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3.1 Introduction

The study revolves around the pricing strategies of drug companies. Research talks about factors which play the vital role while framing the strategies of various drugs. The study deals with the strategies of public and private sector companies. Research focuses on the critical factors which affect the pricing of drugs from the point of view of company professionals (Managerial level) as well as considers the point of consumers, physicians and pharmacist on drug pricing.

This chapter inculcates the methodology of research used in the study and the related framework is as follows:

- Objectives of the Study
- Scope of the Study
- Review of Literature
- Research Approach/Research Design
- Sample Selection and Data Collection
- Result Analysis & Interpretation Methodology
- Limitations of the Study
3.2 Objectives of the Study

The pharmaceutical market is a special kind of market where the payer who buys the product, does not decide the necessity of that purchase. The patient has to rely on doctors and the experience, while purchasing the drug. The aim of the study is to find out the variables on the basis of which company decides the price of the drug. The purpose of the research is to find out the domains which influence the decision making process of drug pricing.

Following are the primary and secondary objectives associated with the research work:

- To study the pricing strategies of selected companies.
- To identify the factors which are having a significant impact on drug pricing.
- To identify the effectiveness of government price regulatory authorities.
- To study the role of the Drug Price Control Order for better understanding of drug pricing.
- To study the open market forces which are having a significant impact on drug pricing.
• To identify the role of the management of drug companies in the process of deciding the drug prices.
• To identify the perception of consumers, physicians and pharmacists towards the drug pricing.

The aim of this study is to find out the factors which contribute a vital role while taking the decision of drug pricing. Drug pricing itself linked with several domains like role of top management of companies, partial role of government and demand & supply.

3.3 Scope of the Study

The scope of the any study depicts the parameters which ultimately lead to the boundaries of the research. Research includes the top management of drug companies, physician, consumers and pharmacists as respondents. The Study envelops the 4 drugs that is- Paracetamol, Nimesulide, Ibuprofen, Diclofenac of Analgesic Category only. This study used four most common and popular drugs of analgesic category for the research purpose on the basis of the Musician Study (2012).² Analgesic category is selected through convenience sampling. Reason of selecting this category is that easy availability of data from the patients. Another reason is that the drugs of analgesic category are easily available at almost each and every drug store.
The sphere of study moves around the decision making process of drug pricing taken by top management of the companies and tries to find out the effectiveness of government regulating authorities in controlling the drug pricing. Research inculcates the open market forces and how these forces influence the price of drugs. As this study deals in various domains, hence the opinion of four categories has taken and categories are as follows:

- Top Management of Drug Companies
- Consumers
- Doctors/ Physicians
- Pharmacists

### 3.3.1 Top Management of Drug Companies

The opinion of top management in drug pricing issue is as important as blood for human body. These professionals only have the rights to decide the drug price except the government bodies and market forces. Hence, the one questionnaire is framed for top management executives. This research would help to know the perspective of these managerial people towards the drug pricing.
3.3.2 Consumers

Customers are those for which ultimately products are manufactured. The central node of the open market forces is the ‘Demand’. Demand is eventually decided by consumers buying behavior. Consumers obliquely make the path of decision making for drug pricing.

3.3.3 Doctors/Physicians

“Consumers are the king” but this phenomenon is quite different in the pharmaceutical industry. In this industry, consumers are not the one who decides what to purchase and what not to be. Decisions of buyer significantly influenced by doctors, therefore, the perception of doctors plays a crucial role which ultimately influences the buying behavior of consumers.

3.3.4 Pharmacists

As doctors influence the buying behavior likewise pharmacists have the power to influence the buying of drug because the drug reaches in customers’ hand through the chemist only. Buying and selling and demand & supply in the economical terms play a key role in drug pricing.
3.4 Review of Literature

Review of literature is a process of reading, analyzing, summarizing and evaluating the previous research. In other words, it's a summary of a particular area of research. Literature must contain both sides of the research and should not contain the bases. Review of literature gives a theoretical base to the study and helps to determine the nature of the research. A literature review goes beyond the search for information and makes the relationship between the literature and the field of research. Review of literature of the study is as follows:


The paper states that multinationals are seeking huge opportunities in Pharma industry. India is a fascinating destination in the world as a cultural heritage as well as the becoming the growing economy. In Indian pharmaceutical market, government affairs and pricing functions play a vital role and affect the demand and supply function of the market. Author supports that the growth of Pharma industry encourages the private partnerships that ultimately improves that Indian healthcare
system. India is one of the markets of low-priced medicines, but it is difficult to afford the drugs over here because India is largely a self-pay (non-reimbursed) market. On the other hand, as the income level increases that shifts the attributes of customers and they are ready to pay the premium price for drugs. Research and Development increases the cost of the drug. Hence, in coming future, health insurance may facilitate the demand of high priced drugs to make them affordable. Government should also intervene and create new policies to regulate the market.


The article discusses that how a manufacturer can design sustainable pricing strategies throughout the life cycle of a pharmaceutical product with the consideration of profits as well. Smart pricing is the single most important source of competitive advantage for pharmaceutical companies. In the world of smart cards, smart phones, smart drugs, so smart pricing should be done for sustainable growth of the industry, but it is difficult to make a balance price between the consumers and competitors. Pricing also has to deal with prescribers, health authorities, pricing authorities, reimbursement authorities and economic advisors for making the smart pricing of drugs. Companies are using smarter and
sophisticated tools to evaluate the value based pricing strategies of drugs and discovering the unusual ways of pricing through breaking the traditional methods of pricing. Even though, companies do face problems in updating the changes regarding pricing strategies throughout the life-cycle of drugs. Author clarifies that the maturity and declining phase is the most difficult phase for managing the price protection because at these states the product can be removed from the market. The manufacturer should adopt the proactive strategies to pursue a shift of consumer focus from prices, they can go for the generic branding, and harvesting and retrenchment should be considered as a viable option in declining stage.


