INTRODUCTION

The Indian Pharmaceutical sector had almost no existence prior to 1970. But, thereafter, it has come a long way as a reputed provider of healthcare products, catering to almost 95% of pharmaceuticals needs of the country. The pharmaceutical industry today ranks top amidst the science-oriented industries in the country. It has diverse capabilities with regard to complex areas of drug manufacture and technology. Significantly, it also has high ranking in the third world with regard to technology, quality and range of medicines manufactured.

Every type of medicines varying from headache pills to highly sophisticated antibiotics and complex cardiac compounds are now manufactured indigenously. The Indian Pharmaceutical sector is marked by its high fragmentation with more than 20,000 registered units and stiff price competition and government price control. Yet, it has undergone drastic expansion during the last two decades.

About 250 large units have control over 70% of the market along with market leaders that hold about 7% of the market share.

About 8,000 SSI units, inclusive of 5 central PSUs, form the core of the pharmaceutical industry in India and manufacture complete range of pharmaceutical formulations such as medicines readily consumable by patients and about 350 bulk drugs like chemicals possessing therapeutic value and used for producing pharmaceutical formulations.

Annual global spending on medicines will reach nearly $1.2 trillion by 2016, as the
pharmerging markets, biologics and generics contribute more to spending. In the developed markets, including the United States, Europe and Japan, spending will decline to 57% of the global total due to expiring patents for a number of significant brand-name drugs, slower increases in spending on branded products, and increased cost containment measures by payers. Globalization is an economic process characterized by increase in deregulated trade, improved IT and mobility of capital internationally.

Globalization denotes certain globalized features, such as economic integration, governance and inter-linked social and environmental development. It has facilitated firms for operating beyond their usual sphere of operation. Evidencing this truth, Indian pharmaceutical firms have achieved higher success in development of product and process in the global scenario. As globalization continues to grow we take a look at the opportunities that the Indian pharmaceutical industry can grab, since it has done so well in the global market in the past. Hence in this research we will investigate the opportunities, the changes being made and the drawbacks in the Indian pharmaceutical industry.

The influential factors considered in this study are Foreign Direct Investment (FDI), Patents, Population, Labour costs, and Aging Population etc.

LITERATURE REVIEW

As stated by J. Ramchandran of IIM, Bangalore that the new genre of firms having international business are different from those operating prior to the period 1990. They are not just exporters of commodity. Rather, they are founded on competitive advantages of knowledge and organizational capabilities with which they are enabled for penetrating deeper sand for going up the ‘value chain’. Thus equipped, they can play significant roles in global scenario in respect of their industries and can spur further organizations in their own industry or other industries. M.Ramchandran has made analysis of the dynamics of macro, industry and company-specific factors with regard to the latest developments. He also outlines the agenda for future activities for the new genre of companies and lessons for those aspirants and potential overseas competitors from India.

As reckoned by Habil FKhorakiwala of Wockhardt Ltd, ‘India Advantage’ in pharmaceuticals is characterized by i) technical and professional expertise of international standard, ii) acumen in entrepreneurship and iii) Cost-benefit advantages in all constituents of the value chain. Significantly, foreign companies endeavoring to penetrate into the middle class market found these advantages that the Indian companies were pursuing aggressively for positioning themselves in the overseas markets. They have taken acquisition of companies of developed countries which no other countries including China could break through. Khorakiwala puts emphasis on a global approach in the management of global business that encompasses the following features.

- Processes of management, IT, HR, manufacturing and supply chain that are globally integrated,
- Approaches for sales, marketing, regulatory affairs and Intellectually Property Rights that are locally responsive.

Jerry Rao of Mephasis Ltd rejects any short cuts of joint ventures and partnerships for Indian companies if they want to be global players. In IT or business outsourcing process, the primary markets are outside the country. Hence, for evolving for success, they must bear the DNA mark of Indian companies, without any alteration.

Pramod Khera of Aptech Ltd advises to deal such matters from the perspective of retail consumers overseas. He gives example of a joint venture succeeding in China and therefore lays importance on credible and known partner for retail business of established brand. China has high market potential and Indian companies can achieve success if they gather local knowledge effectively. It is now highly favorable to have the form of two meta-trends. By this, a large number of India companies would be enabled progressively for creating remarkable positions in the overseas markets. Allied institutions and skills such as financial and legal expertise is becoming more adoptive.
These are being created within and beyond the industry by the process of acting through demonstrative effect of an internationalizing company on compatriots.

As stated by Niraj Dawar of University of Western Ontario, besides IT, India possess global competency with regard to marketing. Like China and Russia, India too has established local brands successfully. Even accomplished foreign companies entrust the management of international brands to Indian companies. India possesses the world class skill that needs to be exploited. In this respect, Infosys has been becoming a recognized global brand in IT.

