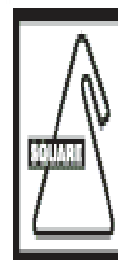
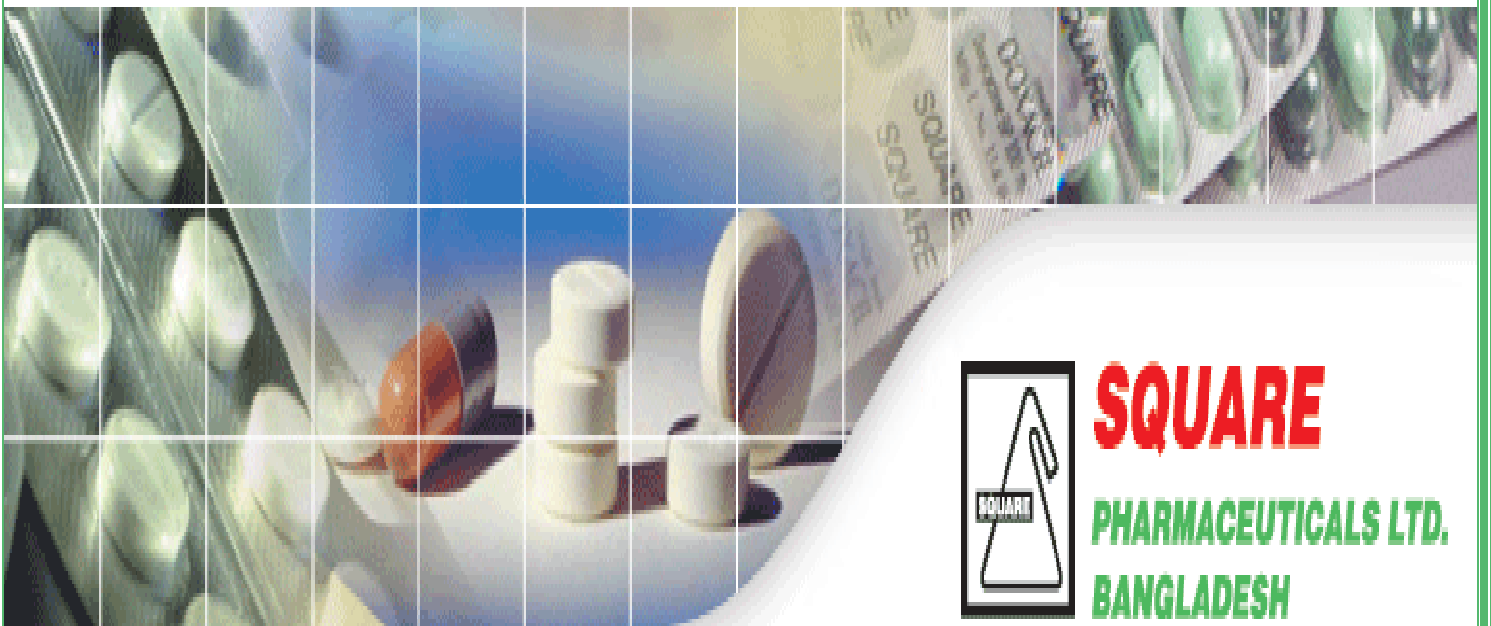


INTERNSHIP REPORT



SQUARE

**PHARMACEUTICALS LTD.
BANGLADESH**

INTERNSHIP REPORT

TREND ANALYSIS OF GENERIC SHIFTING IN THE BANGLADESH PHARMACEUTICAL MARKET (2006-2010)

EMPLOYEE ORGANIZATION: SQUARE PHARMACEUTICALS LTD BANGLADESH

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DATE of SUBMISSION

8th December, 2010



Transmittal Message

December 08, 2010

Mr. Anup Chowdhury

Assistant Professor,

BRAC Business School

BRAC University

Subject: Submission of Internship Report

Dear Sir,

With great pleasure I am submitting my Internship report on *Trend Analysis of Generic Shifting in the Bangladesh Pharmaceutical Market (2006-2010)*. I got the opportunity to work at country's leading pharmaceutical company, world reputed *Square Pharmaceuticals Limited (SPL)* and was placed under one of the most important departments in the company *Product Management Department (PMD)*. I have found the experience to be quite interesting and under the guidance of my supervisors and with the help of all the members of the department I have tried my level best to prepare an effective report on the above mentioned topic.

The report contains the trend analysis of generic shifting, the reasons behind it and future potentiality of certain generic shifting events and SPL's planning in the present scenario. Here I have gathered data and information through actual interviews of product managers and secondary data from IMS software and Research department of the organization (MRPC).

I honestly hope that my analysis will help to give the idea how generic shifting event occur in the pharmaceutical market in Bangladesh and performance of different brands of different generics in the market. I hope you will find this report worth all the labor I have put in it.

I would request you to kindly accept the report and provide me with feedbacks and welcome your entire query & take pride to answer them.

Yours sincerely,

.....

Monamee Afroze Ishika

ID: 07104021

Acknowledgement

“I specially want to acknowledge **Mr. Dipak Kumar Saha, Senior Manager, Product Management Department (PMD); Square Pharmaceuticals Limited**, for his tremendous support, guidance and patience. Without his kind supervision, preparing this report would have been very difficult. I am also thankful to him for providing me all the relevant information to have a clear concept on the subject. My heart-full thanks go to **Mr. Ahmed Kamrul Alam, Assistant General Manager, Marketing** and **Mr. Andaleeb Ibne Afaz, Manager, Regulatory Affairs, Square Pharmaceuticals Limited**, who provided me the guidance and counseling during my entire internship program. Their continuous and well-thought feedback enabled me to make this report a comprehensive one.

I would like to express my heartiest gratitude to my academic supervisor **Mr. Anup Chowdhury, Assistant Professor, BRAC Business School, BRAC University**, for his constant guidance, supervision and feedbacks which enabled me to prepare a well executed report.

The following persons gave me important information which were necessary for analysis and also provided me with feedbacks which helped me a lot in preparing the report, their assistance is gratefully acknowledged:

Ms. Farhana Faruquee (Product Executive-PMD, Square Pharmaceuticals Limited), Mr. Md. Shariful Islam (GPM- PMD, Square Pharmaceuticals Limited), Mr. Md. Anwar Hossain (Product Executive-PMD, Square Pharmaceuticals Limited), Mr. Faridul Alam (Product Executive-PMD, Square Pharmaceuticals Limited), Mr. Mahbubul Alam (Product Executive-PMD, Square Pharmaceuticals Limited), Mr. Mohammad Harun Ar Rashid (GC- PMD, Square Pharmaceuticals Limited), Mr. Mohammad Sorwar Alam (GC- PMD, Square Pharmaceuticals Limited), Mr. Md. Taslim Arif (Product Executive-PMD, Square Pharmaceuticals Limited).

I want to acknowledge my family and friends with great respect. Their love, encouragement and support have been exemplary. Above all, I want to acknowledge and thank God that I have been able to complete this journey successfully.”



Executive Summary

This report has been prepared as a requirement of the internship program working under one of the most important departments in the Square pharmaceutical Limited, Product Management Department (PMD). The report deals with the changing trend and preference of doctors regarding any generic under top ten therapeutic classes. The broad objective of this report is to explore the trend of generic shifting over a particular time period (June, 2006-June, 2010). The main focus is to analyze the shifting in preference of molecule by the whole pharmaceutical industry in Bangladesh and SPL's progress to cope up with the changing trend. Information used to prepare this report has been collected from both primary and secondary sources. Primary information was collected from the product managers working in SPL's Product Management Department for relevant therapeutic classes. For this report data from June 2006 to June 2010 was collected from IMS software are used for analysis. Data of prescription statistics were collected from Market Research and Planning Cell (MRPC), one key functional department in SPL. Different websites were also used for information on the pharmaceutical industry worldwide and Bangladesh. Lack of time and technical knowledge and data unavailability were the major limitations for this report preparation. The global pharmaceutical market grew to \$808 billion in 2009, at a compound annual growth rate of 9.3% between 1999 and 2009. The top 10 companies ranked by pharmaceutical sales generated total sales of \$317 billion. The top 100 blockbuster drugs generated sales of US\$285. The pharmaceutical market in the Asia Pacific region was \$69 billion in 2009 as against \$56.95 billion in 2008. In Bangladesh the pharmaceutical sector is one of the most developed hi-tech sectors which is contributing in the country's economy. This sector is providing 97% of the total medicine requirement of the local market. Local pharmaceutical sales have grown to 21 percent in the April-June period, a rise from 19 percent in the first three months of this year. Bangladesh have reached the international market spreading over 72 countries around the world including Pakistan, Nepal, Sri Lanka, India, Thailand and China and are now trying to penetrate into the medicine market of European and African continents. SQUARE Pharmaceuticals Limited (SPL) is the leading branded generic pharmaceutical manufacturer in the country producing quality essential and other ethical drugs and medicines. Since 1985, SPL is the top company among the national and multinational pharmaceutical companies operating in the market. SPL is the key member of Square Group

made its humble debut in 1958. At first it was a partnership firm and started with 12 people and Tk. 55,000 in capital in floor space of 3000 sft. SPL first proprietary medicine “Estons syrup” was launched in 1959. The first compressed tablet was introduced in 1962 under the generic name “Santonin”. From 1990, Square Chemical division was operated for producing pharmaceuticals raw materials worth an investment of tk. 130 million and currently it is producing 7 pharmaceuticals bulk raw materials. In 1991. It was converted into a public limited company and than in 1994 it first offered share to the people. In the year of 2007, SPL was awarded UK-MHRA certificate which makes the position of SPL strong in the market. The company’s vision, mission and objectives are to emphasize on the quality of product, process and services leading to growth of the company imbued with good governance practices. At the present time SPL had 20 (twenty) functional departments for its operation. PMD is the core and centralized department for managing the total marketing effort for the company. Sales Department pay regular visit to the doctors, show the benefits of new existing products with the help of promotional tools. Distribution Department ensures smooth distribution of products to all over the country. SPL has latest technologies for production of wide varieties of dosage forms including Tablet, Sustained Release formulation, Capsule, Metered Dose Inhaler (MDI), Injectible, Syrup and so on. The company has an increase of 10.47% in net profit (After Tax) in this financial year of 2009-2010 as compared to previous. SPL is now selling its finished goods in many countries of Asia and Europe including: Cambodia, Myanmar, Nepal, Pakistan, Russia, Sri Lanka, Ukraine, Yemen etc. SPL is committed to ensure strict compliance with cGMP norms and regulatory requirements in every phase of manufacturing, quality assurance, and distribution of medicines. Their ultimate motto is to ensure customer satisfaction by exceeding their level of expectations. Value wise and share percentage wise, SPL is the leader company among all the manufacturers followed by Incepta Pharma and Beximco. . Top 20 products represent 14% of total market and among them there are nine products of SPL. There are several reasons that influence the market or doctors to shift their preference from one generic or molecule to another. Global pharmaceutical industry is a huge market and to be as a good player in that market it very important to cope up with the trend of the world market. Many times generic shifting occurs when there is a more effective generic available in the market than the current one. Often dosage convenience of the generic shift preference from one generic to another as it is more comfortable and cost effective for the patients. For better coverage of disease level many time new generics

are introduced in the market. Doctors' preference and market trend shifts over time according to patients need also and safety to patients is also an influencing factor behind generic shifting. Different companies influence generic shifting knowingly or unknowingly also. Again regarding the overall trend, findings are, sales trend can only be expected to be according to remaining potentiality of the generic as everything has a lifespan. The market is shifting now toward Eesomeprazole molecule though the market for the generic Omeprazole is still booming. Paracetamole, Cefixime and Diclofenac are still the most preferred molecule by the doctors and other generics are used according to patient's needs. Popularity of Erythromycin is decreasing and Clindamycin is increasing but Azithromycin is still the most popular molecule. The present trend is showing that by 2012, Clindamycin would be the second top preferred molecule under its class. According to analysis, recommendations are also provided to the company in this report. SPL should focus on now to their brand with Eesomeprazole for future benefits and should promote doctors more to prescribe their brand. SPL should focus more on their brand with Ceftriaxone. SPL should promote their entire brand using all the tools effective to actively participate in the market and also to cope up with the changing market trend. According to market condition and shifting trends, Square Pharmaceuticals strategize and make plans to improve and sustain in the business. SPL use lucrative gifts, price reduction offer, as their promotional tools. Improved compliant management is one significant part of SPL planning and they continuously tries to improve the medicine quality. Healthy growth is likely to encourage the pharmaceutical companies to introduce newer drugs and newer research products,

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List of Acronyms

- ▶ **AT:** After Tax
- ▶ **BT:** Before Tax
- ▶ **CGMP:** Current Goods Manufacturing Process
- ▶ **CAGR:** Compound Annual Growth Rate
- ▶ **IMS:** Information Medical Services
- ▶ **MRPC:** Market Research and Planning Cell
- ▶ **MHRA:** Medicines and Healthcare products Regulatory Agency
- ▶ **PPI:** Proton Pump Inhibitor
- ▶ **PMD:** Product Management Department
- ▶ **SPL:** SQUARE Pharmaceutical Limited
- ▶ **TRIPs:** Trade-related aspects of Intellectual Property Rights
- ▶ **USFDA:** The United States Food and Drug Administration
- ▶ **WHO:** World Health Organization

1.1 ORIGIN OF THE REPORT

This report has been prepared as a requirement of the internship program BUS 400 under the BBA program of BRAC University. For my internship program, I got the opportunity to work at country's leading pharmaceutical company, world reputed Square Pharmaceuticals Limited (SPL). I was placed under one of the most important departments in the company Product Management Department (PMD). Basically PMD performs the all planning, implementation of plans as part of marketing management functions. My internship program instigated from 26, September, 2010 to 25, December, 2010 and during this period, I was assigned to do the project work on the topic Generic Shifting Analysis by my onsite supervisor.

I was under the direct supervision of **Mr. Dipak Kumar Saha, Senior Manager, PMD, Square Pharmaceuticals Limited** and **Mr. Anup Chowdhury, Assistant Professor, BRAC Business School, BRAC University** for my internship program. Though the topic for my project work was assigned by my onsite supervisor but it was duly approve by my academic supervisor. The project is to investigate the trend toward which doctors' preference for any generic under any therapeutic class is shifting to another one.

The report will definitely increase the knowledge of the department about the changing trend and preference of doctors regarding any generic which might help the department to plan their marketing effort considering these facts to make the plans more effective.

1.2 OBJECTIVE

The broad objective of this report is to explore the trend of generic shifting over a particular time period (2006-June, 2010). The main focus is to analyze the shifting in preference of molecule by the whole pharmaceutical industry in Bangladesh and SPL's progress to cope up with the changing trend.

The Specific Objectives for this report is are as following,

- Analyze the value wise improvements of different molecules under each therapeutic class.
- Analyze growth trend of different molecules over the period.
- Analyze doctors' preference to prescribe any generic over another and how numbers are changing of prescription with any molecule written on it over time.
- Analyze the performance of different brands of different companies in the market with potential promising molecules in the market.
- Explore the position of different SPL brands in the market and analyze scopes for improvements.
- Analyze SPL's thoughts from information gathered from product managers of the company.

1.3 METHODOLOGY

Information used to prepare this report has been collected from both primary and secondary sources. The primary sources have provided the report with reliable information relating to SPL's planning and measures to cope up with current market scenario. On the other hand, the secondary sources have been an essential source of information regarding the pharmaceutical industry worldwide and domestically, different companies operating in Bangladesh, data for trend analysis considering value, share and growth and also data regarding numbers of prescribing any molecule by doctors which depicts doctors' shift of preference over time.

1.3.1 Primary Sources:

Primary information was collected from the product managers working in SPL's Product Management Department for relevant therapeutic classes. This information collection was done through set questionnaire with some generalize and specific question. Informal discussion with my onsite supervisor and other staffs were also helpful for gathering information for this report.

1.3.2 Secondary Sources:

The report basically is prepared by analyzing data from secondary sources. There are two main secondary sources from which data are collected. These are numerical data related to the values, share and growth of different molecules and brands under each therapeutic class. Other secondary sources are also used for successful completion of this report. The sources are,

- **IMS:** Information Medical Services (IMS) is a Switzerland base survey company that supplies the pharmaceutical industry with sales data and consulting services. IMS collects pharmaceutical sales and prescription data from markets across the world. IMS also uses their own data to produce syndicated reports such as market forecasts. These predict how a market in a specific country or specific therapy area will change over time. They provide reports to every company in each quarter. For this report data from June 2006 to June 2010 was collected from IMS software are used for analysis.
- **MRPC:** Market Research and Planning Cell (MRPC) is one key functional department in SPL which performs market survey on the Bangladesh Pharmaceutical Market. These data of prescription statistics were collected from this department through my onsite supervisor.
- Annual reports of Square Pharmaceutical Limited.
- Different websites providing information on the pharmaceutical industry worldwide and Bangladesh.

After gathering these data, graphs are prepared and from these graphical presentation conclusion are drawn according to objectives. The main body of the report is divided into three parts. They are,

- Analysis on IMS data
- Analysis on MRPC data
- Findings from Product Managers.

Recommendation according to each different part is incorporate separately in each part of the main body. The whole report is accumulate in 101 pages and will be presented in a 30 minutes session.

1.4 LIMITATION

- Time period for this whole report was supposed to be 2006-2010, but data from MRPC was available only from 2007. Again data for all the considered therapeutic class were not available from MRPC. So analysis was not complete in that sense.
- All the work in this department depends on pharmaceutical knowledge. As a business student lack of technical knowledge on pharmaceutical industry make it difficult initially to some extent to prepare the report.
- Lack of time availability of the product managers was another limitation for preparing this report.
- There was time constraint to prepare this report as instead of 14 weeks, only 10 weeks were available. So many works were done in a hurry and that needed extra effort to maintain the standard quality.
- There was huge amount of data to sort out and managing those data in a proper manner required quite a lot time.

2.1 ORGANIZATION OVERVIEW

SQUARE Pharmaceuticals Limited (SPL) is the leading branded generic pharmaceutical manufacturer in the country producing quality essential and other ethical drugs and medicines. Since its inception SPL has dedicated all its efforts to ensure quality medicines to the people for better health and affordable price and since 1985, SPL is the top company among the national and multinational pharmaceutical companies operating in the market. Square diversified its operation in bulk pharmaceuticals, toiletries and cosmetics, health and hygiene care, textiles etc to mention a few. All the ventures of Square have managed to earn reputation and popularity among the people.

SQUARE Family

SQUARE Pharmaceuticals Limited

- Pharma Division
- Chemical Division
- Agro-Vet Division

SQUARE Textile Limited

SQUARE Spinning Limited

Health Products Limited

Pharma Packages (pvt) Limited

Barnali Printers Limited

Astras Limited

SQUARE Informatics

Mediacom Limited

SQUARE Fashions

SQUARE Knit Fabrics

SQUARE Consumers Products Limited

2.1.1 CORPORATE HISTORY

SPL is the key member of Square Group made its humble debut in 1958. At first it was a partnership firm and established by present chairman Mr. Samson H. Chowdhury and his three other friends in a house of a small village “Ataikula” near Pabna. It started with 12 people and Tk. 55,000 in capital in floor space of 3000 sft.

SPL first proprietary medicine “Estons syrup” was launched in 1959. The first compressed tablet was introduced in 1962 under the generic name “Santonin”. In the next year, the introduction of “Pethidine” injection accelerated the growth of the firm. With a rapid expansion of business turnover rising to near BDT 1 million and the number of employees become 50. In this year, the firm was converted into a private limited company with an authorized capital of Tk. 500,000 and paid up capital of Tk.400, 000.

In 1982, the turnover of SPL reached to Tk. 240 millions and the number of employees went to near 400. In 1985, SPL achieved the market leadership in pharmaceuticals market in the country in terms of sales. By the year 1988, the number of employee reached to 750 and annual turnover goes to Tk. 550 millions. SPL adopted necessary steps in implementing facilities to manufacture a wide range of essential drugs within the jurisdiction of WHO recommendation.

SPL has entered in the global market in 1987. SPL exports its products to UK. (87), Singapore (87), Sri Lanka (97), Cambodia (97), and Russia (97). At present SPL has a branch office at Russia and is exporting its product to 27 countries.

By the year 1988, the number of employee reached to 750 and annual turnover goes to Tk. 550 millions. In this condition, SPL decided to increase its product line. From 1990, Square Chemical division for producing pharmaceuticals raw materials worth an investment of tk. 130 million and currently it is producing 7 pharmaceuticals bulk raw materials.

In the 1998, the company was awarded with the ISO 9001 certificate for implementing Quality Management System (QMS) in all of its operation. In the same year, Agro Vet division of SPL introduced its product in the market. In the year 2002, SPL starts manufacturing Dry Powder Inhalers (DPI) as a pioneer pharmaceuticals company in Bangladesh. In the year of 2007, SPL was awarded UK-MHRA certificate which makes strong the position of SPL. It also shows that the quality of product is international standard. Following table shows at a glance the Chronological journey through time of Square Pharmaceutical Company Since its inception.

Table 1: Stepping stones of Square Pharmaceuticals Ltd.


Sl. No.	Year	Event
1.	1958	Year of Establishment (Initially as a Partnership).
3.	1964	Incorporated as a Private Limited Company.
4.	1975	Technical collaboration agreement with Janssen Pharmaceutical, Belgium, a subsidiary of Johnson & Johnson International, USA – commitment towards world class GMP.

5.	1984	Licensing agreement signed with F. Hoffmann – La Roche Ltd. Switzerland.
6.	1985	Achieve market leadership in pharmaceuticals market in the home country.
8.	1991	Converted into Public Limited Company.
9.	1994	Initial Public Offering (IPO) of shares.
10.	1996	Agreement with M/s. Tanvec Ltd. Of UK for implementation of Dhaka plant.
11.	1998	Awarded ISO-9001 Certificate.
12.	1999	Agreement with Bayer AG, Germany. Agreement with Eisai Co Ltd, Japan.
13.	2001	Marketing & Distribution Agreement signed with Bioglan Laboratories Ltd, UK. USFDA/ UKMCA standard new factory goes into operation.
14.	2005	New State-of- the-Art Square Cephlosporins Ltd. goes into operation; built under the supervision of TELSTAR S.A. of Spain as per US FDA/ UK MHRA requirements.
15.	2007	Awarded UK-MHRA Certificate.

2.1.2 COMPANY PROFILE

SPL is growing with high degree of potentiality and at present holding the leading market share in Bangladesh. Square means a geometric figure with four angles and four equal sides. The vision of high ethical standard and quality of the medicines it manufactures has suited its name across its lifeline.

Table 2: Company Profile

SL NO.	Company Profile	
1.	Company Name	Square Pharmaceuticals Limited
2.	Type of Company	Public Limited Company
3.	Board of Director	Chairman : Mr. Samson H Chowdhury Vice Chairman : Mr. Samuel H Chowdhury Managing Director : Mr. Tapan Chowdhury Sales Director : Mr. K M Saiful Islam
4.	Corporate Headquarter	SQUARE CENTRE, 48, Mohakhali Commercial Area, Dhaka-1212, Bangladesh
5.	Business Line	Manufacturing and Marketing of Pharmaceutical Finished Products, Basic Chemicals, AgroVet Products, Pesticide Products, Small Volume Parental Ophthalmic Products and Insulin Products.
6.	Authorized Capital	Tk. 5,000 million
7.	Paid-up Capital	Tk. 1,509.03 million
8.	Number of Employees	4,197
9.	Subsidiary Company	Square Cephalosorins Ltd. Square Biotechs Ltd. Square Multi Fabrics Ltd.
10.	Logo	

2.1.2.1 Vision

The company sees business as a means to the material and social wellbeing of the investors, employees and the society at large, leading to accretion of wealth through financial and moral gains as a part of the process of the human civilization.

2.1.2.2 Mission

The mission of SPL is to produce and provide quality & innovative healthcare relief for people, maintain stringently ethical standard in business operation also ensuring benefit to the shareholders, stakeholders and the society at large.

2.1.2.3 Objective

The objective of the company is to conduct transparent business operations within the legal & social frame work with aims to attain the mission reflected by its vision.

2.1.2.4 Corporate Focus

The company's vision, mission and objectives are to emphasize on the quality of product, process and services leading to growth of the company imbued with good governance practices.

Square's Quality Policy

- ◆ Ensure strict compliance with WHO cGMP standards and local regulatory norms in every phase of sourcing & procuring quality materials, manufacturing, quality assurance and delivery of medicines.
- ◆ Ensure all activities through documented Quality Management System (QMS) complying International Standard requirements of ISO 9001 through continuously developing Human Resources by regular training and participation
- ◆ SQUARE is committed to undertake appropriate review, evaluation and performance measurement of processes, business activities and Quality Management System for continual improvement to ensure highest standard, customer satisfaction, developing human resources and company's growth.

2.1.2.5 Key Functional Department of SPL

At present, SPL had 20 (twenty) functional departments for its operation. Among the twenty departments, five departments are considered as key functional departments.

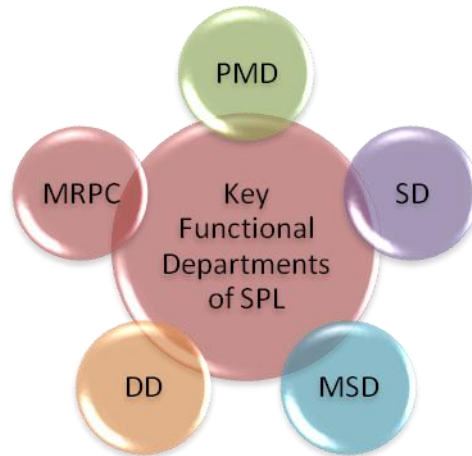


Figure 1: Key functional departments of SPL

■ **Product Management Department (PMD)**

PMD is the core and centralized department for managing the total marketing effort for the company. Basically PMD performs the all planning, implementation of plans as part of marketing management functions. The two key functions of PMD are as follows:

1. Introduction of new product into the market
2. Manage the existing portfolio to achieve the marketing objectives.

To this end PMD undertakes all relevant activities including the following:

1. Preparation of Marketing Plan
2. Designing and development of promotional materials
3. Promotional communication to physicians and chemists
4. Training of field forces
5. Analyzing performance of different products
6. Evaluation of new business proposals
7. Feasibility study of new products
8. Management of regulatory affairs with Drugs Administration
9. Monitoring of production and raw material status of products
10. Preparation of printed promotional material (literature/pad/brochure/show card etc.)

11. Replying to queries from the doctor as well as the field-forces concerning the brands
12. Giving product training to trainees MPO's
13. Traveling to the factory for necessary coordination work concerning the brands
14. All relevant coordination works with supplier/factory and procurement department concerning machinery and raw materials that will be used to manufacture the concerned brands
15. Undertake all relevant activities for new product launching

■ Sales Department

The main functions of sales department are narrated below:

1. Pay regular visit to the doctors, show the benefits of new existing products with the help of promotional tools
2. Monitor the competitor's activities
3. Handles initial product queries from doctors and product complain from the market
4. Receive sales order from the retailers /drug stores
5. Coordination among different markets
6. Market rearrangement
7. Handling different problems of field forces

■ Distribution Department

1. Ensure smooth distribution of products to all over the country
2. Collection of payments from the customers
3. Performs functions as the representative of SPL at the depot level
4. Maintenance of vehicles and depots

■ Market Research and Planning Cell

1. Performing market survey on the Bangladesh Pharmaceutical Market

2. Regular prescription share analysis and report generation for SPL market share analysis
3. Performing different market research work on different issues
4. Provide all kinds of support to Field Colleagues in effective planning in the market level

■ Medical Services Department (MSD)

The main functions of MSD are as follows:

1. Arranging clinical meeting with the physicians on different products
2. Provide answers to different queries of the physicians through mail or telephone
3. Arranging education programs for the rural medical practitioners
4. Publishing of medical journals
5. Arranging of special promotional campaign of different products

2.1.2.6 Product Mix

SPL has latest technologies for production of wide varieties of dosage forms including Tablet, Sustained Release formulation, Capsule, Metered Dose Inhaler (MDI), Injectable, Syrup (liquid and dry), Suspension (liquid and dry), Pediatric Drops, Nasal & Ophthalmic formulations, Topical Gel/Ointment/Cream, and oral care formulations. At the beginning of 2002, SPL is producing and marketing 237 products covering a vast range of Therapeutic Classes.

Major Therapeutic Classes include Antibiotics, Antacid & Antiulcerants, Cardiovascular, Anti-asthma, Cough & Cold remedies, Analgesics & Antipyretics, Antipsychotic & antidepressant, NSAIDs, Antifungals, Antiparasites, Antidiabetics and lipid lowering agents, Vitamins and minerals, Eye/Ear formulations, Dermatologicals, Anti-allergy formulations and so on.

