

A Study on the Impact of PEST Analysis on the Pharmaceutical Sector: The Bangladesh Context

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PEST (Political, Economic, Social, and Technological) analysis of any industry sector investigates the important factors that are affecting the industry and influencing the companies operating in that sector. The purpose of this study is to analyze the pharmaceutical sector of Bangladesh using the framework of PEST. This report brings to light the current state of the sector its progress and its problems. Through this study the researchers try to discuss the affect of various macro-economic factors of political, economic, social, and technological aspect on the industry and its related problems and prospects for the future.

Keywords: PEST analysis, pharmaceutical sector, industry and macro economic factors

Objectives of the Study

The broad objectives of this study are as follows:

- (1) To study the influence of political forces on the pharmaceutical sector of Bangladesh;
- (2) To investigate the effect of economic conditions on the pharmaceutical sector of Bangladesh;
- (3) To examine the influence of social factors on the pharmaceutical sector of Bangladesh;
- (4) To investigate the impact of technological factors in the pharmaceutical sector of Bangladesh.

Research Methodology

This analysis clearly falls into the category of Qualitative research as it aims to get a deeper understanding of the pharmaceutical sector and the effect of several macroeconomic factors on this industry. Both primary and secondary information were used to conduct this research. Secondary data were obtained from sources like newspapers, periodicals, websites, and publications of Trade organizations, publications of industry analysts and publications of financial analysts. Primary data were obtained through face-to-face and telephone interviews with experts and employees of different pharmaceutical companies using an open ended questionnaire (Index 1).

As this research is based on the pharmaceutical sector, the primary respondents or sample units for this research were the Pharmaceutical companies. As per the official list of Bangladesh Association of Pharmaceutical industry, there are a total of 433 licensed manufacturing facilities in Bangladesh amongst which, only 239 are in operation. Due to several limitations which will be explained later, data could not be collected from all the members instead a representative sample were selected. The research was limited to 20 respondents

out of the 37, which met the criteria of the sample. Multi stage and convenience sampling techniques were used to get the final sample of 20 companies. Through multistage sampling, the researchers reached a sample size of 37 from which convenience sampling technique was used to reach the final sample size of 20. Multistage sampling was used to reduce the population to a certain number. In four stages, the population was screened to meet certain criteria and the firms which did not meet it were eliminated from the sample.

The criteria are:

- (1) Should have manufacturing facility for allopathic medicine;
- (2) The annual turnover of the company was over or equal to one crore;
- (3) The product portfolio was in the range of 30 and above products in the portfolio;
- (4) Should have a registered office in Chittagong.

Literature Review

In analyzing the macro-environment, it is important to identify the factors that might in turn affect a number of vital variables (Kotter & Schlesinger, 1991; Johnson & Scholes, 1993). The “Radical and ongoing changes occurring in society create an uncertain environment and have an impact on the function of the whole organization” (Tsiakkios & Pashiardis, 2002). A number of checklists have been developed as ways of cataloguing the vast number of possible issues that might affect an industry. The PEST analysis is one of them that are merely a framework which categorizes environmental influences as political, economic, social, and technological forces. Sometimes two additional factors, environmental and legal, will be added to make a PESTEL (Political, Economic, Social, Technological, Environmental, and Legal) analysis, but these themes can easily be subsumed in the others. The analysis examines the impact of each of these factors (and their interplay with each other) on the business. The results can then be used to take advantage of opportunities and to make contingency plans for threats when preparing business and strategic plans (Byars, 1991; Cooper, 2000).

Kotler (1998) claimed that PEST analysis is a useful strategic tool for understanding market growth or decline, business position, potential and direction for operations. The headings of PEST are a framework for reviewing a situation, and can in addition to SWOT (Strengths, Weaknesses, Opportunities, and Threats) and Porter’s Five Forces models, be applied by companies to review a strategic directions, including marketing proposition. The use of PEST analysis can be effective for business and strategic planning, marketing planning, business and product development and research reports. PEST also ensures that company’s performance is aligned positively with the powerful forces of change that are affecting business environment (Porter, 1985). PEST is useful when a company decides to enter its business operations into new markets and new countries. The use of PEST, in this case, helps to break free of unconscious assumptions, and help to effectively adapt to the realities of the new environment.