What are needed to be tackled are the ways for acquiring the knowledge about local consumers in foreign markets and thereafter, developing approaches to create or adapt brands and the means for supporting the investments that are needed in the shape of ‘time and treasure’.

**OBJECTIVES**

- To understand the scope Indian pharmaceutical companies can derive from globalization
- To measure the steps taken by Indian pharmaceutical companies in order to stay competitive in the global market

**SIGNIFICANCE OF THE STUDY**

The pharmaceutical industry in India has seen a phenomenal growth and its growth is expected to spread further in the future as well, with the world coming closer together because of globalization and with most companies and industries spreading their operations beyond their national boundaries, enlarging their market area. The pharmaceutical industry of India has found itself facing globalization and its large market, posing numerous opportunities, challenges and threats as well.

**STATEMENT OF THE PROBLEM**

The major challenges faced by the Indian pharmaceutical companies are lack of understanding of the global markets, fierce competition by the regional and global companies in the International markets, limited access to the new molecules to treat challenging diseases & disorders, limited encouragement by government to this sector and highly fragmented domestic market etc. However, considering the inherited strengths of the industry and huge opportunities in the global markets in the future, Indian companies will play a leading role in providing high quality drugs to treat challenging diseases at affordable prices across the globe.

**RESEARCH METHODOLOGY**

Research is generally conducted through two sources primary and secondary sources. The primary sources includes face to face interviews and questionnaire in order to collect data, while secondary data is considered to be second hand information, which means data that has already been collected by some other researcher. This secondary data sources includes books, journals, article, online articles, websites, TV and so on. For this research the chosen source is secondary source. The researcher used books, journals and online article to make the research possible.

The major influential factors in generating the opportunities for the Indian pharmaceutical companies in the era of globalization considered in this study are:

1) **FOREIGN DIRECT INVESTMENT (FDI)**

The pharmaceutical FDI are dedicated to a great extent to acquisitions, takeovers and mergers in order to assist the parent firms to increase their power over the functions carried out in India (Abrol, 2004). The foreign pharmaceuticals firms have been affected by the global mergers in the same lines. The chief driver for acquisitions and mergers for the pharmaceutical MNCs in India still control strongly over the ownership of investments. The FDI survey in India conducted by Bhaumik et al. (2003) also gave its confirmation for the pharmaceutical industry while giving a suggestion that green-field investment to joint venture is preferred by the MNCs investing in Pharmaceutical industry. Relating to the FDI control the government should relax its regulations. For instance, previously the government of India granted permissions to establish 100 percent owned subsidiaries only if that sector was ready to take
over the pharmaceutical production right from the primary phase of manufacturing the bulk drugs concerned. This is not a requirement anymore.

2) PATENT EXPIRY

The growth and profitability may have a considerable affect when there is a loss of patent protection for a blockbuster drug that formed a considerable sales proportion. In the coming years around 60 billion dollars worth drugs will go off patent. This could be a huge opportunity for India if able to grab the share (press statement, 2007). Lalitha (n.d.) points out that the new change in the TRIPS allows more uniformity towards property rights to the members of WTO. Hence this TRIP facilitates free flowing investment and technologies among the WTO members. India can be immensely benefited if its patent laws are modified accordingly (Saibaba & Agarwal, 2001). Lilitha (n.d.) further points out that the process development expertise achieved by the Indian pharmaceutical industry has been solely due to the changes made to the 1970 Indian patent act. The Indian pharmaceutical industry can take advantage of the patent law by producing new patent as well as off patent products after acquiring cross licensing or compulsory licensing encourage collaboration with multinational companies in marketing newer products, improve production standard and increase exports and remove its sole concentration from R&D. foreign companies are more likely to shift operation to India after the government made amendments to the patent act in 2005, where products can patent for a span of 20 years, previously the patent laws in India were very weak and lacking. This change has encouraged foreign pharmacies to enter the Indian market more boldly (Chada, 2006).

3) R&D COSTS

Since the cost of discovery and launching of new drugs in the market have gone up, the risk of failure has also increased and the also the necessity of enough compounds in advancements to fund growth. Furthermore, the increasing width of advancements in various other therapeutic sectors has led to increasing burgeoning and research teams costs. The increasing authoritarian scrutiny of drugs presently needs the pharmaceutical organizations to perform clinical trials that are longer that consist of bigger patients groups. Since the Indian market is highly attractive to the foreign firms.