■ Top Ten Brands of SPL:

The top ten brands of SPL in September, 2010 and their market Growth are given below:

Table 3: Top Ten Brands of SPL (Source: IMS (3rd Quarter) – 2010)

Rank.	Brand Name	Market Growth (%)
1.	Seclo	31.17
2.	Neotack	6.10
3.	Cef-3	23.92
4.	Ciprocin	5.32
5.	Zimax	49.83
6.	Ceftron	38.33
7.	Lebac	11.80
8.	Ace	31.57
9.	Ceevit	7.68
10.	Entacyd plus	8.05

2.1.2.7 Financial Performance

The performances of the company in this financial year of 2009-2010 as compared to previous year are summarized here under:

Table 4: Financial Performance (Source: Annual Report of Square Pharmaceuticals Ltd. Published in 2009-2010)

Particular	2009-2010 (Taka)	2008-2009 (Taka)	Increase %
▪ Gross Turnover	13,279,141,757	11,336,597,928	17.14%
▪ Net Turnover	11,462,578,410	9,820,796,568	16.72%
▪ Gross Profit	4,901,289,925	4,148,230,595	18.15%
▪ Net Profit (BT)	2,825,069,248	2,511,259,218	12.50%
▪ Provision for Taxation	737,197,452	621,206,289	18.67%
▪ Net Profit (AT)	2,087,871,791	1,890,052,929	10.47%

2.1.2.8 Global Operations

SPL has extended its range of services towards the highway of global market. It pioneered exports of medicines from Bangladesh in 1987 and currently exporting in 27 countries. Through its extended marketing operations, SPL is now selling its finished goods in many countries of Asia and Europe including: Cambodia, Myanmar, Nepal, Pakistan, Russia, Sri Lanka, Ukraine, Yemen etc.

■ Global Partnership

1. Technical Collaboration with Janssen Pharmaceutical, Belgium, a subsidiary of Johnson & Johnson International, USA
2. Agreement signed with F. Hoffmann-La Roche Ltd., Switzerland
3. Technical know-how transfer to foreign pharmaceutical company
4. Agreement with Bayer AG, Germany
5. Agreement with Eisai Co. Ltd., Japan

■ New Plant of SPL: Standard for Globalization

SPL is now on its way to becoming a high performance global company. To this end SPL has built a new plant which is already in operation. This plant is the first of its kind in Bangladesh with its MHRA of UK and USFDA standard manufacturing and quality assurance facilities.

■ Manufacturing Facilities

SPL is committed to ensure strict compliance with cGMP norms and regulatory requirements in every phase of manufacturing, quality assurance, and distribution of medicines. To comply with cGMP, SPL has state-of-the-art technology in production and quality control. In addition, USFDA/MCA standard new plant is now at the completion stage.

Documented Quality Management System (QMS) is integral part of all of SPL operations. People at all levels are committed to adopt advanced technology for continuous development. Being confident with the sophisticated manufacturing and quality assurance technology of SPL, multinationals from industrialized countries now have agreements with Square for having their products manufactured in Bangladesh.

■ Future Commitment

SPL is all set to repeat its local success on the global scene and this commitment is very much visible in the declaration of the chairman himself. The chairman Mr. Samson H. Chowdhury stated, **“Square is poised for global presence and we are moving forward achieving that within the shortest possible time.”**

2.1.2.9 Ensuring Customer Satisfaction

SPL is committed to ensure better life through quality medicine. The ultimate motto is to ensure customer satisfaction by exceeding their level of expectations. SPL has 10 Sales and Distribution offices in the following places in Bangladesh: Pabna (central depot is also located here), Dhaka, Barisal, Khulna, Bogra, Rangpur, Sylhet, Chittagong, Mymensingh, and Comilla.

The extensive marketing network comprising of latest technical and logistic support along with 450 skilled and qualified field staff is a key to succeed in achieving customer satisfaction level beyond their expectation.

2.1.2.10 Research and Development

SPL's Research and Development is devoted to improve the health care facility of people. Square Pharmaceuticals Ltd. has brought in advanced technology for its Research and Development works. Research & Development includes the bibliographic search aided by a resourceful library, design and selection of process that maximizes efficiency and minimizes the environmental impact, accelerated and long term stability testing, product quality optimization and translation of new scientific insights into the products. Having started as an importer of technology, R&D Department from 1999 has started to export technology to SQUARE's global customers.

2.1.2.11 Corporate Social Responsibilities Activities

Square group along with SPL is involved with various social activities along with business activities fulfilling their social commitment. Some of those activities are as follows,

- Involved in the welfare program of Acid victims.
- Helps many NGOs in their efforts to make healthcare services to the disadvantaged population of the country.

2.2 SITUATION ANALYSIS

2.2.1 INDUSTRY ANALYSIS

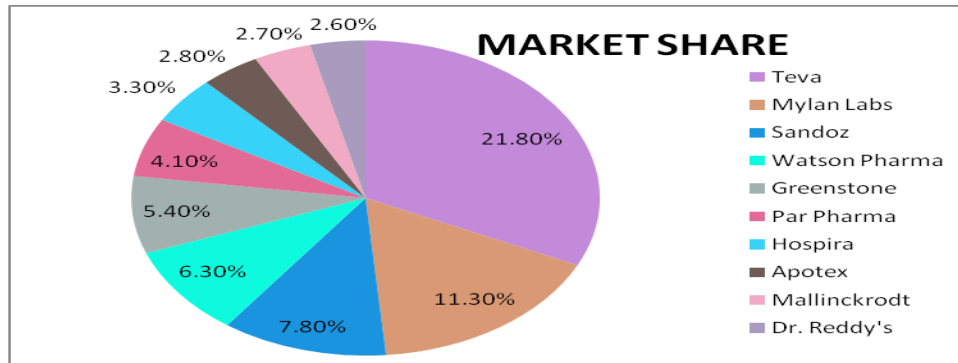
2.2.1.1 Global Scenario

The global pharmaceutical market grew to \$808 billion in 2009, at a compound annual growth rate of 9.3% between 1999 and 2009. Year-on-year growth in the global pharmaceutical market decreased to 4.6% in 2009, largely as a result of cost containment in the US and major European markets and the impact of several blockbuster patents expires in 2008 and 2009.

The top 10 companies ranked by pharmaceutical sales generated total sales of \$317 billion. The top ten companies are as following,

Table 5: World's Top Ten Pharmaceutical Companies

RANK	COMPANYS' NAME
1	Teva
2	Mylan Labs
3	Sandoz
4	Watson Pharma
5	Greenstone
6	Par Pharma
7	Hospira
8	Apotex
9	Mallinckrodt
10	Dr. Reddy's



Graph A1: Market Share of World's Top Ten Pharmaceutical Companies

125 pharmaceutical drugs generated more than \$1 billion in global sales. The top 100 blockbuster drugs generated sales of US\$285. In 2009 there were a total of 14 cardiovascular blockbuster products with combined sales amounting to \$50.7 billion. Top ten products of world pharmaceutical market are as followed,

Table 6: World's Top Ten Blockbuster Drugs

RANK	PRODUCT NAME	COMPANY	ANNUAL SALES
1	Lipitor	Pfizer	\$12.50
2	Plavix	Bristol-Myers Squibb and Sanofi-Aventis	\$9.50
3	Advair	GlaxoSmithKline	\$7.70
4	Enbrel	Amgen	\$6.20
5	Diovan	Novartis	\$6.00
6	Remicade	Johnson & Johnson	\$5.90
7	Avastin	Roche/Genentech	\$5.70
8	Rituxan	Roche/Genentech	\$5.60
9	Humira	Abbott Pharmaceuticals	\$5.50
10	Seroquel	AstraZeneca	\$5.10

The major five Germany, France, Italy, Spain and the UK, together accounted for over 60% of all European pharmaceutical sales in 2009. The US pharmaceutical market grew by 3.0% in 2009 to \$300.3 billion with highest growth in mail services and clinics.

The pharmaceutical market in the Asia Pacific region was \$69 billion in 2009 as against \$56.95 billion in 2008. The top 10 products alone contributed \$3.3 billion to the pharmaceutical market in the Asia Pacific region in 2009, as opposed to \$2.74 billion in 2008. According to IMS Health report, Lipitor, one of the top performing products of Pfizer leads the competitive market of Asia Pacific region with sales revenue of \$800 million in 2009. The global pharmaceutical market is forecast to grow to \$1,033 billion in 2014, an equivalent CAGR of 5.0% over the next five years.

2.2.1.2 Domestic Scenario

In Bangladesh the pharmaceutical sector is one of the most developed hi-tech sectors which is contributing in the country's economy. After the promulgation of Drug Control Ordinance - 1982, the development of this sector was accelerated. This sector is providing 97% of the total medicine requirement of the local market. Leading pharmaceutical companies are expanding their business with the aim to expand export market.

Local pharmaceutical sales have grown to 21 percent in the April-June period, a rise from 19 percent in the first three months of this year, according to a report of a global pharmaceutical market intelligence agency. Currently, the market size of the local pharmaceutical industry is worth BDT 70 Billion, said industry insiders. Pharmaceutical sector of Bangladesh forecast to grow by 13 per cent in 2010.

Two organizations, one government (Directorate of Drug Administration) and one semi-government (Pharmacy Council of Bangladesh), control pharmacy practice in Bangladesh. The Bangladesh Pharmaceutical Society is affiliated with international organizations International Pharmaceutical Federation and Commonwealth Pharmaceutical Association.

In July 2010, Prime Minister Skeikh Hasina Wajed urged the World Intellectual Property Organization (WIPO) for another 15 years' waiver of Bangladeshi pharmaceuticals from IPR restrictions. The current exemption is set to expire in 2016. The Bangladeshi pharmaceutical

industry has achieved rapid growth under the IPR waiver, and there are concerns that the expiry of this could have adverse effects on the industry.

There are 276 small, medium and large local and multinational pharmaceutical companies operating in Bangladesh. Of the companies, the top ten companies take up nearly 70 percent of the total market, according to an IMS survey conducted in 2008.

Table 7: Bangladesh's Top Ten Pharmaceutical Companies (June, 2010)

RANK	COMPANY	VALUE (Cr. Taka)	Growth (%)
1	SQUARE	1,156.15	13.36
2	INCEPTA PHARMA	527.31	31.09
3	BEXIMCO	464.99	19.36
4	ESKAYEF	297.48	24.90
5	OPSONIN PHARMA	293.02	23.65
6	RENATA	282.21	30.75
7	ACME	278.83	7.80
8	A.C.I	255.14	6.48
9	ARISTOPHARMA	244.37	13.59
10	DRUG INTERNATIONAL	239.34	34.24

Bangladesh is an extremely poor country, and many of the population cannot afford to see health professionals when they fall ill, therefore been a long tradition of self-medication in the country. The pharmaceutical distribution network tends to be more retail-orientated and the bulk of distribution is done by the companies themselves.

Meeting over 97 per cent of total domestic requirements, pharmaceutical products from Bangladesh have reached the international market spreading over 72 countries around the world including Pakistan, Nepal, Sri Lanka, India, Thailand and China and are now trying to penetrate into the medicine market of European and African continents. Bangladesh can compete with these countries in the international export market due to its quality compliance. According to Export Promotion Bureau (EPB), pharmaceutical export witnessed 6.21 per cent growth in the fiscal 2008-09, earning US\$45.67 million, which was recorded US\$ 43 million in fiscal 2007-08.

The annual per capita drug consumption in Bangladesh is one of the lowest in the world. However, the industry has been a key contributor to the Bangladesh economy since independence. With the development of healthcare infrastructure and increase of health awareness and the purchasing capacity of people, this industry is expected to grow at a higher rate in future.

2.2.2 COMPETITOR ANALYSIS

The country has a large generic market, and large companies are beginning to have success overseas. However, despite the country possessing huge manufacturing capabilities, the complete lack of R&D in domestic companies could cause the market to stagnate.

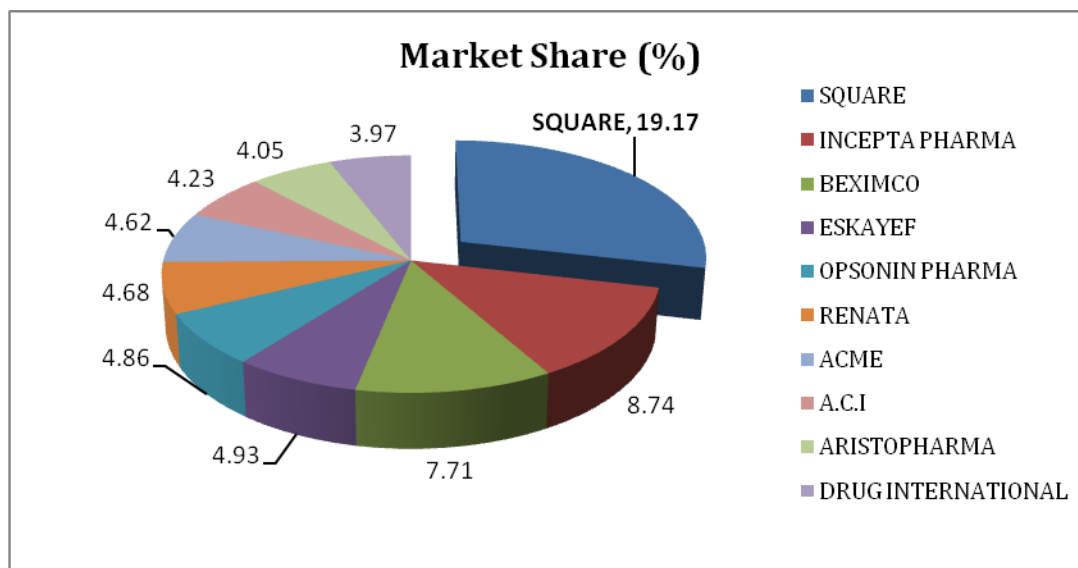
As presented in the **Table 7:** value wise SPL is the leader company among all the manufacturers followed by Incepta Pharma and Beximco. Though the firm is growing at a relatively low rate than the other top companies. Again though the overall scenario is showing Incepta and Beximco as closest competitors but value wise there is a huge gap. Again SPL is one of the oldest companies in pharmaceutical market, so growth rate is relatively low for the company than others. And also for different products under different classes, SPL needs to compete vigorously with different companies.

There are several products of different companies in the market and brands of SPL are well accepted. Top 20 products represent 14% of total market and among them there are nine products of SPL and also top ten product list has six names of SPL brands on it. Top ten brands of Bangladesh pharmaceutical industry are as following,

Table 8: Bangladesh's Top Ten Products (June, 2010)

RANK	PRODUCT	VALUE (Cr. Taka)	Share (%)	Growth (%)
1	Seclo (SQA)	89.69	1.49	20.75
2	Losectil (ESF)	71.50	1.19	84.88
3	Neotack (SQA)	51.76	0.86	2.52
4	Neoceptin R (BXM)	50.94	0.84	-9.94
5	Pantonix (IAP)	47.43	0.79	20.90
6	Napa (BXM)	47.11	0.78	-1.41
7	Cef-3 (SQA)	43.75	0.73	9.50
8	Ciprocin (SQA)	43.31	0.72	-9.83
9	Zimax (SQA)	36.92	0.61	26.38
10	Lebac (SQA)	31.65	0.52	7.34

According to market share percentage, SPL is also the leader by a high margin. The graphical representation of SPL's position in market and also description of some of SPL's closest competitors is as showed on the next page,



Graph A2: Market Share of Bangladesh's Top Ten Pharmaceutical Companies

Beximco Pharmaceuticals Ltd

Beximco Pharmaceuticals Ltd (BPL) is a leading manufacturer of pharmaceutical formulations and Active Pharmaceutical Ingredients (APIs) in Bangladesh. Beximco Pharma started operations in 1980 and now supplies more than 10% of country's total medicinal needs. The company is the largest exporter of pharmaceuticals from Bangladesh and the only company to receive National Export Trophy (Gold), the highest national accolade for export, for record three times. BPL has a global footprint in more than 45 countries across four continents and currently in the process of entering the emerging markets of CIS with increasing focus on regulated markets like EU and USA. The company is consistently building upon its portfolio and currently producing more than 400 products in different dosage forms covering broader therapeutic categories which include antibiotics, antihypertensives, antidiabetics, antiretrovirals, anti asthma inhalers etc, among many others.

Incepta Pharmaceuticals Limited

Incepta Pharmaceuticals was established in 1999 and produced its first product, ranitidine, in December of that year. Incepta also conducts research and development on advanced dosage forms for various drugs and devices including poorly-soluble drugs, dry powder inhalers, coated pellets, modified-release products, and taste-masked preparations. The company sells its products in Bangladesh and plans to begin exporting to both developed and developing countries around the world.

Eskayef Bangladesh Limited

Eskayef Bangladesh Limited, the world-class healthcare solution provider, is one of the leading and fastest growing pharmaceutical companies of Bangladesh. Eskayef is growing more global since 2005 and exporting bulk pellets and finished products in Asia, Africa, and Central America and also in the process of exporting in the European countries. Eskayef Bangladesh Ltd. has started supplying medicines in 16 countries like Germany, UAE, Nepal, Bhutan, Sri Lanka, Myanmar, Vietnam, Ghana, Iraq, Indonesia, Kenya, Guatemala, Belize, Yemen, Macau and Somalia. They are the sole agent in Bangladesh for marketing the ophthalmic products of Allergan Pharmaceuticals Ltd., Ireland in Bangladesh.

The analysis part in this report is divided into three parts and relevant recommendation is incorporated in each part separately in respect of need. Before entering in to main analysis part there are some important terms need to be defined for better understanding of the report. Definitions of few important terms are as following,

■ **Therapeutic Class:**

Therapeutic classes are drugs grouped together by similarities for the disease states they treat or by the effect they can produce in the human body. Therapeutic subclasses further categorize drugs to a specific therapeutic condition in smaller groups. Till now classes are divided to four levels. These levels are,

1. **Level 1:** Broad groups of drugs treating a particular body area.
2. **Level 2:** Previous each is divided into broad group of drugs of similar type.
3. **Level 3:** More specific drug types.
4. **Level 4:** Separates the specific drug types by particular combination of treatment form, i.e. Oral.

For this report the 3rd level therapeutic class is used for analysis.

■ **Moving Annual Total:**

Here for analysis all the values for analysis on are calculated as moving annual total and collected from the IMS software. It is the figure which expresses the financial or quantitative value of a variable in a period of twelve months. Each month the figure for the new month is added to the moving annual total (MAT), while at the same time the figure for the first month out of the formerly twelve is subtracted.

■ **Generic drugs / Molecules:**

A molecule or generic drug (generic drugs, short: generics) is a drug which is produced and distributed without patent protection. The generic drug may still have a patent on the formulation but not on the active ingredient. A generic must contain the same active ingredients as the original formulation.

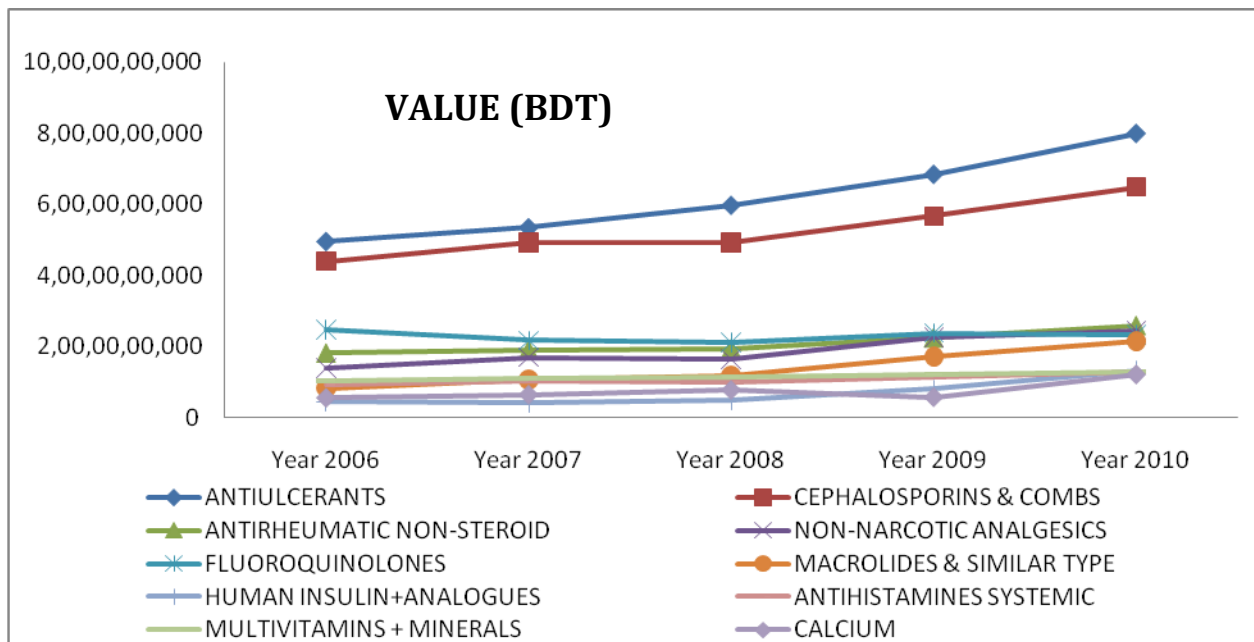
For preparing this report top ten therapeutic classes (value wise) was considered for analysis, though they have no influence on each other performance. Though the initial analysis was started with these top ten classes but thereafter, with the advice of the onsite supervisor, the class HUMAN INSULIN+ANALOGUES was omitted from the analysis as it is not as much important in context of SPL business. Names of the top ten therapeutic classes and there indication are as following,

Table 9: Top Ten Therapeutic Classes

RANK	THERAPEUTIC CLASS	INDICATION
1	ANTIULCERANT	Gastric Ulcer, GERD
2	CEPHALOSPORINS & COMBS	Prophylaxis and treatment of infections caused by bacteria.
3	ANTIRHEUMATIC NON-STEROID	Pain Reliever, Joint Pain, Rheumatic Pain
4	NON-NARCOTIC ANALGESICS	Pain Reliever, Fever, Headache, Post Operative pain, Dental pain etc.
5	FLUOROQUINOLONES	Lower respiratory tract infections, Influenza fever etc
6	MACROLIDES & SIMILAR TYPE	Respiratory Tract Infection, Skin & soft tissue infection and other infections.
7	HUMAN INSULIN+ANALOGUES	Diabetes
8	ANTIHISTAMINES SYSTEMIC	Allergic reactions, Sedatives
9	MULTIVITAMINS + MINERALS	Prevent and treat nutritional vitamin and mineral deficiencies
10	CALCIUM	Osteoporesis, Ricket, Parathyroid

3.1 ANALYSIS ON IMS DATA

On basis of trend analysis base on year 2006-2010 of top ten therapeutic classes (value Base), the rise and fall of different classes can be seen and from that decisions can be drawn from the in front scenario.

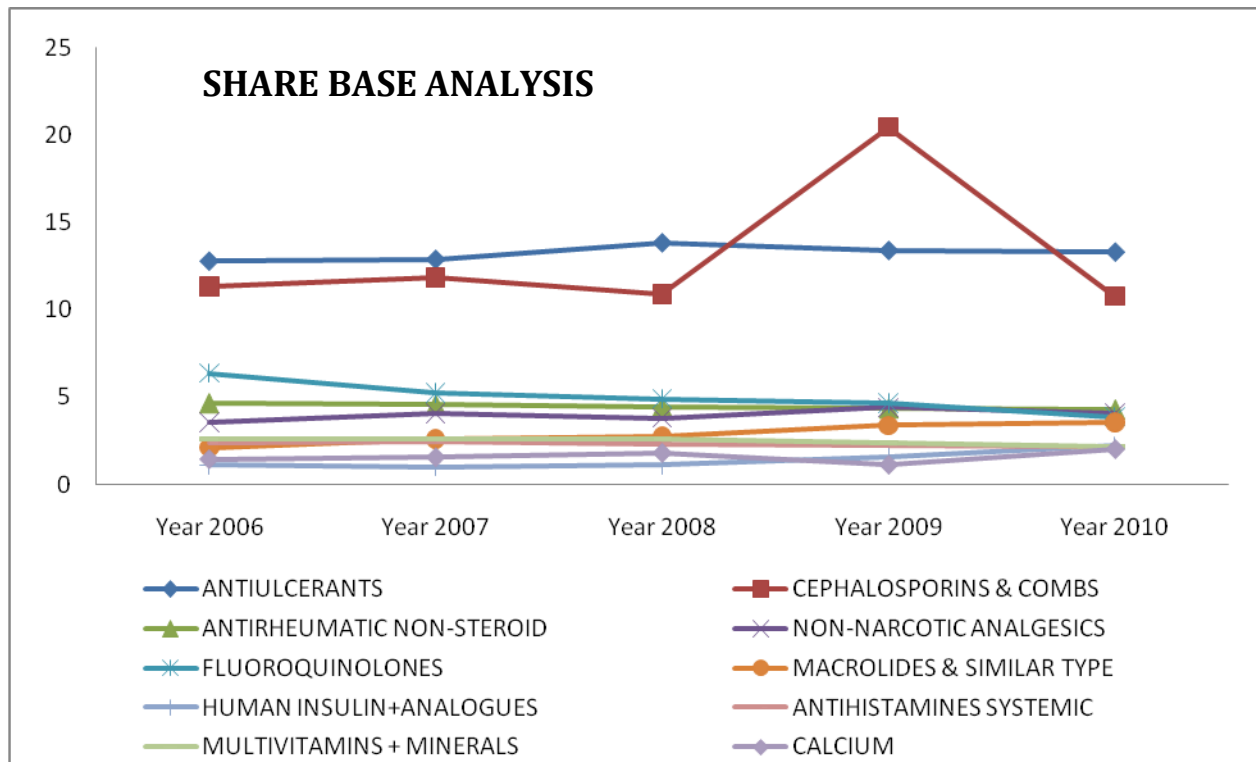


Graph 1.1

From **Graph 1.1: VALUE (BDT)** the upward rising trend of two therapeutic classes, ANTIULCERANT and CEPHALOSPORINS & COMBS, is very prominent. Value wise these two are way ahead then other classes' performance in the Bangladesh market. Though Cephalosporins & Combs had a drop in the year 2008, Antiulcerant had constant rise throughout these five years. Among other eight classes, "Macrolides & Similar Type", "Antirheumatic Non-Steroid", "Human Insulin+ Analogues" has shown upward trend after the year 2008, whereas, the classes "Fluoroquinolones" and "Non-Narcotic Analgesics" sometimes had good time and sometimes bad. Calcium had a negative growth after 2008 but then it came back with a growth over 100 percent.

3.1.1 ANTIULCERANT

This class is the market leader in the Bangladesh pharmaceutical market throughout these five years of analysis. It has managed to capture the most value out of the market then the other classes which has led to their hold on highest market share.

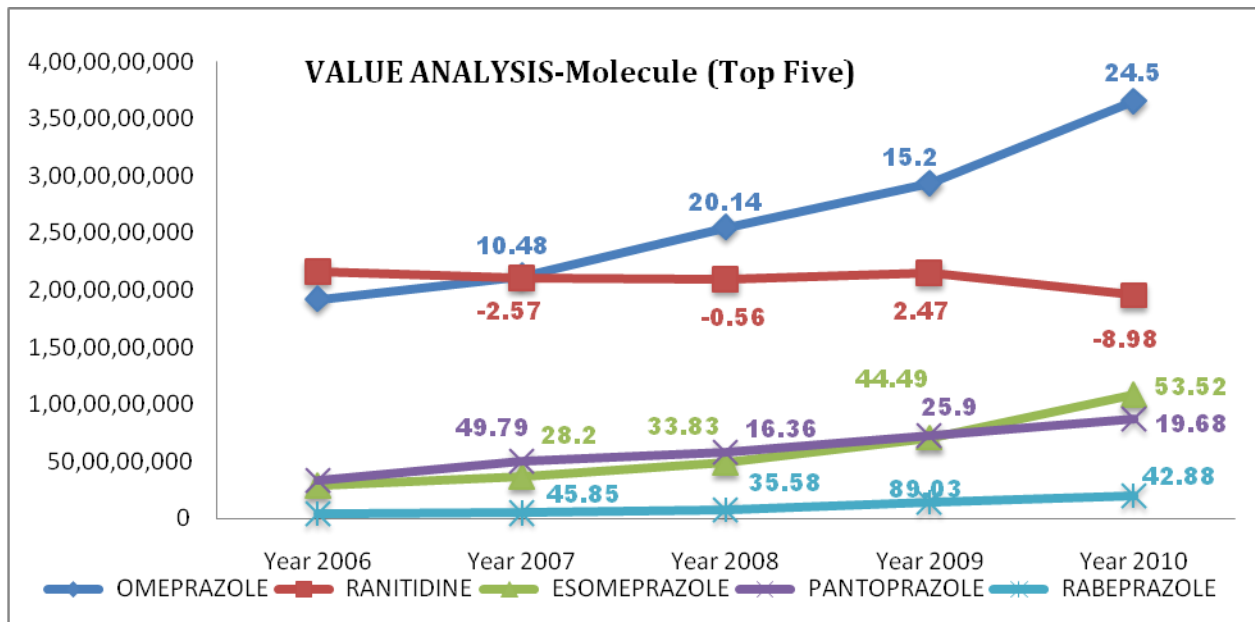


Graph 1.2

Though in the year 2009 Cephalosporins & Combs outweigh this class in terms of market share (**Graph 1.2: Share base analysis**) but could not manage to retain this leadership due to its negative growth. In the mean time the class Antiulcerant grew with an almost steady rate. (**Graph: 1.1**)

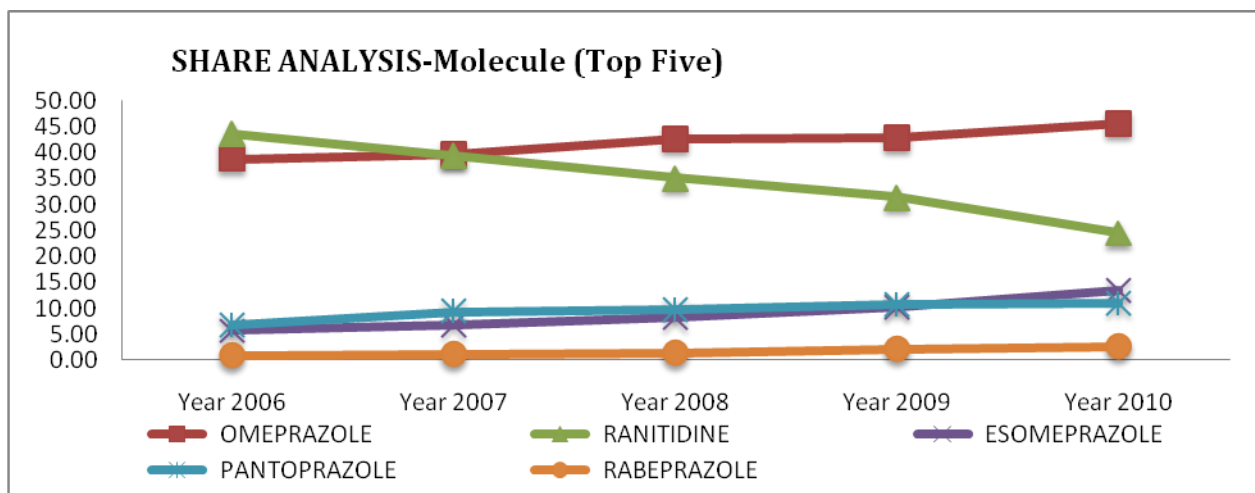
From the Molecule wise (Top Five) analysis, information can be got about different molecules which are doing well in the market with their capability of healing corresponding diseases. Among all the molecules top four molecules have a value over BDT 500 million almost for last four years in this class (**Graph 1.3.1**). But the noticeable fact is that the top two molecules left

other molecules from the very first with huge difference. “Omeprazole” has the highest value of BDT 3500 million at the present year of 2010.