The article argues that companies are making profits from the high prices of drugs. The companies defend themselves by stating that the higher prices of drugs are because of the huge cost inculcated by the research and development. Analysts also support their strategies with the argument that premium pricing induced the higher sales of a drug, whereas patients and insurers have the opposite view of the same. It is remarkable that doctors as well as the patient do not know the cost of
treatment. Author reveals that the company does not disclose their prices until they actually begin marketing of drugs, which varies from a few weeks to the months after the approval, and after considering the cost inculcated in these activities reveals the price of the drug. This course of action gives a hint to the market that there is some hidden costs in the drug price.


The article throws light on the issue of drug prices and its affordability to the public. The Author says that the government has announced, to reduce the prices of more than 300 drugs. Minster Sharad Pawar has proposed that 348 drugs will come under NLEM (national list of essential drugs.). The proposal has sent to the cabinet’s approval within a few days. Author states that if proposal accepted, pricing of around 60% of drugs will go down, which has annual sales of 30,000 crore per year. Expert says that it will the first step to make drugs affordable to needy people. It would not a dramatic fall of prices. India is having the fourth place in the field of volume and fourteen in the context of value in the pharmaceutical industry. The government said that if this policy will implement, it will cover the drugs having the
market share of 1% or greater market share. The government opposed the market price based mechanism because it is subject of the health of the country and cannot be left to the market forces. On the contrary side pharmaceutical sector is not happy with the policy. They give their opinion that it will hurt all major companies, particularly all large companies and foreign companies.

348 vital drugs to come under price control. (2012, september 27).

*The Hindu.*

The article states that Group of minister (GoM), headed by Agriculture Minister Sharad Pawar, gives the approval to the final Pharma Pricing Policy and covers the 348 Essential Drugs. The article discloses that the GoM has forward its recommendations to Cabinet for approval of policies and bring the drugs under the National List of Essential Medicine (NLEM). GoM has estimated that these drugs have the total sales turnover of Rs 29,000 crore and its 60% of sale is domestic. The Minster said that GoM has made a draft of the policy after the depth study about pricing policy of India and as well as the other developing countries. These recommendations are forwarded to Cabinet, then Cabinet will decide whether to implement this policy or not. At present
National Pharmaceutical Pricing Authority (NPPA) controls the prices of 74 bulk drugs and their formulations.


The article says that the prices should be decided after the deliberate discussion with manufacturers. Government has to set a committee to look into the issue of price negotiation with manufacturer of patented drugs. The article mentions that both reference pricing model as well as the negotiation model should be adopted by government. In reference pricing model, drug prices could be set by taking the reference from the other countries for the same. Whereas negotiation model states that prices are fixed only after the negotiation with manufacturers. Indian patented drug market has the turnover around 5,000 cores and covers the 12% of the total market share. The article states that the government could direct the manufacturers for drug prices with the help of compulsory licensing.

The article states that the drug price control orders in India and impact on Indian health care system. India is planning to widen the price controls orders on pharmaceuticals and to create new challenges for multinational drug companies. India is going to extend its price restrictions from generics to patented drugs too. This will be a significantly a challenge for drug companies, especially for multinational who are worried that India is not taking enough efforts for protecting their intellectual property rights. The aim of price control is to provide expensive drugs at an affordable price for poor people. 74 generic medicines come under the drug price control. Now, India is planning to increase this number up to 348 including expensive medicines. The article discusses that the price of drugs is a very crucial issue because it is associated with the health of society. Hence, it should not be determined by the market forces. The article reveals the fact that Indian pays almost 70% of their health care expenses are out of pocket. The government has not disclosed the controlling policy of patented drugs; it is still planning to formulate drug controlling policy for patented drugs. Some experts have a different opinion on price control of drugs; they said that the control of patented drugs will hamper the interest of consumers in the long run. Restriction process for prices of patented drugs is
ultimately diverting the companies from new innovations due to the fear of heavy cost.


This growing scenario of the world demands for change in pricing strategies of the drug industry. Various countries are taking efforts for improving the regulation system of drugs and to make the drugs affordable to the public at large. The Indian government is distributing free drugs among public and planning that around 1.2 billion public will take advantage of this scheme, this strategy of government will work as a punishment for the branded drugs. A report by IMS shows that in coming 5 years, the majority of the demand will be satisfied by the generic drugs and remaining will be through branded drugs. This trend is going to work as knocking agent for generic market and will affect developing as well as the developed market. If the strategies of big changed, the profitability of these companies will affect severely. This scenario will motivate the companies for taking fewer efforts towards the research and development; and ultimately affect the health care system of the country. India always focused on providing a basic level of health care to the large population with lesser cost. This is the biggest challenge for
the Indian health care system to cater the needs of country with a lower cost drugs and improved quality.

Spivey, J. (2012, June 5). Will European price control pressures affect U.S. pharmaceutical pricing?

The Article reflects the fact that various European countries are putting forceful actions for establishing strict price control orders in their respective countries. The pricing policies of the United States will affect by the steps of price-controlling taken by the European countries. The market would induce the downward pressure for negotiations of prices of drugs. There is a huge difference between the drug prices of U.S. and Europe. Hence, the market is putting a force on government/legislation for lowering the prices of drugs. This downward pressure will remain in the U.S. and it will be challenging for drug developers. This course of action will give the worse effect on patients because manufacturers will avoid making new drugs or to do new experiments. Author concludes his article by saying that these complex and heavy pricing restrictions threaten to stop or to kill risky breakthrough innovations in the field of drugs.

The article raises an important issue of the country that drug prices should be regulated or not. The article raises an issue to finalize the country’s drug pricing mechanism to bring “all drugs under price regulation.” This news is good for those people who pay for medicines out of pocket. This action will give the negative impact on the growth of Pharma industry and deteriorate the innovations, and also avoid the foreign investors to invest in Indian drug industry. The Author says that this process of providing drugs at an affordable cost will set a different trend world-wide. Author also states that health care expenditure is the second largest cause of rural indebtedness in the country because most of rural public cannot afford the medicines. Medicine purchased through bulk prices offered 20-40 times less expensive.


