 and F ratio between the companies is 10.62. The table value of F at 1 percent and 5 percent levels of significance for
\( V_1 = 9 \) and \( V_2 = 90 \) are 2.61 and 1.98 respectively. Similarly, the values of \( F \) at 1 percent and 5 percent levels of significance for \( V_1 = 10 \) and \( V_2 = 90 \) are 2.52 and 1.93 respectively. Since the calculated values of \( F \) between the years are less than the table values both at 1 percent and 5 percent levels of significance, the difference is the Average holding period between the years among the selected Pharmaceutical companies is not significant. Since the calculated values of \( F \) between the companies are more than the table values both at 1 percent and 5 percent levels of significance, the difference is the Average holding period between the companies among the selected Pharmaceutical companies is significant.

With regard to the all companies, it is observed that the Working Capital Turnover ratio had fluctuated over the study period. It showed a Fluctuating trend, on an average, from the year 2002-03 to 2011-12. The average Inventory turnover ratio of the industry was 2.20. If it is compare with the individual companies, Natco (2.49), Divis (2.54), SMS (2.32), Suven (3.63) Vivimed (2.60) and Jupiter (2.20) are higher than the average of industrial average of working capital turnover ratio. It was due to ill fiscal-health of the companies in the period and therefore, the concerns have the lowest proportion of net working capital. As a result, the turnover rate of the working capital was highest. While Aurobindo (1.68), Dr Reddys (1.72), Godavari (2.15), kerbs (1.22) and Vista (-2.27) are lower than industrial average of working capital turnover ratio. It was due to strongest fiscal-health of the companies in the period and therefore, the concerns have the highest proportion of net working capital. As a result, the turnover rate of the working capital was lowest. However, in case of Vista, the negative turnover rate from 2002-03 to 2011-12 except 2005-06 indicated that the concern was suffering from a severe deficiency of working capital in these mentioned years and hence the company was the worst of all the years under study.

Analysis of variance (F Test) in Working Capital Turnover (Total Industry):

The calculated value of \( F \) ratio between the years is 1.91 and \( F \) ratio between the companies is 14.11. The table value of \( F \) at 1 percent and 5 percent levels of significance for \( V_1 = 9 \) and \( V_2 = 90 \) are 2.61 and 1.98 respectively. Similarly, the values of \( F \) at 1 percent and 5 percent levels of significance for \( V_1 = 10 \) and \( V_2 = 90 \) are 2.52 and 1.93 respectively. Since the calculated values of \( F \) between the years are less than the table values both at 1 percent and 5 percent levels of significance, the difference is the Average holding period between the years among the selected Pharmaceutical companies is not significant. Since the calculated values of \( F \) between the companies are more than the table values both at 1 percent and 5 percent levels of significance, the difference is the Average holding period between the companies among the selected Pharmaceutical companies is significant.
percent levels of significance, the difference is the Net Working Capital between the years among the selected Pharmaceutical companies is not significant. Since the calculated values of F between the companies are more than the table values both at 1 percent and 5 percent levels of significance, the difference is the Net Working Capital between the companies among the selected Pharmaceutical companies is significant.

Impact of Working Capital Ratios on Profitability

In this part, analysis is concerned with the study of association of profitability with working capital. The impact of working capital on profitability has been examined by computing coefficients of correlation.

1. Aurobindo

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown negative correlation with profitability ratios. Among these the two ratios have no significant association with profitability. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. These entire ratios are not found to have such significant association with the profitability ratio.

2. Dr Reddys

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown positive correlation with profitability ratios. Among these the two ratios have no significant association with profitability. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. Among these three ratios, coefficient of correlation of profitability and inventory turnover ratio is found to be significant association with
profitability while Debtors turnover ratio and Working capital turnover ratios are not found to have such significant association with the profitability ratio.

3. Natco

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown positive correlation with profitability ratios. Among these the two ratios have significant association with profitability at 1 percent level. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. Among these three ratios, coefficient of correlation of profitability and Working capital turnover ratio is found to be significant association with profitability at 1 percent level, While Debtors turnover ratio and inventory turnover ratios are not found to have such significant association with the profitability ratio.