Graph 1.3.1

In the year of 2006, the molecule “Ranitidine” had higher value than “Omeprazole” but generic shifting was evident in the later years when “Omeprazole” showed a rising trend on the basis of value. The second molecule that has shown a rising slope in these recent years is “Esomeprazole”.



Graph 1.3.2

Also Growth wise this molecule has shown promise in recent years which indicate another possible generic shifting form “Omeprazole” to “Esomeprazole”. Other molecules which are growing upward are “Lansoprazole” and “Famotidine”. “Misoprostol” also is growing in this year of 2010 and has a growth more than “Esomeprazole” but it lacks consistency and not included in the top five molecule list. Due to this growth, market share of Esomeprazole is also increasing and soon it might cross “Ranitidine”. Another molecule “Pantoprazole” which is at fourth position value wise, have a fluctuating positive growth. That is the reason that it is lagging behind and others are taking its position.

RECOMMENDATION: From overall analysis of this “ANTIULCERANT” therapeutic class, it is prominent that there are two major generic shifting happened during these five years. From “Ranitidine” the market shifted to “Omeprazole”, and now market is again shifting to “Esomeprazole”. Other molecules do not have that much prominence in the market. For the first two molecules, SPL has a very strong presence in the market with its brands. They should focus on now to their brand with “Esomeprazole” for future benefits.

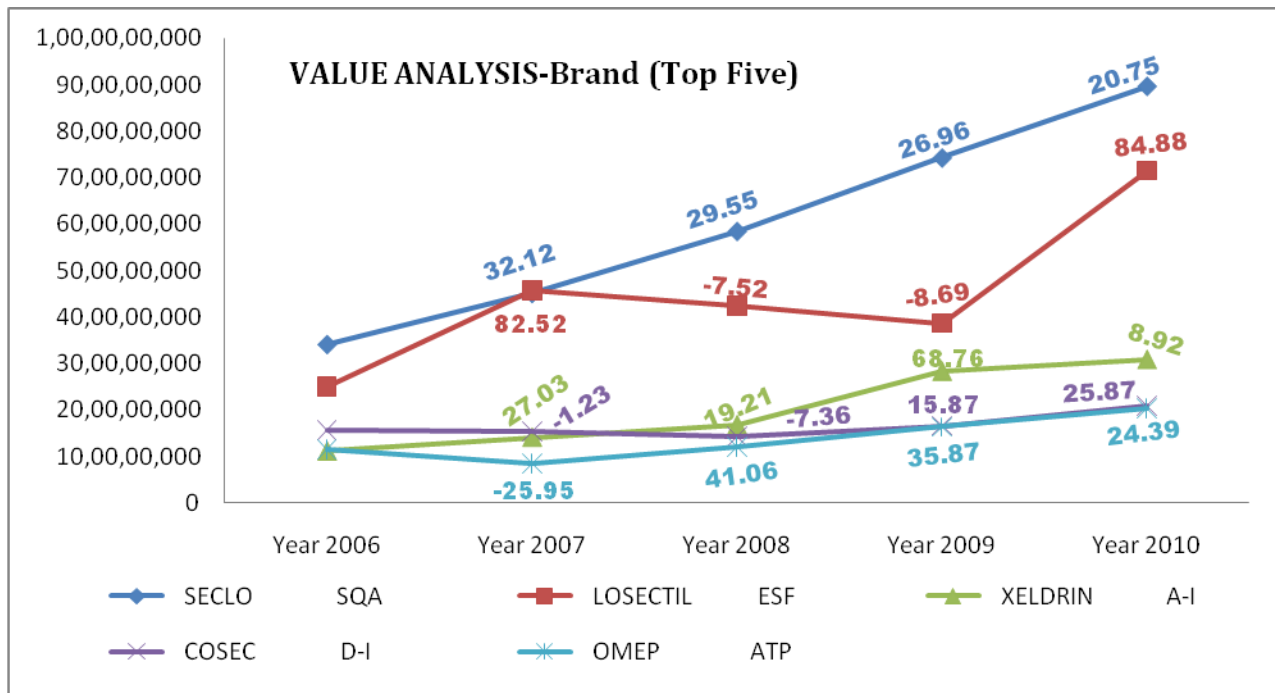
Brand Wise Analysis (Graphs for brand wise share analysis are in [Appendix-A](#))

The Brand wise analysis on the basis of molecule reveals information about the product and manufacturers’ performance. While doing the analysis with top five brands in the market, focus was mainly on three molecules under Antiulcerant therapeutic class; “Omeprazole”- the present market leader on the basis of value and market share, “Ranitidine”- the previous market leader, “Esomeprazole”- the new emerging in market, toward which the shifting is happening. Square Pharmaceuticals Ltd is one key player in this Antiulcerant class. It is competing with other companies with its several brands under every molecule of this class. After this analysis it would be possible to say how well the performance of the companies are including Square Pharmaceutical Ltd (SPL) and how responsive are these companies toward generic shifting.

Omeprazole:

Under this molecule, SPL is at top of the ladder with its well known brand “Seclo” value wise. “Losectil” (ESF) (**List of all manufacturers and their codes is in [Appendix-B](#)**) is the second most favored brand in the market, which was at the same point with “Seclo” in the year 2007.

But after that, though both have decreasing trend but “Losectil” had negative growth and lagged behind “Seclo” (Graph 1.4). But after 2009, “Losectil” is again increasing their market share whereas market share of “Seclo” is decreasing (Graph s1.4: Share Base Analysis). The third preferred brand is “Xeldrin” (A-I) which had a peak in growth in 2009 but in this year again declined. Other brands that are showing an upward trend are “Cosec” (D-I) and “OMEP” (ATP).



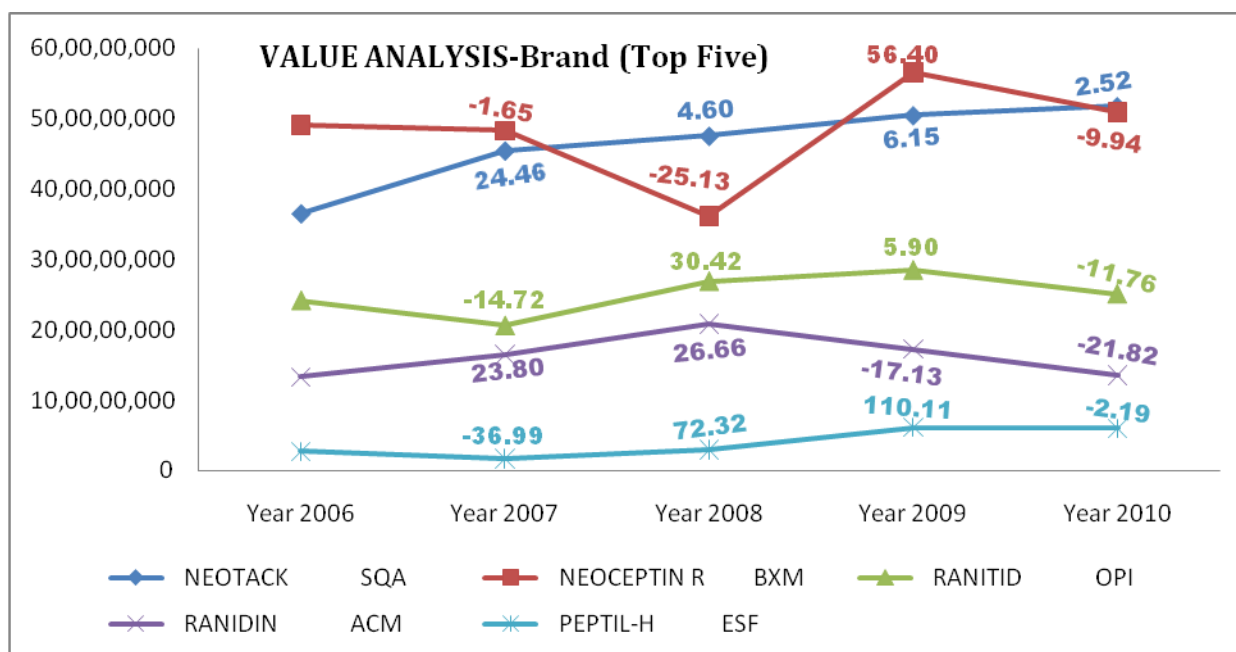
Graph 1.4

RECOMMENDATION: “Seclo” has managed to maintain growth rate over 20 percent throughout this analysis period but the matter of concern is the decreasing rate of growth as growth rate of closest competitor is increasing and its gradually coming closer to “Seclo”. SPL needs to develop plan to increase the growth, again if any brand remain in the market for a long time it starts to grow less amount than previous, so alternatives should be in plan to retain market share.

Ranitidine:

Every brand using this molecule is showing a decreasing trend in the analysis which is the reflection of the fact that market has shifted from “Ranitidine” to another molecule (Graph 1.5).

Only “Neotack” (SQA) is still managing to get a positive slope. In terms of market share (**Graph s1.5: Share base Analysis**) there was a constant battle between “Neotack” (SQA) and “Neoceptin R” (BXM) and at present both are sharing the same position. Growth wise no brand is getting the benefit as the market has shifted toward another molecule, only “Ranison” (JAY) is having a positive growth.

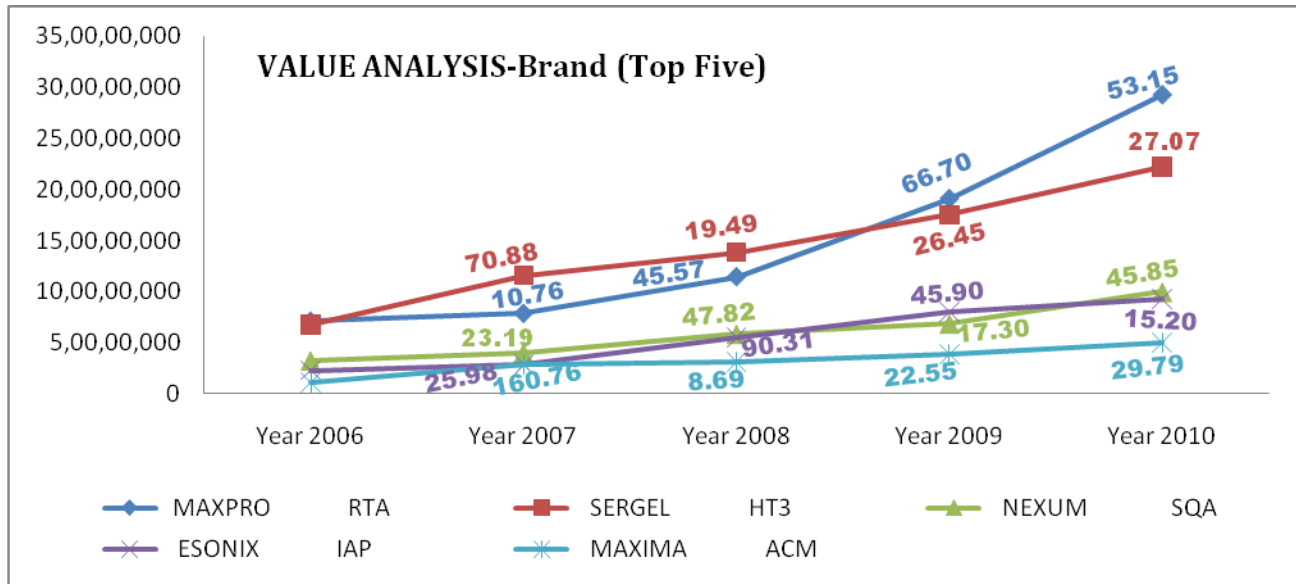


Graph 1.5

RECOMMENDATION: SPL is at the top position but growth rate is very low. Again the molecule itself is facing a downturn, so it would be more intelligent to plan for the future strategies with other molecules along side with the plans to maintain the lead.

 **Esomeprazole:**

The market is shifting to this molecule as evident in the trend analysis (**Graph 1.3.1**). It is thus should be the prime point for the companies to concentrate. At present, graphical representation shows the upward trend for all the top five brands. But value wise, “Maxpro” (RTA) and “Sergel” (HT3) have the top positions.



Graph 1.6

Earlier “Sergel” was ahead of “Maxpro”, but in between 2008 and 2009, the later on took the lead. The next one near to these two brands is “Nexum” (SQA) but value wise this brand is way behind from the above two. Though it has an upward trend, but it has value of only BDT 10 million (approx.) in 2010 (**Graph 1.6**)

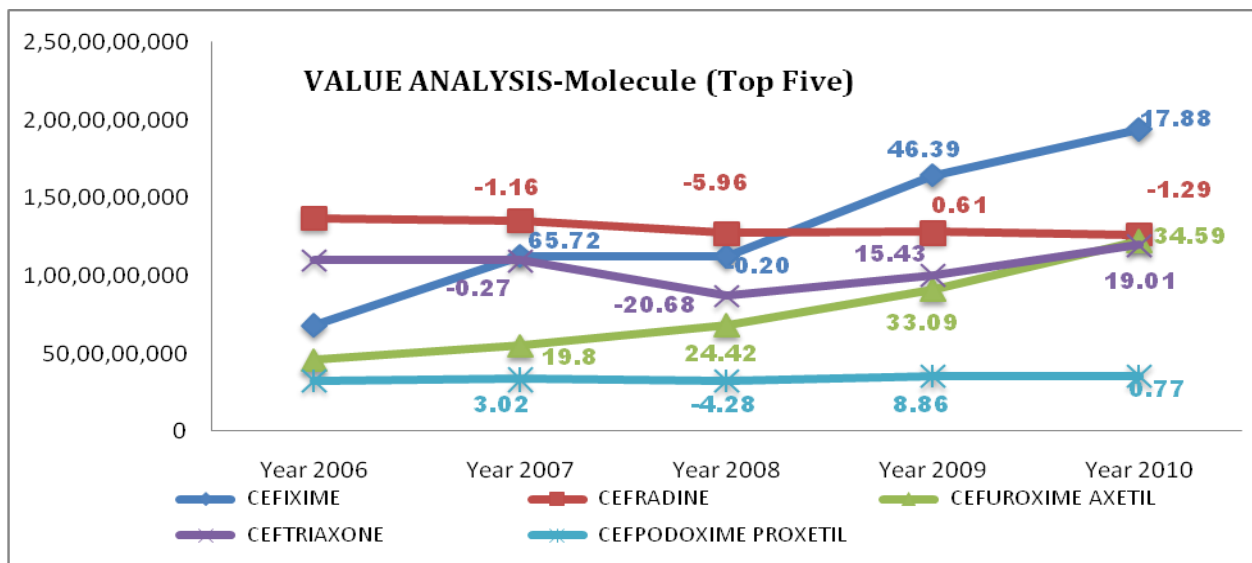
“Maxpro” captured portion of market share of “Sergel” and that is the reason that the graph is showing downward trend of “Sergel”. “Nexum” has lost some of its market share to “Esonix” (IAP) in 2009 and now “Nexum” is at the same position with “Esonix” (**Graph s1.6: Share Base Analysis**).

RECOMMENDATION: SPL should focus on now to their brand with “Esomeprazole” for future benefits. The upward trend and high growth percentage in recent year, shows that they are in that direction and if they can continue with focus, SPL will again outweigh other competitors and also be the leader. SPL should also critically examine the performance of the leader companies **Renata** and **Healthcare Pharma** to follow the league in a right manner.

3.1.2 CEPHALOSPORINS & COMBS

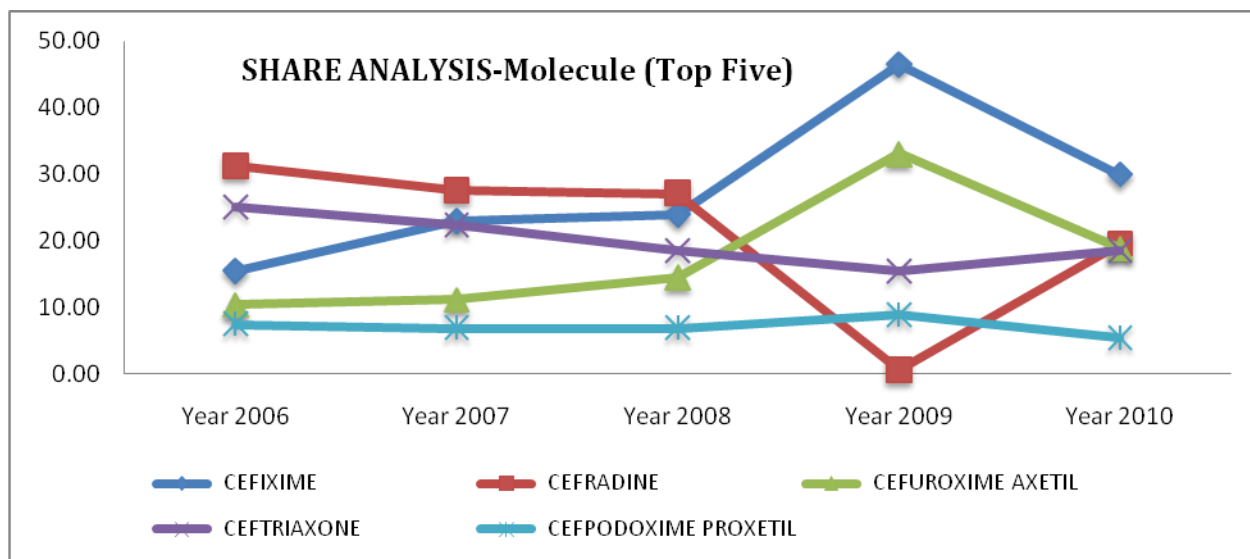
This class is in the second position in the market in terms of value (**Graph 1.1: VALUE BDT**) and share base analysis and throughout the time period it remained head to head with the leader. It has value of Taka six billion in this present year. In the year 2009 Cephalosporins & Combs outweigh Antiulcerant in terms of market share and its share increased to 20.44 percent (**Graph 1.2: Share base analysis**). But it could not manage to retain this leadership due to its reduced growth.

From the Molecule wise (Top Five) analysis, information can be got about different molecules which are doing well in the market with their capability of healing corresponding diseases in this class. Among all the molecules top four molecules have a value over BDT 1 Billion in 2010 in this class and each of these are competing adjacently in the market. Throughout these five years, different molecule was at the top at different time. In 2006, “Cefradine” was leading the market but it faced negative growth almost throughout this period as generic shifting was evident in the market. Even “Ceftriaxone” which was second most considered could not grab the market, instead the shifting happened toward “Cefixime”. Though the market is still in favor of the molecule with blue graph line (**Graph 2.1.1: VALUE ANALYSIS- Molecule**), but it is also evident that it is not having steady growth in the market.



Graph 2.1.1

“Ceftriaxone” is again growing positively in recent years and has reached to the position with “Cefradine” in 2010. But the most impressive scenario is the rapid growth of “Cefuroxime Axetil” which is again signaling a possible generic shifting event. Though from the share analysis graph (**Graph: 2.1.2**) in the year 2010 top four molecules are positioned very close and it’s difficult to explain the future possibilities. It is seen that increased share of “Cefradine” has result in decrease in market share of “Cefixime” and “Cefuroxime Axetil”.



Graph 2.1.2

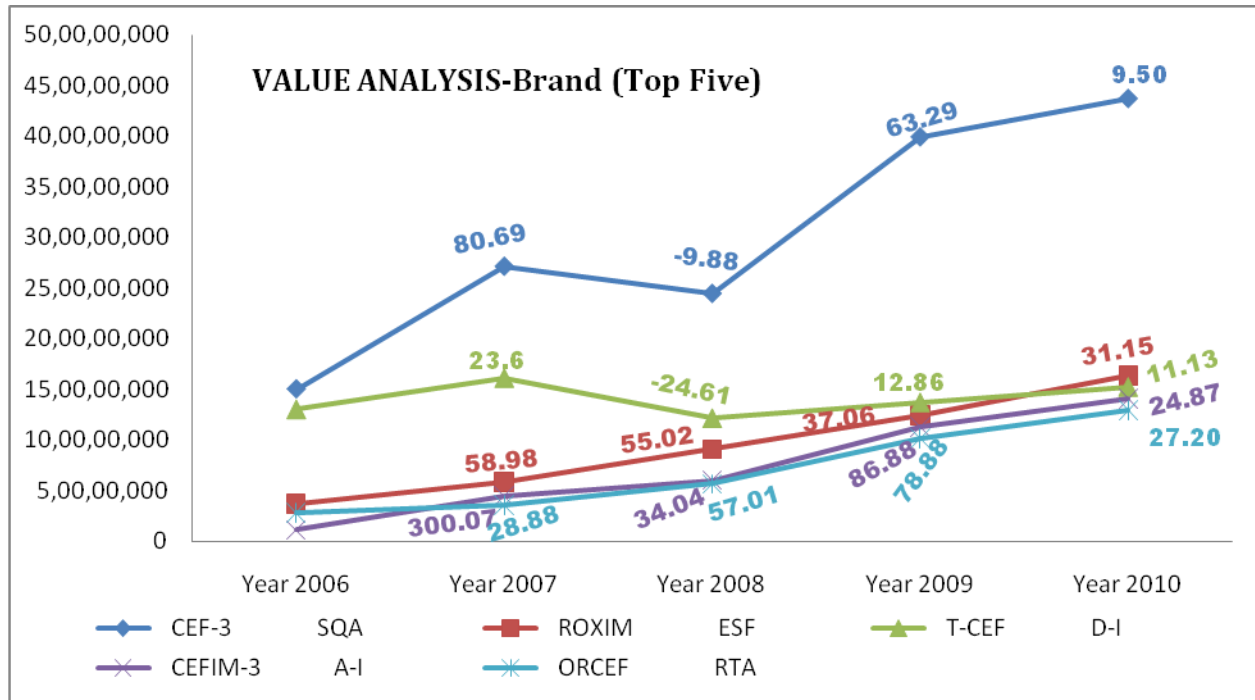
RECOMMENDATION: “Cefixime” and “Cefuroxime Axetil” is the most promising molecule in the market. Again “Ceftriaxone” is also having a positive trend, so companies should focus more on these ones and produce medicines based on these.

Brand Wise Analysis

From the Brand wise analysis on the basis of molecule, reveals information about the product and manufacturers’ performance. While doing the analysis with top five brands in the market, focus was mainly on three molecules under Cephalosporin & Combs therapeutic class; “Cefixime”- the present market leader on the basis of value and market share, “Cefuroxime Axetil”- the new emergence in market, the molecule that is having the most growth and “Ceftriaxone”- the molecule that recently has grown positively and now is at the same position

with “Cefradine” and “Cefuroxime Axetil”. After this analysis it would be possible to say how well the performance of the companies are including Square Pharmaceutical Ltd (SPL) and how responsive are these companies toward generic shifting.

Cefixime:



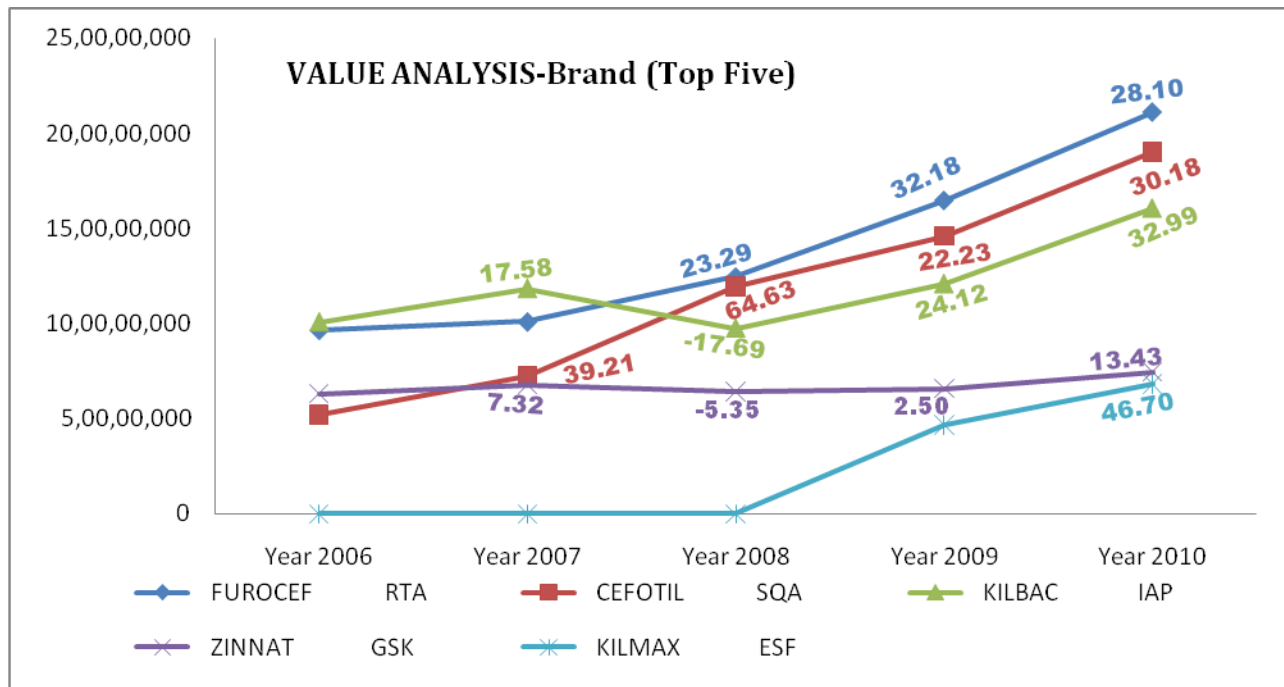
Graph 2.2

Under this molecule, SPL is at top of the ladder with huge difference with its well known brand “Cef-3” value wise though it does not have steady growth. Other brands are almost in the same position in 2010. Among them “Roxim” (ESF) had amazing growth in this period of time. Others also had positive growth except for “T-Cef” (D-I), which is facing decrease in value in recent days.

RECOMMENDATION: “Cef-3” is a brand of very high value in the market compare to its other competitors but the matter of concern is the growth rate which is decreasing with time. All other four brands are growing at higher rate than this SPL brand though they are all growing at a decreasing rate in terms of value. To maintain the lead the company needs to be focused and manage a steady growth for the brand.

Cefuroxime Axetil:

The market is shifting to this molecule as evident in the trend analysis (**Molecule wise, Graph 2.1.1**). It is thus should be the prime point for the companies to concentrate. At present, graphical representation shows the upward trend for all the top five brands (**Graph 2.4**).



Graph 2.3

Frequent fluctuations can be seen in trend throughout this period. Till 2007 “Kilbac” (IAP) was in the leading position followed by “Furocef” (RTA) and “Cefotil” (SQA). After that period the product from SPL grew with a high percentage and also “Kilbac” (IAP) had negative growth. Thus the total picture of market changed and “Furocef” (RTA) became the leader followed by “Cefotil” (SQA). “Kilbac” (IAP) is now in third position with increasing positive growth.