India is going to adopt new drug-pricing policy that will permit the pharma companies to sell the essential medicines in the retail market but with the decided maximum retail price. The government's main aim is to frame this policy and to make the essential drugs affordable at a lowest cost. However, price control is only a mean, and not an end, to meet the goal and to control the overpricing of drugs. For achieving the
goal, the government should buy the bulk drugs through tenders for reducing the prices unlike the old practices. These Tender-linked pricing strategies are recommended by the health ministry which dis-incentives the companies. This practice imposes the risk of compromising on the quality of drugs.


The article reveals that Cipla is extending its affordable and humanitarian pricing strategy for anti-cancer drugs, while other domestic companies are also trying to cope up with the huge cuts and evaluating their pricing options. Now Cipla is entering into the oncology segment, which would trigger a price war in the same field. This study indicates that so many strategies are adopted by leading companies to increase their market share, like giving heavy discounts because patient’s affordability is the major focused area in the Pharma industry. Author said that Cipla has reduced their costs tremendously by adopting the backward integration and reverse engineering technology.

Research focuses on the reference pricing (RP) policies in the organization for economic co-operation among the developed countries of the world. This study explains that how reference pricing associates with fluctuation in prices of drugs. Research gives the evidences that reference price is considered all the up and downs of drug prices. Generic reference policy (GRP) policy applies only to the products with patent expired product. Fall in the drug prices increases the competition among the generic market. Reference pricing gives a base for setting up the prices of drugs. Firms are launching new dosage/formulations or substitutes in the market. This action lowers the prices of drugs. Whereas some studies show that there is no association between RP policy and health outcomes. Hence, research needed more evidences which reveal the association between patent, brand name and RP policy.


The study reveals that it is not necessary to intervene in the generic drug market only through the price regulations. European countries are intervening the market either by regulating the maximum sale price (price cap) of generics or by setting the maximum reimbursement rate. Author also states that the direct price regulation of generic drugs and
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reimbursement rate affect the reference pricing as well as it provokes the competition between generic competitors in Europe. The authors also support that the generic drug with a lowered consumer price than the reference price do not undergo price reductions until and unless the reference price is reduced. Reimbursement systems added an advantage to the reference pricing as prices get discounted through the process of reimbursement. Hence, the research supports that the reference pricing is significantly related to reimbursement pricing.


The article provides a brief overview of the different types of constraints for manufacturers and how they can overcome from these constrains along with the optimum price of drugs. Increased health care costs, increased sophistication of insurers & regulators and escalating expectation of the consumers compel the manufacturers to be more effective in producing the drugs along with low price. Effective launch of a new product must account for the reduced pricing freedom for the specific country. Efforts to rationalize the regulatory regimes and
promotion of international trades, contributes to an environment in which pharmaceutical manufacturers must manage the whole process of launching the product world-wide with higher quality and with expected profits. The article says that the successful launch of a global drug depends on different factors like negotiation of price, proper timing to launch, mitigate parallel losses, and minimizing the effect of reference pricing. If a manufacture fulfills all these conditions than firm surely will meet the expectations of consumers as well as the expectations of revenue and profit. In some cases limited intellectual property rights work as an opportunity to commercialize their product, where the manufacturer is free to set their price, only requires price negotiation before launching the drug.


The economy of China is growing rapidly and making strategic changes in the economic structure. The government of China is taking steps in the development of the pharmaceutical market. This study emphasizes on the issue that there are huge drawbacks in a drug pricing system of china and supports that problem exists in policy at implemental level, which is directly creating the disorders in drug expenditure. Author
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Research gives many reasons for the insufficient drug policy that the drug policies should update quickly which have a big relation with other policies and ultimately limits the pharmaceuticals market. Another major issue is the asymmetric information between governments, manufacturers, distributors, hospital manager, physicians and customers. The government drug pricing system is not perfect and fails at the implementation & supervision part, ultimately creates holes for the same. Author also gives the measure to cope up with these problems, like to simultaneous control of government policies while considering the free pricing can be one solution. Another suggested measure is to give more rights to the regional governments, even to the market itself, in order to manage the drug pricing. Author concluded his paper by saying that China is in the developing stage and its drug policies are still in the trial and reforming condition. With the implementation of tailored drug pricing in China, the pharmaceutical market will grow even better, and health care status will also be improved quickly in China.

Value Based pricing of drugs-A new norm in the pharma industry. (2010, November 10).

In recent times, Pharma industry is facing challenges of producing low cost drug. Research gives stress on the fact that the regulators of
emerging markets constantly giving the focus on patient accessibility for newer drugs. The strict price control orders adversely affect the profit margins of pharma companies. Value based pricing insists on the actual cost of the drug. This strategy says that consumer must get the value of their invested price on drugs. This strategy supports that the manufacturer should differentiate the features of the drug from the others. Affordability among the consumer is the biggest challenge for the VBPR. Research states that the government is focusing on value based pricing method of drugs for understanding the different needs of different consumers and to provide value in an appropriate manner for the same. Author suggests that with the analyzing the trend of value-based pricing could give the strong competitive advantage to the firm. In addition, a better understanding of the value of drugs will lead to better investment decisions through real innovations can improve the human health care system of the overall economy.

Drug differential pricing becomes more popular in in India. (2009). Pacific Bridge Medical.

The article throes light on the various marketing strategies of the drugs. The differential pricing system is one of the most popular methods of pricing. This differential pricing arises due to the different income
levels in different countries; hence have the differential pricing strategies. Prescription drugs have a huge cost and this amount is out of reach from the majority of the Indians. Manufacturers can trigger their sale by adopting the strategy of lowering the prices according to the cost of living in the same country. In the past, this strategy was adopted by most of the firms, except for those who were dealing with HIV, Malaria. Whereas in recent times, all companies are introducing different drugs and vaccines at different prices. Therefore, differential pricing seems to be an emerging trend. Differential pricing creates a large obstacle in selling of drugs because traders are taking an advantage of different prices of drugs by purchasing at a lower cost and selling at a higher cost. Hence, this strategy is promoting the illegal activities in the market. If industry has panacea to overcome from this challenge, pharmaceutical market may be able to make differential pricing pay off by reducing risk of parallel import (2009). The Indian pharmaceutical industry- Prescription for growth. Care.