4. Divis

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown positive correlation with profitability ratios. Among these the two ratios have no significant association with profitability. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. Among these three ratios, coefficient of correlation of profitability and Debtors turnover ratio and inventory turnover ratios are found to be significant association with profitability at 1 percent level, While Working capital turnover ratio is not found to have such significant association with the profitability ratio.

5. SMS

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown negative and positive correlation with profitability ratios respectively. Among these the two ratios have no significant association with profitability. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover...
turnover have shown negative, positive and positive coefficient of correlation with profitability ratio respectively. Among these three ratios, coefficient of correlation of profitability and Debtors turnover ratio and inventory turnover ratios are found to be significant association with profitability at 1 percent level, While Working capital turnover ratio is not found to have such significant association with the profitability ratio.

6. Suven

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown negative correlation with profitability ratios. Among these the two ratios have significant association with profitability at 1 percent level. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. Among these three ratios, coefficient of correlation of profitability and Working capital turnover ratio is found to be significant association with profitability at 1 percent level, While Debtors turnover ratio and inventory turnover ratios are not found to have such significant association with the profitability ratio.

7. Vivimed

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown negative correlation with profitability ratios. Among these the two ratios have no significant association with profitability. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. Among these three ratios, coefficient of correlation of profitability and Debtors turnover ratio and inventory turnover ratios are found to be not significant, While Working capital turnover ratio is found to have such significant association with profitability at 1 percent level.

8. Jupiter
Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown negative correlation with profitability ratios. Among these the two ratios have no significant association with profitability. The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. Among these three ratios, coefficient of correlation of profitability and Debtors turnover ratio and Working capital turnover ratios are found to be not significant, While Inventory turnover ratio is found to have such significant association with profitability at 5 percent level.

9. Godavari

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown positive correlation with profitability ratios. Among these the two ratios, quick ratio have significant association with profitability at 5 percent level and current ratio have not significant association with profitability The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. These entire ratios are not found to have such significant association with the profitability ratio.

10. Krebs

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown positive correlation with profitability ratios. Among these the two ratios, quick ratio have significant association with profitability at 5 percent level and current ratio have not significant association with profitability The remaining three ratios namely Debtors turnover, Inventory turnover and Working capital turnover have shown positive coefficient of correlation with profitability ratio. These entire ratios are not found to have such significant association with the profitability ratio.

11. Vista
Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown positive correlation with profitability ratios. Among these the two ratios have no significant association with profitability. The remaining three ratios namely Debtors turnover and Inventory turnover have shown positive coefficient of correlation with profitability ratio and Working capital turnover have shown negative coefficient of correlation with profitability ratio. These entire ratios are not found to have such significant association with the profitability ratio.

Total Industry

Out of five independent working capital components ratios, two ratios namely Current ratio and quick ratio have shown positive correlation with profitability ratios. Among these the two ratios have significant association with profitability at 5 percent level. The remaining three ratios namely Debtors turnover and Inventory turnover and have shown positive coefficient of correlation with profitability ratio. Working Capital Turnover Ratio has shown negative coefficient of correlation with profitability ratio. These entire ratios are not found to have such significant association with the profitability ratio.

The impact of working capital on profitability is examined by computing co-efficient of correlation between profitability ratio and working capital ratios. The study of impact of working capital ratios on profitability of Pharmaceutical companies individually showed both negative and positive impacts. Two out of five working capital ratios namely Current ratio and Quick ratio have shown negative correlation with profitability ratio and the remaining ratios have shown positive association with profitability. In the pharmaceutical Industry sector, Current ratio, Quick ratio, Debtors Turnover ratio and Inventory turnover ratio have shown positive correlation whereas Working capital turnover ratio shown Negative correlation. The model showing impact of working capital turnover on profitability are encouraging.

Testing of hypothesis
A number of hypotheses have been stated in chapter IV of Working Capital Management. They are tested with the empirical analysis of eleven companies taken for the study. The findings are enumerated as under.

Hypothesis – I

“An increase in sales volume invariably leads to an increase in current assets of the pharmaceutical industry.”

The hypothesis was examined with help of the statistical tool correlation analysis, where correlation between the two variables i.e. Sales and current assets was ascertained.

In case of companies namely Aurobindo, Dr Reddys, Natco, Divis, SMS, Suven, Vivimed, Jupiter and Godavari the correlation coefficients between Sales and Net Working Capital were 0.960, 0.969, 0.937, 0.968, 0.885, 0.939, 0.981, 0.983 and 0.650 respectively over the study period.

