Chapter – I

INTRODUCTION
1.1 IMPORTANCE AND SIGNIFICANCE OF WORKING CAPITAL MANAGEMENT:

India is abundant with natural and human resources. In spite of that, economic development in India fails to arrive at the desired level as per our expectation. There are so many constraints responsible for that. An important of which is the insufficiency in supply of capital resources. To accelerate the pace of development and to increase the efficiency, an effective utilisation of capital is absolutely necessary. In this context, both fixed and working capital management are of equal importance. As such, the management of working capital should become a part and parcel of the total management of an organisation.

Every enterprise needs funds for two purposes. A part of the collected fund is required to purchase fixed assets or to arrange the fixed facilities of production which can be used for a fairly long period of time for earning revenue and which is blocked to the business on a permanent basis. But these assets have no use unless the current assets are engaged to feed them which are short lived and lose their identity during the normal course of the business.

Traditionally, much more importance is given on the management of fixed assets. Required degree of importance is not being given on the management of working capital. In other words, it is neglected to some extent. But the amount of fixed assets whatever quantum it may be sufficient for a firm would have no value if the amount of working capital in the business enterprise is inadequate or remains absent. However, the efficiency and the optimum utilization of fixed assets largely depend on the availability of sufficient amount of working capital. So the proper attention is to be given on the existence of sufficient and adequate amount of working capital in addition to the required quantity of fixed assets of the firm. Due to the absence of proper planning and controlling of working capital, a profitable business firm may turn more speedily to a closer point. The overall success of a business enterprise unquestionably depends on, how efficiently the later category of assets that is working capital is being managed. Very recently, the R.B.I. has adopted a tight credit policy as a result of recommendations of different committees constituted for this purpose. This is also another reason that the working capital management has got a greater significance in the business world. From this point of view, the importance of working capital management in a business enterprise can be understood. However, the working
capital of any organization is to be sufficient to use the fixed assets properly and effectively. Moreover, sound working capital position of a firm is desirable which ensures the continuous flow of raw materials for enjoying the utility of the fixed assets to the fullest extent.

Many enterprises fail or their growth is retarded either due to shortage or mismanagement of working capital. Therefore, the study of working capital management has got a greater importance.

The management of any business firm is concerned with the creation of wealth. This can be done by the effective utilization of assets employed in the business. The behaviour of fixed assets remains constant. Because they can be used in the same way by any person at any place. But the behaviour of the current assets or the working capital varies from person to person as well as concern to concern. As a result the profitability of a firm mostly depends on, how efficiently the management manages the component of working capital.

Working capital is regarded as the lifeblood of the business. An effective management of working capital gives the assurance regarding the achievement of objectives of a business firm. But its inefficient management leads the organization to the dangerous point. Therefore, the study of working capital is too much important to internal and external analyst because of its close relationship with current day-to-day operation of the business.

A finance manager has to spend major portion of his devoted time to manage day-to-day activities of the business. The finance manager has to remain busy and given much more attention regularly in controlling movement of cash, negotiating favourable credit terms, arrangement of short term credit from the profitable sources etc. From this point, the importance of working capital can be realized.

As the term working capital has two components: current assets and current liabilities, so the management of working capital is concerned with the management of both current assets and current liabilities. But in practice, greater importance is given on current assets. Because it is obvious to us that the existence of current liabilities takes place in the context of financing current assets.
Working capital management occupies an important position in a business enterprise. The reasons for such importance are –

- **Investment in current assets is the significant part of the total investment of the firm.**

- **Increase in investment in current assets and increase in the level of current liabilities bring an expected change with upward direction in the activity level of the firm. As such, this situation is to be managed in such way so that, it can create the extra benefit to the firm.**

At the time of thinking about the management of working capital, two important features of current assets must be kept in mind:

- **Short life span.**

- **Swift transformation from one shape to another.**

Current assets are short lived by character. During the normal course of business, they frequently change from one shape to another. From our practical experience, it is prominent that the cash balance may remain idle for a maximum period of two weeks and the inventories may be stored for a maximum period of thirty to hundred days. In other words, it can be said that the life span of the current assets depends on the time required for the procurement of raw materials, sales strategy, and collection policy of the organization.

Another character of the current assets is the rapid change in its shape from one form to another. Initially, the current assets in the form of cash is invested into business and through the normal course of the business which is converted into raw materials and then to finished goods through production process and then to receivables through credit sales and finally again to cash after collection of dues from the customers. For this reason Brown and Howard compare the working capital with a river and which is always there but whose water level is constantly changing.

The short life span of current assets and their swift transformation from one shape to another give some idea regarding the management of working capital. The valuable ideas are –

- **Decision regarding current assets is repetitive and frequent.**

- **The components of current assets are closely related to each other. With the passage of time one component takes another shape by losing its previous one. Naturally, efficient management of one component can not be undertaken without considering the other at the same time.**

In the present days of competitive world, working capital management plays an important role in the business. It becomes the part and parcel of the financial management. It dominates the other facets of management for its necessity to manage the day- to- day operation of the business. Only the successful management of working capital can ensure the prosperity in business of any form. As a result the management of working capital has become the challenging task to a finance manager and it appears to be a welcome opportunity to a finance manager to hold a pivotal position in the organization.

The working capital management has undoubtedly got its importance in the business world. During inflation, the business has to face some new problems. Controlling the supply of money by the government as an anti-inflationary measure has placed the working capital management in the most challenging zone of management. Under this circumstance, only the efficient management of working capital can overcome the prevailing problems by applying its special skill. So the study of working capital and its management is much more important to each and everyone related to the business world to know the current position of the business.

Under the present economic scenario, the importance of working capital management has been extended to a great extent. Due to the adoption of liberalization policy by the Govt. of India, the economy opens up to the whole world. As a result, India has to appear in tuff competition with other countries in the world. Each and
every enterprise has to face a great degree of competition in terms of cost of production, efficiency and technology used etc. with the other parts of the world. This is a new challenge to us for our survival and growth. It is only the efficient and effective management of working capital that can face such challenge and can suggest the most convenient path to be successful. For its extensive activities, the working capital management is going to be the basic and broad measure for judging the performance of the business firm.