PEST is used before SWOT—not generally vice-versa—PEST definitely helps to identify SWOT factors. There is overlap between PEST and SWOT, in that similar factors would appear in each. That is, PEST and SWOT are certainly two different perspectives: PEST assesses a market, including competitors, from the standpoint of a particular proposition or a business; SWOT is an assessment of a business or a proposition, whether your own or a competitor’s. Strategic planning is not a precise science—no tool is mandatory—it is a matter of pragmatic choice as to what helps best to identify and explain the issues (Porter, 1985).

PEST becomes more useful and relevant, not only for larger and more complex the business or proposition, but even for a very small local businesses, a PEST analysis can still throw up one or two very significant issues that might otherwise be missed.

The four quadrants in PEST vary in significance depending on the type of business, e.g., social factors are more obviously relevant to consumer businesses, whereas political factors are more relevant to a global munitions supplier or aerosol propellant manufacturer (Byars, 1991).

Economic conditions affect how easy or how difficult it is to be successful and profitable at any time, because they affect capital availability, cost, and demand (Thompson, 2002).

According to Thompson (2002), government spending can increase the money supply and make capital markets more buoyant. The expectations of shareholders with regard to company performance, their willingness to provide more equity funding or their willingness to sell their shares will also be affected.

The labour market reflects the availability of particular skills at national and regional levels; this is affected by training, which is influenced by government and other regional agencies. Labor costs will be influenced by inflation and by general trends in other industries, and by the role and power of trade unions. The socio-cultural environment encapsulates demand and tastes, which vary with fashion, disposable income, and general changes that can again provide both opportunities and threats for particular companies (Thompson, 2002; Pearce & Robinson, 2005).

Technology is widely recognized by various literature on strategic management (Capron & Glazer, 1987; Johnson & Scholes, 1993; Jan, 2002), as part of the organization and the industry part of the model as it is used for the creation of competitive advantage. However, technology external to the industry can also be captured and used, and this again can be influenced by government support and encouragement.

Findings and Analysis

The Influence of Political Forces on the Pharmaceutical Sector of Bangladesh

This report tries to analyze the existing laws, legislations, and government policies which stand to affect the sector directly and indirectly.

Categorize the structure of tax policy and tariffs on imports and the effects on it. Regardless of profit or loss, all companies are required to pay BDT 5,000 as a minimum tax¹. The new tax on profits increases the burden, it is definitely too high and unsuitable for business. When compared to the neighboring countries, it is approximately 10% higher. Of the 20 listed companies in pharmaceuticals and chemicals sector, 18 trades under A-category—an area for good performing companies that pay dividend at a rate of 10% and above (see Table 1 and Figure 1).

Most of the listed pharmaceutical companies are in a position to offer or declare good dividends because of their earnings growth. Many of them are producing new products to meet the demand of the international markets, as well as local market that make these securities lucrative to the investors. Strong growth rates increase the companies' profitability and also the ability to give good dividends.

So as not to create an extra burden on industrial productions, the government needs to remove duties and taxes from imported raw materials as in many Middle Eastern countries and Thailand.

¹ Tax Rebate: If at least 20% of the face value of shares is declared as dividends, a rebate of 10% of tax is available.

Table 1
List and Type of Company

No.	Type of company	Percentage of tax (%)
1	Publicly Traded Company	27.5
2	Non-Publicly Traded Company	37.5
3	Bank, Insurance and Financial Company	42.5
4	Mobile Phone Operator Company	45
5	Publicly Traded Mobile Phone Company	35