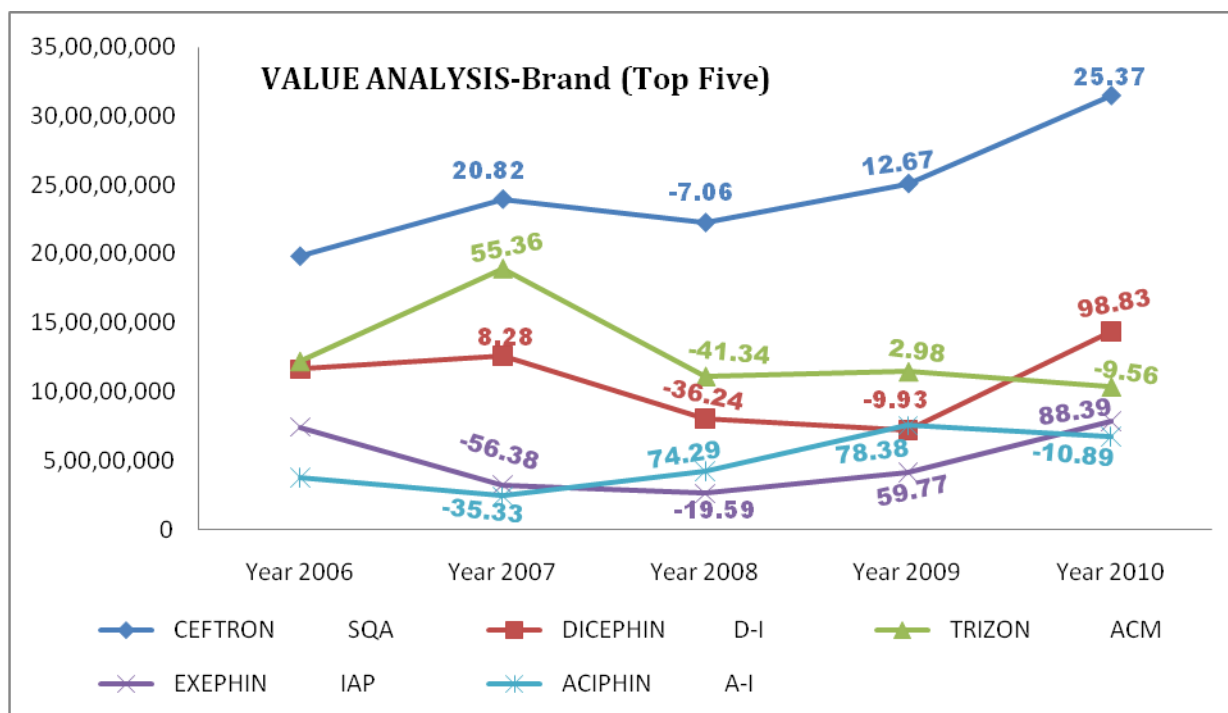
“Cefotil” captured portion of market share of “Zinnat” (GSK) and the later is now constantly going downward (**Graph s2.3: Share analysis-Brand wise**).

RECOMMENDATION: SPL needs to improve and maintain a steady growth of its brand “Cefotil” to improve its position. “Kilbac” (IAP) is another brand that is growing at a higher rate

than “Cefotil” and has a chance to outweigh position of the latter and also the top one. SPL needs to find out the accurate path and work on it to capture the market share and become the leader.

Ceftriaxone:

This molecule has recently grown positively and now is at the same position with “Cefradine” and “Cefuroxime Axetil”. SPL with its brand “Ceftron” throughout maintained its lead value wise; none of the competitors could touch it at any point.



Graph 2.4

In between 2009 and 2010 “Dicephin” (D-I) has crossed the brand “Trizon” (ACM) securing the highest growth for the year among all the top five brands. “Exephin” (IAP) also has a very high percentage of growth in the year 2010. ‘Trizon’ (ACM) and ‘Aciphin’ (A-I) lost their market share in recent years. “Ceftron” (SQA) and “Dicephin” (D-I) have revived again after a decrease in share. (Graph s2.4: Share analysis-Brand wise).

RECOMMENDATION: Under this molecule SPL brand “Ceftron” has a very high value and increasing positive growth rate. The only point of concern is the high growth rate of “Dicephin”

(D-I) and “Exephin” (IAP), as is they can maintain their growth it can be alarming to the position of SPL under this molecule. So SPL needs to keep an eye on their movement and maintain its positive growth to retain its top position.

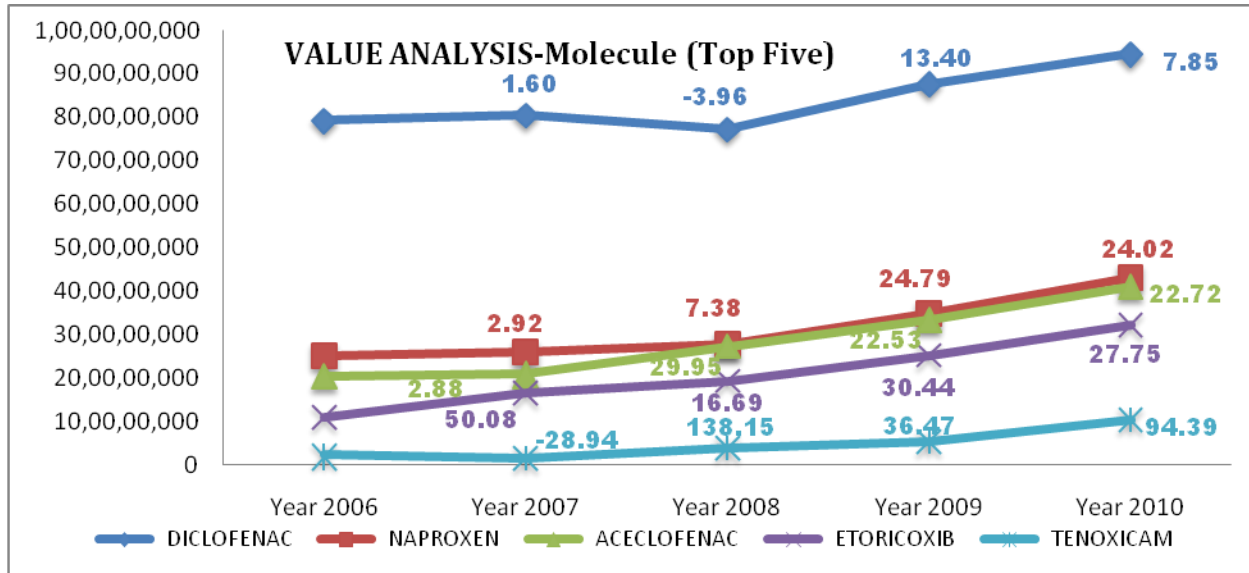
From overall analysis of this “CEPHALOSPORINS & COMBS” therapeutic class, one generic shifting happened during the initial time of analysis period and present scenario is indicating another possible one. Among the top four molecules SPL has been able to maintain significant position throughout. SPL successfully cope up with the initial generic shifting which is reflected in the fact that it is the leader in both previous and present most preferred molecule. But SPL now need to focus on its brand with the molecule “Cefuroxime Axetil”. Companies also need to understand the trend of the other molecules if there is any other indication of different generic shifting.

3.1.3 ANTIRHEUMATIC NON-STEROID

This class is in the third position in the market in terms of value base analysis in present year though it is not near to the top two classes. It has value in between taka 2-3 billion in this present year (**Graph 1.1: VALUE BDT**). In the year 2009, the class’s growth percentage increased by a high margin and as a result it has outweigh “Non-Narcotic Analgesics” and “Fluroquinolones” in terms of market share and value (**Graph 1.2: Share base analysis**). But the lead is only by a minimal level.

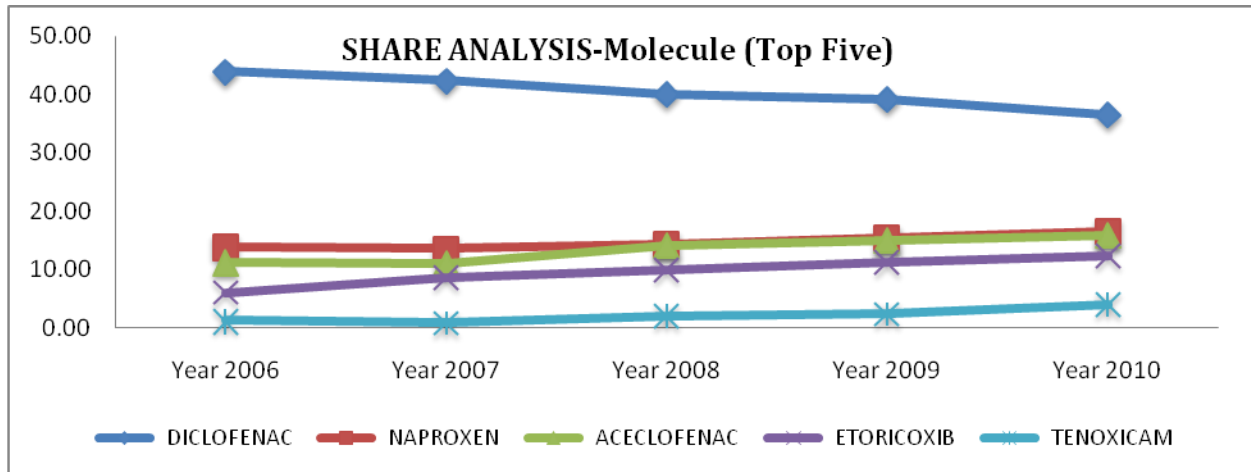
Among all the molecules “Diclofenac” is the most preferred molecule without any competition. Throughout these five years, it was far beyond the reach of other molecules in terms of value in this class. From 2008, “Aceclofenac” is going head to head with “Naproxen” and in coming years it may take a lead. Another important molecule in this class is “Tenoxicam” which has the highest percentage of growth in this present year, which is 94.39%.

Though the market is still in favor of “Diclofenac” (**Graph 3.1.1: VALUE ANALYSIS-Molecule**) and no generic shifting has occurred in recent years, but there are certainly some indication of future generic shifting with growth of the molecules.



Graph 3.1.1

“Diclofenac” is again growing positively in recent years after having a negative growth in the year 2008, though it could not be able to reduce the preference of this molecule. The most impressive scenario is the growth of “Aceclofenac” and its reaching to near point of “Naproxen”. And also huge percentage of growth of “Tenoxicam” has made it possible to be the next preferred molecule in coming years. From the share analysis graph (**Graph 3.1.2**) in the year 2010, it is seen that “Diclofenac” has lost some share and the next three molecules are grabbing almost the same position in the market. Again “Tenoxicam” is gradually reaching to their position and might cross them in future years.



Graph 3.1.2

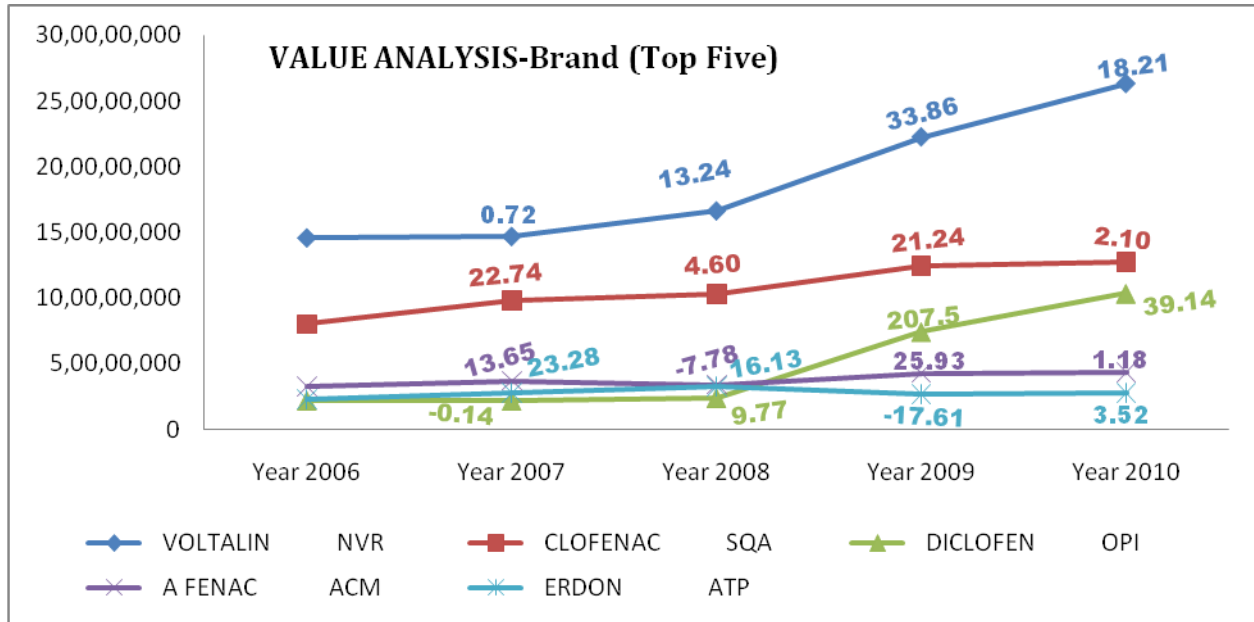
RECOMMENDATION: Still it is not clear that toward which molecule the market is shifting. Companies should keep an eye on the market trend and take strategic steps accordingly.

Brand Wise Analysis

From the Brand wise analysis on the basis of molecule, reveals information about the product and manufacturers’ performance. More than one molecule has potentiality to influence the next generic shifting event, though it might need time and effort as the present most preferred molecule has a significant distant lead in terms of value. After this analysis it would be possible to say how well is the performance of the companies including Square Pharmaceutical Ltd (SPL).

Diclofenac:

Under this molecule, SPL is at second position with “Clofenac” brand with huge difference from the leader “Voltalin” (NVR) value wise and also its growth fluctuates in a very random way. In 2010 it had a very lowest percentage of growth which is 2.10 % and also has a down trend value wise (**Graph 3.2**).



Graph 3.2

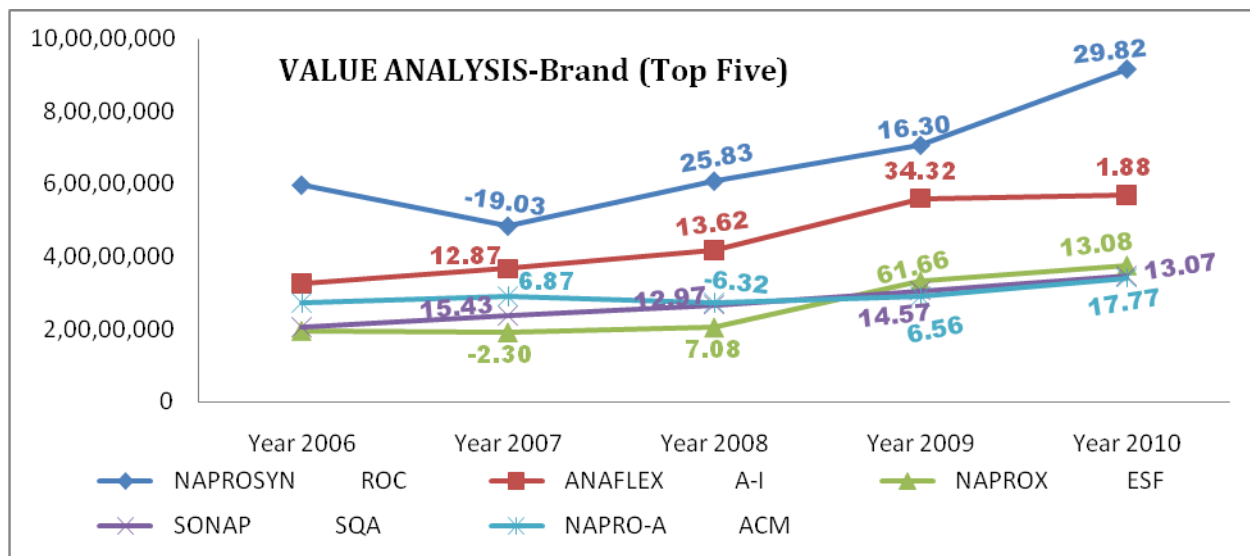
The situation is alarming for SPL as this molecule is the top most preferred molecule in the market and the company should give an effort so that their brand is mostly considered. “Diclofen” (OPI) had a huge breakthrough in the year 2009 with 207.5% of growth and it is gradually reaching to the position of “Clofenac” capturing its market share (**Graph s3.2: Share analysis-Brand wise**).

RECOMMENDATION: “Clofenac” which is the SPL brand, is gradually lagging behind. Though it is still the second most worthy brand in this molecule but in this year its growth rate has decreased significantly. Again the third brand of the list, “Diclofen” (OPI) has a very decent growth rate which is enough to outweigh the performance of “Clofenac” in coming years if it goes like this. So SPL needs to pay attention to this fact and with its marketing effort it should work on increasing the brand’s value and growth rate.

 **Naproxen:**

“Naprosyn” (ROC) is the leader with this molecule in the market followed by “Anaflex” (A-I) though the later is facing downturn in terms of value (**Graph 3.3**). The brand from SPL,

“SONAP” maintained almost a steady positive growth throughout this five year period but was never improved than its position. Earlier “Naprox-A” (ACM) was ahead of it and now “Naprox” (ESF). In terms of market share (**Graph s3.3: Share analysis-Brand wise**), “Naprox” has grabbed the market share of “Sonap” in recent years.

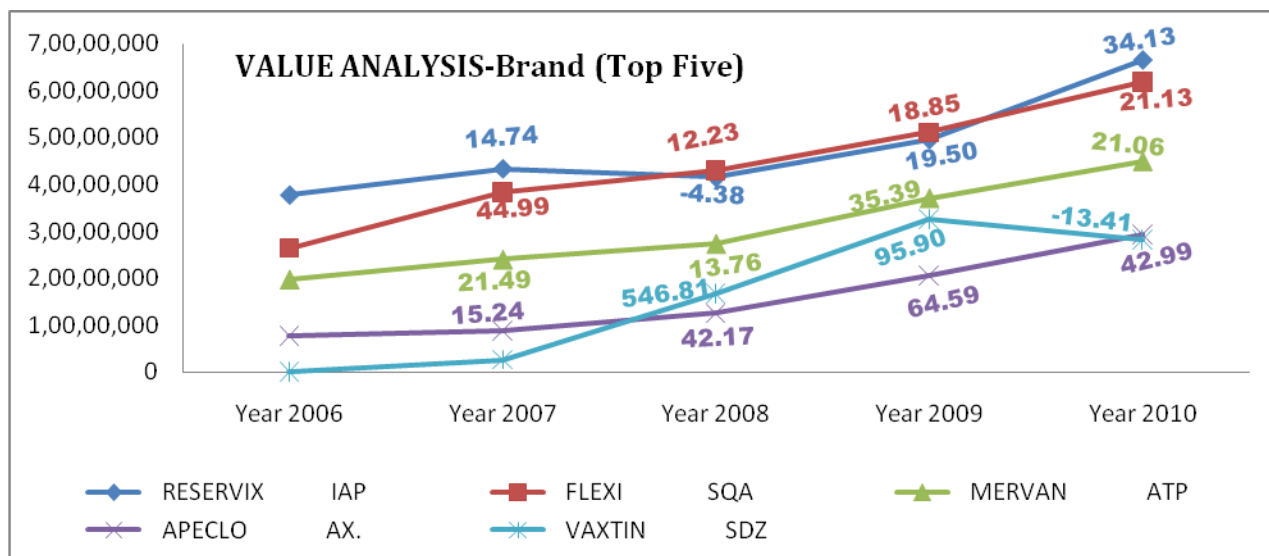


Graph 3.3

RECOMMENDATION: SPL should maintain a steady positive growth for “Sonap” and also need to try to improve the growth rate and improve its performance. It has managed to reach close to “Naprox” (ESF) and if it grows steadily it might outweigh “Anaflex” (A-I).

Aceclofenac:

This molecule with its positive growth soon has touched the position of “Naproxen” and soon is expected to might get close to “Diclofenac”. It is thus should be one of the key areas for the companies to concentrate. Graphical representation shows the trend for all the top five brands under this molecule and three of them have shown downward trend (**Graph 3.4**).



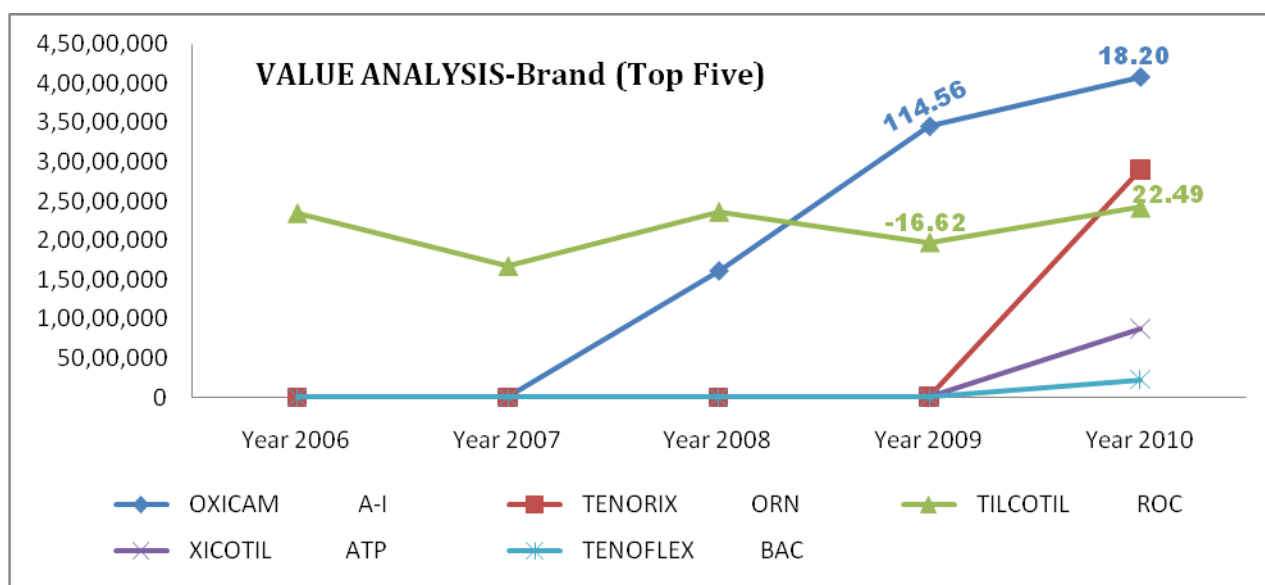
Graph 3.4

Though for of the brands except “Vaxtin” (SDZ) has positive growth and “Reservix” (IAP) and “Flexi” (SQA) is also growing at an increasing rate. After having a huge set back in the year 2008, “Reservix” (IAP) has again revived and regain its top position in recent years. SPL is in the second position with its famous brand “Flexi” having value over BDT 60 million. It is competing very closely with the present leader and at different circumstances both of these brands share the top position (**Graph s3.4: Share analysis-Brand wise**).

RECOMMENDATION: SPL, with its brand “Flexi”, is maintaining a steady healthy growth throughout the years and thus managed to take the lead for some time being. But high growth of “Reservix” (IAP) has again given it a setback. SPL should work forward to increase the brand’s value and also increase the growth rate. Among all the brands only “Flexi” has a positive increasing but steady growth rate. They should maintain the standard they are following to retain present performance and strategies to improve its performance. As it is the next potential molecule for generic shifting event, the company should also plan for future steps to take advantages.

Tenoxicam:

Though after 2008, this molecule had a reduced growth rate but in present year it has secured a huge percentage of growth. Every brand is showing upward trend in the graphical representation and also one noticeable fact is each of the brand except “Tilcotil” (ROC) is a new comer in the industry. “Oxicam” (A-I) and “Tenorix” (ORN) entered late but right after entering they both have outweigh the success of “Tilcotil” in terms of value.



Graph 3.5

The gradual decline in the graph can be seen for “Tilcotil” brand after the year 2007. At first “Oxicam” captured its portion of market share and now “Tenorix” is also increasing its share in the market. (Graph 3.5: Share analysis-Brand wise).

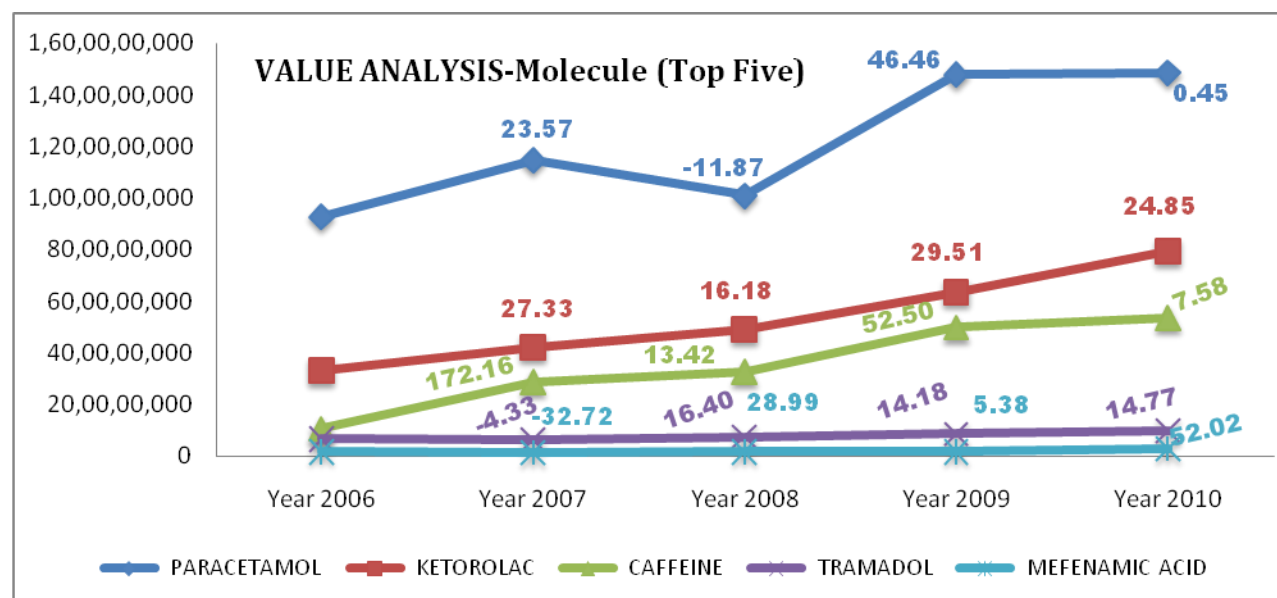
RECOMMENDATION: It is one of the most promising molecules in this class. Many companies have realized the potentiality of this molecule and introduced new brands but SPL has yet to consider that fact. The company also should need to introduce new brands with this molecule and grab the market potentiality.

The performance of SPL in this class is not that outstanding in comparison to other companies. SPL could not grab the top position with its brands under any molecule. Only for “Aceclofenac”

molecule SPL has managed to be in the same position and give a good competition with the leader. But for the molecule with best value in the market “Diclofenac” SPL is in the second position having a huge difference than the first one. To improve the performance in this class overall, the company need to step up and try to figure out the drawbacks. Again the company can consider introducing a brand under “Tenoxicam” molecule.

3.1.4 NON-NARCOTIC ANALGESICS

This class is in the third position in the market in terms of value base analysis in present year though it is not near to the top two classes. It has value approximately BDT 2.5 Billion in this present year (**Graph 1.1: VALUE BDT**). In the year 2008, the class had a negative growth but in only a year the growth increased significantly and it came closer to the classes “Antirheumatic Non-Steroid” and “Fluoroquinolones” in terms of value and market share (**Graph 1.2: Share base analysis**).

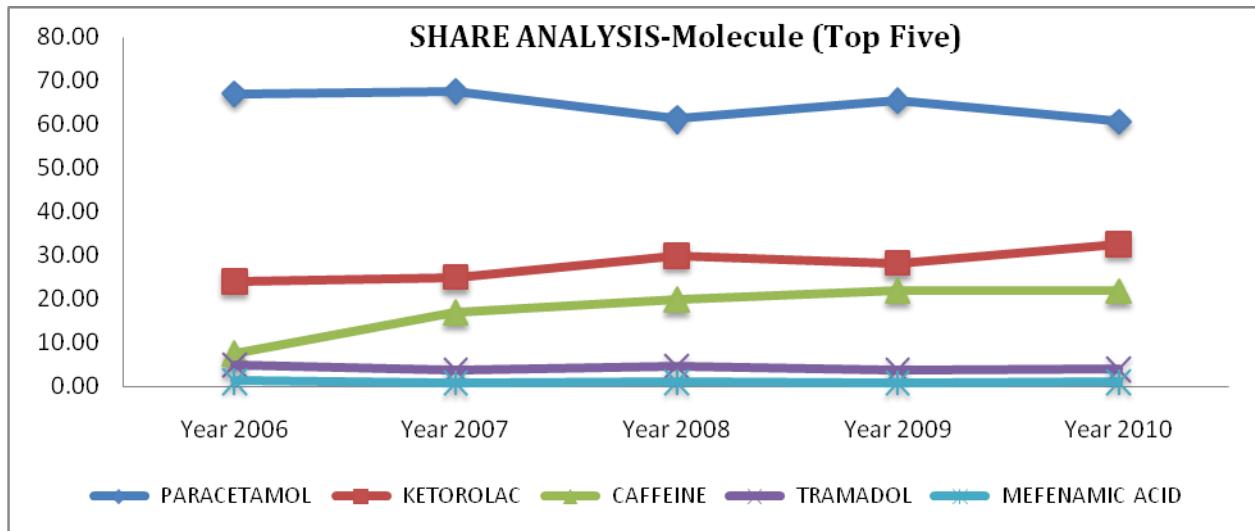


Graph 4.1.1

Among all the molecules “Paracetamol” is the most preferred molecule without any competition. Throughout these five years, it was far beyond the reach of other molecules in terms of value in this class. “Ketorolac” and “Caffeine” are also growing positively but they could not still come close to the performance of “Paracetamol” in terms of value. The other two molecules in this

class from the top five list which are “Tramadol” and “Mefenamic Acid” has a steady proceedings though in 2010, the later one has a huge increase in growth rate.