The Indian pharmaceuticals Industry is facing a changing scenario with the introduction of patent regime, 2005, in India. The IPI is exposing new opportunities and risks too. According to this report, the growth of the Indian pharmaceutical companies in the domestic market will
increase with the introduction of new patent regimes in our country. Due to this new regime, the business of MNCs will hamper with the worth of US $ 70-80 billion globally in the coming five years. The recognition of product patent has provided the better IPR protection to the multinationals and as a result, a new segment has opened up through IPI in the field of Contract Research and Manufacturing Services (CRAMS). The CARE report states that IPI is well-positioned to take advantage of this opportunity with world class manufacturing facilities with the help of global standards, large pool of skilled manpower and cheaper cost of production.


The study focuses on the pricing policy of drugs and how reimbursement policy can improve the health care of society. The government has three objectives to improve the health care system of the country. First is to optimum utilization of resources and financing of health care, second is to make them affordable and the third one is to give good rewards for their innovations. By considering the above mentioned objectives, government can execute the efficient drug pricing
and reimbursement practices. Author states that before making the control over the prices of product and restrict the manufacturer for drug prices, the government should follow the actual demand of needy people. Government must organize a policy of rewarding the manufacturers for innovations of new molecules and drugs. This pricing and reimbursement decisions will come up with the mutual commitment of a risk sharing contract between companies and authorities. The article gives a solution for better strategy execution by focusing more on generic promotion and to make them accessible at a lower cost and leverage the budgets for financing new innovative drugs. This requires a balance mechanism between demand and supply side, an appropriate level of price sensitivity in patients and a sufficient level of competition among the different manufacturers.


Research paper finds out the reasons for differences in pharmaceutical prices across countries and these are related to income or purchasing power of the consumers. Research focuses on different factors which affect the accessibility or affordability of drugs. Author states that the affordability of the drugs is a crucial issue of any health
Research supports the differential pricing method with the true fact that differential pricing is good for poor nations by providing drugs at lower costs and does not hamper the growth of rich countries as well. Research throws some light on other issues like there is no necessary correlation between per capita income of the country and the price of the drug. The paper considers that in some cases the differential pricing strategy is inefficient because it increases the affordability by providing lower priced drugs to the developing countries.


The report compares the drug pricing strategies of India with the United States. India is having differential pricing strategies for new drugs. In the current scenario of the Pharma industry majority of multinationals adopting differential pricing strategies for introducing the new drugs in the market. The research states that this pricing strategy will not be shown a holistic picture of the same. The above mentioned strategy has some loopholes like impact of inflation, the level of income has been overlooked. Indian drugs have a higher cost in comparison of drugs manufactured in the US, author supported his statement by giving a fact that Paracetamol has the cost ten times higher than of the US.
Author comes up with an another fact that drug prices should be regulated in line with other services such as transport, power and interest rates. Some researchers believe that government should have major control on drug pricing along with harder negotiations with MNCs while granting the patent to a particular drug. Differential pricing structure for patented drugs is not only based on the regulator’s recent policy initiatives, but also on the compulsory licensing initiatives taken up by Indian firms for few patented drugs that affect the market sentiments.

Yingyao Chen, S. O. (2008). Issues in drug pricing, reimbursement and access in China with reference to other Asia-Pasific Region. *Value in Health*

The research discusses about the pharmaceutical pricing policies in China and other countries of the Asia Pacific region. The study focuses on how drug expenditure and the reimbursement policy affect the pricing policies of Chine. Author states that China government needs to improve its health care system. The main problem arises because the government considers only health care expenditure rather than pharmaceutical expenditure alone. Author suggests that policy should more concern for price setting and providing incentives to
multinationals for encouraging their efforts towards the innovations. Incentives motivate the manufacturers for innovations and experiments and this reward ultimately lead towards the efficient health care system. Author states that the reimbursement policy will improve the health care system because it ultimately enhances the repaying capability or purchasing power of the consumer.


This study throws light on one issue regarding the expectations of pharma companies from the government and give some evidences that the majority of Pharma companies are satisfied with the efforts of the Government of India in helping them to cope up with the challenges of the product patent regime. Still there are some issues for which they expect help from the government like compulsory licensing and incremental innovation that ultimately leads to pricing of drugs. But there are also some organizations which are not satisfied with the government’s efforts specifically on the issue of drug pricing. According to this research they want the removal of drug price control
order (DPCO) which regulates the prices of 74 bulk drugs because they are unable to price some drugs as per their wish and the government fixes the prices of these drugs and they cannot enjoy the profit of their wishes on these drugs. Thus the pharma companies facing a product patent regime which they perceive is biased towards the MNC pharma companies, the Government should give some concessions for the same. They expect from the Government to give them incentives for R&D as well as subsidies in importing sophisticated technology & Machinery to compete in the global markets. The Indian pharma company's entrepreneurs are already disinterested and if slowly MNCs will take over the Indian pharma industry, then prices of drugs will increase and the common man of India will be a sufferer and ultimately will create problem for our public.


The article discusses about the drug pricing and their affordability to the common people in India. The Indian health care system is facing the overpriced drugs as a challenge, which is unavoidable by the public at large. Expert suggests that government should regulate the prices of
drugs strictly because health is a very crucial issue and should not be left to market forces. President of the U.S. said that although the U.S. is free market economy, still drug market is regulated to control the prices of drugs and to make them affordable to the consumers. Author supports that India is providing generic drugs at cheapest price worldwide, along with the bitter fact that the prices of these drugs are overpriced and violating the human rights; and forced the patients to spend the sleepless nights because they are not able to afford the drugs. It is a true fact that margins in medicines are extremely high, sometimes 1000-2000 percent. Data represents that an unskilled worker in the USA and UK needs to work for 10 minutes to purchase 10 tablets of paracetamol but in India, a daily wage worker has to work one hour to buy the same, with that fact that the paracetamol is one of the cheapest drug in the world. Author also throws some light on the issue of affordability with a statement that the majority of medicines are not accessible through public health outlets, so they have to go out of the pockets to afford them. These facts worsened the economic conditions, decreasing the purchasing power and had significant damaging the public health especially on women and children.