However the correlation coefficient of Aurobindo, Dr Reddys, Natco, Divis, SMS, Suven, Vivimed, Jupiter and Godavari are significant at 1% level of significance while correlation coefficient of Godavari is significant at 5% level of significance. Therefore, from the above analysis, it can be concluded that the hypothesis holds good for all Nine out of eleven companies taken for study.

However in case of the rest of two companies namely, Krebs and Vista were 0.067 and 0.144 respectively during the study period. These two companies are shown positive very low relationship two variables but it is very much less significant. Thus, this hypothesis does not hold good for the two companies stated above.

Hypothesis – 2
“In pharmaceutical industry, working capital generally grows with increase in sales”

This hypothesis was also examined with the help of statistical tool ‘Correlation’ where correlation is in between two variables i.e., Sales and Net Working Capital were ascertained.

In case of companies namely Aurobindo, Dr Reddys, Natco, Suven, Vivimed and Jupiter, the correlation coefficients between Sales and Net Working Capital were 0.902, 0.902, 0.775, 0.803, 0.982 and 0.976 respectively over the study period.

However the correlation coefficient of Aurobindo, Dr Reddys, Natco, Suven, Vivimed and Jupiter are significant at 1% level of significance Therefore, from the above analysis, it can be concluded that the hypothesis holds good for all Six out of eleven companies taken for study.

However in case of the rest of five companies namely Divis, SMS, Godavari, Krebs and Vista were 0.486, 0.335, 0.296, 0.143 and 0.631 respectively during the study period. These five companies are shown positive moderate relationship two variables but it is very much less significant. Thus, this hypothesis does not hold good for the five companies stated above.

Hypothesis - III

Long term sources of finance play a significant role in financing current assets of the Pharmaceutical industry “

This hypothesis was tested for companies taken for the study, and it was observed in case of companies like Aurobindo, Dr Reddys, Natco, Divis, SMS, Vivimed, Jupiter, Godavari, and Krebs the long term source, as a whole, provided a significant portion of finance to the current assets during the period under study, i.e., on an average, around 72%, 64%, 51%, 58%, 59%, 65%, 75%, 49% and 63% of the current assets respectively is more than the industrial average of 42%. Therefore, it can be said that the hypothesis holds good for the companies stated above.
However, in case of companies like Suven, the long term sources of finance constituted only about 4% of the current assets is lower than the industrial average of 42%. Therefore, though, the hypothesis is not invalid in this case, still the role of long term source, in financing the current assets of the company is not so significant.

Lastly, in case company Vista, the hypothesis does not hold good at all. This is because no finance was provided by the long term sources to the current assets of the company during period under study. Instead, along with the long-term sources, a part of the short term sources had been utilized in financing fixed assets of the company.

Hypothesis – IV

“Inventories occupy a lion’s share in the constituents of current assets in the Pharmaceutical industry”

The hypothesis was tested for all companies choosen for the study. In case of companies namely Divis, SMS, Jupiter, Godavari, Krebs and Vista, it was observed that the item ‘inventory’ emerged as single largest component of the current assets. During the period of study, the shares of this item, on an average, were observed to be around 50.45%, 38.1%, 46.60%, 45.41%, 38.25% and 46.16% respectively for the above stated companies is more than the industry average of 37.5%. Thus, it can be concluded that the hypothesis holds good for the companies mentioned above.

However, in case of companies like Aurobindo, Dr Reddys, Natco, Suven, Vivimed and Krebs the hypothesis seems to be invalid as the item ‘inventory failed to occupy the highest share of the current assets. During the period under study, the share of this observed to be around 30.28%, 19.16%, and 29.57%, 32.45% and 35.72% respectively for the above companies is less than the industry average of 37.5%.
Working Capital Management Practices

This Study has been to investigate the status of management of working capital in pharmaceutical companies and to identify the challenges the companies encounter in this area. The study is intended to identify the potential areas for optimization of Working Capital Management in pharmaceutical companies from Andhra Pradesh. At the same time, the study is to identify the differences in attitude and behavior among the Pharmaceutical companies from Andhra Pradesh. The first objective of this study is to analyse the Working Capital Management practices of Pharmaceutical companies. To achieve this, the construct of Working Capital Management was defined to constitute cash management practices, receivables management practices and inventory management practices of Pharmaceutical companies.