The market is still in favor of “Paracetamol” (**Graph 4.1.1: VALUE ANALYSIS- Molecule**) though it has a very minimal percentage of growth rate. But still no signs of generic shifting can be seen in the analysis of recent years. “Caffeine” was reaching near to “Ketorolac” but in recent year it again has faced downward trend and growth rate has reduced though it’s still positive.



Graph 4.1.2

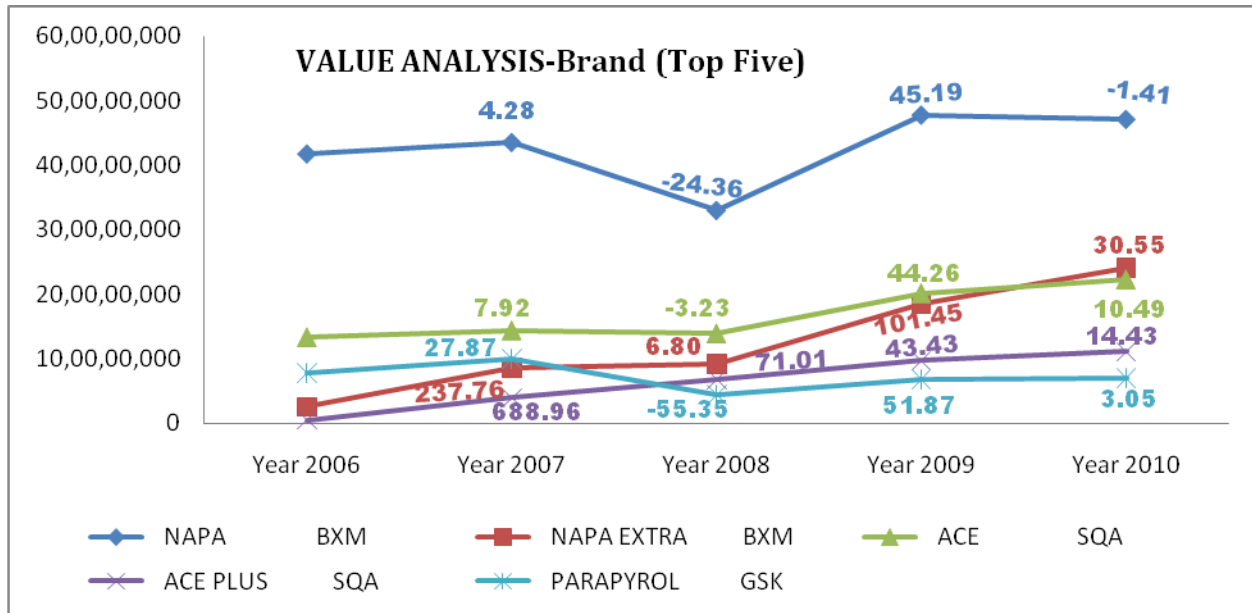
In terms of market share (**Graph 4.1.2: SHARE ANALYSIS- Molecule**), “Paracetamol” is going downward and “Ketorolac” is going upward but the scenario was common throughout the total period of analysis. In 2009, “Caffeine” went close to “Ketorolac” in terms of market share, but in 2010, the gap again has increased.

RECOMMENDATION: Still there is a clear preference for molecule in the market. In these five years no generic shifting event occurred. The companies need to focus on the industry trend to figure out the coming trend. But till now the market is more or less stable.

Brand Wise Analysis

From the Brand wise analysis on the basis of molecule, reveals information about the product and manufacturers' performance. After this analysis it would be possible to say how well is the performance of the companies including Square Pharmaceutical Ltd (SPL).

Paracetamol:



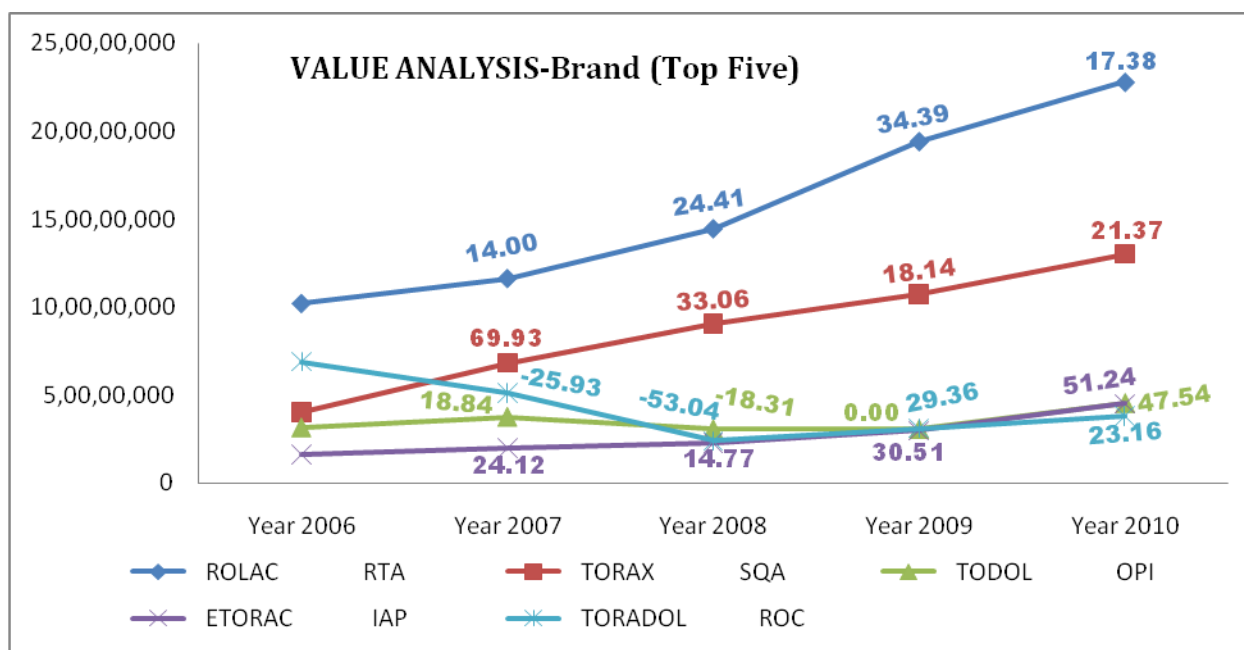
Graph 4.2

Beximco is on top of the ladder in this molecule with its brands “Napa” and “Napa Extra” in terms of value and together they worth around BDT 800 million (**Graph 4.2**). SPL is also in the list of top five with its popular brand “Ace” and “Ace Plus” but it could not reach to the popularity of “Napa” (BXM). In the year 2009, “Napa Extra” (BXM) had a huge percentage of growth and it has outweighed the performance of “Ace” (SQA) in the present year. Though every brand except “Napa” (BXM) is growing positively, but growth rate has been reduced for all other brands. “Parapyrol” (GSK) was at the third place in the year 2006, but the popularity of “Napa Extra” (BXM) and “Ace Plus” (SQA) has decreased its market share (**Graph s4.2: Share analysis-Brand wise**).

RECOMMENDATION: Growth rate for both the brands has decreased but value is still increasing as these are still growing in positive direction. But it was never close to the leader “Napa” (BXM) in terms of value. So from the very initial time it was evident that market has huge preference for “Napa” and still nothing could be done to move that place. SPL needs to figure out what are the drawbacks that are keeping these two brands of the SPL lagging behind.

Ketorolac:

“Torax” (SQA) is in the second position with this molecule in the market following “Rolac” (RTA) though “Torax” is growing at a high rate than “Rolac” in the present year. “Etorac” (IAP) is another brand of which value is increasing at an increasing rate (**Graph 4.3**).



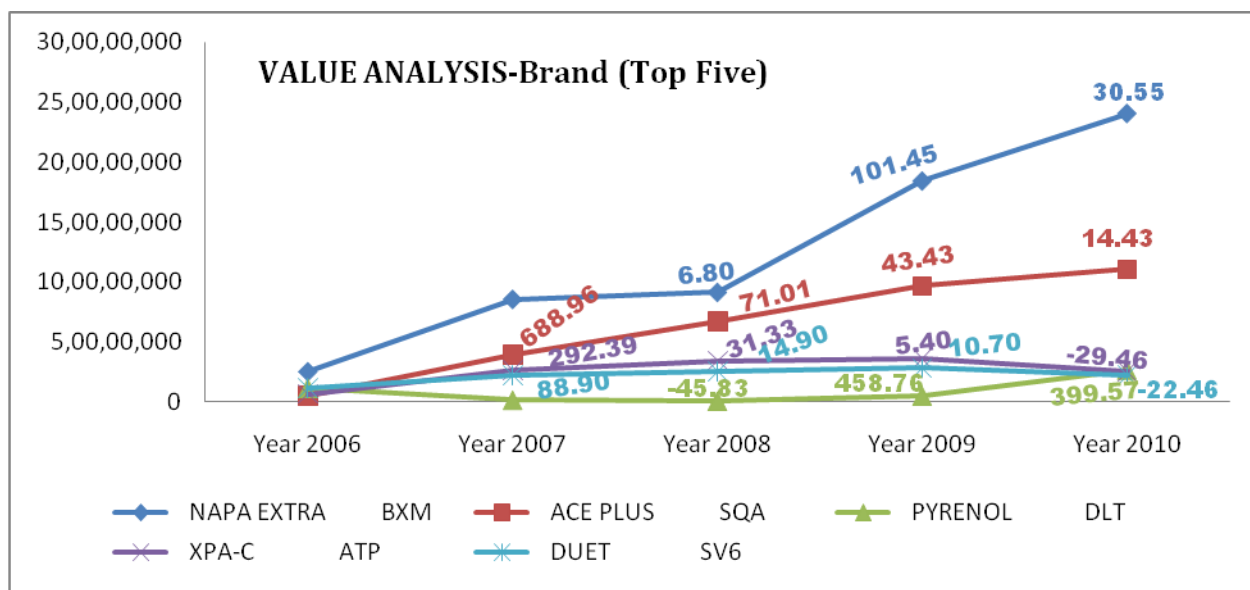
Graph 4.3

“Todol” (OPI) had negative and zero growth for previous two years but in the present year the growth rate has again positively increased. In terms of market share (**Graph s4.3: Share analysis-Brand wise**), share percentage of “Toradol” (ROC) has significantly declined since 2006, and by that time SPL has increased its market share under this molecule with its brand “Torax”.

RECOMMENDATION: “Torax” the brand of SPL has a consistent upward trend throughout this analysis period. In has a positive increasing growth rate, which the company needs to maintain and again it would be much better if it can increase its growth rate to strongly compete with the leader.

Caffeine:

This molecule with its positive growth soon has touched the position of “Ketorolac” in 2009 but again distance has increased in recent years. Graphical representation shows the trend for all the top five brands under this molecule and three of them have shown downward trend including “Ace Plus” (SQA) (Graph 4.4). “Xpa-C” (ATP) and “Duet” (SV6) are having negative growth in the present years. Though “Pyrenol” (DLT) has a huge percentage of growth in recent years the previous bad performance will force it to take time to recover. In terms of market share, share for “Napa Extra” (BXM) is increasing while that of “Ace Plus” (SQA) is decreasing, and as a result distance between the two lines is increasing with time (Graph s4.4: Share analysis-Brand wise).



Graph 4.4

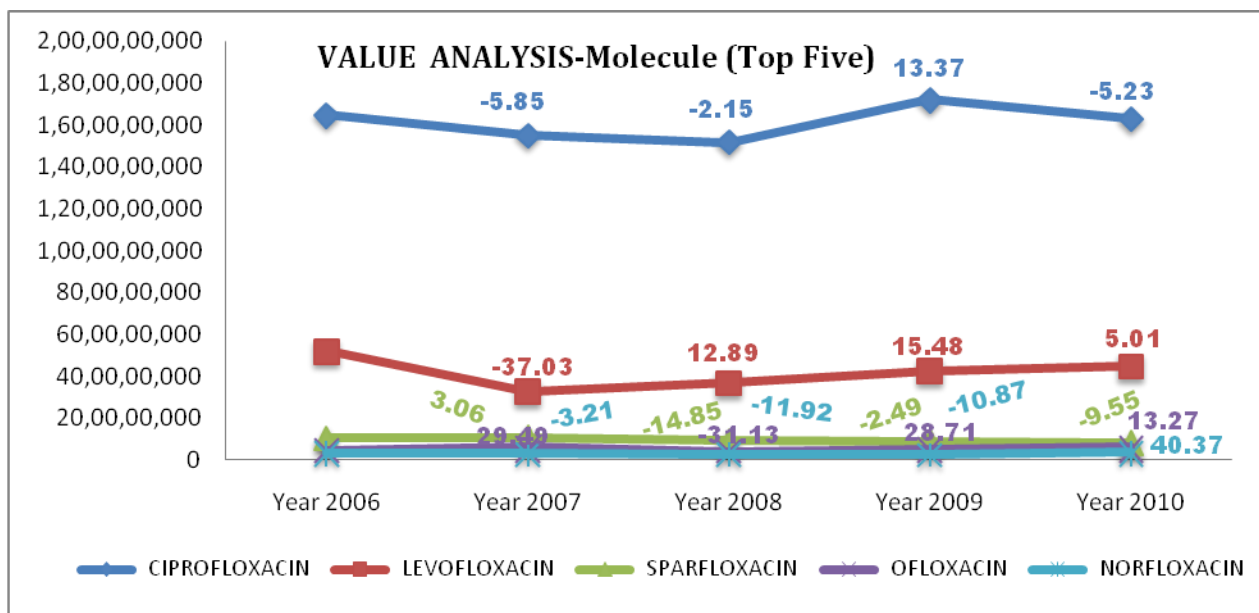
RECOMMENDATION: Beximco is well ahead of SPL according to value and market share under “Caffeine”. Growth rate is significantly lower than the Beximco brand and that is again

increasing the distance between these two brands in terms of value. To increase its value, share and take the lead, SPL needs to pay concentration to its marketing effort to increase its sales.

3.1.5 FLUOROQUINOLONES

Throughout this analysis period, this class had negative growth in all the years except for 2009. It has value around 2.4 billion in this present year and in terms of value it's at fifth position (**Graph 1.1: VALUE BDT**). Previously it was at third position among the therapeutic class in terms of value. From the initial year of analysis, 2006 to 2010, share percentage of this class has decreased significantly (**Graph 1.2: Share base analysis**).

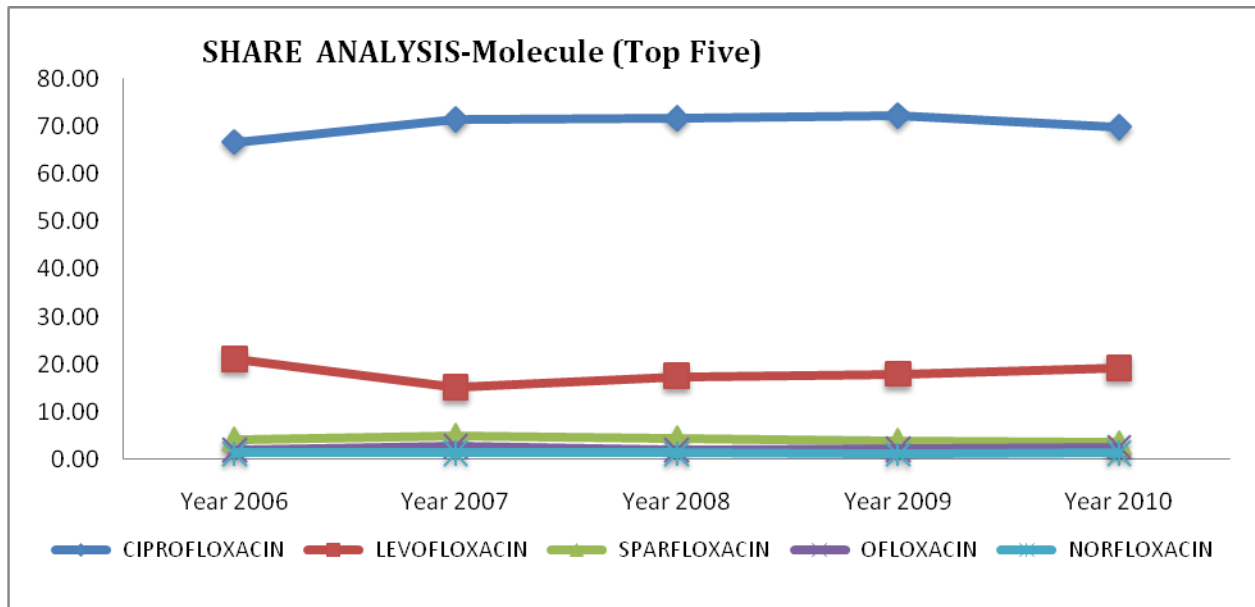
Among all the molecules “Ciprofloxacin” is the most preferred molecule without any competition. Throughout these five years, it was far beyond the reach of other molecules in terms of value in this class. It has a value of BDT 1.63 billion (approx.) and the second nearest molecule has a value of BDT 45 million (approx.). But again in this year, it is facing a negative growth and along with other three out of top five molecules in this class, is showing downward trend. Only “Norfloxacin” molecule has grown significantly in terms of value in a positive way.



Graph 5.1.1

The market is still in favor of “Ciprofloxacin” (**Graph 5.1.1: VALUE ANALYSIS- Molecule**) and no generic shifting has occurred in recent years. And again there are no signs of generic shifting happening in recent coming years.

“Sparfloxacin”, “Ofloxacin” and “Norfloxacin” are in the bottom of the ladder and are almost at same position in terms of value. Among them only the third one is growing at a significant positive rate, the first one is growing at a negative rate and the second one is growing at a decreasing rate. From the share analysis graph (**Graph 5.1.2**), it is seen that “Ciprofloxacin” is always with the highest market share percentage, though in the year 2010, the percentage is decreased by a little margin.



Graph 5.1.2

RECOMMENDATION: There are no signs of generic shifting so far found in the analysis.

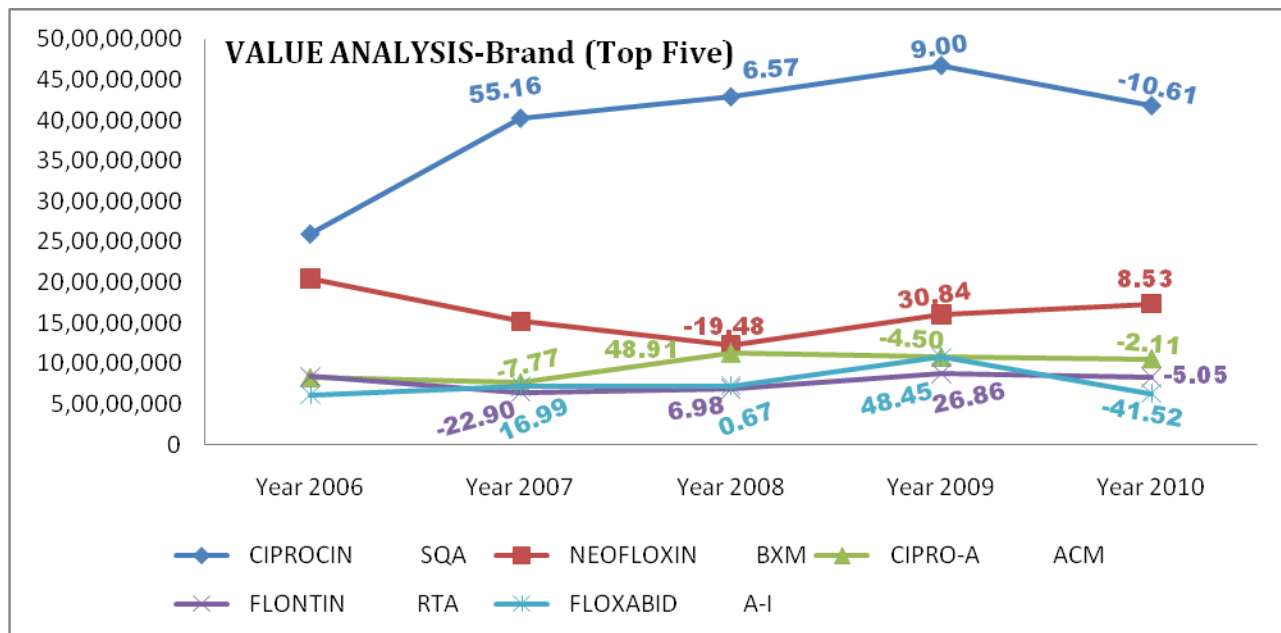
Even the class growth is also decreasing, so the companies who are marketing brands under this class should pay concentration on class and molecule wise market trend.

Brand Wise Analysis

From the Brand wise analysis on the basis of molecule, reveals information about the product and manufacturers’ performance. Here three molecules are considered for analysis from the list

of top five molecules under this class; “Ciprofloxacin”- all time market leader, “Levofloxacin”- the second major player in the market under this therapeutic class and “Norfloxacin”- the only molecule that is growing in increasing rate. After this analysis it would be possible to say how well is the performance of the companies including Square Pharmaceutical Ltd (SPL).

Ciprofloxacin:



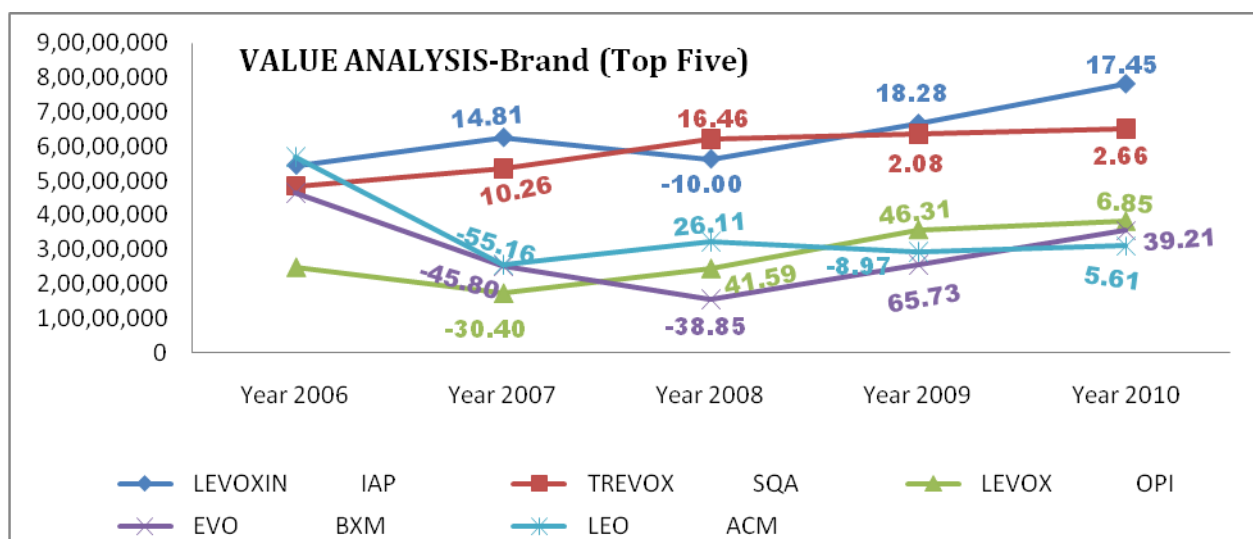
Graph 5.2

Under this molecule, SPL is at top position with “Ciprocin” brand with huge difference from the brand in second position which is “Neofloxin” (BXM) value wise, having value worth of BDT 42 million (Approx.), but again its growth fluctuates in a very random way (**Graph 5.2**). Except “Neofloxin”, none is having a positive growth with this molecule and this brand is also growing positively at a decreasing rate. “Cipro-A” (ACM) seemed promising in the year 2008 when it secured high positive growth and reached almost at the position of “Neofloxin” (BXM) but it could not retain its growth. There is also significant amount of decrease in market share for “Ciprocin” (SQA) and “Floxabid” (A-I) in this present year. The sudden reduction in value of “Floxabid” (A-I) has let “Flontin” (RTA) increase its share, though by a minimal (**Graph s5.2: Share analysis-Brand wise**).

RECOMMENDATION: SPL with its popular brand “Ciprocin” is in the lead by a huge margin but the matter of concern is the negative growth that the brand is facing recently which has decreased its value. Though the class itself is facing a downturn and also other brands are also having a negative growth, the closest competitor is still growing positively. So the company needs to focus on the factors that are causing this inverse growth. It is very much needed for SPL to maintain a positive growth for the brand to maintain the lead.

Levofloxacin:

Strong competition can be seen among the top five brands that are competing in the market with this molecule. During these five years of analysis, leadership changed several times, and at different time period different brand is most acceptable in the market.



Graph 5.3

The dynamic trend is more visible where it is seen that the top brand of the year 2006, “Leo” (ACM) is at fifth position in 2010, again “Evo” (BXM) which was competing head to head with “Trevox” (SQA) in terms of value, due to negative growth now is at fourth position (**Graph 5.3**). In the mean time, “Levox” (OPI) has grown positively and its value has increased from BDT 25 million (approx.) to BDT 39 million (approx.) in these five years.

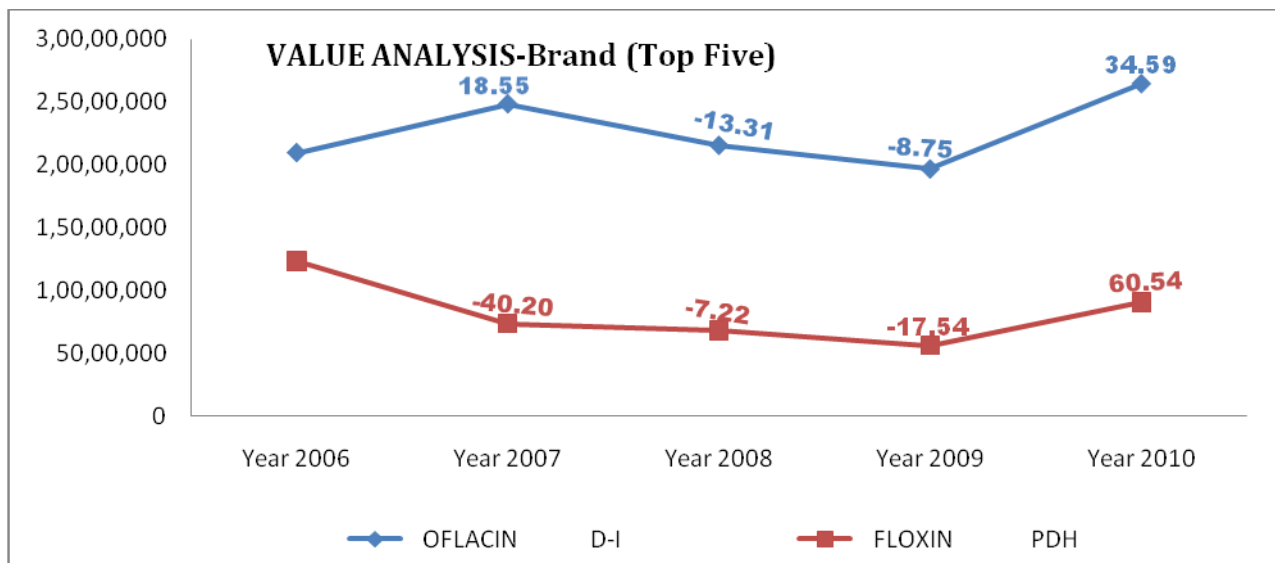
“Levoxin” (IAP) is the top preferred brand though it faced a down turn in the year 2008, when it had a negative growth and “Trevox” (SQA) took the lead. But again after that, it came back

tremendously and again is growing positively. Another noticeable fact is, other than “Trevox” (SQA) and “Leo” (ACM); other brands are growing at a decreasing rate. “Levoxin” (IAP) has almost 18 percent of market share of the sales with this molecule under this class. Share has increased for each brand other than “Trevox” (SQA) (**Graph s5.3: Share analysis-Brand wise**).

RECOMMENDATION: The performance of the SPL brand “Trevox” is not at all satisfactory. It is growing at the lowest rate among all other brands, its value is decreasing and also its share has not increased in recent years. After 2008 it has also lost its lead to “Levoxin” (IAP), to regain its position and improve its performance it needs to increase its growth rate and value.

Norfloxacin:

It is the only molecule that is having positive growth at an increasing rate. There are only two companies which are manufacturing medicines using this molecule, Drug International (D-I) and Pharmadash (PDH). But it’s also fact that, in terms of value the brands are not doing that well under this molecule compare to others under this therapeutic class.



Graph 5.4

After having negative growth in previous two years, the brand “Ofloacin” (D-I) is again growing positively and it’s also the top preferred brand in terms of value analysis throughout the analysis period as the other brand “Floxin” (PDH) never could reach closer to it (**Graph 5.4**).