The management of working capital mainly deals with the two problems. Firstly, what would be the actual requirements for current assets at a given level of sales and relevant cost consideration? Secondly, with the optimal level of current assets what would be the most economical way to finance this? Keeping in mind the main objective of the business to increase the return on investment, the working capital management must avoid the investment in unproductive assets and must choose the cheapest way to finance the required level of working capital. Therefore, the job of modern finance manager has been extended from only finding finance as in olden days to the management of all current assets and current liabilities in order to ensure the increased return on fund invested.

The working capital is just like the heart of the business enterprise. If it is weak, it can hardly prosper and survive. Therefore, a business firm must hold sufficient amount of working capital for its smooth running. But this is the most important matter to be kept in mind that the level of working capital should be just sufficient, not less or excessive. Both the excessive and shortage in working capital positions are harmful to the business firms. Excessive investment in working capital should be avoided because it impairs the firm’s profitability. In other words, this situation leads to create idle funds which earns nothing but for which the firm has to incur cost.

Therefore, the sufficient working capital position indicates the firm’s strong liquidity position and ensures the supply of raw materials continuously for the effective utilization of the capacity of fixed assets. Only the sufficient and satisfactory level of working capital gives the assurance for the successful operation of the business enterprise, though this level varies from firm to firm and to be arrived at by the judicious analysis of the prevailing situation.
At the time of considering profitability, the working capital management considers both current assets and current liability. For considering current assets, the firm always prefers to hold the lower portion of liquid assets to total assets because in this case the firm can achieve the greater rate of return on total fund invested. But in case of current liabilities, profitability is to be considered from the differences in costs between various methods of financing and the use of such funds during the period when it is not needed. From our practical experience, it is obvious that the explicit cost of short term financing is lower than that of intermediate and long term financing. Naturally, higher the portion of short-term debts to total debts, the firm’s profitability will be higher. The main reason of which is the immediate liquidation of such debts when it is not in use. This facility helps to avoid the cost of use of this type of fund when it becomes idle and which certainly affects the profitability of the firm.

Therefore, in order to have favourable impact on firm’s profitability, the foregoing discussion suggests a low portion of current assets to total assets and higher portion of current liabilities to total liabilities. In other words, it is clear that the above strategy suggests a low level of net working capital, even negative. But this strategy has some inherent risk. The risk refers to the probability of technical insolvency. Hence, the risk involves with the maturity schedule of the debts. The shorter the maturity schedule of firm’s debt obligation, the higher would be the risk. The risk in such case is the inability of the firm to meet its debt obligations in time in terms of principal and interest. But in case of long term financing such type of risk is minimum because the firm has the enough time to take steps in advance for the repayment of this type of obligation.

But from the viewpoint of cost consideration, the short term financing or financing through current liabilities is profitable because the explicit cost is minimum in that case. The explicit cost of long term financing is relatively higher than short term financing.

Therefore, at the time of taking financing decision, the management should consider the trade-off between the profitability and risk. Some companies may set the policy regarding the payment of various nature such as, payment for purchase, labour,
taxes etc. The deferred payment in those cases creates current liabilities or sources of fund which can be utilized in financing current assets of the firm partially. This type of financing facility is spontaneous and cost free and it has the totally positive impact on profitability.

A business firm should always maintain the adequate amount of working capital for the smooth running of the business. There is no doubt that both excessive and inadequate working capital positions are harmful to a firm. Inadequacy in working capital may result in interruption in production and also express the firm’s weakness in making payment to its short term obligations. But the excessive working capital position indicates the existence of idle fund for which the firm enjoys no benefit but has to incur cost for it. Ultimately, the profitability is being negatively affected to some extent. But this is to be borne in mind that the need for working capital is not static, rather it is fluctuating. It actually varies with the changing of the level of business activities. This may cause excessive or inadequate working capital position frequently. Therefore, the management should be prompt to take steps to correct imbalances.

Moreover, the management should also have the idea regarding the financing aspect of working capital. When a firm feels the extra needs of working capital over its usual level due to the increased level of business activities or for any other reasons, financing arrangement should be made quickly. On the contrary, if any surplus fund arises due to any reason, this should not be allowed to remain idle but should have to be invested temporarily. So an enlightened manager should have the information regarding the sources of fund as well as the avenues of investment where the excess or idle fund can be invested temporarily.

But in order to have true picture regarding the volume of working capital required for a certain activity level, the adjustment should be made for the items which are not considered as “normal” having regard to the ordinary course of the business. The value of the obsolete items, cash earmarked for the purchase of fixed assets or for the liquidation of long term obligations are to be excluded in determining the amount of working capital of the firm.
In fact, the working capital management is regarded as the process of planning and controlling the level and financing the current assets of the firms. Inefficient management of working capital may cause either inadequate or excessive working capital, both of which are harmful to the business. But negligence in management of working capital can lead the organization to a dangerous point.

Due to the absence of adequate amount of working capital, a business firm may have to face the following adverse consequences:

- Owing to the lack of sufficient working capital, the fixed assets can not be utilized fully for generating business resources.

- The business may have to go into liquidation due to its weak liquidity position. This situation may prevail in reality when the firm is unable to meet its obligations at maturity.

- The creditworthiness of the business firm may be affected because of the low liquidity position. Hence, it will lose its reputation in the market

- Because of the insufficiency in working capital, the profitable business opportunities can not be taken up in due course of the business.

- The business firm can not honour its regular commitments. As a result, it may have to borrow funds at an exorbitant rate of interest.

- Operating inefficiencies may creep in and a question on its survival and growth may arise.

On the contrary, the excessive working capital position will also be the dangerous to a business firm due to the following reasons:-

- This situation may lead to the unnecessary accumulation of inventories and increasing the chances of mishandling, obsolescence, wastage and
theft. Naturally, there would be the bright chances for incurring huge losses subsequently for the above reasons.

- Negligence in all respect will be found. Due to the lack of carefulness, the cost of production will move to the upward direction.

- Excessive working capital position may result in idle fund, which earns nothing but on which the firm has to incur cost of financing. This actually impairs the firm’s profitability.