The article begins with a quote that is people are talking about prices of health care and prescription drugs like FMCG products. Larger firms are criticized by citizens due to their high priced drugs which do not concern about poverty and diseases in developing countries. Author states that patent regime is the most critical issue in the present scenario and has come up as a challenge for pharmaceutical companies. Author quoted an example of drug of GSK that the fight against AIDS and cost US $ 10,000 per dose in the United States and same drug produced by Cipla and sold it to US $ 197 per dose in South Africa. GSK filed a suit against South Africa’s government and charging that it was infringing GSK’s patent by purchasing Cipla’s copy of drug, the suit was in favor of the South Africa government. After this suit GSK have to reduce its price in South African market for the same drug to US $ 273 per dose. Experts argue that companies must have to move with forces driven by market conditions and economical changes along with the consideration of the economical state of the country. The companies support their high
priced drugs; they said that new drugs or new innovations are the reason of high prices.


Research says that Indian pharmaceutical companies are facing a new era of competition. A wave of generic competition negatively affects the market of branded drugs. Hence, this generic competition is forcing the drug companies to reduce their research margins. Research gives stresses on the issue that drug pricing is the only key factor that determines the profitability of a drug company. Premium pricing of new drugs covers the high cost of innovation and helps to run a profitable enterprise. Due to changed health policies and shrinking of government health care budgets, it is a threatening to create high pricing pressure on drug companies in upcoming years. Author focuses that drug companies can mold their strategies to gain the specific results, including: Gaining Market Share, Defending Market Share, Enhancing Brand Loyalty, Gaining New Customers, Improved Margins. Drug pricing and reimbursement policies differ widely across the globe due to the huge disparity in economic situations of various countries. Author gives a holistic view on pricing and reimbursement policies across the
globe, which leads the proactive actions and to craft their responses according to the changing dynamics of the market.


Research focuses that there is a standard movement of prescription drug from manufacturer to consumer. The supply chain of drugs involves a complex set of market transactions of prices, discounts, and rebates. Although these drugs are directly move from manufacturer to wholesalers, from wholesalers to retailers or non-retail providers and then to the final consumers but the flow of payment is quite complicated. Author stresses on the flow of payments and the process through which prices/payments are determined. The study tells that there should be a proper method for estimating the relative prices that retailer and non-retailer pay for the prescription drugs. Research comes up with new fact that the pharmaceutical market completely depends on the fact that whether a branded drug is patent protected or it is a generic version; or having both the traits that it is a branded generic drug. According to the author bargaining power of buyers also affects the prices of drugs. Bargaining power depends on both the volume purchased and the purchaser’s ability to choose which drug should purchase from a
set of competing drugs. The health plan does not go for the generic drugs. Therefore, manufacturers do not get any incentive for the generic version. Hence, the negotiation fails in the above context.


Research paper discusses about the reference pricing and its impact on firm’s pricing strategies. It states that the total expenditure on pharmaceuticals varies with the per capita income of the country. The expenditure on pharmaceutical products has increased along with the increase in total and per capita income. Traditionally, consumers have to pay a proportion of the total price while remaining was borne by the third party payer, this is termed as co-payment. But this reimbursement tool is quite limited. Due to these drawbacks in reimbursement policies, special schemes of reimbursement policies and reference pricing policies were introduced. Reference pricing is a unique term, in which cluster is formed of several drugs with similar features and a single price for whole cluster has decided; this price is called reference price. The third party reimburses the excess amount of reference price of the cluster and if the price is equal or lower to the cluster than third party will not bear any amount of reimbursement. Earlier, if the drug was purchased higher than
the reference price, then consumer has to bear fully or partially the difference amount between reference and drug pricing. The researcher concluded that this is an effective mechanism to reduce the prices of drugs, or somehow to reduce the demand of high priced drugs.


Health policy states that the differential pricing structure makes sure the affordability of patented drugs as well as maximizes the profits of the innovator. Differential pricing could increase the access of medicines for the patients in the short run, but will create a severe threat to the global drug innovation in the long run. Differential pricing is quite disorganized because negotiations between drug companies, insurers, government providers, pharmacies and other retailers become complicated. Author states that many companies differentiate the prices according to socioeconomic status of the country to make them equally affordable to people with different incomes of different countries. This approach makes the drugs affordable in low and middle income countries and maintains the incentives for research and development (R&D). Some Americans pay more for drugs in comparison to other countries whereas some poor
countries like Thailand use to pay more than the cost of production of some medicine like HIV/AIDS


Research indicates that India is considered as one of the top most countries among developing economies in the field of bulk drug manufacturing and its capabilities in reverse engineering. Still, the Indian health care system lacks in so many issues like either these drugs are out of stock or sometimes unavailable due to the un-a-dequate resources. Author comes up with the new fact that the majority of Indians is hardly insured by any organization. A private insurance sector whose contribution is around half a percent of the health care market, excludes drug reimbursement from its coverage. Hence, a significant proportion of the population is untouched with the third party repayment, especially whose purchasing power is low and even though they are forced to pay heavy amount for health care. Drug pricing always plays a significant role in the field of accessibility of medicines to the consumers, particularly in low income country as in these country household’s have to spend a huge amount of income on health care only. Research shows the fact that Indian manufacturing firms are registering their super-normal profits
from the last two decades. The international price regime goes out of pocket or unavailable to the weaker section of the society. One of the controversial and sensitive issues regarding the TRIPS is the high prices of drugs.

Report on "Impact of TRIPS on Pharmaceutical Prices, with specific focus on generics in India", National Institute of Pharmaceutical Education & Research, Mohali, 2006

The report gives light on the issue that why the prices are different in different countries, what are those factors which affect the pricing of drugs? The report analyses the Indian scenario and comes up with the fact that the prices of drugs are low in India because the Indian pharma industry is production driven that ultimately motivates lower prices of drugs. Report imbibed with the fact that supplying in domestic market and trapping overseas markets as the drugs are not cheaper by virtue of quality but by the technical innovations and R&D. Prices are very low even after the patent regime has introduced in the market, but prices do not affect because patented drug prices do not change as per the socioeconomic conditions of the country. Hence, even after introduction of trips and patent there is no significant difference in prices. Whereas in Pakistan, the climatic conditions of the both countries are same, but
still prices are higher in Pakistan because of the pricing policy. This report focuses that the government refunds the amount only to government employees, not for the population as a whole. Technological issues also suffer in Pakistan and the nation depends on imports that ultimately increase the prices of drugs. Whereas, in other developed countries like Canada prices are higher as compared to India, although they have good technological capacities. They are facing high drug prices due to prevailing socioeconomic conditions in which patients can afford to pay more and where government covered all expanses for all under the government welfare policies. Hence, Canadian manufacturers focus more on innovative drugs rather than trying to develop cheaper drugs, because prices are not working as a barrier to the market.