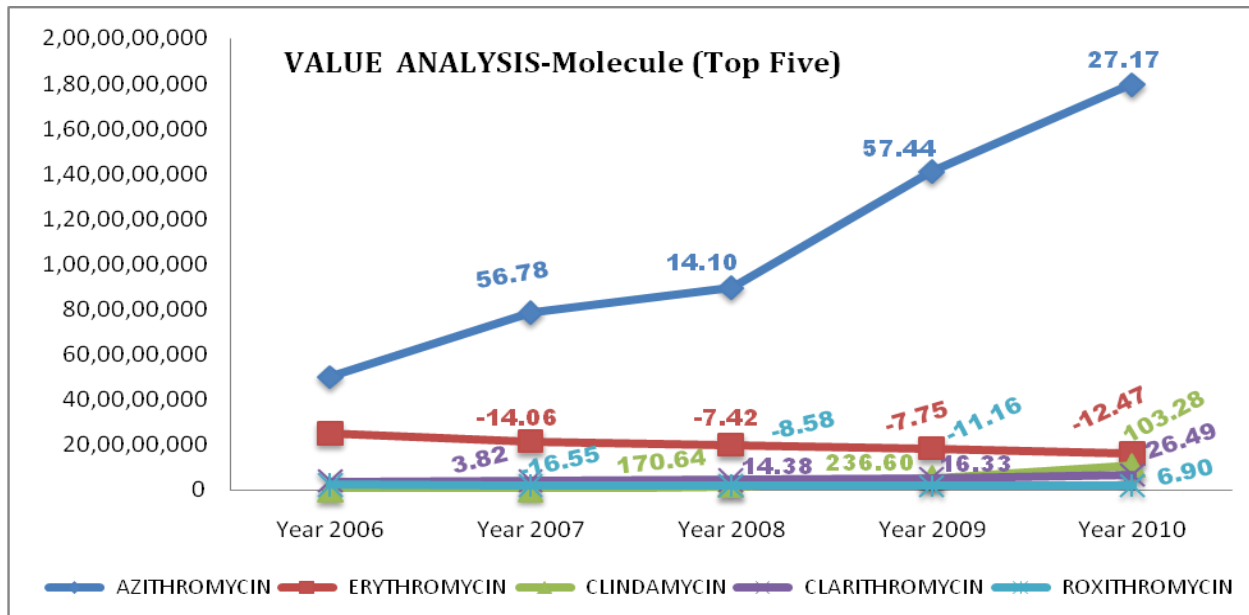
RECOMMENDATION: “Norfloxacin” is one of the promising molecules and is showing potentiality, but SPL does not have any brand with this molecule. SPL should concentrate on this and develop product/s to grab future advantages.

3.1.6 MACROLIDES & SIMILAR TYPE

Consistent positive growths throughout the analysis period has let this class move forward and outweigh the performance of Antihistamines Systemic and Multivitamins + Minerals in terms of value. It has value approximately BDT 2.15 billion in this present year and at sixth position (**Graph 1.1: VALUE BDT**). There is a continuous improvement in the market share percentage of this therapeutic class, as its share percentage has increased from little over 2% to around 4% (**Graph 1.2: Share base analysis**).

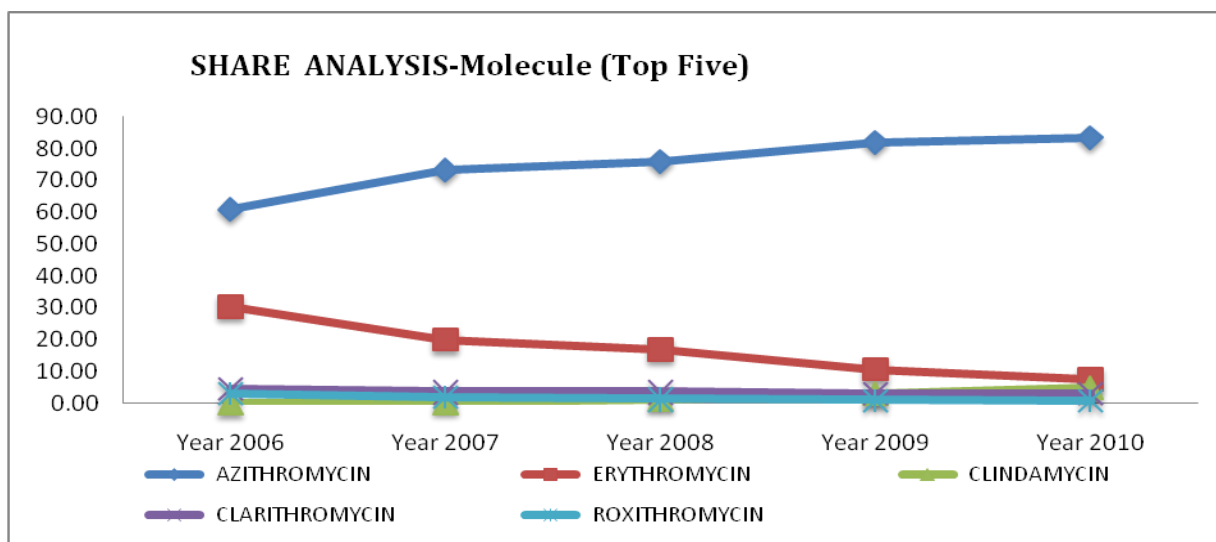
There are only six molecules which are utilized under this therapeutic class in the market. Among those six, top five in terms of value, are considered for analyzing for this analysis. The top preferred molecule is “Azithromycin” with value around BDT 1.8 Billion and it’s also growing upward consistently. The next most promising molecule is “Clindamycin” which is growing at a rate over 100%. Though it is in the third position in terms of value as “Erythromycin” is over it having value of BDT 159 Million; but with its outstanding growth rate it has reach close to the second position very soon and if its continues growing in this pattern it can soon be in the top two list.

The market is still in favor of “Azithromycin” (**Graph 6.1.1: VALUE ANALYSIS- Molecule**) and there are no certain indication of generic shifting at the top position but there are strong indication that “Clindamycin” is about to take the position of “Erythromycin”.



Graph 6.1.1

Growth rate for “Clarithromycin” and “Roxithromycin” is also positive increasing rate but their value is too low to catch the leader or influence any generic shifting but again circumstances can facilitate their value increase. From the share analysis graph (**Graph 6.1.2**), it is very prominent that “Erythromycin” is gradually losing its share and distance between the lines of “Azithromycin” and “Erythromycin” is increasing with time and share percentage of “Clindamycin” is also increasing.



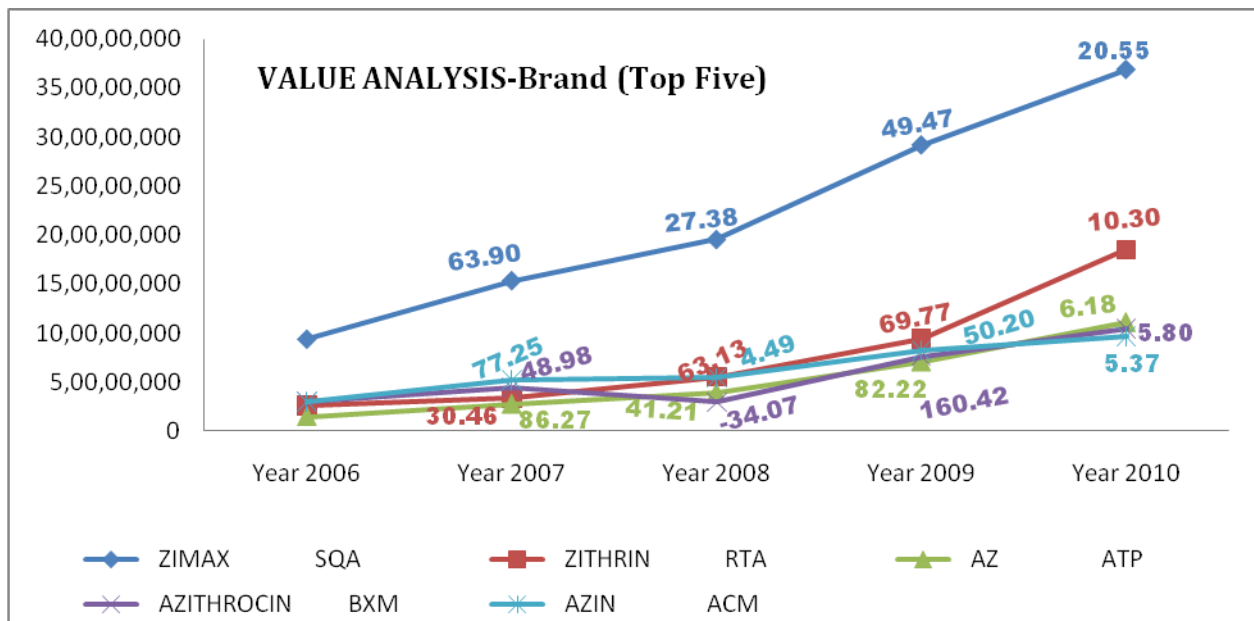
Graph 6.1.2

RECOMMENDATION: Companies need to visualize the potential generic shifting event to act accordingly. They need to analyze the factor that are causing decrease in value for “Erythromycin” and increase in value for “Clindamycin” and strategies to act in accurate manner.

Brand Wise Analysis

“Clindamycin” has potentiality to influence the next generic shifting event, though it might need some time as the present most preferred molecule “Azithromycin” has a significant distant lead in terms of value but it has managed to reach closer to “Erythromycin”. After this analysis it would be possible to say how well is the performance of the companies including Square Pharmaceutical Ltd (SPL). So brand under these molecules are analyzed to understand current market trend.

Azithromycin:



Graph 6.2

“Zimax” (SQA) and “Zithrin” (RTA) are the top two brands under this molecule, though both are growing at a decreasing positive rate. “Zimax” (SQA) has a huge lead according to value

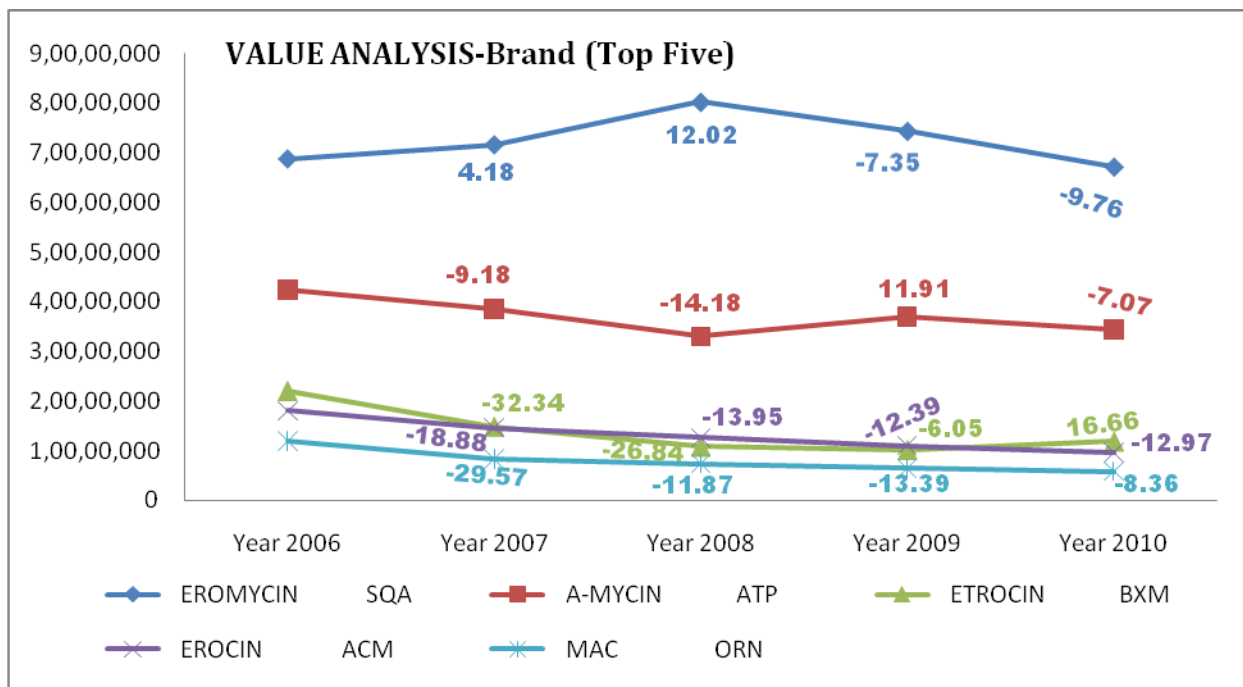
than other brands having value around BDT 3.7 Billion. Each brand grew at a very high rate in between 2008 and 2009 but the growth rate decreased afterward (**Graph 6.2**).

From the graphical presentation, it is also noticeable that every brand is going upward and value of them has increased recently. Though in the year 2009 every other brand except “Zimax” (SQA) was close to each other in terms of value but in one year “Zithrin” (RTA) has grown significantly and increased its value margin. In terms of (**Graph s6.2: Share analysis-Brand wise**) market share of “Zimax” (SQA) and “Azin” (ACM) has decreased by a minimal margin, otherwise share of other brands has increased in the year 2010.

RECOMMENDATION: The SPL brand “Zimax” is at a good position with decent growth rate. The company should maintain its steady growth to maintain its position.

Erythromycin:

“Eromycin” (SQA) is the leader with this molecule in the market followed by “A-Mycin” (ATP) and both are showing a downward trend (**Graph 6.3**). Other than “Etrocin” (BXM), which is going upward and has positive growth, all other brands are facing a downturn.



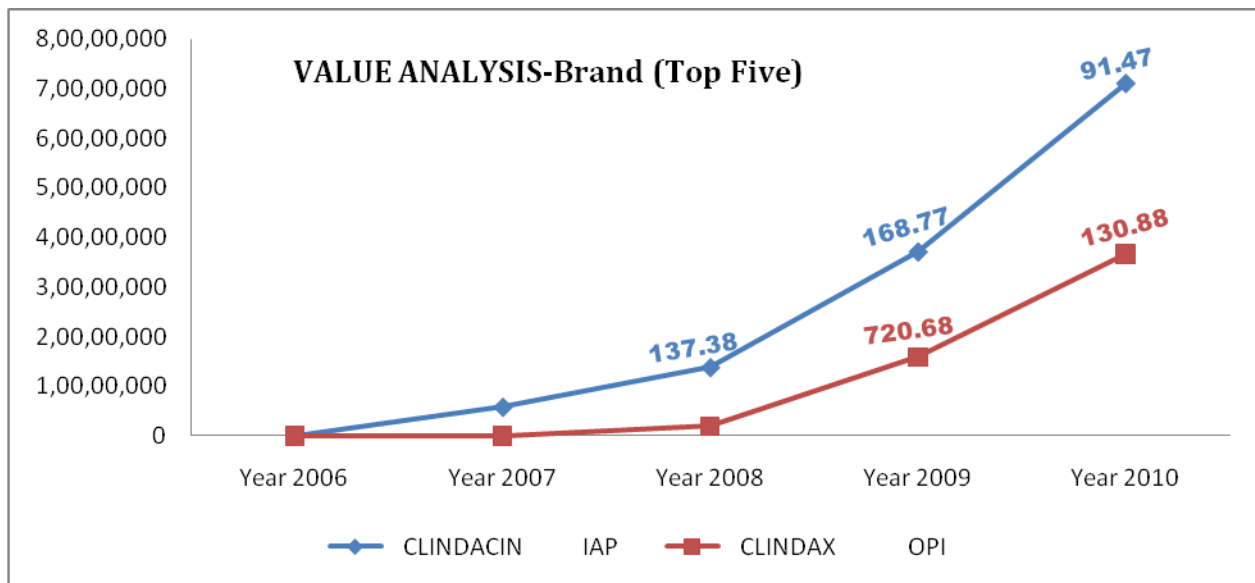
Graph 6.3

The brand from SPL, “Eromycin” has managed to maintain its lead with high value of around BDT 67 Million but the effect of overall downturn of the molecule “Erythromycin” is evident from the downward trend of this molecule. According to market share analysis (**Graph s6.3: Share analysis-Brand wise**), all the brands are almost at the same position.

RECOMMENDATION: To maintain its lead and increase its value SPL need to identify the factors behind the fact that the molecule overall is facing a downturn. But considering the market trend, it will be also right to look for other opportunities with other molecule in the market and work according to it.

🌐 Clindamycin:

This is the molecule that is growing positively at a high increasing rate gradually taking the position of the molecule “Erythromycin” in the market. There are only two brands in the market under this molecule from two companies, **Incepta Pharma** and **Opsonin Pharma** with high increasing positive growth and having value of BDT 71 Million and BDT 37 Million respectively.



Graph 6.4

At present “Clindacin” (IAP) is the leader followed by the brand “Clindax” (OPI) in the market (**Graph 6.4**).

RECOMMENDATION: So far this is the one molecule that has the potential to influence any generic shifting under this therapeutic class. But SPL has no brand with this molecule in the market. Considering future potentiality the company should develop one brand as soon as possible in the market.

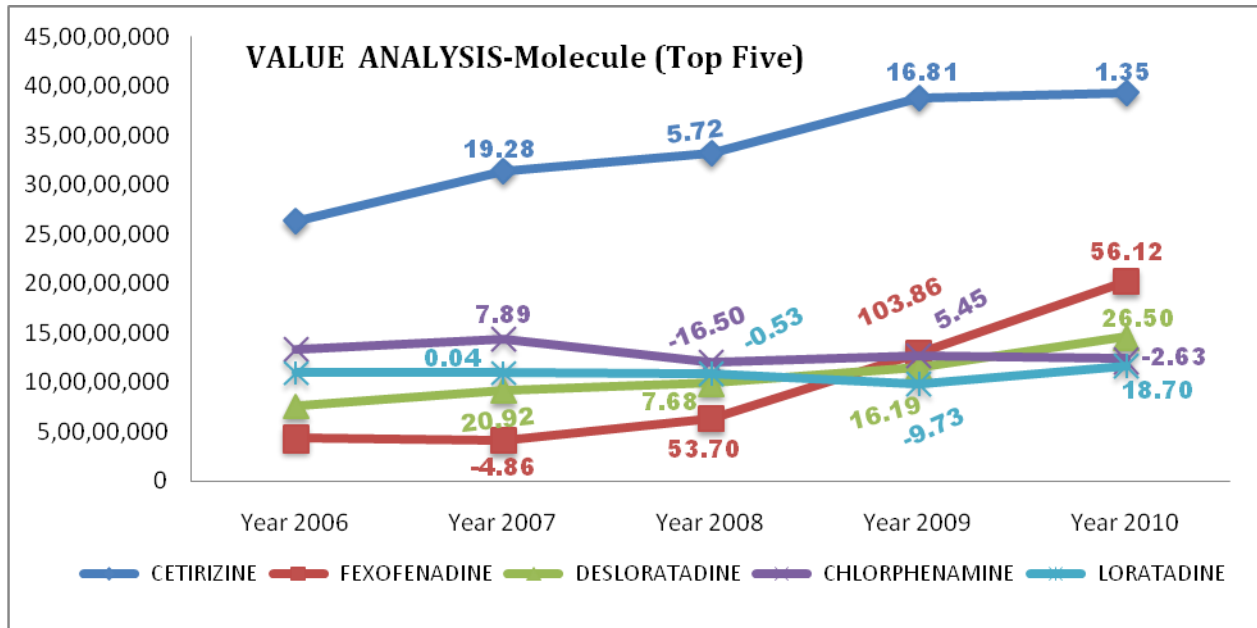
3.1.7 ANTIHISTAMINES SYSTEMIC

This class is in the eighth position in the market in terms of value base analysis in present year having fluctuating growth rate throughout the analysis period. It has value approximately BDT 1.3 billion in this present year (**Graph 1.1: VALUE BDT**). In the year 2009, the class's growth percentage increased by a high margin and from negative growth it has started growing positively, though at a decreasing rate (**Graph 1.2: Share base analysis**).

Among all the molecules "Cetirizine" is the most preferred molecule having value of around BDT 400 million at present year though its growth rate is decreased significantly in 2010. On the other hand, the molecule "Fexofenadine" has grown at a tremendous rate and from fifth position it has reached at the second position and in the mean time generic preference shifted from "Chlorphenamine" to it. Again in 2010 "Desloratadine" has outweighed "Chlorphenamine" and "Loratadine" growing at an increasing rate.

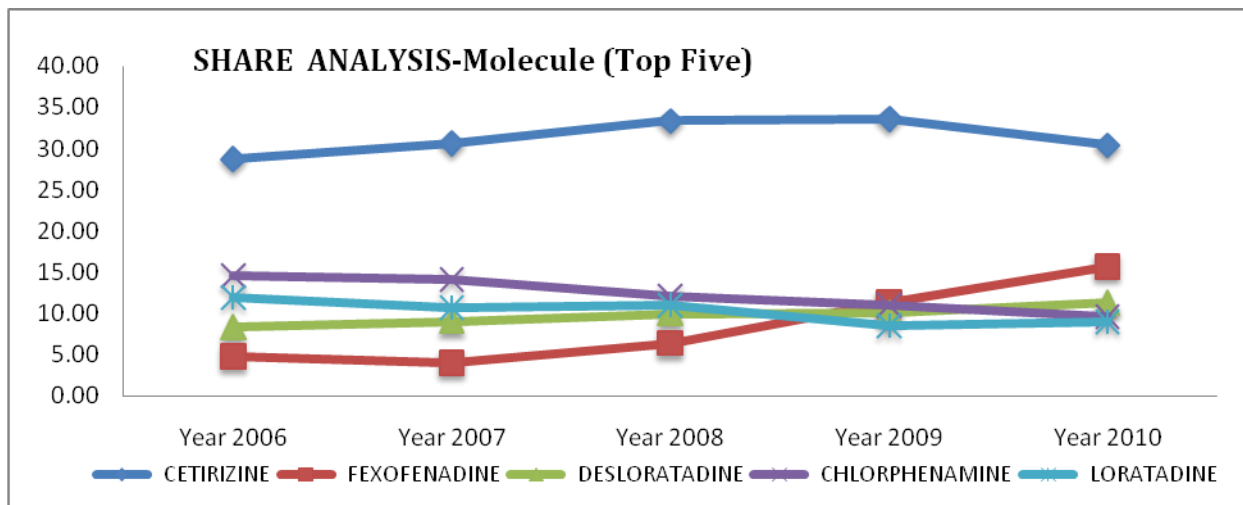
Though the market is still in favor of "Cetirizine" (**Graph 7.1.1: VALUE ANALYSIS-Molecule**) there are certainly strong indication that "Fexofenadine" can be the next most preferred molecule under this class.

Growth rate for "Loratadine" has increased significantly in this year if it continues to grow like this it can outweigh value of "Desloratadine", bur again there is lack of stability shown in the previous trend of this molecule in this analysis period. Again decreasing rate of growth for "Cetirizine" and huge growth of "Fexofenadine" is indicating toward the possibilities of potential generic shifting, which is again true for "Chlorphenamine".



Graph 7.1.1

From the share analysis graph (Graph 7.1.2) it is evident that distance between the lines of (IMS)“Cetirizine” and “Fexofenadine” is decreasing gradually with time and also share percentage of “Loratadine” and “Desloratadine” is increasing against the decrease of “Chlorphenamine”.



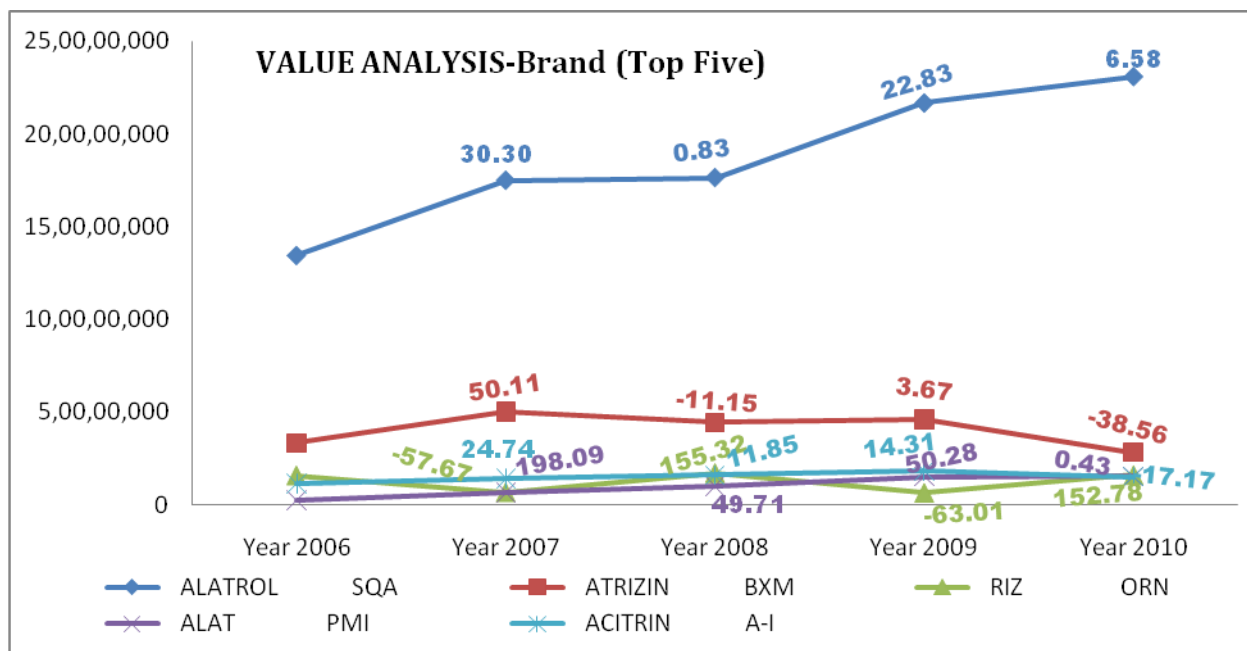
Graph 7.1.2

RECOMMENDATION: Companies need to visualize the potential generic shifting event to act accordingly. They need to analyze the factor that are causing decrease in value for “Cetirizine” and increase in value for “Fexofenadine”.

Brand Wise Analysis

“Fexofenadine” has potentiality to influence the next generic shifting event, though it might need some time as the present most preferred molecule “Cetirizine” has a significant distant lead in terms of value. Again “Desloratadine” is also growing positively in recent years at an increasing rate, so it is another molecule for consideration. After this analysis it would be possible to say how well is the performance of the companies including Square Pharmaceutical Ltd (SPL). So brand under these molecules are analyzed to understand current market trend.

Cetirizine:



Graph 7.2

With the popular brand “Alatrol” SPL is at top of this molecule under this therapeutic class. Though the brand is growing at a decreasing rate in present year but its value is around BDT 231 million which is huge compare to the other brands in the market. The scenario is evident from

the fact that the brand “Atrizin” (BXM), which is positioned second in terms of value, has a value of little over BDT 28 million only.

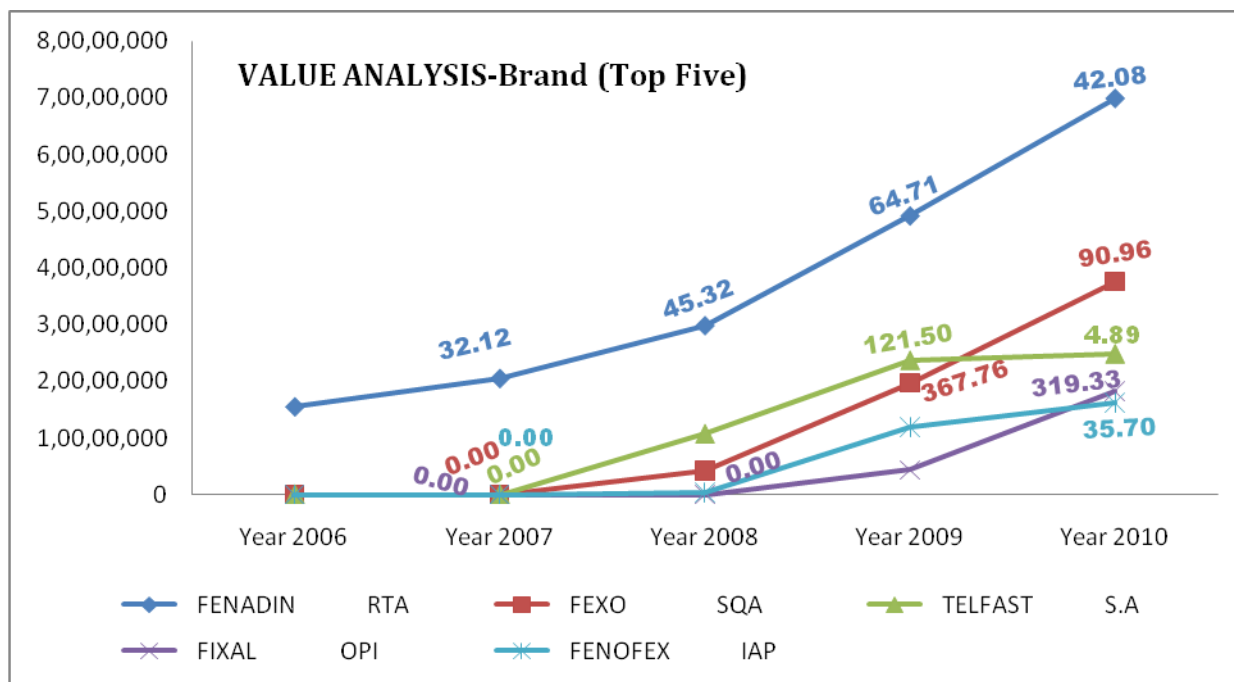
From the graphical presentation (**Graph 7.2**), it is also noticeable that “Atrizin” (BXM) is growing downward and its value has decreased recently. “Riz” (ORN) is at third position in terms of value but it has a very unstable growth pattern; one year its having negative growth and in the very next year its growing at a huge rate. Other two brands “Alat” (PMI) and “Acitrin” (A-I) has value very close to “Riz” (ORN) but their growth rate is not considerable. In terms of market share “Alatrol” (SQA) is increasing its lead with time, whereas other brands are at same position in the year 2010 (**Graph s7.2: Share analysis-Brand wise**).