- Due to the presence of excessive working capital in business, the management may be tempted for overtrading and which has the possibility of incurring losses heavily

- Availability of excessive working capital makes the management complacent in managing business activities. This leads to increasing managerial inefficiencies and costs.

But the firm can enjoy the following facilities from holding the adequate amount of working capital, which is just sufficient for operating the business activities smoothly-

- Due to the sufficiency in working capital, the firm can enjoy the benefits of cash discount offered by the vendors or creditors for liquidating their dues at an early date. Hence, the operating profit of the firm will be increased certainly.

- Under this circumstance, the firm will be able to enhance its market reputation through its ability to make payment of its dues or by giving honour to its commitment as and when they become due for payment.
• This situation may lead to enhance the creditworthiness of the firm. In consequence of that the firm will be able to obtain credit/loan from the market with easy and favourable terms.

• The firm does not face any difficulty regarding the availability of raw materials because the suppliers do not have any difficulty in getting their payment in due time. At the same time the firm can hold the adequate amount of inventories which also enables the firm to maintain the regular flow of its product to the market.

• With the adequate amount of working capital an opportunity appears before the firm to utilize its capacity to the fullest extent, if the market situation permits. This is also termed as the proper utilization of the fixed assets.

• Sufficient amount of working capital position enables the firm to undertake research & development programme for the growth and development of the organization through innovations and technical improvements.

• Adequacy in working capital brings overall efficiency. It also helps to provide an environment with high security, high confidence and high morale.

• Moreover, this situation is helpful to pay-off its all obligations to the investors that is to the shareholders, debenture holders etc. in the shape of dividend, interest in due time. This is helpful to create an environment for collecting additional funds as and when the firm feels its necessity.

In order to derive the proper benefits from the investment in working capital, an effective and efficient finance manager should always maintain the right quantum of working capital on a continuous basis for the smooth running of the business and to accelerate the rate of growth of the firm. But there is no ready-made formula to
determine the optimal amount of working capital that a firm needs at a certain point of
time. Some statistical techniques and experience of the finance manager will be
helpful in determining the required amount of working capital at different points of
time.

But the finance manager is in a dilemma of liquidity vs. profitability in the
financial management of an enterprise\(^1\). Liquidity means the firm’s ability to make the
payment of short-term obligations when they become due for payment. In short, the
business has the sufficient cash reserve to meet its emergencies in all times. But
profitability refers to that, the funds of the business enterprise are to be used in such a
way so that, the maximum return on investment can be obtained and the funds are not
lying idle at any point of time.

So, it is found that there is the inverse relationship between them but they are
closely related to each other. If the major portion of funds available is invested in
profitable avenues, the liquidity of the firm will be inversely affected. As a result the
risk will be higher. Due to the non-availability of fund, the firm’s obligation will not
be liquidated in time. On the other hand, if the greater emphasis is given on liquidity,
the firm has to avoid investment in profitable fields. Naturally, the profitability of the
firm will suffer to some extent. But the risk in that case will be lower.

Lastly, it can be said that higher the risk, the higher will be the return. If
profitability increases through investment, the risk will be higher and the firm’s
liquidity will be in danger. But the main objective of the finance manager is to
increase the value of the firm by increasing the shareholder’s wealth. For attaining this
objective, the finance manager should also consider the trade-off between profitability
and liquidity. Hence, the profitability is to be increased without affecting the liquidity
of the firm. A number of measures are taken for achieving these objectives. Most
important of which is the efficient management of working capital.

\(^1\) Jain S.P. & Narang K.L. - Accounting Theory & Management Accountancy.
So, we can not defy the importance of working capital management in a business enterprise. Finance manager should give constant effort and attention on the management of working capital so that, the firm can maintain its existence and growth and can go ahead.
1.2 Rationale of the study

Working capital management is the part and parcel of financial management of a business enterprise. It dominates other facets of management for its importance in the business world. From the history, it is clear that the actual emphasis was given on long term decision making in financial management. As a result of that, theoretical development took place only in long run decision making areas. Naturally, management of day-to-day operation or working capital management was totally neglected in those days.

But with the passage of time, the scenario has been significantly changed. At present it is realised that working capital management plays a vital or pivotal role for the success of any business enterprise. There is a lot of instances in the business world that inefficient management of working capital is being earmarked as the main cause for business failure.

Today, working capital management is a burning topic and claims much more importance for discussion in different business and trade journals, seminar at National and International level. From the practical experience it is seen that the finance manager spends a major parts of his devoted time and employs much more attention for managing day-to-day operation i.e., working capital management of the business enterprise. Baring efficient management of working capital, no other alternative can bring the success in any business concern. For this reason, initiative has been taken from the various corners of the business world to develope theories, techniques and strategies to manage working capital more efficiently in order to ensure great success in business positively. In this context, my study takes an attempt to throw some light on working capital management of selected pharmaceutical companies in India.

1.3 Objectives of the study:

The management of working capital relates to the day-to-day activities of an enterprise. In other words, it relates to the management of short term financial liquidity of the enterprise. If the lack of liquidity continues to be present in an enterprise, it may ultimately lead to the insolvency and bankruptcy. On the other hand, W.C.M. plays an important role in maximizing value of the firm. Inefficient
management of working capital may result in loss of profit in the short run and it ultimately leads to the downfall of the enterprise in the long run. Therefore, the objective of the study is not only to explore the presence of inadequate or excessive amount of working capital in the sample units under study, but to explore, how efficiently the working capital has been used and finally to suggest remedies for improving the position, if necessary. The objectives of the study are-

a) To make a comprehensive and detailed analysis of the working capital management of the sample units under study. In this context, the detailed analysis of all the components of working capital have been made by using ratio analysis and to compare the results with the industry position in some special cases during the period under study.

b) To go through the detailed analysis of each component of working capital of sample units under study and to compare with the industry position during the period under study by using ratio analysis.

c) To find out the estimated working capital needs by fitting linear regression line and to ascertain the degree of association between the estimated and actual working capital by computing simple correlation coefficient and to test the significance of such coefficient.

d) To find out the joint effects of some important ratios relating to working capital management upon the profitability of the companies under study by computing multiple correlation coefficient and by fitting multiple regression equation and to test the significance of such correlation and regression coefficients.

e) To measure the closeness of association between the liquidity and profitability of the sample units under study by computing Spearman’s rank correlation coefficient and to test the significance of such coefficient.

f) To recommend means for improving the working capital management of the sample units under study as a whole.
1.4 Scope of the study

The working capital management is synonymous with the management of day to day operation of the business enterprise. Naturally, it covers all the regular operational areas of the business concern. For this reason, the scope of this study is very wide and extensive. There are obligations on the part of the management to maintain the quality of the product properly, to minimize the cost of production, to ensure the proper utilization of limited resources as well as the capacity of the fixed assets of the enterprise etc. All these responsibilities can properly be maintained through the efficient management of working capital.