The research analyzes the causes of increased expenditure on prescription drugs, its economic evaluation and policy recommendations for the improvements. The result of the study shows that the branded drugs have significantly higher prices than their generic counterparts. Generics cater the need only 47% of the market share in the year 2000. There are many grounds like brand loyalty, marketing, preferences of
consumers, experience rating of experience goods, patent line extension etc. which affect the pricing of drugs?

“Move to bring essential medicines under price control hailed”,
All India Drug Action Network (AIDAN), 2006

The roots of the Report are imbibed in the issue that while framing the rational drug policy in India, the majority of the companies considered the income of Indians whereas, some reports shows that India is popular in the world for their low cost drugs but it is a bitter fact of India that most of the drugs are of out of pockets. The report also gives the evidence that after the government’s deregulation of drug prices, the prices have increased abnormally viz. price of TB drugs has increased 250 times after the deregulation of 1990. Generally, public believe that the price regulation also supports profitability; even though the real cost of the drug is a very small fraction of it. The report also states that the reason of high prices of drugs is that the manufactures have the great margin and sometimes this difference reaches up to 400%. Pharmaceutical sector needed to explain to the public how the companies can afford to sell drugs to wholesalers at even 10% of their MRP. The government is planning to fix these margins between 150-200%, these profit margins can be adequate for the manufacturing companies for their survival as
well as their growth. The report raises an issue with the fact that pharma companies spent 2% of sales on research and 20% on sales promotion and concluded that the pharma industry has diverted its expenses towards unnecessary sales promotion of the core research. It also gives one solution that it should be a part of pharma policy that any drug developed by indigenous R & D should be exempted from price control for a period of up to 15 years.


Research says that premium pricing and reimbursement is the key to the profitability of any firm. This policy can change the pattern of investment in research and development. Reimbursement is a green signal for investment in innovations. Research has a detailed analysis of the key issues and market scenario that make up the pricing framework and ultimately leads to reform the pricing and reimbursement evaluations throughout the development life cycle of the products. The research also highlights the key issues like how policies vary with the different countries. This article considers an example of Japan which shows that Japan is having the premium pricing because the country has a
reimbursement policy for its public. The Author suggests that to maximize the returns from drug development investments, companies need to ensure all the evidences that demonstrates product value and supports the case for reimbursement. For achieving the maximum growth there should be an adequate balance between premium pricing and competitive environment.


The study out-rightly reveals that tariffs levied on medicines that have the ability to change the policies of the country. Tariffs are a regressive form of taxation which targets the sick human being. Tariff rates vary with the different categories of pharmaceutical finished products, active ingredients and vaccines. Tariffs play a vital role in contributing to the high price of medicines. There are so many factors other than tariffs, such as manufacturer’s prices, sales taxes, including value-added tax (VAT), markups and other charges which have the impact on prices of medicines. The government generates the profits; hence the government must protect the domestic industries from these
levying duties especially the sick units. It is crucial for policymakers, at both national and international levels that tariffs on medicines create the burden on patients due to their increased priced without considering the economic status or ability to afford these medicines by countries.


The report shows that India is one of the countries in the world where prices of drugs are becoming out of pocket in seeking health care. Private expenditure is about 83%, while the government contributes hardly 17% of the expenditure on health. This is consisting one of the factors that motivates the people to avoid health care services just because of increased cost of drugs. The report also throws light on the issue that expenses on drugs and health care is one of the most common causes of indebtedness in the rural areas, which is pushing people into debt, premature death; and disability. According to World Bank report increased medical costs pushes 2.2% of the population below the poverty line in one year. In recent times, increasing the affordability of drugs has become a question for Indian health care sector. The report states that the government should take care that the prices of the drugs should not be left on the market regulation and must have the strict price regulation
like other developed countries. Policies should not only consider the prices, but also have the regulation for the profitability of the firm along with the therapeutic advantage of others. The report also gives a support that possibly India is the only country who is having dual system of drugs that is India is having a small list of drugs, which are under control, and a larger list of drugs, which are outside price control.


The research throws the light on different effects of Direct-to-consumer (DTC) advertising for drug prices. There are two contradictive views: (a) increase in DTC advertising spending would add an additional cost to the drug prices (b) DTC advertising increases the competition and thus reduce drug prices. Whereas, the results of the study show that the more expenditure on DTC advertising spending more would be cost of the drug. There is a very weak relationship between DTC advertising spending and drug prices. This study shows that increased expenditure on DTC advertising leads to more competition and ultimately decreases the cost of drugs, but the cost of
advertising is recovered from the cost of the drug itself, hence it increases the prices.


The article throws the light on the fact that US sets an example that branded drugs’ manufacturers do not compete on price as generic competitors do. Author investigated the study in Canada. This study reveals that competition of generic market does not affect the market of branded drugs. Prices of branded drugs are not influenced by the generic one. The study concluded that if one generic drug comes on the market, it would increase the competition because of low prices. On the contrary side, branded drugs do not provoke the competition, just because of the high price of the product.


The Book focuses on the U.S. healthcare system, along with some critical issues like why the U.S. manufactured drugs have the higher prices as compare to other countries?, What policies government should
adopt to regulate the prices? And what are the reasons behind the different payers for the same drug? In the united states, most of the consumers do not directly bear the higher cost because high prices of drugs affect the insurance premiums and this action cuts the publicly funded programs and ultimately affect the consumers. Author also raised a unique issue that the drug industry has become addicted to revenue growth and to maintain the growth by increased prices of drugs. Due to the regulation, prices cannot increase too. Hence, the burden falls on the U.S. government only. Traditionally, when a generic equivalent entered into the market; the profit potential of the original branded drug virtually vanishes. The article throws light on another issue that the majority of manufacturers argue that the cost of innovating new drug incurs their higher prices. On the contrary side, it is the fact that setting up the higher prices not only the way of recovering costs, but also a method to recover the cost in a short duration.