Therefore, in the present section an attempt has been made to assess the Working Capital Practices of pharmaceutical which are as follows.

1. Working Capital Practices in selected Pharmaceutical companies
2. Justification of using Primary data as well as Secondary data

1. Working Capital Practices in selected Pharmaceutical companies

The focus on Working Capital Management has increased significantly as the financial crisis has hit many companies hard. Sales have suddenly plunged in many companies of the Pharmaceutical industry and as the adjustment of production capacity and volumes often takes time, stocks have increased drastically. The short term problems are the amount of capital tied up in stocks and getting the necessary liquidity in place. In the medium term, a lot of companies have switched their focus from growth to internal efficiency and cash flow management.

This study shows that many of the pharmaceutical companies rate their own Working Capital Management performance as best giving impression that they are almost similar to benchmarking regularly. Still, a fair part of the companies rate themselves above average in
focus and increasing results from their working capital efforts. The responsibility for Working Capital Management lies with the Finance department. This can pose challenges in achieving the proper focus and influences the probability of initiatives being successful. The performance of company is compared with the peers, as a larger share of companies sees themselves as best in class and above average.

There is growing focus on optimizing working capital, and nine out of ten companies responded that optimization is included in their formulated targets and financial strategies. The focus was also expressed when six out ten responded that they use a structured method for optimizing working capital. Almost all companies use a structured method which has seen a better development in working capital over the past two years than those that do not. The Subject working capital is high up on agenda of CFO.

Working capital is influenced by both internal and external factors. According to the respondents the largest potential for improvement can be found within the optimization of internal processes or improved compliance with already existing internal procedures. The logical explanation for this could be that this area has had low priority in times when growth and expansion strategies were dominant. In coming years, a large number of the companies expect to automate and streamline key processes within areas such as e-invoicing, both for their invoices and for those received from suppliers.

The companies were asked for number of days of DSO, DIO, DPO, and C2C. Most of the companies reported that for all four parameters, the degree of response is more or less same. Around 5 out 10 of companies expressed 90 days or more. The companies were asked for whether and to what extent they had introduced policies and business procedures to optimize DSO and DIO and whether these policies and business procedures are complied with. Most of the companies reported that for all three parameters, the degree of policies and business procedures is more or less same. Around 5 out 10 of companies expressed that policies and business procedures are inadequate or not complied with.
When the respondents were questioned about the centralized payment policies, 50% of respondents are agreeing that they have centralized working policies which are a positive approach. The companies expressed that their companies adopt policy standards for payments and their customers agree to their payment terms. This is possible only with well established companies. Credit ratings play a significant role when the companies have to supply products to its customers. The respondent companies rely upon the practice of evaluating the customer’s credentials before providing any such supplies.

When the respondents were questioned about the factors that determine inventory levels, there is almost a significant reaction from the respondents. Orders in hand are determinant of demand for the firm’s products. This means our business people are conscious about the need to control level of inventory in their business. It is linked to demand for their product. The anticipated shortage of material is another important factor that emerges from study. The other factors like, lead time in procurement, process technology used, safety stock and slow movement of goods are important but do not form the overall concern for the business firms in general. When the respondents were questioned about awareness about latest inventory stock, about 90% respondents were aware of this EOQ model while 10% of them were ignorant about it, 80% respondents were aware of this ABC analysis while 20% of them were ignorant about it, 80% respondents were aware of this Just In Time while 20% of them were ignorant about it.

When the respondents were questioned about awareness of control of inventory techniques, most of them know the modern techniques to maintain and control the inventory in a proper manner. It indicates the efficiency of the industry to maintain stock levels at an appropriate manner. Majority of the respondents informed that they are using latest inventory control methods to maintain and control the inventory in a proper manner while few respondents informed that they are following rule of thumb to fix their inventory level.

This study shows that working capital is a strong focus for the pharmaceutical companies and this focus will lead to improvements in many processes in the years to come. However, the study also shows that in practice, many companies find it difficult to turn good intentions into action. Good Working Capital Management can free up significant liquidity, but it also requires
constant attention to avoid falling back into old routines, which increases the amount of capital tied up. So it is important that new work processes are firmly implemented in the company.