Many multinational companies have begun to invest in R&D in Indian pharmaceutical companies. Such investment increases the production of drugs, increases transfer of latest technology, expertise, funding, and knowledge and increases a firm’s competitive edge. Taylor and Blonigen (2000) points out that generally large companies look to invest in in-house R&D or either by searching for innovative companies and then sourcing its technology externally.

4) MARKETING COSTS

There was an “arms race” between the huge pharmaceutical companies in the last decade, fighting to have the biggest sales forces in order to make sure that the drug among the consumers and physicians got powerful marketing. This was most seen in the US, even though; this presently takes place in the upcoming markets, much notable in China. Currently, the patent protection loss of significant blockbuster drugs, whether they are impending or actual, has made it mandatory for the companies to implements a much rational strategy of marketing and sales.

5) GEOGRAPHIC EXPANSION

In the present years the rapid economic growth in the emerging markets has given the pharmaceutical companies attractive new chances to advertise their products. However, these companies need to have an infrastructure and a local presence to market and distribute their product in every country.

The acquisitions and mergers enable the companies with an easy access to the local market with a sales force that is already present, local relationships and the channels of distribution.
6) LABOR FORCE

India has the most genetically diverse and largest population that enables it to engage for clinical trials much faster and conduct them much inexpensively compared to the western countries. Despite of the drawbacks in some sectors, the pharmaceutical companies in India utilizes their competitive advantages over the manufacturers of traditional drugs in the industrial countries in the west. The cost of wages in India is only about 20% of the wage level in the US or 30% of the wage level in Europe. In general, the cost of manufacturing drugs in India is 50% cheaper compared to the industrial countries in the west. India is an attraction for conducting research for the international pharmaceutical companies because the development costs are low. Hence its pricing is highly competitive as India produces cost effective drugs (Padmashree & Sampath, 2006). Conducting of clinical tests is much easier and frequent that would give much accurate results. The increased population is an advantage, and the number of persons suitable for partaking in the test is much more in comparison to the western countries. The drugs to enter the market would be approved only after passing a number of tests on the humans.

7) BOOST FROM POPULATION GROWTH

Due to the rise in population there has been a great boost to the pharma sector of India. As per the estimates of UN, the population would increase from 1.1 billion currently to 1.4 billion in the year 2020. The number of children being born in India would be as much as the total number of population of Germany, UK, Italy and France. By the year 2025 India would be the most populated country in the world by overtaking China. Though, India’s average life expectancy is much lower compared to the countries in the west. The figure for women is 66 years and for men is 64 years in India, where as the life expectancy of German women is 82 years and men is 76 years. The Indian ageing population offers the market with great opportunities. As per the estimates of UN, the people that contribute to the market over the age of 65 is 5% presently would be 8% in the year 2025. That means, there would be 55 million more people with the age 65 and above than the present. This would result in usual illnesses relating to the age like cardio-vascular diseases and cancer would be much widely spread. The pharmaceutical sector would be also boosted due to the slow spreading of diseases due to civilization like diabetes and obesity. PricewaterhouseCoopers (PwC) cited that the persons having diabetes in India would come up to an approximate of 74 million by the year 2025. (The current number is 34 million); which is approximately the population of Turkey at present. The number of patients having diabetes in the developing countries is around 230 million. Such development is bound to be advantageous to Indian generic manufacturers as they can strengthen their technological, financial & marketing capabilities before entering in to global markets.

8) THE INDIAN GENERICS MARKET

The generic market of India has been experiencing a speedy growth rising enormous opportunities for organizations. Furthermore this triggers the reality that more than $40 billion worth generics are to about to be off patent in the near future that would be nearly 15% of the entire US prescription market. The performance of the pharmaceutical companies in India is exceptional in the developed markets like the Europe and United States, the outstanding from these are Lupin, Ranbaxy, Wockhardt, Dr. Reddy’s, Cipla, Aurobindo and Nicholas Piramal. The policies of the companies are in place to leverage the existing and future opportunities in bulk drugs, present formulations, Novel Drug Delivery Systems, Biotechnology, New Chemical Entities, and Contract Manufacturing etc.

9) AGEING AND OBESE POPULATION

The requirements for healthcare will rise and the use of drugs will be for a longer time. For example, the world’s ageing population is on the brink to make the pharmaceutical drugs for signs of Alzheimer’s disease. The drugs dealing with increasing multi-factorial disorders like cancer and also disorders of lifestyle like obesity would probably face strong growth of revenue.
10) BULK PRODUCTION

Bulk manufacturing of drugs is another major factor that gives the Indian pharmaceutical industry an advantage. According to estimates, the manufacturing of bulk drugs in India will continue and by 2015, its market value will reach up to 20 billion USD and is supposed to reach 28 billion by the end of 2017.