This study is divided in two parts. The first part comprises with the theoretical aspect of the working capital management i.e, the definition, concept, needs, components of working capital, determinants of working capital, concepts of working capital leverage and its financing aspect etc. In other words, this part relates to the survey and review of the literature of working capital management. On the other hand, the second part of this study includes the analysis of the financial statements relating to working capital management of the selected pharmaceutical companies in India in order to have clear cut idea about their management of working capital.

1.5 Source of Data

The data used in this study have been collected in two ways. The data used in theoretical part of this study have been collected from the different eminent journals of trade & commerce and from the report of OPPI (Organization of Pharma Producers in India). But the date relating to the financial positions of the sample units under study have been collected from Capital Line 2000, The Official Date Base of Capital Market Publishers (India) Ltd, Mumbai.

Moreover, the data relating to the overall financial position of the pharmaceutical industry in India and all other relevant matters have been gathered from CMIE (Centre for Monitoring Indian Economy) report regarding industries in India.
1.6 Period of the study

This study covers a period of ten years from 1991-92 to 2000-01. This period is so important in the context of Indian Economy, because the Govt. of India has adopted the New Economic Policy as a part of WTO initiative which comes into effect from 1991. For this reason, the scenario in the business world has got rapid changes in its shape. I think that the period of this study is fairly long and it is likely to be possible to highlight the trend of the position of working capital management of the selected pharmaceutical companies in India under study.

1.7 Sample size

The pharmaceutical industry is highly fragmented with about 10,000 units, of which 300 companies belonging to the organised sector. It is reported that organised sector controls about 70% of the total Indian pharma market. In addition to that, ten top companies account for more than one-third of the total market.

Keeping in mind the above statistics, ten companies having the annual turnover of more than 500 crore and which are playing a commendable role in the market are taken as sample units for this study. Of the ten sample companies, six are belonging to the list of ten top companies in India as per OPPI report. There are also two multinational companies in the list of sample units under study. The companies selected for the present study are mentioned below:

1. Cipla Ltd.
2. Ranbaxy Laboratories Ltd
3. Nicholas Piramal (India) Ltd.
4. Sun Pharmaceutical Industries Ltd
5. Dr. Reddy’s Laboratories Ltd.
6. Aventis Pharma Ltd.
7. Aurobindo Pharma Ltd.
8. Matrix Laboratories Ltd.
9. Novartis (India) Ltd.
10. Torrent Pharmaceutical Ltd.
1.8 Study plan

This study is based on eight chapters. The constituents of the first are the importance and significance of working capital, rationale of the study, scope, objectives, sample size, methodology used for the analysis of the data and limitations of the study etc. In addition to that a present profile of the industry under study has also been included in this chapter. The second chapter consists of the theoretical aspects of the working capital management which includes the concept, definition, components, factors determining the working capital requirements and the concept of working capital leverage etc. The third chapter takes into consideration the working capital finance and the recommendations of the different committee constituted in this regard. The 4th, 5th, 6th and 7th chapter include the analysis of inventory, analysis of receivables, analysis of cash and the analysis of working capital as a whole of the sample units under study. Finally, the 8th chapter speaks about the summary, findings of the study, conclusion and suggestions for the better management of working capital of the sample units under study.

1.9 Limitations of the study

This study is not free from limitation. Rather it suffers from a lot of inherent limitations. Firstly, this study based on the secondary data. The data used for the purpose of analysis as well as for comparison are collected from the annual audited balance sheets and profit & loss account published in different popular journals and capital line website. The defects of using secondary data are well known to us.

Second limitation is regarding the sample size. Only ten top companies belonging to the pharmaceutical industry are being taken into consideration in this study. Other companies in this industry have not taken into account either due to their small size or non availability of data in suitable form.

There is also the limitation regarding the non-availability of data of frequent time interval, such as, daily, weekly, monthly, quarterly etc. But in this study only the data
published in annual form is used. As the working capital management is concerned with the day-to-day activities, so the efficiency regarding the management of working capital of an organization can be best judged on the basis of the data of day-to-day basis.

Another limitation is that, there is the lack of consistencies regarding the adoption of accounting year among the sample units under study, some units have adopted financial year while some others have followed calendar year as accounting year or June ending accounting year. But in order to bring rationality in our analysis or to make the analysis judicious the collected data have been arranged in such a way, so that they are related to the 12 months period ending on 31st March of the relevant year.

Finally, the limitation regarding the techniques used for the analysis of data can not be avoided.

1.10 Methodology:

This study is concerned with the analysis of working capital management of the selected pharmaceutical companies in India. Hence, for the purpose of analysis of data the methods of analysis of the data are to be determined. In view of this, the literature for selecting the methods of analysis has been reviewed. On the basis of such review and keeping in mind the objectives of the study, the technique of ratio analysis, simple mathematical tools like percentage, average etc and some well known statistical techniques like Pearson's simple correlation analysis, linear regression analysis, trend analysis, multiple correlation analysis, and multiple regression analysis have been used. Besides those, 't' test and 'f' test have also been applied at appropriate places. The specific ratios that have been used for the analysis of various components of working capital are cited below –

1. For analysis of inventory:
   a) Inventory as a percentage of Total Assets.
   b) Inventory as a percentage of Current Assets.
c) Inventory as a percentage of Net Working Capital.
d) Inventory Turnover Ratio.
e) Inventory holding period.
f) Inventory expressed in terms of No. of Day's sale.
g) Raw Material as a percentage of Total Inventory.
h) Raw Material Turnover Ratio.
i) Raw Material holding period.
j) Work-in-progress as a percentage of Total Inventory.
k) Work-in-progress Turnover Ratio.
l) Finished Goods as a percentage of Total Inventory.
m) Finished Goods Turnover Ratio.
n) Finished Goods holding period.
o) Finished Goods Expressed in terms of No. of day's sale.