Justification of using Primary data and as well as Secondary data

This study is aimed at investigating the impact of working capital management on a firm’s failure or success. The research work has enabled us to see the effect of efficient working capital management on selected Pharmaceutical companies. This chapter meets the final objective of the research work, namely, to formulate policies, guidelines and recommend approaches that will help firms to put in place a sustainable working capital management policy that will maximize the firm’s value and the wealth of its shareholders.

Some sources of primary data include observations, surveys and interviews. One of advantages of primary data is that they are collected for a particular use, but sometimes, it may be difficult to gain access to the target. For the purpose of this research primary data is obtained through personal interview with senior management staff of the company under study. This will help to gain first hand information about the performance of their company. The reason for using interview is to gain insight into the company’s performance.

Major Findings

1. It is observed that in case of companies namely Aurobindo, Dr. Reddy’s, NATCO, Divis, SMS, Suven, Vivimed, Jupiter and Godavari, the correlation coefficient between sales and working capital are showing a high correlation coefficient at 1% level of significance. Therefore the hypothesis increase in sales leads to increase in current assets (Gross
working capital) holds good. While in case of two companies Krebs and Vista, the correlation coefficient is very low and hypothesis does not hold good.

2. It is observed that in case of companies namely Aurobindo, Dr. Reddy’s, NATCO, Suven, Vivimed and Jupiter the correlation coefficient between sales and net working capital are showing a high correlation coefficient at 1% level of significance. Therefore the hypothesis of working capital generally grows with increase in sales that holds good. While in case of two companies Divis, SMS, Godavari, Krebs and Vista, the correlation coefficient is moderate and hypothesis does not hold good.

3. The growth indices of both the items Sales and Gross working capital of the Pharmaceutical companies showed overall increasing trends from the year 2002-03 to 2011-12. However, both the trends moved in a fluctuating manner over the years.

4. The growth indices of both the items Sales and Net working capital of the concern showed overall increasing trends from the year 2002-03 to 2011-12. However, both the trends moved in a fluctuating manner over the years and the fluctuation was more frequent in case of net working capital than sales

5. It is observed that inventory is a largest single component of current assets for 50% of the companies namely Divis, SMS, Jupiter, Godavari, Krebs and Vista and sundry debtors is a largest single component of current assets for other 50% companies namely Aurobindo, Dr. Reddy’s, Natco, Suven and Vivimed. Therefore it is concluded that either inventory or sundry debtors is a largest component of current assets.

6. It is observed that long term source is the main source of finance to the current assets of the companies namely Aurobindo, Dr. Reddy’s, Natco, Divis, SMS, Vivimed, Jupiter and Godavari and Krebs. While the long term sources is not main source of finance to the current assets of the companies like Suven and Jupiter. In case of Vista no finance is provided by long term sources to the current assets of the company.
7. Liquidity position of Aurobindo, Dr Reddys, Vivimed and Jupiter Pharmaceutical companies almost are performing good as ratios are showing positive and they are above industrial averages.

8. Liquidity position of Natco, Divis, SMS and Suven Pharmaceutical companies almost are performing average as ratios are showing positive and they are above industrial averages.

9. Liquidity position of Godavari, Krebs and Vista Pharmaceutical companies almost are performing below average as ratios are showing positive and they are above industrial averages.

10. The current ratio of Aurobindo, Dr Reddys, Vivimed, Jupiter and Krebs are higher than the combined industrial average of current ratio. Hence liquidity position of these companies is pretty good. While the current ratio of Natco, Divis, SMS, Suven, Godavari and Vista are lower than Industrial average of current ratio. Hence liquidity position of these companies is poor.

11. The quick ratio of Aurobindo, Dr Reddys, Vivimed and Jupiter are higher than the combined industrial average of Quick Ratio. Hence, the immediate liquidity position of the company was good. While the quick ratio of Natco, Divis, SMS, Suven, Godavari and Krebs is lower than Industrial average of Quick Ratio. Hence immediate liquidity position of these companies is poor. But, in case of krebs, it can be concluded that both the company and industry, showed almost equal efficiency regarding the liquidity management and the behavior of quick ratio in both the cases, was similar. But in case of Vista, the behavior of quick ratio showed an overall decreasing trend throughout the period of study except year 2005-06 due to the increase in other income. It means the immediate liquidity position of the company declined. It is ascertained that the fiscal health of the company was weaker than the industry.