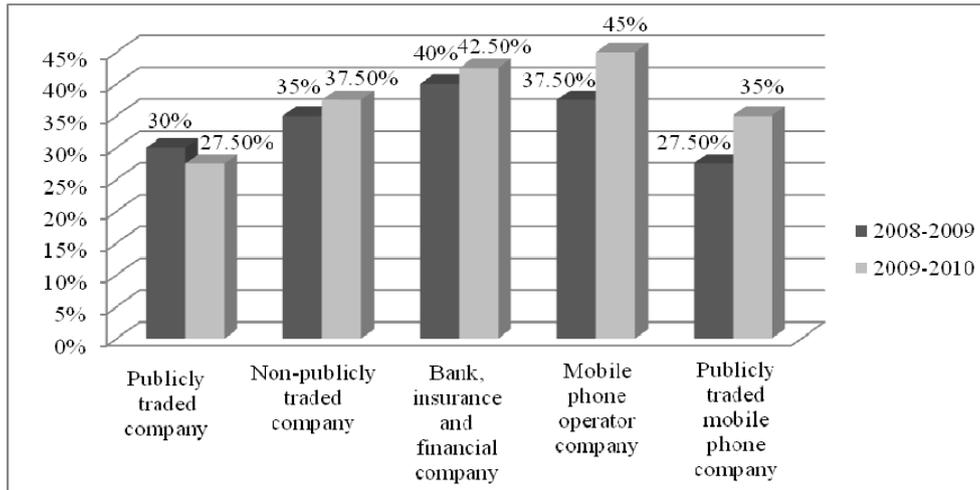


Figure 1. Difference between the percentages of tax of the last two financial years. Source: The Financial Express newspaper and economic info of Bangladesh.

The Labor Law of Bangladesh and its effects. The labor law of Bangladesh is an update of the law created during the colonial period. The labor law amendment bill was last passed on June 28th, 2010. The main objective of the bill was to remove inconsistency from the retirement age of laborers working in the corporations under different ministries. The retirement age was reinstated to 60 which were reduced by three years last time.

Other changes include the increase of wage in the labor law but it is only effective for the RMG (Ready-Made Garments) sector. The laws were adopted for enforcement of law in the field of employment and particularly relating to wages, benefits, compensation for injuries and weekly holidays, working hours, maternity benefit for women workers, legal provision made for trade union activities, workers participation fund, fixation of minimum wages in informal sectors and the like. Laws were set for ensuring social justice, equitable distribution of profits and safeguard against health and safety problems. Beyond local conditions, laws were also to meet obligations under international norms and conditions adopted by International Labor Organization [ILO] and other United Nations [UN] agencies.

Respondents from all firms agree that the labor laws of Bangladesh are quite supportive of business and industry as well as the economy as a whole. As a member of the ILO, it is very serious and respectful to the ILO's decent work environment guidelines

Although the minimum wage of the RMG sector is clearly mentioned, but the pharmaceutical sector is still not addressed properly. A minimum wage is the lowest hourly, daily or monthly remuneration that employers

may legally pay to workers. Equivalently, it is the lowest wage at which workers may sell their labor. There are differences of opinion about the benefits and drawbacks of a minimum wage. Figure 2 shows how equilibrium can act as the centre of unemployment.

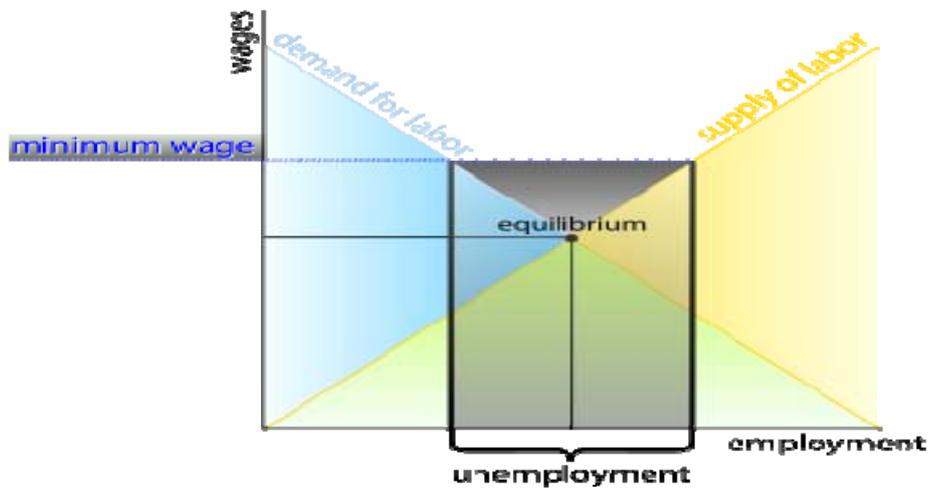


Figure 2. The pros and cons of minimum wage. Source: The Wikipedia and the World Economic Forum.