2. For analysis of Receivables:
   a) Total Receivables as a percentage of Total Assets.
   b) Total Receivables as a percentage of Current Assets.
   c) Debtors as a percentage of Total Receivable.
   d) Debtors as a percentage of Current Assets.
   e) Debtors Turnover Ratio.
   f) Debt collection period.
   g) Loans & Advances as a percentage of Total Receivable.
   h) Loans & Advances as a percentage of Current Assets.
   i) Other Receivable as a percentage of Total Receivable.
   j) Other Receivable as a percentage of Current Assets.

3. For analysis of Cash
   a) Cash as a percentage of total assets.
   b) Cash as a percentage of current assets.
   c) Cash as a percentage of current liabilities.
   d) Cash in hand as a percentage of sales.
   e) Cash velocity
   f) Cash in hand in terms of No. of day's operating expenses.
   g) Cash Flow Statement of all the sample units individually.
4. **For analysis of working capital**
   
a) Current Ratio.

b) Liquid Ratio.

c) Working capital Turnover Ratio.

d) Measurement of the degree of association between liquidity and profitability of all the sample units individually.

e) Study the joint impacts of some important ratios relating to working capital management on profitability of all the sample units individually.

f) Ascertained the estimated working capital and measure the degree of association between the estimated and actual working capital of all the sample units individually.
1.11 A PROFILE OF THE INDUSTRY UNDER STUDY

1.11.1 ABOUT THE INDUSTRY

The seed of Indian pharmaceutical industry was sown at the very beginning of the last century. A small factory known as “Bengal chemical and pharmaceutical” was set up in Kolkata in 1901. During the British regime the development of this industry was not significant due to the policy of the British Govt. They did not bother about the development or growing up of any indigenous industry. Their main policy was to collect raw materials from India and to supply each and every industrial consumable goods from England. Naturally, the carelessness of the British Govt. provided no congenial environment for its growth and development. As a result, our country had to depend largely on United Kingdom, France, Germany and other developed countries for satisfying its needs for drugs and pharmaceuticals.

But since independence, the planners of Indian economy feel the needs of development of this industry due to the increasing indigenous demand for drugs and pharmaceutical. The Govt. of India has taken initiative to establish pharma units under Govt. entrepreneurship and at the same time provided good and hygienic climate for setting up new units under private ownership. Today this industry is going to emerge as a key player in Indian economy and now its position is in the front rank of India’s science based industry in terms of performance and technology etc. In the global field, presently its rank is fourth in terms of volume and fourteenth in terms of value of the goods manufactured.

The Indian pharmaceutical industry claims a significant position in terms of production of drugs in different forms. As per report of Organization of pharma producers in India (OPPI) 2004, India has the largest number of US.FDA approved manufacturing facilities outside USA. In 2004, India has produced 60000 generic brands in 60 therapeutic areas. It has also developed sophisticated products in form of tablets, capsules, liquids, injectables etc. with various excellent dosages as per needs of the customers.

India has the congenial and favourable environment for the development of this industry. Firstly, the population is one of the most important factors for the
growth of this industry. Drugs are essential for each and every human being irrespective of the status, social position, financial ability and cast & creed. In this context, at present India has about 120 crore population which is second highest in the world that is immediately after china. As the demand for drugs and formulations is directly and essentially related to the number of human beings of a country, so the population is an important factor in creating market demand for it and for the prosperity of this industry.

Secondly, India has the large pool of talented, English knowing work force. English is widely used in India. It is quite helpful to exchange notion and to make the people conscious about the quality and use of the popular drugs and pharmaceuticals. Naturally, it is one of the important keys for the success of this industry.

Thirdly, the Indian pharmaceutical industry has the opportunity to sell its output to the neighbouring underdeveloped and developing countries and at the same time to some developed countries also. Govt policy is also helpful in this regard for the prosperity of this industry.

Fourthly, under the new regime of globalization, the new opportunity is creeping up before the Indian pharmaceutical industry in regard to the expansion, growth and efficiency. Under the new scenario, the industry has to face competition with the world’s giants but they have also the opportunity to take free access to the global drug markets and to increase efficiency through competition.

Finally, the Indian pharma players prove their ability to produce the generic version of the original drugs at a low cost. This helps to capture the domestic as well as international pharma market and to compete with the others easily. It is also another reason for their success and growth.

The pharmaceutical industry is fully science based industry. It is completely dependent on research and development activities. This industry consists of three sectors — Govt. owned public sectors, private sectors and foreign sectors. As per OPPI (Organization of Pharmaceutical Producers in India) report -2004, the share of
Indian pharmaceutical industry in the global pharma market was 1% in value and 8% in volume terms.

This industry is an ever growing industry in the economy. It is reported that the rate of growth during the last five years was counted around 9%. The growth is mainly counted in terms of turnover, no of units operating in the industry, amount of investment, production, export business etc. which are to be discussed later on.

The number of units operating in pharmaceutical industry was 1752 in 1952-53 and thereafter increased to 6417 in 1980-81 and then to 9560 in 1985-86. As per OPPI report -2004, about 10000 units were engaged in producing pharmaceuticals in India, out of which 300 units belongs to the organized sector. This indicates that the pharma market is highly fragmented. But this is the fact that the organized sector’s units account for 70% of industry’s total value of production. Moreover, this should also be noted that the top ten companies control more than one-third of the total pharma market.