12. The Debtors turnover ratio of Natco, SMS, Suven, Jupiter, Godavari and Vista is more than the combined industrial average of debtors turnover ratio. Thus, it can be said that
there was promptness in the collection of debts by the respective concerns over the study period. Accordingly, its collection period compare this with the individual units of Natco, SMS, Suven, Jupiter, Godavari and Vista is less than the combined industrial average collection period. This is good sign for the future of the respective concerns as average time lag in no of days between the credit sales and collection thereof was narrowing.

While Aurobindo, Dr Reddys, Divis, Vivimed and krebs is lower than the combined industrial average of debtors turnover ratio. Thus it can say that there was laxity in the collection of debts by respective concerns over the study period. Accordingly, its collection period compare this with the individual units of Aurobindo, Dr Reddys, Divis, Vivimed and krebs is more than the combined industrial average collection period. This is not a good sign for the future of the respective concerns as average time lag between the credit sales and collection thereof was widening.

13. The Inventory turnover ratio of Aurobindo, Dr Reddys, Natco, SMS, Suven, Vivimed and Vista is more than the combined industrial average of inventory turnover ratio. So, it implies an efficient management of inventories over the period of study. Accordingly, its stockholding period compare this with the individual units, Aurobindo, Dr Reddys, Natco, SMS, Suven, Vivimed, and Vista is less than the combined industrial average collection period. From the above analysis, it can be concluded that the inventory management of the companies were better in comparison to the industry as a whole.

While Divis, Godavari and Krebs are lower than the combined industrial average of Inventory turnover ratio. So, it implies an inefficient management of inventories over the period of study. Accordingly, its stock holding period compare this with the individual units, While Divis, Godavari and Krebs is more than the combined industrial average collection period. From the above analysis, it can be concluded that the inventory management of the companies were worse in comparison to the industry as a whole.

14. The Working Turnover ratio of Natco, Divis, SMS, Suven, Vivimed and Jupiter are higher than the combined average of industrial average of working capital turnover ratio.
It was due to ill fiscal-health of the companies in the period and therefore, the concerns did have the lowest proportion of net working capital in the mentioned years. As a result, the turnover rate of the working capital was highest.

While Aurobindo, Dr Reddys, Godavari, kerbs and Vista are lower than combined industrial average of working capital turnover ratio. It was due to strongest fiscal-health of the companies in the period and therefore, the concerns did have the highest proportion of net working capital in the mentioned year. As a result, the turnover rate of the working capital was lowest.

15. The study of impact of working capital ratios on profitability of Pharmaceutical companies individually showed both negative and positive impacts. Two out of five working capital ratios namely Current ratio and Quick ratio have shown negative correlation with profitability ratio and the remaining ratios have shown positive association with profitability. In the pharmaceutical Industry sector, Current ratio, Quick ratio, Debtors Turnover ratio and Inventory turnover ratio have shown positive correlation where as Working capital turnover ratio shown Negative correlation. The model showing impact of working capital turnover on profitability is encouraging.

16. The Subject working capital is high up on agenda of CFO.

17. Pharmaceutical companies rate their own Working Capital Management performance as best giving impression that they are almost similar to benchmarking regularly. Still, a fair part of the companies rate themselves above average in focus and increasing results from their working capital efforts.

18. The responsibility for Working Capital Management lies with the Finance department and management. This can pose challenges in achieving the proper focus and influences the probability of initiatives being successful.

19. The performance of company is compared with the peers, as a larger share of companies sees themselves as best in class and above average.
20. The companies were asked for number of days of DSO, DIO, DPO, and C2C. Most of the companies reported 90 days or more.

21. The companies expressed that policies and business procedures to optimise DSO, and DIO are inadequate or not complied with.

22. The companies are relying upon the practice of evaluating the customer’s credentials before providing any such supplies. Especially sales team does a proper check of the customer before supplying them with the products.

23. The companies expressed that their companies adopts policy standards for payments and their customers agree to their payment terms. This is possible only with well established companies.

24. Most of the companies expressed that they are aware about latest inventory stock techniques about EOQ model, ABC analysis and Just in Time.