An analysis of supply and demand of the type shown in introductory mainstream economics textbooks implies that by mandating a price floor above the equilibrium wage, minimum wage laws should cause unemployment. This is because a greater number of workers are willing to work at the higher wage while a smaller numbers of jobs will be available at the higher wage. Companies can be more selective in those whom they employ thus the least skilled and least experienced will typically be excluded.

Hazard analysis or hazard assessment is a process in which individual hazards of the workplace are identified, assessed and controlled/eliminated as close to source (location of the hazard) as reasonable and possible. As technology, resources, social expectation or regulatory requirements change, hazard analysis focuses controls more closely toward the source of the hazard. Thus hazard control is a dynamic program of prevention.

The effect of existing laws and government policies on this sector. Other than labor law, there are many other existing laws and government policies that may affect a particular industry. The Directorate General of Drug Administration under the Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh, is the Drug Regulatory Authority of the country. This Directorate supervises and implements all prevailing Drug Regulations in the country and regulates all activities related to import, procurement of raw and packing materials, production and import of finished drugs, export, sale, pricing, etc., of all kinds of medicine including those of Ayurvedic, Unani, Herbal, and Homoeopathic systems.

Drugs (Control) Ordinance 1982 was last renewed as the National Drug policy 2005. According to which, the pharmaceutical industry is controlled and guided by the ministry of health. The ministry of health the director of Drugs Administration supervises various key tasks ranging from the manufacture to the marketing of the drugs.

The Directorate General of Drug Administration's mission is to ensure that the common people have easy access to useful, effective, safe and good quality essential, and other drugs at affordable price.

The Drug Control Ordinance of 1982 actually altered Bangladesh pharmacy industry from an import based

one, to self-sufficiency and export-based economy. The local entrepreneurs found a golden opportunity in the new drug policy. Soon after that, domestic firms began to take shape. The new ordinance made it policy that common medicines like vitamins, cough syrups, and antacids were not allowed to be made by the multinational.

Sixteen criteria were agreed on as guidelines for evaluating the drugs on the country's market. Drugs in Bangladesh have been classified into three categories:

(1) Drugs that are positively harmful. They should be banned immediately and withdrawn from the market. There are 265 locally manufactured drugs and 40 imported drugs in this category.

(2) Drugs to be slightly reformulated by eliminating some of their requirements. There are 134 drugs in this category.

(3) Drugs that do not conform to one or more of the 16 criteria/guidelines. There are over 500 drugs in this category. The new drug policy will produce a saving of 800 million taka (US \$32.4 million).

Drug supply in Bangladesh is a problem. The public sector distributes 20% of the total. In the private sector, drugs are supplied through import and local production. Investment for research by the pharmaceutical companies is essential. The principles laid down by the International Federation of Pharmaceutical Manufacturers Associations for the supply of good medicine needs to be put into practice.

Stringent price control on drugs forced some of the multinationals quit Bangladesh. While some of them stayed back complying with the new regulations. There emerged a compromise to produce quality medicines at affordable prices. Many pharmacists believe that quality manufacturing of drugs was the first tangible result of the drug policy of 1982.

Investigation of the Effect of Economic Conditions on the Pharmaceutical Sector of Bangladesh

At present, the overall economic condition of the globe is not of good shape at all and the world is facing this type of economic disaster for the first time after a long period. Bangladesh is also starting to face the economic disaster situation, as it is getting grants from the first world countries as well as from their controlled international organization like World Health Organization [WHO], World Bank, United Nations Development Program [UNDP], United Nations International Children's Emergency Fund [UNICEF], World Trade Organization [WTO], International Monetary Fund [IMF] and some others. These welfare organizations are starting to stop funding in various less important projects that are already running or going to be started to run in this developing country. Besides, the people outside Bangladesh who are basically Bangladeshis are sending less remittance than the recent past. It causes less money supply in the inside overall economy of Bangladesh. As Bangladesh is partly dependent on the foreign remittance, we face a lot of problem for the less amount of foreign remittance. Moreover, the export volume is also becoming smaller and smaller for the global economic crisis, which also shorten the incoming foreign currency and it also affects the overall money supply of the country.