In the new economic scenario and under the forthcoming TRIPS regime, some companies adopt a new strategy to be consolidated with the others in the scheme of Mergers & Acquisitions in order to enjoy the benefit of large scale operation and to acquire strong competitive power for their survival and existence. This industry already witnessed a few number of Mergers & Acquisitions, such as, Crossland Research Laboratories merged with Ranbaxy Laboratories in April 1995 and Lupin Laboratories merged with Lupin Ltd.in April, 2000 etc.

Indian pharmaceutical industry is synonymous with the production of generic drugs. The production of drugs & formulations was not significant at the time of independence in relation to the indigenous demand. The country had to depend on other developed countries for the fulfilment of its needs. It is reported that the production of bulk drugs was worth Rs.200 crore in the year 1978-79 and increased gradually with the passage of time. It arrived at Rs 409 crore in 1985-86 and at Rs 700 crore in 1990-91. It increased to Rs 78 bn in 2003 and to Rs 94 bn in 2004 as per OPPI report.
The main reasons responsible for the rapid expansion in the production of drugs and formulations are the high rate of growth of population, higher degree of environment pollution, occurrence of some newly fatal diseases and Govt's emphasis on health care programme etc.

As the production and turnover are correlated to each other and production takes place on the basis of expected demand, so we also find the rapid expansion in the volume of turnover. As per OPPI annual report 2004, the turnover of the Indian pharmaceutical industry touched at Rs.269 bn which counted the growth of 6.4% over the last year.

At present, the pharmaceutical industry is an export oriented industry in India. It is now not only in a position to satisfy the indigenous demand, but it plays a significant role in exporting to the developing, underdeveloped and also some developed countries. Generally, it exports drugs to the developing and underdeveloped countries and formulations to the developed countries. As per report, the total amount of export of that industry was only Rs.84.70 crore in 1981-82 and after a decade it increased to Rs.785 crore in 1990-91. As per OPPI annual report 2004, the total amount of export reached at Rs.167 bn. It is glorious to know that such export was taken place over 65 countries. Probably, the main reason for the expansion of export business is the adoption of New Economic Policy by the Govt. of India since 1991.

But in this context, it is to be kept in mind that our country is not self-sufficient to produce all types of medicines as per our domestic needs. Naturally, our country has to take shelter on other countries in order to protect the Nation from suffering in various ailments. It is reported that the total amount of import was Rs.40 bn in 2003 and 44 bn in 2004 as per OPPI report.

It is learnt that up to 1990, the amount of import was higher than that of export. Obviously the country had to suffer from unfavourable balance of payment. But after 1990's, the scenario has completely changed. A very wide positive gap was found between export and import which also indicates the favourable balance of payment in foreign trade. Therefore, this industry plays a vital role in earning foreign exchange which is invaluable to a country like India.
The pharmaceutical industry is now playing an important role in providing employment opportunity to our society. In the age of industrial automation, it is still now creating new avenues of employment for our fresh educated youngsters. With the expansion of this industry, the market is going to be more and more competitive and as a result of these prevailing competitive circumstances, the pharmaceutical companies have to develop a strong and widely spreaded network for distribution. Obviously this strategy is also in favour of creating employment opportunity.

With the development and growth of pharmaceutical industry, its ancillary industries are also going to be developed. It is very good news to us that all the manufacturing equipments and machineries for pharma companies are available locally. As a result of such achievements, the pharmaceutical industry is indirectly creating a lot of employment opportunity through its ancillary industries. As per OPPI report 2004, this industry provided 500,000 jobs to the people directly in the cadre of managerial, technical, skilled and unskilled and the industry indirectly provided employment opportunity to the people of 24,00,000 in ancillaries and distribution trade.

With the expansion and growth of the pharmaceutical industry, the requirement for fund is also going to be increased day-to-day. There is a very high degree of positive correlation between the expansion & growth and the requirement for funds. Some well developed Nations have started joint venture with the Indian companies in producing important life saving drugs in India. So, there is also the opportunity to pool overseas funds in this industry. Hence, this industry can be termed as totally international by character. As per OPPI report, the amounts of investments in this industry were Rs 45 bn in 2003 and RS. 52 bn in 2004, representing a growth of 14.8%.

According to the OPPI annual report 2004, India has the third largest English speaking scientific and technical manpower in the world. This factor is most essential for the growth and development of the pharmaceutical industry. This report also contains the information that India has excellent outsourcing opportunities for clinical trials, research & development, technical services etc. and our country is
also designated as largest US.FDA approved manufacturing facilities outside USA. Naturally, this industry carries a bright future for the Indians.

The pharmaceutical industry is totally a research based industry. In order to be dominant leader in market, a company under this industry has to focus much more attention on research & development activities in order to bring new product in the market. Without paying much more attention on research & development activities, no company can survive in this industry. It is reported that the amount of expenditure for this purpose was RS 6.6 bn in 2003. But in 2004 it increased to RS 11.8 bn.

The expenditure incurred by the Indian pharmaceutical companies on research & development is too small in figure as compared to the expenditure incurred by the companies in developed countries. In 2003, this expenditure was 2% of turnover but in 2004 it was increased to 4% whereas, the developed countries used to incur 15%-20% of their huge amount of turnover in this field.

Primarily, the development and growth of any industry is absolutely related to the indigenous demand for the product of that industry. The growth of Indian pharmaceutical industry fails to arrive at the desired level as per our expectation. The main reason behind this is the low per capita expenditure on drugs and formulations as compared to the other countries in the world. According to an estimate 11% of the total household income is spent on health care in India. It is also reported that the annual per capita expenditure on drugs in India was one of the lowest in the world. In 2003, it accounted for only RS 250. This is for our information that the per capita expenditure on drugs is highest in Japan in the world.

The production of drugs & formulations are not significant in India as compared to its population. India’s share in world’s production is as small as 1.8% in value, although it holds about 16% of the world’s population.

This industry is not free from Govt’s control in its day-to-day activities. The Govt takes different measures to exercise control from time to time according to the prevailing situation. The most important aspect of Govt’s control is the controlling
of drug prices. In this context, the Govt. exercises three tier controls -on bulk drugs, formulations and overall profitability. At present 74 bulk drugs are under price control. New pharmaceutical policy 2002 is currently under judicial review in Supreme Court. It is reported that if this is cleared, the number of drugs under price control is likely to reduce from 74 to about 25.