ISSUES FACED BY INDIAN PHARMACEUTICAL COMPANIES

I. R&D OF NEW DRUGS

R&D spillover by MNCs in India has comparatively decreased the incentives of developing and import standard technology into the pharmaceutical industry. In India, the MNCs were up against much hostility and uncertain policies, which resulted in information sharing among local firms. The result of this was that two different groups were formed, one the local firms and the other being the MNCs. When in fact the intention was to create a link between the local and the MNC firms, but due to the uncertain policy environment the intended result was opposite (Mansfield & Lee, n.d.).

Further, India is far lagging behind in development of new products. The R&D in Indian pharmaceutical industry is all sponsored and encouraged by foreign companies. Indian companies have not yet made any significant development in R&D of new products. And further domestic businesses have collaborated with foreign firms. The focus of India’s R&D is upon technology know how and innovation of off-patent products that the Indian companies seek to sell to Europe and the USA.

II. FOREIGN DIRECT INVESTMENT

In terms of the inflows of FDI in relation to accepting of powerful IPRs, the performance of the pharmaceutical sector is most terrible among the other sectors that were expected to have a positive impact. There was a decline in the ranks of the pharmaceutical sector from 8th in 1991 to the 13th place in 2009. In addition, concerning the investment patterns of international pharmaceutical firms in the pharmaceutical industry of India; there has been an expansion of formulation activities by a huge portion of new foreign organizations in the activity of manufacturing. There were very less amounts of new investments in the bulk drug. After the situation of 1999, the environment for imports has been much liberal. There has been freedom of operation for the global pharmaceutical firms, enabling them to replace the production based on imports with numerous product segments (Abrol, 2005). Their choice of instituting fresh operations by incorporating a totally owned subsidiary is also a propensity that is well confirmed. The new pharmaceutical FDI’s are dedicated mainly to acquisitions, takeovers and mergers in order to assist the parent firms to increase their power over the functions carried out in India (Abrol, 2004).

The foreign pharmaceutical firms have been affected by the global mergers in the same lines. The chief driver for acquisitions and mergers for the pharmaceutical MNCs in India still control strongly over the ownership of investments.

III. GENERIC TECHNOLOGY

With regards to India, the domestic firms are yet to experience the claimed benefit of improved technology in development and manufacturing of generic products. The researches show that despite of players such as Ranbaxy, Dr. Reddy’s, AurobindoPharma, Hetero Drugs, Divi Laboratories, Lupin, Sun Pharma, etc., have exploited the opportunities in the global market to grow phenomenally. In spite of upgrading their quality systems to meet the International quality standards; couple of manufacturing sites received warning letters by the USFDA regarding their practices of manufacturing.

RESULTS AND DISCUSSION

A number of Indian pharmaceutical firms have achieved high levels of success globally in product and process development. They are competing effectively in the generic pharmaceutical markets of the USA and Europe. They have progressively accumulated process development and manufacturing capabilities which meet the stringent criteria of the US and European Union regulators, and have also acquired drug “discovery” skills to a level which has gained some recognition from
major Western pharmaceutical companies. This paper analyses evidence from a range of documentary sources in order to elucidate how two of the leading Indian companies have accumulated the intellectual and social capital which has enabled this degree of innovative success. It finds evidence that environmental factors have opened up opportunities which drew on the firms’ early capabilities, while requiring additional skills. In response, these firms have invested in expanding their initial internal competences through a number of routes, including hiring Indian-born, Western-trained scientists and industry executives, membership of an internationally oriented industry association, etc. As their profits and reputations have grown, they have also been able to access external knowledge through Western alliances and acquisitions. It concludes that they have built a broad business and technical knowledge-base and very wide networks, which have been effectively integrated thus far in pursuit of business objectives, but raises the question of whether they should now adopt a more focused approach.

FINDINGS

Between various countries. This can be of many factors, such as sales, purchase, trade, information exchange, technological exchange, merger and acquisition of companies. The pharmaceutical industry in India is very attractive due to several grounds this has caused many foreign companies to merge with the Indian pharmaceutical company and furthermore the government of India has relaxed many policies to encourage foreign companies to merge with Indian companies. These policies have encouraged foreign companies to invest directly into the Indian companies.

Further patent expiry of blockbuster drugs has given the Indian pharmaceuticals industry an opportunity to grab a huge share of market that forms a considerable sales proportion. In the coming years around 60 billion dollars’ worth drugs will go off patent. This could be a huge opportunity for India if able to grab the market share that would be available with these drugs being off patent (press statement, 2007). Despite of the drawbacks in some sectors, the pharmaceutical companies in India utilizes their competitive advantages over the manufacturers of traditional drugs in the industrial countries in the west. The cost of wages in India is only about 20% of the wage level in the US or 30% of the wage level in Europe.