As the total expenditure per person decreases, the people tend to consume cheaper foods which cause health problems. Even so, they are reluctant to take expensive medicine which is why the health condition and the average lifespan of the people are decreasing rapidly, on the other hand, due to global economic unrest, the price of the raw materials required to make the medicine is getting higher causing the medicine to be expensive than before. Figure 3 and Figure 4 show the difference between monthly earnings of pharmaceutical workers in the last two years by gender, Y-Axis represents percentile of wage.

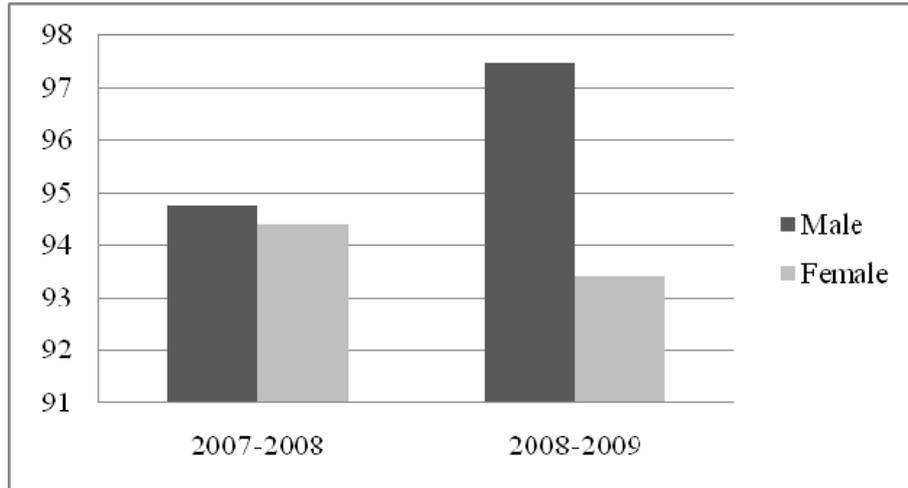


Figure 3. Monthly earning indices in pharmaceutical industries. Source: The Bangladesh Bureau of Statistics.

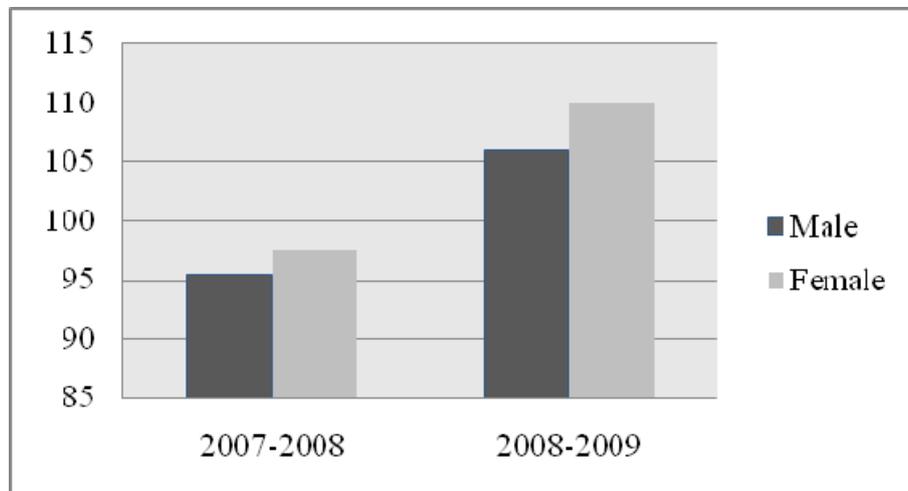


Figure 4. Daily wage rate indices for non-agriculture day labor. Source: The Bangladesh Bureau of Statistics.

The impact of interest rates and exchange rates on this sector. An interest rate is the rate at which interest is paid by a borrower for the use of money that they borrow from a lender.

Persistent loan defaults have become an order of the day in developing countries. There have been hardly any bank or development financial institutions (DFI) in developing which has not experienced persistent loan default. This is evidenced by the under capitalization and illiquidity of 160 DFIs in 33 developing countries.

Bangladesh Bank governor Atiur Rahman has asked the commercial banks to reduce their interest rates to accelerate industrialization, alleged that many banks were imposing 14%-15% interest on industrial loan after the withdrawal of the ceiling, and that some service charges are being realized at much higher rates (See Figure 5).