1.11.2 Loan licensing system

Loan licensing system was built in to the Drug and Cosmetic Act. 1947. This system helps to meet the emergency needs of fund of the drug companies in the times of war and natural disasters. This system is also prevailing in many countries in the world. In United States, it is known as contract manufacturing.

So far as goes, this system has actually been used by small scale pharmaceutical producers to meet their market shortages in drugs and formulations. This system is still now continuing, as no Govt. appointed committee opine in favour of its abolition.
1.11.3 TRIPS

Indian pharmaceutical industry is going to face a new challenge in post 2004. Through a midnight ordinance on 31st December 2004, the Indian pharmaceutical industry is now on the threshold of a new era: "TRADE RELATED INTELLECTUAL PROPERTY RIGHTS" (TRIPS) regime. This is an outcome of "Murrakesh Agreement" in Morocco in 1994. By that ordinance, India has complied with its commitment as a part of WTO initiative. Immediately with the implementation of TRIPS, the Indian Patent Act 1970 has been withdrawn. The agreement for TRIPS had allowed a period of 10 years to the developing countries like India to introduce a well developed Patent Act to protect their agricultural and pharmaceutical products.

According to the new law, any drug or product invented in India after January 2005 can be patented in India. As per this Act, invention means "a new product or process involving inventive steps and capable of industrial application." The new law prohibits the other manufacturers from 'making, using, offering for sale or importing the patented products', unless the patent holder is paid the patent fee. In other words, this will give the patentee the exclusive right to manufacture that drug for a specified period of 20 years. The patent term of 20 years is to be counted from the date of submission of application, not from the date of granting patent. The granting of patent enables the patentee to protect his invention from exploitation by others. During this period of 20 years, none can use this patent to manufacture the same product without paying anything or without taking consent of the patent holding organization.

In the new regime, the product which is patented abroad but for which no corresponding patent application is being submitted in India, will remain open for use in India.

Prior to 2005 that is before the introduction of new patent regime, Indian pharmaceutical companies were operated with the Indian Patent Act 1970 which came into effect in 1972. According to that Act, the discoverers had the legal rights
over their inventions for seven years and after the expiry of that specific period, these become the common property of the Nations. But with the Implementation of the TRIPS, the Indian patent Act has become useless. The new product patent regime has brought the overall change in the Indian economy and has created a new atmosphere for the Indian pharmaceutical industry as well as for the Indians.

Impacts:

The new patent regime will have both positive and negative impacts on our economy. But there is no doubt that it is a new challenge before the Indian pharmaceutical companies.

- During the last few decades, the growth of Indian pharmaceutical industry was significant. During the last five years, the annual growth rate was about 9%. The rationale behind such success was the adoption of ‘reverse engineering’ system and the production of generic drugs which are relatively cheaper variants than the originals. To develop a new drug about $500-600mn has to be incurred, whereas, the Indian companies can produce the same through reverse engineering technique by incurring just only $15-20mn. Naturally, the Indian companies have the strong base in competition with the global giants and can enjoy the super profit to a large extent. It is reported that, in last year more than 60,000 generic brands in 60 therapeutic areas were available in India.

But under the new regime, the Indian pharmaceutical companies will not be able to continue the adoption of ‘reverse engineering’ technique to produce the generic version of the drugs at a cheaper cost than the original ones. The New Product Patent Act will help the MNCS to resist the Indian players from doing so. Hence, the Indian players have to appear in the market with their newly invented products which would be too much expensive to bear for them.

- With the implementation of the New Product Patent Act, a question is coming out from the various corners of the society regarding the escalation of the prices of the drugs. In the new scenario, the patentee will enjoy the
monopoly power and set the prices at a very high level in order to realize the huge expenditure incurred for carrying out research and development activities relating to the discovery of the drugs as early as possible and to enjoy huge amount of profit. According to the report, life saving drugs will cost 10-20 times more than their current prices. The burden of such price hike is to be borne by all classes of people in the society. In some cases, it should be beyond the purchasing power of economically backward communities. They have no alternative but move forward to death. Not only the Indians but also the other Nations will have to suffer from such price hike.

- Moreover, in the absence of product patent regime, Indian manufacturers were able to manufacture commercially those products, which were patented abroad and supply them in foreign market as soon as the patent period expired. But now, if the patentee obtains a patent of that product in India also, the Indian manufacturers will not be able to start commercial production of that product.

- In the new atmosphere, the Indian pharmaceutical companies have to give much more attention and to spend more and more for carrying out research and development activities to develop a new drug. They must come up with the new and original products and they have to face competition with the MNCs. Therefore, the Indian companies which have the new patented products will be able to launch the new drugs in the market and those who do not have the same, will have to continue with the old products or to arrange research and development activities by spending more and more on it; otherwise they have to lead to go into liquidation. Hence, at present it is going to be globally research based competitive industry.

- Another unfavourable impact of the TRIPS is that, Indian players may not have any royalty income, which the MNCs enjoy in regard to their patented molecules. The Indian companies, which are currently manufacturing with certain molecules, will have to cease their activities if patents are granted in respect of such molecules.
Potentialities & Prospects

Indian pharmaceutical market is pregnant with a lot of opportunities because of its stability; benefit of low cost and educated work force etc. The Indian pharmaceutical companies are trying to project these advantages to the foreign MNCs to attract them. Under the new scenario, the launching of new products is the key to success. But to bring a new product, the companies have to incur major portion of their revenue on research and development activities. It is reported that the cost of invention of a new product is around $ 800mn. Lion's share of such cost is incurred on clinical trial. However, this type of expenditure is deductible u/s 35 (2AB) in the hands of a corporate assessee @ 150% of the actual expenditure (in house research).

To enjoy the benefit of low cost of innovation and to pool of talent in the research field, the MNCs will be interested to invest their funds in research and development activities in India. So, India has the strong possibility to emerge as the hub for research and development work. India has already seen the inflow of funds into research and development field .at this moment. The MNCs are interested to set up fully owned subsidiaries in India for carrying out their activities in India. Besides the above, the MNCs are interested to set up clinical trial centers in India. If these are possible as per international standard, the approval of Indian drugs will speed up.