RECOMMENDATION: The SPL brand is at a very favorable position but its growth rate is reducing. Even the most popular brand will start to have negative growth sooner or later, it will lose its top position and value will decrease. It will be better if SPL plan ahead and remain prepare for that occurrence.

Fexofenadine:

“Fenadin” (RTA) is the leader with this molecule in the market followed by “Fexo” (SQA) and both are showing an upward trend (**Graph 7.3**). Another brand “Fixal” (OPI) is also going upward and has the possibility to cross the performance of “Telfast” (S.A) as the later one is going downward.

The brand from SPL, “Fexo” has managed to maintain a high positive growth after its introduction but to reach the leader it will need to manage a steady positive growth. According to market share analysis (**Graph s7.3: Share analysis-Brand wise**), “Fenadin” (RTA) is losing its share with time and on the other hand share of “Fexo” (SQA) is increasing. This scenario is proof to the fact that SPL is concentrating accurately to improve its performance. The graphical presentation is on the following page,

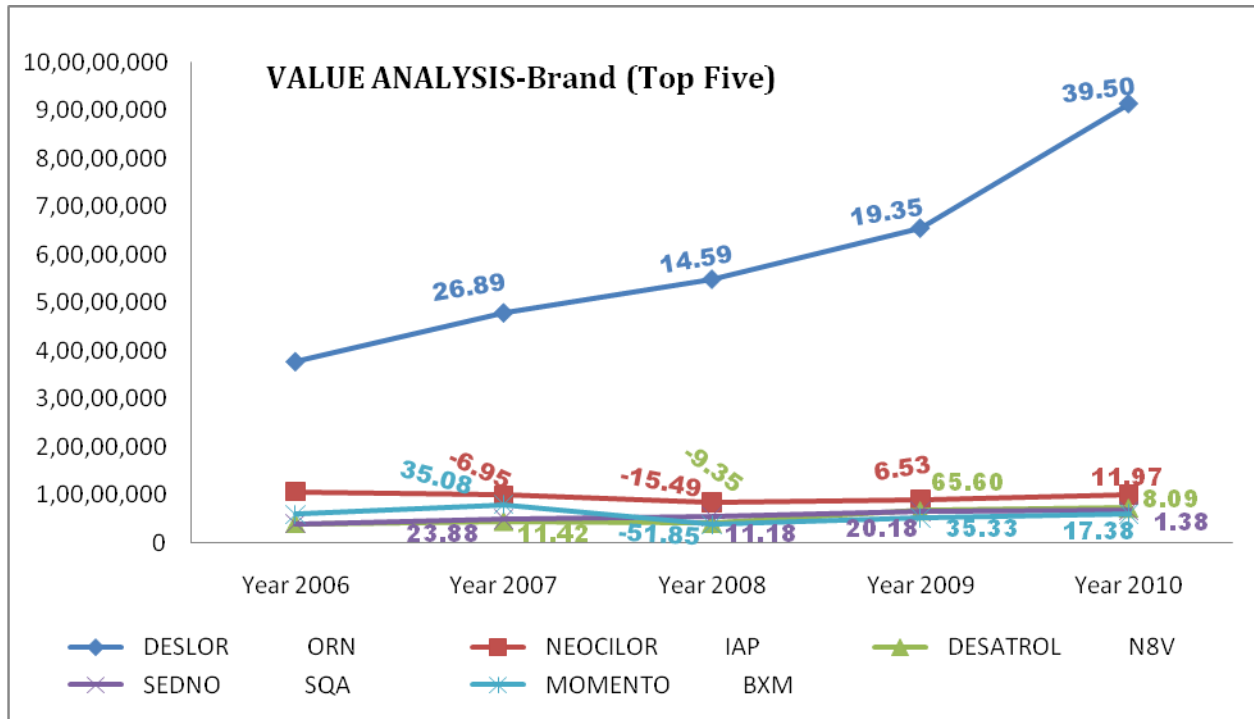


Graph 7.3

RECOMMENDATION: “Fexo” is maintaining huge growth but it’s still far behind the value of “Fenadin”. SPL needs to standardize its marketing effort to upgrade its performance so that it can cross the top brand “Fenadin” (RTA). Again “Fixal” (OPI) also is going upward at a very high rate. If this company can manage to maintain its high growth SPL will face competition with its brand “Fexo”. So SPL needs to keep an eye on “Fixal” also to keep in pace with competition.

 **Desloratadine:**

This molecule is growing positively at an increasing rate and has the potential to touch the value of “Fexofenadine” very soon. In terms of value this molecule has a clear leader in the market, “Deslor” (ORN) with value of BDT 92 million (approx.). Other brands worth more or less same value around BDT 7-8 million, which is very much less than the value of “Deslor” (ORN).



Graph 7.4

At present every brand has a positive growth and among them the top two brands; “Deslor” (ORN) and “Neocilor” (IAP); is also growing at an increasing rate. “Sedno” which is the SPL brand and “Momento” (BXM) are also growing positively but their marginal growth has decreased and in terms of value they are at fourth and fifth position in the market respectively (Graph 7.4).

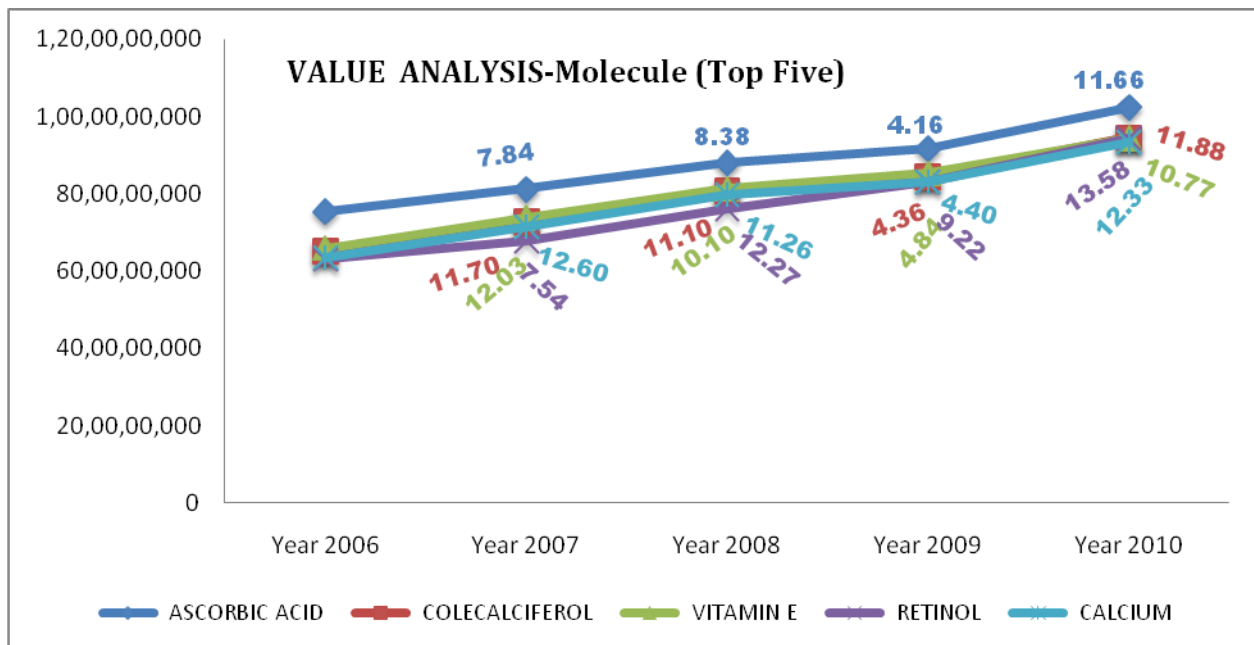
In terms of market share, every brand except “Deslor” (ORN) is losing its share in the market and again the share percentage difference is huge between the leader and the other brands (Graph s7.4: Share analysis-Brand wise).

RECOMMENDATION: “Sedno” is at lower position in this molecule and also its growth percentage has decreased by a high margin. If it goes like this, soon the brand will face negative growth so this is very important for SPL to pay attention to this brand’s performance and improve its position.

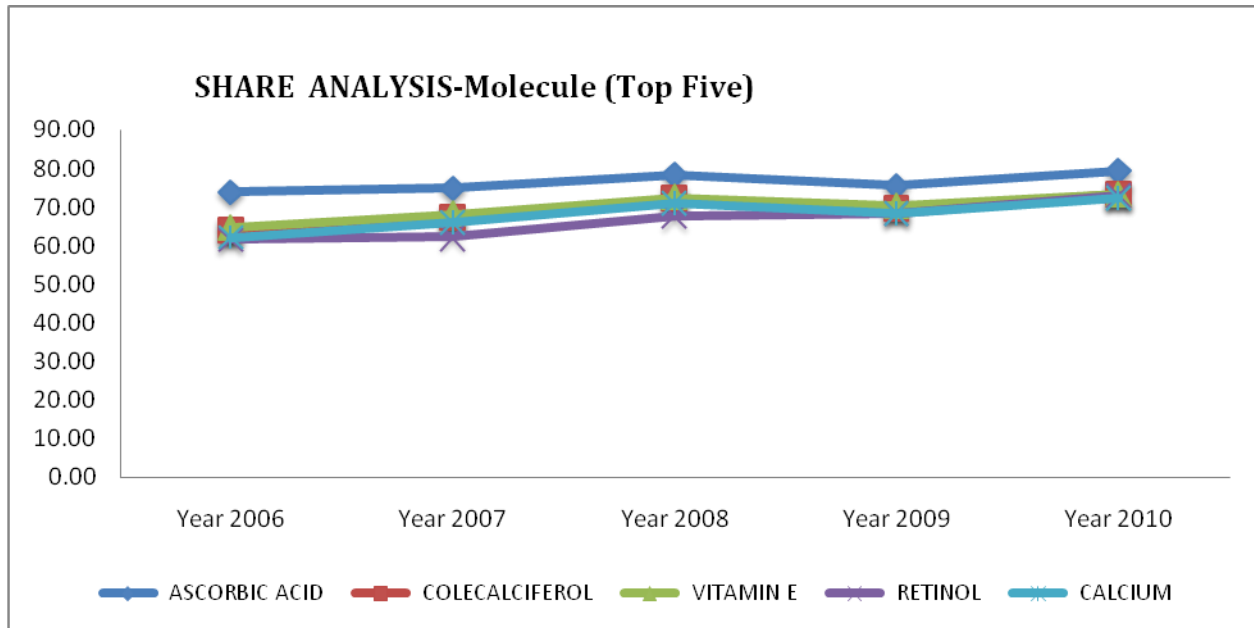
3.1.8 MULTIVITAMINS + MINERALS

Throughout this analysis period, this class has grown in all the years though it is growing at a decreasing rate in present time. It has value around BDT 1.3 billion in this present year and in terms of value it's at ninth position (**Graph 1.1: VALUE BDT**). From the initial year of analysis, 2006 to 2010, share percentage of this class has decreased significantly, from 2.63% to 2.14% (**Graph 1.2: Share base analysis**).

Among all the molecules "Ascorbic Acid" has the highest value of BDT 1.02 Billion and it's also growing at an increasing rate in 2010. Other molecules are also not so far from this molecule having value around BDT 94 Million. One noticeable characteristic of this class is all the molecules are almost at the same position in terms of value.



Graph 8.1.1



Graph 8.1.2

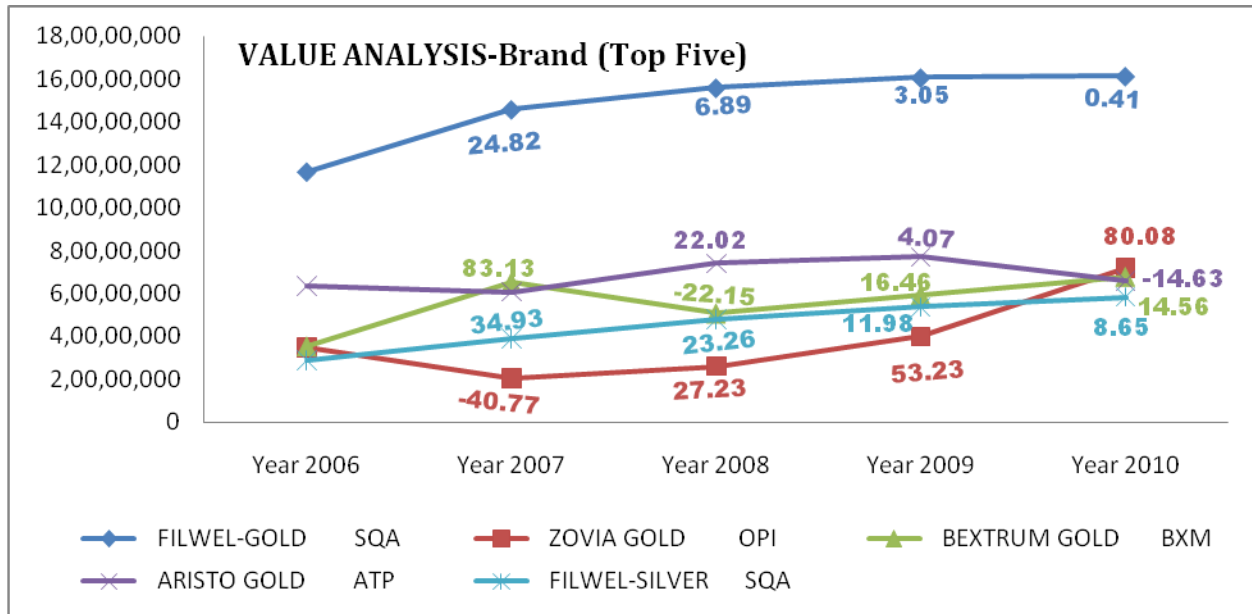
Though value of “Ascorbic Acid” is still the highest but growth rate for all the molecules are more or less same (**Graph 8.1.1: VALUE ANALYSIS- Molecule**). In terms of market share also, all the molecules are almost at the same position, though “Ascorbic Acid” has a minimal lead (**Graph 8.2**).

RECOMMENDATION: There are no signs of generic shifting so far found in the analysis. All the companies use each molecule in their brands and each is equal important.

Brand Wise Analysis

Under this class, same brands are utilizing the same molecules, so same data was found for different molecules. Only “Vitamin-E” molecule has different name in its list of top five brands. So in this analysis the molecule with top value “Ascorbic Acid” and “Vitamin-E” is considered for analyzing.

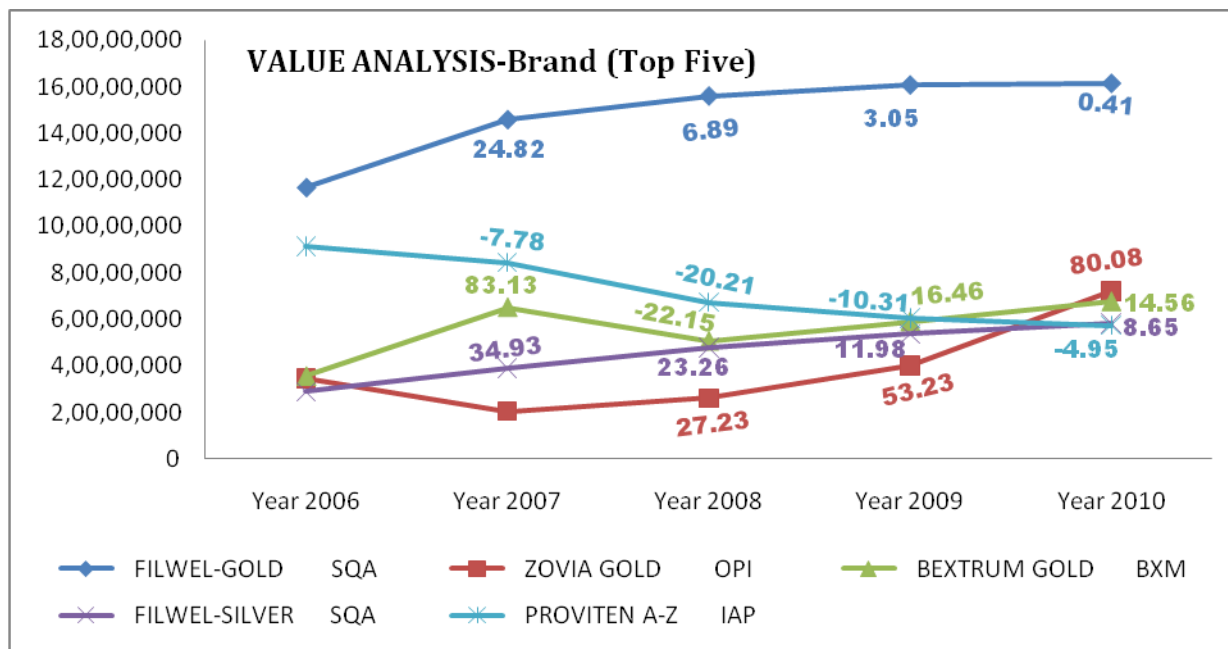
Ascorbic Acid:



Graph 8.2

Under this molecule, other than “Zovia Gold” (OPI) and “Aristo Gold” (ATP), each molecule is growing at an increasing rate (**Graph 8.2**). “Aristo Gold” (ATP) is having a negative growth and its value has been decreased in recent years. “Zovia Gold” (OPI) is the most promising brand with this molecule, throughout these five years of analysis it has grown at an increasing rate and presently its growth percentage is around 80%. There are two brands of SPL with this molecule in the market, “Filwel-Gold” and “Filwel-Silver”. “Filwel-Gold” is the leader in the market with value around BDT 1.61 Billion which is far ahead than other molecules. In terms of market share analysis, “Zovia Gold” (OPI) has increased its market share against the significant amount decrease in share of “Filwel-Gold” (SQA) and “Aristo Gold” (ATP) (**Graph s8.2: Share analysis-Brand wise**).

Vitamin-E:



Graph 8.3

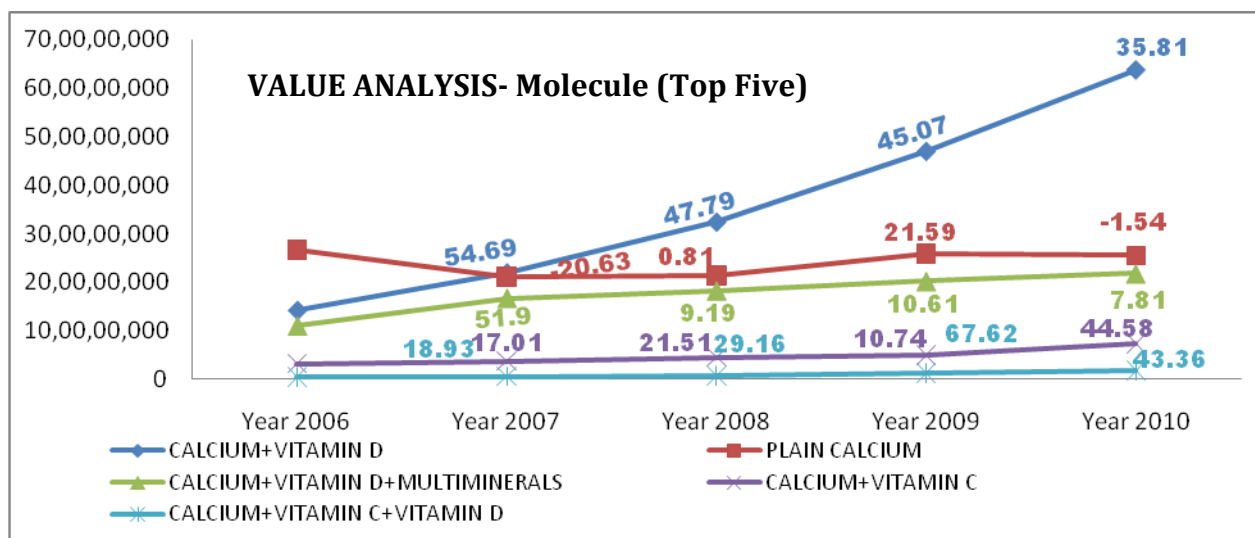
All the brands that are in the market utilizing other four molecules all are in the list of top five brands for the molecule “Vitamin-E” except “Aristo Gold” (ATP), instead there is “Proviten A-Z” (IAP) in the list at fifth position in terms of value having value of around BDT 57 Million. This brand is having a continuous negative growth throughout these five years and from second position it is now at fifth leaving its percentage of market share to other molecules, specially “Zovia Gold” (OPI).

OVERALL RECOMMENDATION: As there are same performance of the brands under each molecule, recommendation is applicable for all the brands under every molecule under this class. There are two brands of SPL playing major role in this therapeutic class under each molecule. Here, “Filwel-Gold” is at the top position and “Filwel-Silver” is at fifth position in other molecules other than “Vitamin-E” and both are growing to the positive direction. But the matter of concern is both are growing at a decreasing rate. Especially growth rate of “Filwel-Gold” has decreased significantly to less than 1%, though still it has managed to maintain its distant lead in terms of value. If soon SPL does not pay attention to the fact in an accurate manner and increase its growth, it is possible that it might loose its top position to **Opsonin Pharma** and its brand

“Zovia Gold”, as the latter is growing positively in a high increasing rate. Again negative growth of “Proviten A-Z” (IAP) has give “Filwel-Silver” the chance to move forward one position under “Vitamin-E” molecule, but its performance has not improved. So the company needs to particularly pay attention to the factors that will let the performance of these two brands improve.

3.1.9 CALCIUM

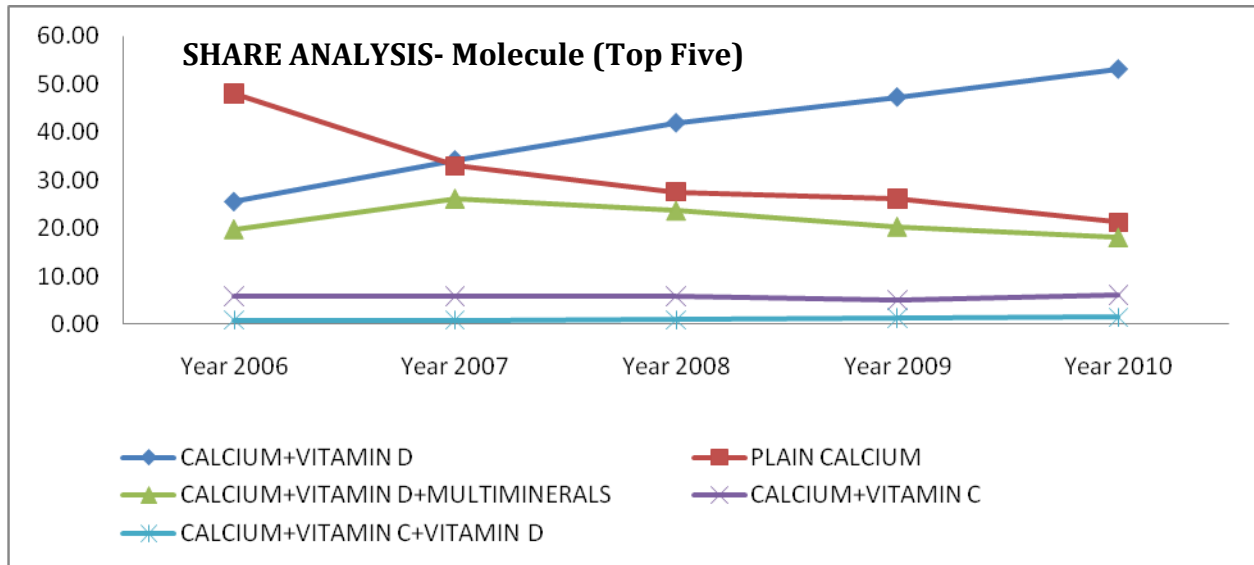
Apart from the year 2008-2009 when it had a negative growth, this class has grown at a increasing rate throughout this analysis period. It is also positioned very closely with other three bottom positioned classes in terms of value having value around BDT 1.20 billion in this present year and in terms of value it’s at tenth position (**Graph 1.1: VALUE BDT**). It also growing at a higher rate than that of the top two classes is growing in 2010. Although according to initial year of share analysis, from 2006 to 2010, share percentage of this class has gradually increased apart from the year 2009 (**Graph 1.2: Share base analysis**).



Graph 9.1.1

Among all the molecules “Calcium+Vitamin D” has the highest value of almost BDT 638 Million (**Graph 9.1.1: VALUE ANALYSIS- Molecule**). Though every molecule except for “Calcium+Vitamin C” is growing at a decreasing rate in the present year and “Plain Calcium” is going through a negative growth phase. All other molecules are very far from the leader in terms

of value. One noticeable fact of this class is “Calcium+Vitamin C” has grown at a higher rate than “Calcium+Vitamin D” in 2010. Generic shifting event is visible in the years of 2006-2007, when the shifting preference can be seen from “Plain Calcium” to “Calcium+Vitamin D”. throughout this years the later one has maintained a considerably high lead.



Graph 9.1.2

In terms of market share, “Plain Calcium” and “Calcium+Vitamin D+Multiminerals” are showing an overall downward trend whereas “Calcium+Vitamin D” is going upward (**Graph 9.1.2**). Other two combinations are more or less at a stagnant position.

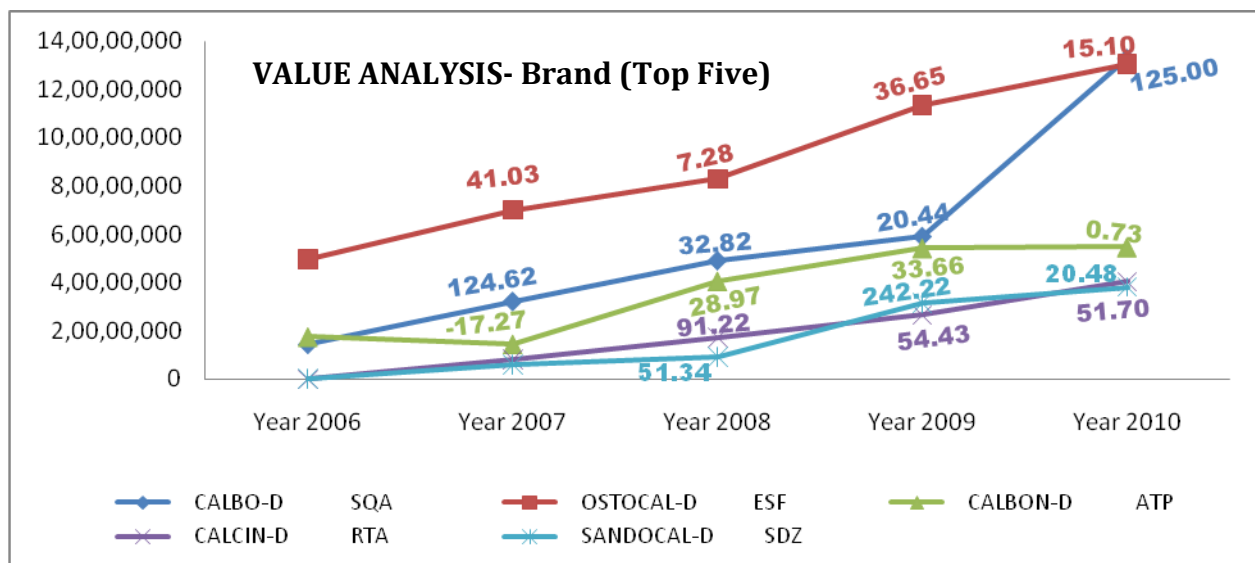
RECOMMENDATION: At present “Calcium+Vitamin D” is the most important molecule for SPL to focus on. Apart from just plain calcium medicines, other combination drugs are increased in importance of which companies should plan to take advantage.

Brand Wise Analysis

Brands under the two most important molecules in this therapeutic class “Calcium+Vitamin D”, “Plain Calcium” and “Calcium+Vitamin D+Multiminerals” are analyzed here. Other molecules still could not have managed to gain high position.

Calcium+Vitamin D:

Under this molecule, every brand has positive growth though other than “Calbo-D” (SQA) all other molecules’ sales are growing at a decreasing rate (**Graph 9.2: VALUE ANALYSIS-Brand**). “Calbo-D” (SQA) has managed to secure the top position outweighing “Ostocal-D (ESF)” in market securing the highest percentage of growth of 125% increasing the value from BDT 59 million (approx.) to BDT 133 million (approx.). The later has value of BDT 131 million (approx.).



Graph 9.2

Since the initial stage the brand had an outstanding performance and considerable percentage of growth but still according to value it was far behind than the leader brand “Ostocal-D (ESF) until the year 2010. In this present year it has managed to reach to outweighing the previous leader by a little margin. This is another very good brand with high value and it’s also growing to the positive direction but at a decreasing rate and that is also one reason that “Calbo-D” could manage to be the leader at the market.