Inflation rate which affects this sector. Inflation is a sustained increase in the average price of all goods and services produced in an economy. Money loses purchasing power during inflationary periods since each unit of currency buys progressively fewer goods.

Bangladesh has had an inflation of 5.4% during the last fiscal year (2009-2010). Price Inflation greatly effects time value of money (TVM). It is a major component of interest rates which are at the heart of all TVM calculations.

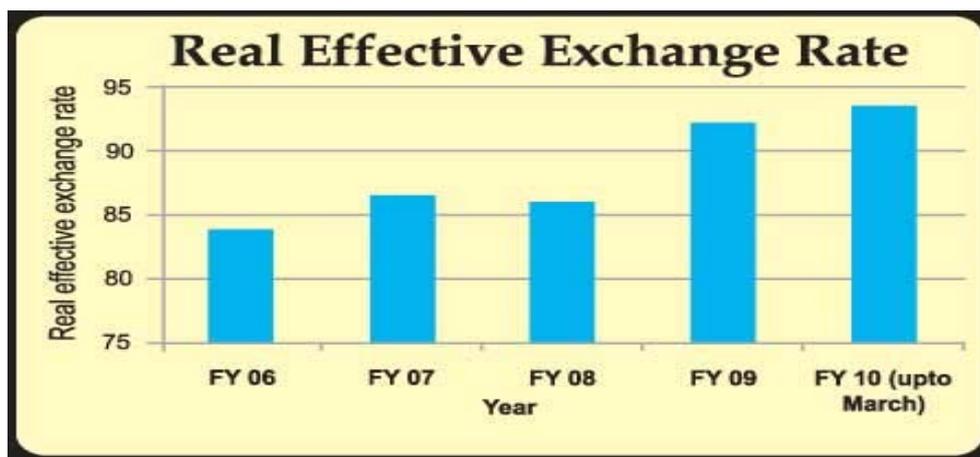


Figure 5. Real effective exchange rate of the last financial years. Source: The Financial Express Newspaper.

Actual or anticipated changes in the inflation rate cause corresponding changes in interest rates. Lenders know that inflation will erode the value of their money over the term of the loan so they increase the interest rate to compensate for that loss.

In simpler words, inflation rate directly affects the interest rate. A practical example shows that currently in Bangladesh the interest on deposit has decreased to 7% on average and a highest interest rate of 14% on loan. So this environment is very unfriendly for the growth of pharmaceutical industries (See Figure 6).

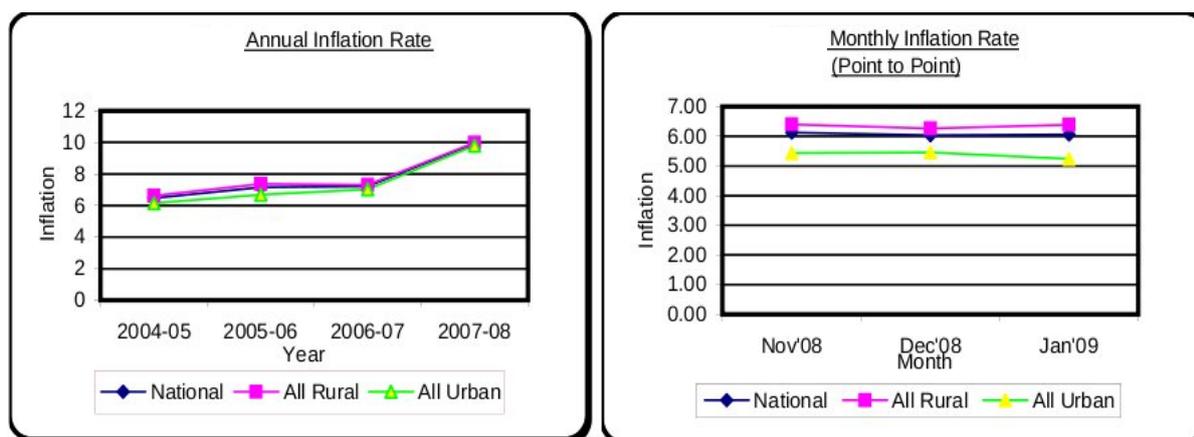


Figure 6. Annual inflation rate of the last few years. Source: The Bangladesh Bureau of Statistics and the Economic Information of Bangladesh.