In general, the cost of manufacturing drugs in India is 50% cheaper compared to the industrial countries in the west. India is an attraction for conducting research for the international pharmaceutical companies because the development costs are low. Conducting of clinical tests is much easier and frequent that would give much accurate results. The increased population is an advantage, and the number of persons suitable for partaking in the test is much more in comparison to the western countries. The drugs to enter the market would be approved only after passing a number of tests on the humans.

By the year 2025 India would be the most populated country in the world by overtaking China. Its population growth results not least from higher life expectancy. The Indian ageing population offers the market with great opportunities. As per the estimates of UN, the people that contribute to the market over the age of 65 is 5% presently would be 8% in the year 2025. That means, there would be 55 million more people with the age 65 and above than the present. This would result in usual illnesses relating to the age like cardiovascular diseases and cancer would be much widely spread. The pharmaceutical sector would be also boosted due to the slow spreading of diseases due to civilization like diabetes and obesity. PricewaterhouseCoopers (PwC) cited that the persons having diabetes in India would come up to an approximate of 74 million by the year 2025. (The current number is 34 million); which is approximately the population of Turkey at present. The number of patients having diabetes in the developing countries is around 230 million.

This development should benefit India’s generics manufacturers. through merger reasonable strategy can be consolidated and minimize the costs guaranteeing the progress of the compounds via the pipeline of development,
they may be able to also help in dealing with a difficulty of some companies that fall short of technological capabilities or late-stage pipeline candidates to deal with their future patent expiries. The requirements for healthcare will rise and the use of drugs will be for a longer time.

RECOMMENDATIONS

There are clear indications that with the MNCs R&D spill over the market face changed in the Indian market. There has been a split between the local industry and collaborated industry, which was not really intended. The clear reason for this is that the Indian companies as well as the government were keener on concentrating on the foreign collaborated companies. Such bias view should be put away by the industry and the government and further the industry as well as the government should open more doors for the Indian companies to improve its R&D and try development of new products. India has a huge population and hence drugs are made in bulk. The FDI from foreign was not invested into production of bulk drugs, since after 1999 importing products from abroad became more liberal, hence bulk drug production was not necessary. The government of India should give a certain amount of products that should be produced by the local companies that are collaborated with the western companies and import duties should be checked and limited so that the Indian pharmaceutical industry can gain more footage in the market, in innovations, competition and development. Further the new pharmaceutical FDI’s are dedicated mainly to acquisitions, takeovers and mergers in order to assist the parent firms to increase their power over the functions carried out in India. Hence the government of India should make sure that operations and functions of a collaborated company should first keep the needs of its own country in view and the local market is the one to be first concentrated upon.

CONCLUSIONS

The Indian pharmaceutical industry has seen a phenomenal growth and is ranked 13th in the entire world. The Indian companies do have lot of advantages in the global market because of the growing market size, cheap labour, low priced products, aging population, bulk production, patent rules and FDI. There are many drawbacks as well that the Indian pharmaceutical industry should consider, such as in R&D the Indian industry has not made any significance development in spite of many new molecules under various stages of development by couple of Indian companies like Ranbaxy, Dr. Reddy’s, Glenmark etc., Its production considers only the off patent drugs where the industry looks to target the European and American market, but whereas developing new products the Indian pharmaceutical Industry is far behind. The FDI as well does not focus much on development and research since importing has been made easier in India, hence the foreign companies looks to just import its products from the parent company and further globalization facilitates merger. The foreign companies that merge with Indian company holds the upper hand as it is more financial sound and powerful in the market.

SCOPE FOR FURTHER RESEARCH

A detailed study on different strategies used by global, regional & Indian pharmaceutical companies in the Global markets will help entry level Indian pharmaceutical companies to enter and become successful in global markets. Research on political, economic, social, technological, and regulatory areas with respect to healthcare domain will help to understand the complexities of the International trade for Indian pharma companies. Further work needs to be done on the identification of the right kind of Marketing tools required to become a global company.

REFERENCES

3. Agrawal and Saibaba. TRIPS and India’s pharmaceuticals industry, Economic and Political Weekly 36, (2001) p. 3787
7. Gehl Sampath, Padmashree, (2006), Indian Pharma Within Global Reach?, Published in Jo Chataway, Dinar Kale and David Wield (editors), The Indian Pharmaceutical Industry before and after TRIPS, Special Issue of the Journal of Technology Analysis and Strategic Management, September 2007, pp: 1 to 42.