The article tries to find out the price sensitive segments and evaluate the third party contracts to maximize the company profits.
Pricing of drugs has never been a critical issue like in current time. By increasing the importance of pricing, other market factors lead many manufacturers to forego the profits. Whereas if companies focus two key issue that is to identify the price sensitive segments and how the third party contracts can be reduce the burden of accountable customers. The article demonstrates that assessing the market economics, identifying its costs, benefits of alternative pricing strategies, making a right balance between pricing and contracting are criticizing is the vital issue of the pricing. In the United States, the price - demand relationship is more concerned due to the restrictions on some products. Hence, efforts are made to control the prices of medicines. In the United States, formulary structure is consisted with patient’s co-payments, prior authorizations and physicians’ budgets. It is fact that if third party protects the consumers from quality of drugs then pricing is the only option to drive sales. Pharma companies can go for the third party contracts, align the customer objectives and can create win-win situation to avoid the spirals of price issues. Experts argue that the physician knows the prices and affordability of consumer while prescribing medicine and also know the price sensitivity of the drug. While prescribing the drug, physicians should be more price-conscious, they must know that drugs are out of pocket or not and according to it prescribe the drug.

In present scenario the additional cost associated with the core drugs is leading a paradigm shift from the traditional system to the consumption of medical products and creating economical, social and public health utility values to the society. In this new century, policy and the status of US health care system has changed like infant mortality is declining, disability rates among elders is also declining and life expectancy is also improving whereas, there are so many loopholes also exists like costs of drugs are becoming out of the pocket for customers and in some cases the cost is affordable in the short run but in the long run going out of reach from the customers. In the globalized world, diseases are easy to cure due to advanced technology, but this advancement comes only with the high cost of medicines. This can be concluded that as the technology is spreading across the world, healthcare system is also improving, but inculcating the high costs of drugs and become difficult to afford these drugs.

expiration in the pharmaceutical industry. *Health services research*, 35(2), 529.

The study reveals that after patent expiration, multiple-source drugs compete largely with multiple-source drugs in the price sensitive sector. Originators are the first movers, so have the various advantages like they face the less competition as faced by other multi sourced drugs. On the contrary side, multiple-sourced drugs target the price sensitive sector through which prices decrease. Author gives strong evidences in the favor of the consumer that they can enjoy the lower price, multiple-source drugs because the average price of the market is decreased after the expiration of patent. Multiple-source drugs increased their sales twofold and quantity by threefold because they are producing the same drugs at a lower cost.

### 3.5 Duration of the Study

The study is based on the primary as well as the secondary research. The primary study consists with data collected through two questionnaires; one from the top level management employee and another is for consumers, doctors and pharmacists. Secondary study is done by collecting the data from the 10 year’s annual reports of the top 10 private sector companies (Based on BSE) and 5 year’s annual report
of 2 public sector units. For the primary study data is collected from 27 public and private limited companies for first questionnaire and 391 respondents responded against the second questionnaire. This process took 7 months in collection of data.

3.6 Research Approach and Research Design

The research carries the Descriptive type of Research Design. The study is followed by structured questionnaires & hypotheses and predetermined samples having the specific methods of selecting the sources of information and data collection as well.

3.7 Research Process

The framework of the research is diverse in various domains of descriptive research followed by a range statistical tool as well as financial tools are used. Statistical tools include factor analysis and Chi-Square test. Research is also done through the use of graph, chart and other pictorial methods.

3.7.1 Descriptive Statistics

Descriptive research explains the features of collected data. Descriptive research is the one in which information is collected without changing the environment. It is also called as ‘Correlational’ or
‗Observational Study’.\textsuperscript{5} The Office of Human Research Protections (OHRP) defines that “Any study that is not truly experimental is called the descriptive studies.” It is the best method for collecting information that explains the relationships and portray the world as it exists. Experiments typically answer ‘why’ and ‘how’.\textsuperscript{6} Whereas, descriptive studies could answer the questions such as ‘what is’ or ‘what was’.

\subsection*{3.7.2 Factor Analysis}

This technique investigates the variable relationships by collapsing the large number of variables into a few interpretable underlying factors.\textsuperscript{7} Factor analysis is the process of reducing the multiple observed variables, those have similar patterns of responses because they all are associated with the latent (i.e. not directly measured) variable.\textsuperscript{8}

\subsection*{3.7.3 Chi-Square Test}

Chi square is the statistical tool which is used to compare the observed frequency against the expected frequencies. It explains the difference in collected data and expected data. If the results show the big difference, it may be because of significant change.\textsuperscript{9} These significant differences allows researcher to reject the null hypothesis, which is defined as predicted one.
3.8 Sample Selection and Data Collection

3.8.1 Universe

The universe for the research covers all the drug manufacturers in India. All the consumers who used to consume analgesic drugs, all the physicians who prescribed the analgesic drugs to the patients and all the chemist who deals with the analgesic category comes under the universe of the study.

3.8.2 Sample Design

The study focuses on the public limited companies as well as the private limited companies. Hence, the sample selected from both the sectors. Top 10 drug manufacturers of India on the bases of net sales (BSE) selected as sample of private sector. The list of the selected companies is as follows:

- Cipla
- Ranbaxy Laboratories
- Lupin Pharmaceuticals
- Dr Reddy’s Laboratories
- IPCA Laboratories
- Aurobindo Pharma
- Cadila Health Care
For the public limited sector, 2 companies were selected out of 5 central public sector units of the drug industry as per the judgmental and convenience sampling. The other reason of selecting these two companies is that both the company is showing the profits consistently and deals in the analgesic category too. The selected companies are namely:

- Bengal Chemicals and Pharmaceuticals Limited (BCPL)
- Rajasthan Drugs and Pharmaceuticals Limited (RDPL)

Another category of the targeted questionnaire took the opinion from the consumers, doctors and chemists.