The Influence of Social Factors on the Pharmaceutical Sector of Bangladesh

The effects of demographics (i.e., population, age composition of population, and education) on this sector. Population trends in Bangladesh, which can be traced from the beginning of this century due to the availability of population censuses conducted by the British, show that at present, Bangladesh is well into the third phase of demographic transition, having shifted from a high mortality-high fertility regime to a low mortality-low fertility one (CPD-UNFPA, 2005).

Recently, stagnating fertility levels have very succinctly brought to light several challenges facing population policy in particular, but that have considerable human and development consequences as well. A direct consequence of demographic transition is the effect on the age composition of the population. The base

of the population pyramid has begun to shrink as a result of the rapid decline in the birth rate, which is welcome, while the proportion of persons above age 60 is on the rise and the mean age is increasing with the gradual increase in life expectancy (CPD-UNFPA, 2005). Even though there is decrease in fertility rate, the proportion of women in the childbearing age's remains large who desire small families, but because the number of women in this bracket is large, the population of Bangladesh is predicted to grow steadily for the next two decades (CPD-UNFPA, 2005)

Even in education, there is tremendous progress faced with the challenge of reaching large, poor, and inaccessible rural populations, Bangladesh has made remarkable progress in increasing access to primary school and closing the attendance gap during the 1990s. In 1985, the primary net enrollment rate was 56%; it had increased to 94% by 2004. Bangladesh achieved these significantly improvements in the net attendance rates by targeting programs to children in rural areas, and in particular, girls: Over the same time period, the female net enrollment rate rose from 47% to 95% (Educational Policy and Data Centre [EPDC], 2007).

All these are favorable for the pharmaceutical sector. A growing population signifies a growing need for medicines. The desire to keep families small spells out high demand for contraceptive methods, such as pills, injections etc.. Improvements or rather increase in education will decrease the dependency of the less educated rural population on alternative sources of medicines such as faith healing which will also lead to increased sales of medicines.

The effects of major events such as Natural disasters and epidemics on the sector. Disaster is a difficult concept to define; existing definitions tend to be either too broad or too narrow. The World Health Organization Emergency and Humanitarian Action Department defines disasters as, "Any occurrence that causes damage, ecological disruption, loss of human life or deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community area."

Bangladesh is extremely vulnerable to natural disasters such as cyclones, earthquakes, tidal surges, tornadoes, floods, river bank erosions, droughts, and cold waves. The extent of any natural disaster impact on the country is usually massive and often exceeds the capacity of local coping mechanisms.

The most common natural disasters that effect Bangladesh with their diseases are in Table 2.

Table 2

Common Natural Disasters That Effect in Bangladesh

Disasters	Accompanying diseases
Earthquakes	Crush and penetrating injuries; burns
Hurricane (monsoon, typhoon) and flooding	Water contamination and vector born diseases such as diarrhea, typhoid, gastroenteritis; Measles, viral hepatitis, malaria, cholera, non-cholera dysentery
Tornado	Crush and penetrating injuries

The above diseases affect a large number of people who need immediate medical attention and medicines to survive. This gives huge scope for the pharmaceutical sector to expand their business as well as contribute to the nation.

On the subject of epidemics the findings are easily understood to highlight the recent outbreak of swine flu itself has caused a huge boom in the pharmaceutical sector. The country's pharmaceutical companies, which manufacture anti-viral drug to treat swine flu, claim that they are capable of producing enough medicines to treat affected people.

The Impact of Technological Factors in the Pharmaceutical Sector of Bangladesh

The access to technology, research funding and its impact on this sector. The pharmaceutical industry in Bangladesh may be the largest in the least-developed countries, but it does not have the research capacity to invent new pharmaceutical products, nor does it have the imitative capacity to reverse engineer patented drugs in order to develop competing generic products. Instead, the principal activity of the domestic industry is the final production of generic products using imported generic active ingredients. These products are sold primarily to the domestic market. Under TRIPS (Agreement On Trade-related Aspects of Intellectual Property Right) rules, the supply of generic active ingredients may be cut off as a result of TRIPS requirement that the developing countries in which most of the generic producers reside grant full patent protection by January 1, 2016. Bangladesh does not currently permit the patenting of pharmaceutical products. Patents on drugs would essentially preclude the production of generic competing products in Bangladesh (VanDuzer, 2003). By 2016, Bangladesh must meet the challenge of developing a patent law which best reflects its interests while complying with the mandates of the TRIPS Agreement.