25. Most of the companies know and also using the modern techniques to maintain and control the inventory in a proper manner. It indicates the efficiency of the industry to maintain stock levels at an appropriate manner.

Suggestions:

1. As the Working Capital Management involves frequent decision making, it is proposed that the responsibility for Working Capital Management should be fixed to a responsible person or a separate cell in the company to enhance the possibility of influencing throughout the organization. Largest potential for improvement can be found within the optimization of internal processes or improved compliance with already existing internal procedures.
2. To solve the problems of Debtors management, an effective professional coordination between sales, production and finance departments is suggested. Prompt billing, timely reminders to defaulting customers and immediate action should be ensured.

3. To solve the problems of Inventory management, an effective professional coordination between sales and production department is called for. There is a need to control level of inventory, awareness of the new inventory techniques and adopting the latest inventory control methods to maintain and control the inventory in a proper manner. This helps the company to decrease the holding time of the inventory in the concern.

4. The researcher recommended that lowering working capital cycle as a measure of efficient Working Capital Management is to be determined. However, the policy followed for each component has to be neither tight nor not liberal like for average collection period which will lose customers and increase the bad debts respectively. Similarly, as recommended above companies have to manage their inventories and account payables regularly to a minimum level, so as to minimize the overall working capital cycle of firms.

5. The investment in loans and advances should be minimized to the extent possible.

6. Management of cash can be streamlined by proper planning and control of cash. Cash inflows and cash outflows must be attentively regularized. For efficient performance of this function, it is recommended that treasury function can be placed under the charge of finance department.

7. The above discussion demonstrates that paying suppliers longer and collecting payments from customers earlier and keeping products in stock less time, are all associated with decreasing the operating cycle of the company and thereby company can maintain the optimum working capital.
8. The following are the other suggestions which touch the fringes of financial aspects of pharmaceutical companies in Andhra Pradesh.

For the pharmaceutical sector to flourish further, the government should speed up the provision of basic infrastructure such as land, water, effluent treatment plants (ETPs), and power at a reasonable price. The drug control regulation body and the pollution control body should relax some of the rigid rules and regulations that are resisting new aspirants to invest in the State. Therefore, it is essential on the part of the Government, to come forward with effective economic reforms and sound infrastructure developmental policies in order to maintain strong economic growth in future which will invariably equip the fastest growing industry to face broadly the challenges of the hydra-headed growth obstacles, prevailing both in the domestic and international sectors.

**Research limitations and future research directions**

This research tried to meet the gap of the existing literatures but it also has its own limitations and those limitations can be addressed by the researchers in the future. Accordingly, the study is limited to the listed pharmaceutical companies from Andhra Pradesh. The findings of this study could only be generalized to pharmaceutical companies similar to those that were included in this research. Further, the researcher used only composition of current assets, structure of current assets and performance appraisal by using a few ratios only. However there are lot of measurers can be used to know the effectiveness of working capital by using advanced statistical tools like Chi Squre, ANOVA, Regression equations and Discriminate analysis etc., Consequently, the results can differ from this study by use of statistical measures. And also conduct further study on the relationship between liquidity and profitability.

The study also describes the Working Capital Management practices of pharmaceutical companies from Andhra Pradesh. As is frequently the case with descriptive studies, more questions are raised than are answered and this holds true of this thesis.
From the results it was clearly apparent that the respondents confused the understanding of the purpose and function of working capital, or has limited application capacity of working capital. This aspect should be further investigated. An in-depth case study research approach can enhance the survey questionnaire to further to investigate the findings of the respondents placed greater emphasis on the financing of working capital, while the investment in working capital was largely overlooked or perhaps taken for granted.

**Conclusion**

The companies were financing their working capital requirement from long term sources and special attention is to be invited for the inventories which constituted the highest part of the current assets. Working Capital turnover ratio was declined gradually over the study period. The companies almost did well in terms of employment of working capital.

The pharmaceutical companies from Andhra Pradesh will witness an increase in the market share. This sector is posed not only to take new challenges but also to sustain the growth momentum of the past decade. Since Pharmaceutical companies are playing an important role in building the industrial base of nation and providing infrastructure for the development of economy, the Government of Andhra Pradesh should play a key role extending financial support to the Pharmaceutical industry at concessional rates and should take policy measures for its development.