3.8.3 Sample Size

Sample for the next category that consists with consumers, doctors and pharmacists chosen from the universe through convenience & judgment sampling by the researcher. Total 391 samples are collected that include: 269 consumers, 79 chemists and 43 doctors who specially deal in the analgesic category (Physician).
3.8.4 Sources of Information

Primary as well as secondary data resources are used to support the research design. The primary source of data collected from the respondents comprising of top level management professionals, consumers, doctors and pharmacists. The above information is collected either through the personal visits to companies or with the help of interviews and structured questionnaires. Secondary sources include the print material available, Annual Reports, News papers, Press Releases, Internet, Periodicals, Pamphlets, Articles, Television and Print Media.

3.8.5 Method of Contact

The respondents of selected drug companies were interviewed telephonically, personally and through online questionnaires. Participants were encouraged to distribute the questionnaire to their contacts as well.

The free survey site is selected for the purpose of research is ‘Google Docs’. The questionnaires are available online at-

- https://docs.google.com/forms/d/1QsGi1TCX5Xo_csGdxy5jkSIxevpGyHt6xPiP3q4uM-c/viewform?c=0&w=1&usp=mail_form_link
- https://docs.google.com/forms/d/1EefixHoUhOoRft6o9tApI-jCdvsYl3ojRv_LsBzp-wk/viewform?c=0&w=1
3.9 Questionnaire Design

Two questionnaires were framed to take the responses from two different categories. One is framed to take the opinion of the top management of the drug companies who actually indulge in the pricing practices of drugs. Another questionnaire is targeted to consumers, doctors and chemists. Questionnaire for the employee of the company’s has a set of 23 questions on Likert 5 Point Scale to know the realities of the drug industry. Another questionnaire is made for consumers, doctors and chemist, which has a set of 39 questions to take the opinion of the above mentioned respondents, what they think about the pricing of drugs.

The framing of the questions was designed in such a way to explore the various domains like: fundamentals of pricing, macroeconomic factors, investment patterns and their promotional strategies which affect the pricing of drugs. The focal of the questionnaire is to know the strategies of companies. Actual findings are cross checked through the secondary data of selected companies.
### 3.10 List of Hypotheses

<table>
<thead>
<tr>
<th>$H_{01}$</th>
<th>There is no significant difference in various influential factors of pricing strategies of public and private Limited companies</th>
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<tbody>
<tr>
<td>$H_{11}$</td>
<td>There is a significant difference in various influential factors of pricing strategies of public and private Limited companies</td>
</tr>
<tr>
<td>$H_{02}$</td>
<td>Promotional Strategies do not have a significant impact on pricing strategies of Indian drug industry</td>
</tr>
<tr>
<td>$H_{12}$</td>
<td>Promotional Strategies have a significant impact on pricing strategies of Indian drug industry</td>
</tr>
<tr>
<td>$H_{03}$</td>
<td>Open Market Forces do not have a significant impact on pricing strategies of Indian drug industry</td>
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<tr>
<td>$H_{13}$</td>
<td>Open Market Forces have a significant impact on pricing strategies of Indian drug industry</td>
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<tr>
<td>$H_{04}$</td>
<td>Price Regulating Government Bodies do not play a significant role in pricing strategies of Indian drug industry</td>
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<tr>
<td>$H_{14}$</td>
<td>Price Regulating Government Bodies play a significant role in pricing strategies of Indian drug industry</td>
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<tr>
<td>$H_{05}$</td>
<td>Investment Strategies do not have a significant impact on pricing strategies of Indian drug industry</td>
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<tr>
<td>$H_{15}$</td>
<td>Investment Strategies have a significant impact on pricing strategies of Indian drug industry</td>
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</tbody>
</table>
3.11 Result Analysis and Interpretation Methodology

The study deals with various factors which affect the pricing strategies of Indian Drug Industry. The study is facilitated by various software and these are:

- MS-Excel
- SPSS 20

3.12 Limitations of the Study

The various domains of the study, which can’t be controlled, become the limitation for any research. One limitation of primary study is that one can't generalize the opinion of a selected sample, for the large population. The major limitations of this study are as follows:

- **Therapeutic Category**

  Drug industry could be divided into various therapeutic categories. The researcher has selected the Analgesic Category, as this category is very popular and most of manufacturers deal in this category. So the results would not represent the pricing strategies of the whole industry as the study deals in one category only.

- **Data Collection**

  One of the crucial limitations was to collect the data from the companies. The major study deals in taking the opinions of the top level
managers, especially from those who are actually involved in the pricing practices of drugs. Top management used to avoid these tasks because they do not want to disclose the issues related to price. So I would able to collect the data from 27 companies, three public limited and twenty four respondents from private limited companies through convenience sampling.

Another questionnaire is framed to take the opinion from the consumer, doctors (physicians) and pharmacists. The researcher was able to collect the data from 391 respondents- 269 from the consumers, 79 from the chemists and 43 from the doctor’s category through the judgmental and convenience sampling technique.

- **Non Availability of Data**

  Research focuses on expenditure on sales promotion. With the help of secondary data (annual reports of the company) researcher is able to collect the facts related to sales promotion only. If the company would provide the separate data of expenditure of sales promotion, advertisements, sample distribution, investment of employee benefits, the research could be more explored.

  Annual reports of the companies only show the cumulative investment on R&D and other expenditure. If companies would provide
the segregated details of different domains like expenditure of R&D on different therapeutic categories, other investment / expenditure on different segments like on bulk drugs, capsules, liquids and so on then the research could more refined.

- **Sample Size**

  In India, there are more than 20,000 registered drug manufacturers are operating in India.\textsuperscript{11} It is not possible to cover all the above mentioned manufactures. Research covers only 10 Private sector companies and 2 Public sector companies.

- **Reliability**

  Data is collected through the offline and online mode, there is no instrument to judge the accountancy of the respondents that they are filling the questionnaire through keen interest or not.
References


34. Spivey, J. (2012, June 5). Will European price control pressures affect US pharmaceutical pricing?