Bangladesh also lacks behind in terms of capital investment in to state of the art technology in terms of tools, equipments, and machineries. Already established firms are reluctant to invest in newer technology because of their high cost, and because many such equipments will require expansion of facilities or changes in structure that the firms deem too costly to pursue. Some older establishments are also prevented from going in to automation, due to their agreements with trade unions which prevents them from firing the workers who will become redundant once the machines arrive.

Hence it can be concluded the access to technology is low for most firms due to their lack of resources.

Conclusions

Bangladesh is one of the 10 most populous countries in the world and also one of the poorest. Given the country's lack of spending power, the domestic pharmaceutical market, currently at US\$ 589 million, remains tiny in comparison with the size of the population. Pharmaceutical spending is amongst the lowest in the world in per capita terms. Steadily improving economic performance, combined with a general determination to boost the quality of healthcare, should lead to steady, if unspectacular, market growth. An increase in investment in Bangladesh by multinational pharmaceutical manufacturers is also anticipated to stimulate the sector. Government policies and economic conditions and the countries demographics are all in favor of growing pharmaceutical sector.

A good number of local pharmaceutical companies have won accreditation from the overseas regulatory authorities including some of those in the developed countries. Two such local companies have been accredited by EMEA (Austria) and the Therapeutic Goods Administration (TGA-Australia). The accreditation facilitates their entry into the lucrative market as reputed players. Bangladesh's national drug policy requires strict standards compliance from the pharmaceutical manufacturers. The 11 years of 2005-2016 will be very crucial and important for the pharmaceutical industry. Investors and entrepreneurs may engage in and benefit from the potentials. Government support is also very important for the growth and expansion of the sector at this stage. If Bangladesh can handle this scope with foresightedness and organized future planning, it will definitely establish itself in the world market of pharmaceutical business.

Reference

- Byars, L. (1991). *Strategic management, formulation and implementation—Concepts and cases*. New York: HarperCollins.
- Capron, N., & Glazer, R. (1987). Marketing and technology: A strategic coalignment. *Journal of Marketing*, 51(3), 10-21.
- Cooper, L. (2000). Strategic marketing planning for radically new products. *Journal of Marketing*, 64(1), 1-15.
- CPD-UNFPA. (2005). *Re-thinking population policy in Bangladesh (Paper Series 24)*. Retrieved from http://www.cpd.org.bd/pub_attach/unfpa24.pdf
- Educational Policy and Data Centre [EPDC]. (2007). Population groups not keeping up national standards.
- Jan, Y. (2002). A three-step matrix method for strategic marketing management. *Marketing Intelligence and Planning*, 20(5), 269-272.
- Johnson, G., & Scholes, K. (1993). *Exploring corporate strategy—Text and cases*. Hemel Hempstead: Prentice-Hall.
- Kotler, P. (1998). *Marketing management—Analysis, planning, implementation, and control* (9th ed.). Englewood Cliffs: Prentice-Hall.
- Kotter, J., & Schlesinger, L. (1991). Choosing strategies for change. *Harvard Business Review*, 24-29.
- Pearce, J., & Robinson, R. (2005). *Strategic management* (9th ed.). New York: McGraw-Hill.
- Porter, M. (1985). *Competitive advantage*. New York: Free Press.
- Thompson, J. (2002). *Strategic management* (4th ed.). London: Thomson.
- Tsiakkios, A., & Pashiardis, P. (2002). Strategic planning and education: The case of Cyprus. *International Journal of Educational Management*, 16(1), 6-17.
- VanDuzer, P. T. (2003). *TRIPS and the pharmaceutical industry in Bangladesh: Towards a national strategy*. Retrieved from http://www.cpd.org.bd/pub_attach/OP24.pdf