Moreover, The Indian players have the opportunities to act jointly with the foreign players to provide service as contract sales agent to market their products. In this way, the foreign producers will be able to make the best possible use of the distribution resources through the Indians and at the same time the Indian players have the strong possibility to be gainful through proper bargaining.

In this new regime, Indian pharmaceutical companies have to invest heavily to upgrade their technology in order to increase their efficiency in operation. This is undoubtedly a negative impact of the new regime. But the effective implementation of intellectual patent right will lead to the proper utilization of talented scientists in India. This will also be helpful to control brain drain. This new regime also brings a
scope to the Indian players to increase their efficiency and to level their position with the developed countries.

We have also the pleasure to know that our country has been attracting foreign tourists in large numbers for their medical treatment in India. It is reported that in 2003, India has attracted 1.5 lack medical tourists. So we can say that India becomes the hub of health care tourism in the new economic environment which can bring significant amount of invaluable foreign currencies.

Indian pharmaceutical companies have the option to act as contract manufacturer in favour of MNCs in the new regime. The MNCs will transfer their technology and right to the Indian companies in order to have manufactured drugs in India without their presence in India, because to set up a new unit in India will be more expensive to them. Some MNCs will adopt this path by granting license to the Indian companies to manufacture patented drugs.

Due to the existence of new product patent regime and the availability of skilled talented manpower at a lower cost, India has the potentiality to emerge as a major exporter of new pharmaceuticals to the developing as well as to the developed countries.

**REMEDIES**

To face the challenge in the new scenario, Indian pharmaceutical companies will have to take some innovative measures, which would be fit for them in regard to their size, scale of operation, financial ability and management policy etc.

- To emerge as a global leader and to cope with the forthcoming situation, Indian pharma companies have to emerge with the innovative products in the global market. To achieve this target, The Indian pharma players have to increase their investment in research and development field over and above their existing level. Presently, The Indian pharma companies incur 4% of their turnover on research & development, which is very tiny figure as compared to the 15%-20% of the huge turnover of the global giants. It is a matter of fact that some leading companies in the Indian pharma market like, Ranbaxy, Dr Reddy’s Laboratory have already increased their budget on research and development programme for survival in the new regime. As
soon as the New Act is concerned, the Indian pharma players are going to be tied up with the Govt. universities and research laboratories for sharing with their achievements.

- In addition to that, the Indian pharma players must give their constant attention on USA & Europe markets where branded products are going to be off-patented in near future. This brings a new opportunity to them to develop the generic version of the off-patented drugs at low cost and to present them in National and International markets.

- Due to the existence of stiff and high level competition in the pharma market, the companies are going to adopt niche therapeutic segment for their survival and growth. Each company is interested to limit their activities in a particular therapy area. According to the report, the companies are adopting niches in dosage form or are presenting the different dosages of the same drug. This strategy states that these medicines are to be taken for a long time and once the customers come to use a particular brand, they will never switch over to any other brand. By adopting this way the companies can reduce their distribution cost.

- In the new global scenario, the Indian counterparts have to compete with the MNCs which is a herculean task. In this context, the Merger & Acquisitions or alliance with others are absolutely necessary for the Indian players. The rationale behind this consolidation is to diversify risk, to increase financial strength and to enjoy the economic scale of operation. Very recently, the industry has witnessed a number of mergers & acquisitions which undoubtedly enhance the research and development capabilities of the merged unit for survival and growth in the new economic environment.

- Another route to be successful is the adoption of ‘ever greening’ technique. Under this technique the original patentee will continue to hold the patent of a product by applying the new patent of the same product with slight variations.
Govt's Role

The Govt. has to play a significant role in the new product patent regime. In this context, the Govt. should move forward in order to take some measures to make the new atmosphere more congenial.

First of all, the Govt. has to take steps to control the escalation of price under the new regime. Govt's observation in this regard is that the new patent regime will not affect the price of the drugs immediately, because 97% of drugs in India are off-patented. Moreover, there are methods and various alternatives in the New Act that Govt. can use to provide these at affordable prices.

To control the price of the drugs, the Govt. is thinking to implement a pharmaceutical price index system and to have a semi-statutory body to handle all the matters connected with the drug prices under the new TRIPS regime. Very recently, the National Pharmaceutical Price Authority (NAPPA) has taken steps to check the prices of 74 bulk drugs and revises them periodically.

In the New Act, the Govt. has the weapon of compulsory licensing to protect the interest of the nation. Compulsory licensing means a situation where Govt. allows an agent to produce the patented drugs without taking consents of the original patent holders. This can be used when the prior attempts to obtain such right on commercial term from the patentee will fail. But in that case, adequate fees will have to be paid to the original right holders. These requirements will no longer be necessary, if such license is issued for the public interest and non-commercial use or other circumstances of extreme urgency.

Besides the above, the Govt. can not defy its role to provide hygienic atmosphere for the growth and survival of the pharmaceutical industry in the new environment. Therefore, the Govt. has to extend co-operation at each and every point of time and to give assurance to the industry for providing the proper infrastructural facilities within the purview of the New Patent Act.
At last, it is said that the negative aspects of the new era may be overshadowing by the positives. The extra ordinary efforts are required to achieve desired targets. The Indian pharma market has everything, such as low cost for innovation, adequate Govt. support and highly skilled scientific personnel to emerge as globally competitive and move forward to become dominant player in the global market. There is no doubt that the Indian pharma players do their best with the available resources and abilities. They have to adopt novel ideas to combat the competition from the multinationals.

The product patent regime provides an opportunity to us to increase our efficiency and competitive power and to pool efforts from all corners, so that we can build up multinationals as a mark of our success in the era of globalization. With developing new drugs and formulations, focusing on intensive research and development activities and adopting a particular niche therapeutic segment, the domestic players will collect their strength to take entry in the new zones for their growth in the industry. The Govt’s role in this regard is much more important. It should emerge not as regulator but as facilitator. In fact, the new regime raises a slogan ‘survival of the fittest.’

Source:
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