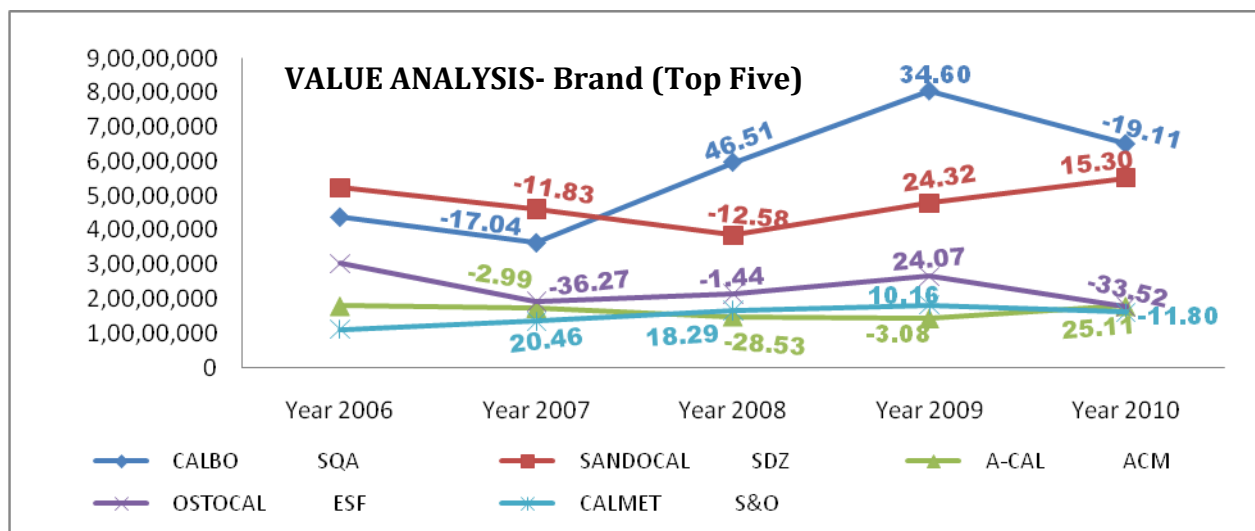
The increase in market share of “Calbo-D” (SQA) has cost the most to “Calbon-D” (ATP)

(**Graph s9.2: Share analysis-Brand wise**). Another brand “Calcin-D” (RTA) is also growing at a moderately high rate and has steady share percentage over these years.

RECOMMENDATION: SPL has managed to be at very good position in the market with good strategic planning. SPL now needs to maintain this growth to increase the lead and also keep close eye on the performance of “Ostocal-D” (ESF).

Plain Calcium:

Initially “Sandocal (SDZ)” was the leader brand under this molecule but in 2008 “Calbo (SQA)” has taken the lead, though at present it has negative growth along with “Ostocal (ESF)” and “Calmet (S&O).



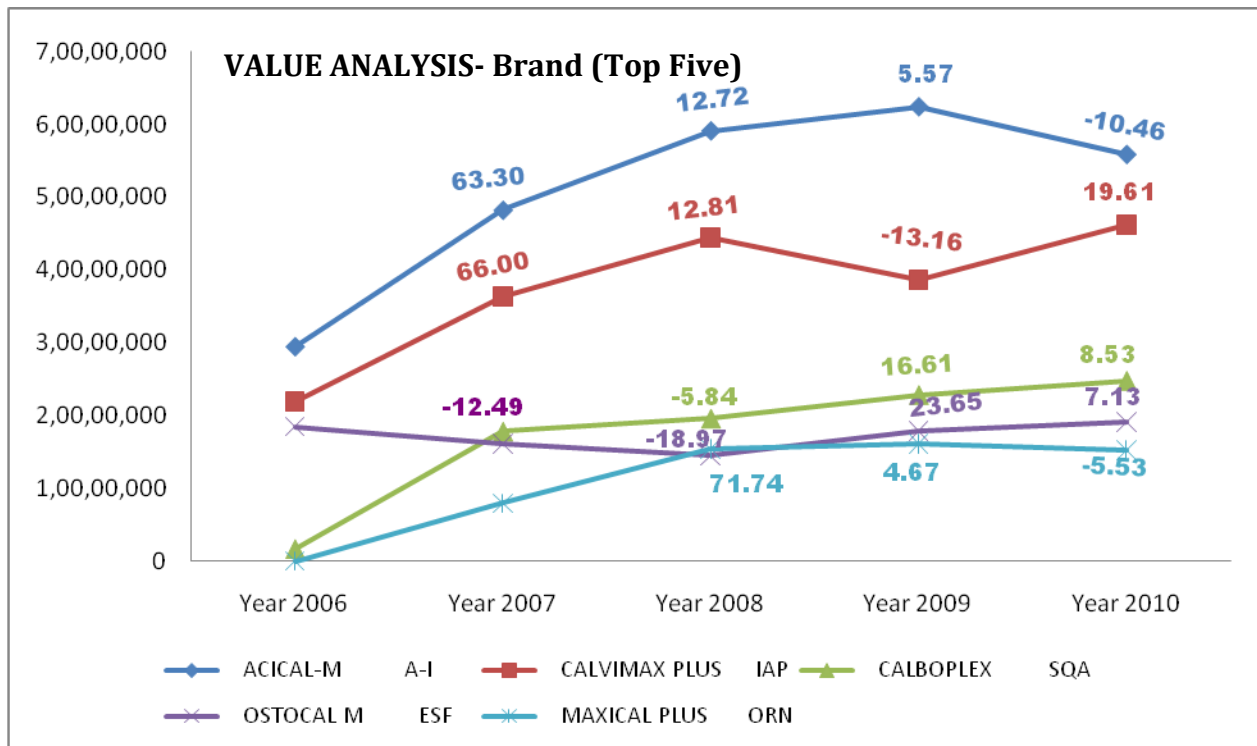
Graph 9.3

Other than “Calbo (SQA)” and “Sandocal (SDZ)” value of all other brands are far behind (around BDT 180 million) at present. “A-cal (ACM) has just managed to grow positively after a long period of time.

RECOMMENDATION: SPL is at top position here also but it is facing an alarming situation as it is growing negative by a high percentage and thus value has decreased. SPL needs to concentrate on their performance and try to increase the growth to avoid downfall.

Calcium+Vitamin D+Multiminerals:

“Acical-M (A-I)” is at the top position with around BDT 558 million though it is growing at a negative rate in this year. The second most preferred brand is “Calvimax Plus(IAP)” which has recently got a lead and managed to decrease the difference between the value of the top two (Graph 9.4).



Graph 9.4

The SPL brand “Calboplex (SQA)” has outweighed “Ostocal M (ESF)” in 2007 and presently is growing positively but at a decreasing rate. Though it is at third place by value but the difference from the leaders is too much. According to share analysis (Graph s9.4: Share analysis-Brand wise) the share has increased for the “Calvimax (IAP) against the decrease of share percentage of “Acical-M (A-I)”.

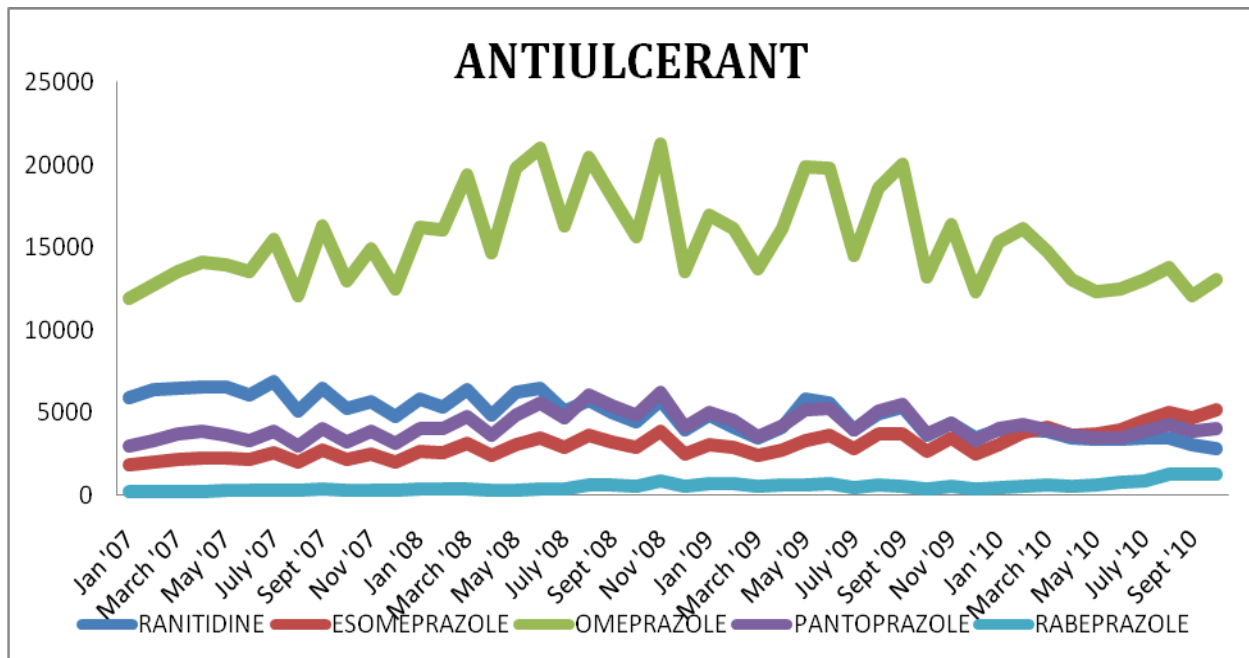
RECOMMENDATION: SPL should strategies to improve the growth of its brand under this molecule and increased its value to top brands.

3.2 ANALYSIS ON MRPC DATA

The data of this analysis is showing the Doctors' preference towards the molecule under each class. The trend shows the shifting of doctors' likings to prescribe medicines of some new molecule than the previous molecule from the year 2007 to the year 2010 (OCT).

3.2.1 ANTIULCERANT

From the year 2007 till to date **Omeprazole** is the first choice of the doctor as the molecule while prescribing medicines under Antiulcerant therapeutic class. As shown in the graphical presentation (**Graph: M1.1**) the number of prescribing drugs of this molecule was always above 10,000 in each month, and the number is far ahead of the numbers of other molecules. The numbers are always fluctuating. There was a gradual decline after March 2010 in the numbers till July 2010 but again in October 2010 it has gain a sharp peak.



Graph: M1.1

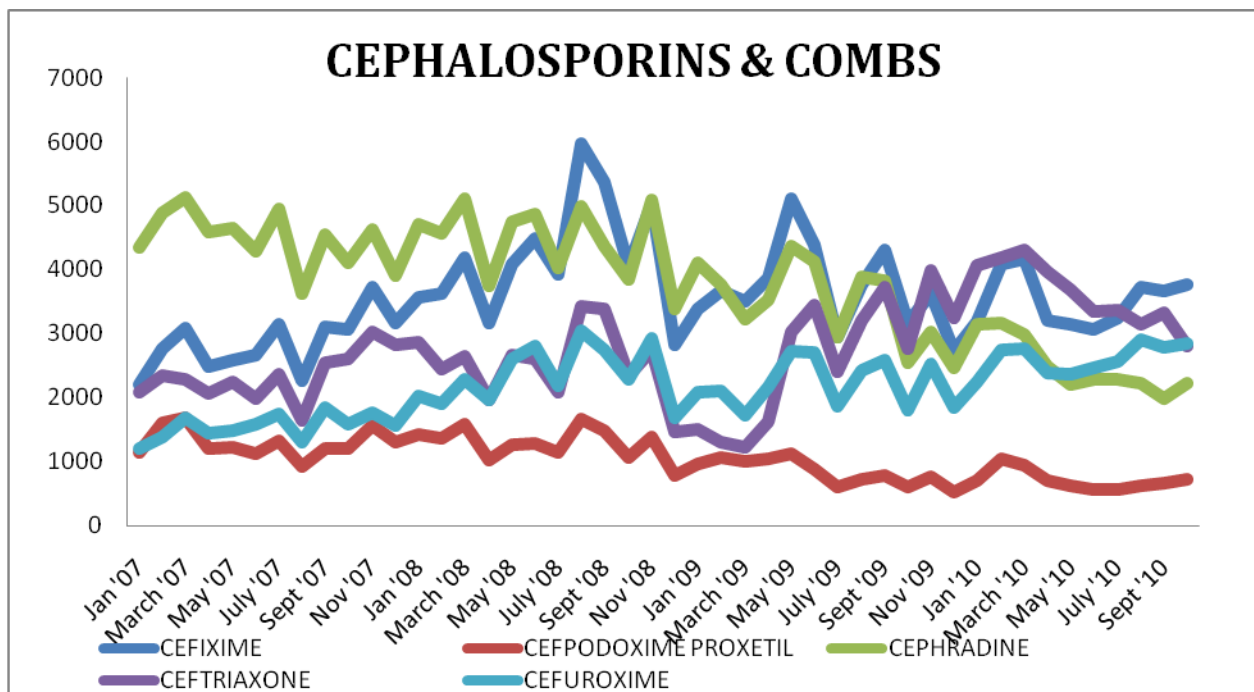
The next molecule that is having a raise at present is **Esomeprazole** and the growth started from March 2010. The numbers of prescription has increased by a high margin. It is reflecting the fact that doctors now a days are preferring the medicines with **Esomeprazole** than **Omeprazole**. The

decreasing preference of the molecule **Ranitidine** is again visible here, that is why the graph is downward in the presentation. It gradually had lost its importance and its place is taken by **Pantoprazole** initially and now by **Esomeprazole**.

RECOMMENDATION: Doctors preference shifted to **Omeprazole** from **Ranitidine** and it is still the most preferred molecule but now doctors are preferring **Esomeprazole** medicines. SPL are doing well with brands with previously mentioned two molecules. They should focus on now to their brand with **Esomeprazole** for future benefits and should promote doctors more to prescribe their brand.

3.2.2 CEPHALOSPORINS & COMBS

Initially **Cephadrine** was most prescribed molecule but gradually its popularity has decreased and **Cefixime** has taken its place. The later one is still at the top position and in the year 2010, just by the month October almost 36000 prescriptions were found with medicines with this molecule written on it (**Graph: M1.2**).



Graph: M1.2

After June, 2009, another molecule **Ceftriaxone** rapidly gained a raise and was included in doctors' list of top preference and became the leader but until July, 2010. **Cefuroxime Axetil** has also gained popularity recently and reached at the same position with **Ceftriaxone**.

From these data also trend analysis is showing the trend of generic shifting from **Cefradine** to **Cefixime**. Again it is also showing the increasing popularity of other molecules over the later one.

Apart from **Cefpodoxime Proxetil** all other molecules are prescribed around the same number by the doctors at present time. This other molecule could never get the preference from doctors that well.

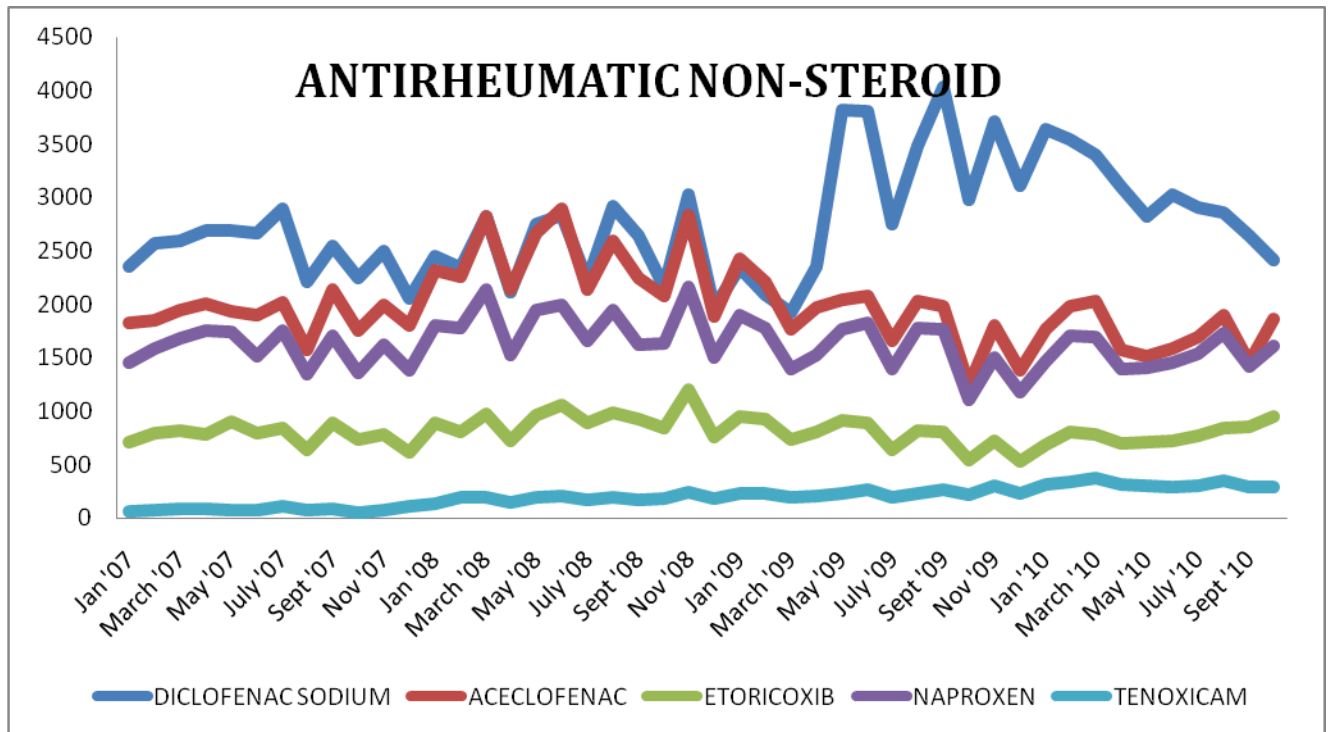
RECOMMENDATION: **Ceftriaxone** is the present popular molecule but due to its particular characteristics. Again **Cefixime** is the most popular molecule and the brand of SPL with this molecule is doing very well in the market. SPL should focus more on their brand with **Ceftriaxone**.

3.2.3 ANTIRHEUMATIC NON-STEROID

Diclofenac is the leader molecule in terms of doctors' preference also and has reached to another level of popularity after June, 2009. Though it is at present is facing a downturn but its popularity is still at a highest level and also there is a high difference between this molecules and other remaining ones (**Graph: M1.3**).

During the year 2008, **Aceclofenac** was around the same position along with **Diclofenac** but after that the increased growth rate was changed and a downward slope can be seen in prescription numbers.

Other than **Diclofenac** and **Tenoxicam** all other molecules are having an upward trend at the present time which means doctors' tendency to prescribe drugs with this molecule has increased in numbers. Though according to numbers, **Tenoxicam** and **Etoricoxib** are far behind than other molecules and their number rarely could reach the thousand mark in any month throughout this analysis period.



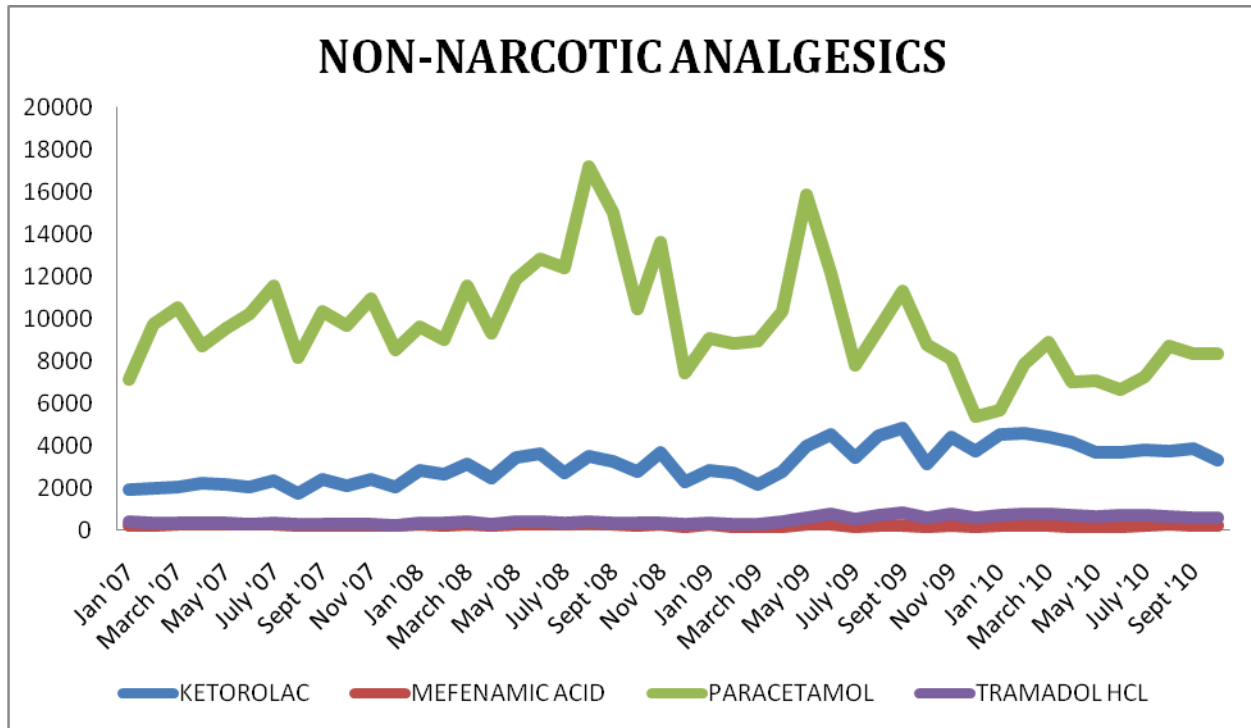
Graph: M1.3

Naproxen is the other molecule which has some potentiality in market apart from **Aceclofenac** in the presence of the molecule **Diclofenac**. Due to several reasons the numbers differ and according to patients doctors prefer different molecules to different needs.

RECOMMENDATION: Still it is not clear that toward which molecule the market is shifting. Companies should keep an eye on the market trend and take strategic steps accordingly and increase promotions to doctors to improve their value.

3.2.4 NON-NARCOTIC ANALGESICS

According to analysis on IMS data, **Caffeine** is one of the important molecules under this therapeutic class but unfortunately data was not available for this molecule. Among the other four molecules, the most preferred is **Paracetamol** as always with a high number of presences in prescriptions, but still it is facing a downturn since quite a few times. While the numbers were around fifteen to sixteen thousands during 2008, at present it's around eight to nine thousands. Though all the way the numbers fluctuated by huge margin (**Graph: M1.4**).



Graph: M1.4

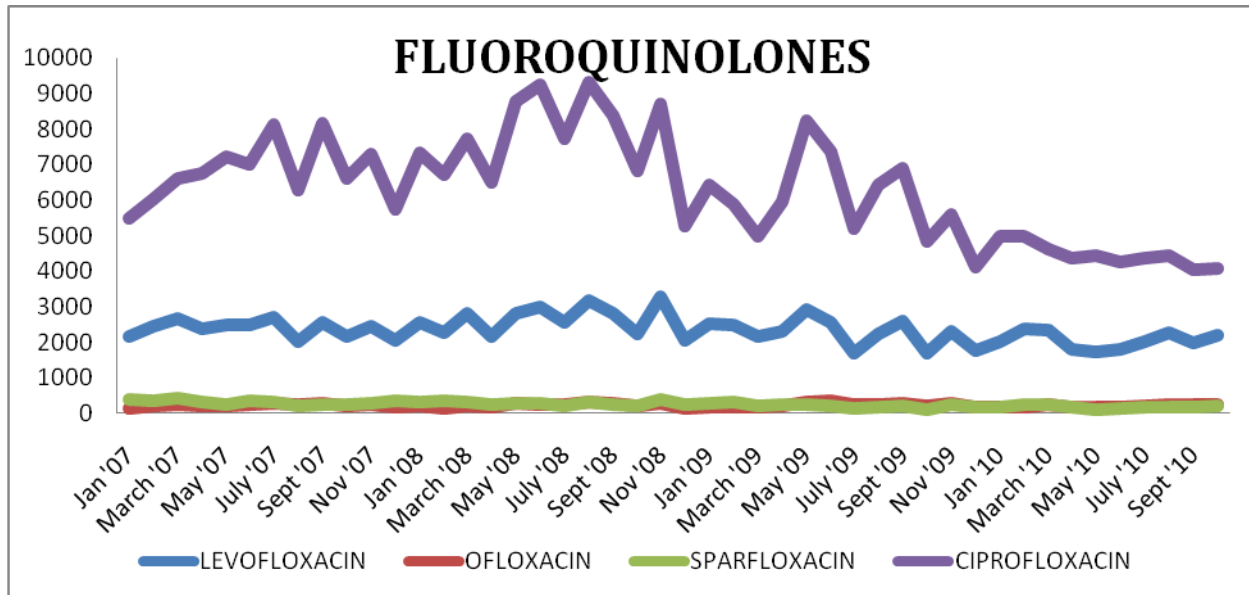
The second most preferred molecule is **Ketorolac** and its numbers are gradually increasing, though difference between these two molecules' numbers are still large. The other two molecules are prescribed very less and always the same level was maintained though numbers for **Tramadol** has been increased from 2009 but by a little margin.

The trend shows the stable popularity of the molecule **Paracetamol** throughout these years though **Ketorolac** is gradually taking its position. Overall the total number of prescriptions under this therapeutic class has decreased.

RECOMMENDATION: Still there is a clear preference for **Paracetamol** in the market. Throughout this period, **Ketorolac** has been shown an upward trend and it is also gaining preference from doctors. SPL needs to promote both of their brands under both molecules to the doctors to do well in the industry.

3.2.5 FLUOROQUINOLOES

Under this therapeutic class **Ciprofloxacin** is at the top position among the molecules according to this analysis as well though after June 2009, the number of prescriptions mentioning medicines with this molecule is gradually declining and the number is around 4,100 in October 2010.



Graph: M1.5

Levofloxacin is the second most preferred molecule by the doctors. Though the numbers are fluctuating in each month but on an average it is at a stable position around 2000-2500 and the difference between the two molecules are decreasing. That means doctors are preferring **Levofloxacin** medicines over **Ciprofloxacin** drugs (Graph: M1.5).

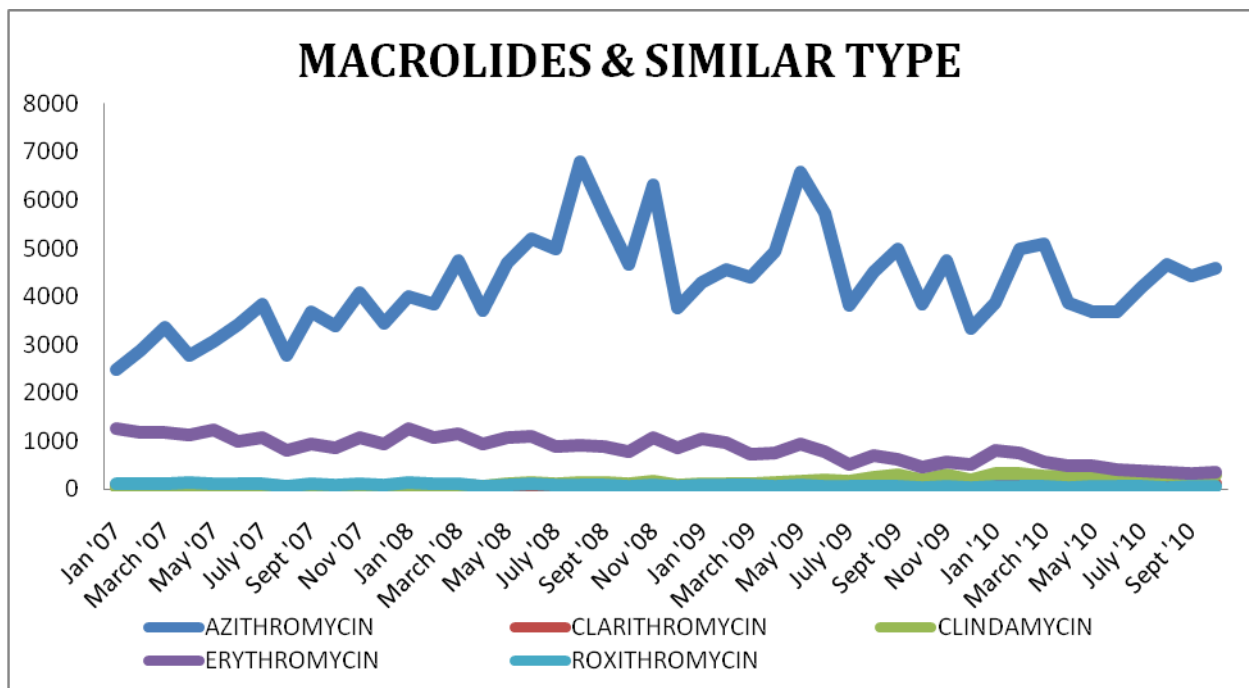
Other two molecules, **Sparfloxacin** and **Ofloxacin** still are not in the preference list of the doctors. That is why the numbers of prescription for medicines with these two molecules are very less and close to each other. The coming days will show their future possibilities.

On IMS based analysis there was five top molecules to analyze but the fifth molecule **Norfloxacin** is not as important as other molecules in the present context. That is why only four molecules are analyzed here.

RECOMMENDATION: In the pharmaceutical market of Bangladesh Ciprofloxacin is still the most dependable molecule by the doctors. **Levofloxacin** is currently having a raise and SPL should realize the potentiality of this molecule and focus on their relevant brand.

3.2.6 MACROLIDES & SIMILAR TYPE

Azithromycin is the most preferred molecule under this therapeutic class and has no molecule close to it according to numbers of prescriptions. From 2007 to 2010, numbers for prescription with this molecule has raised from amount over 2000 to around 4500. Overall it is showing an upward trend in preference among the doctors (**Graph: M1.6**).



Graph: M1.6

Erythromycin is the second molecule of which medicines doctors prefer most though there is a downward trend overall. At present in each month less than 1000 times the medicines with this molecule are prescribed by doctors.

During 2009, the number of prescribing medicines with another molecule **Clindamycin** has increased but numbers are not still reaching the high level. The trend is showing the increased rate of preference for this molecule to doctors.

The other two molecules are not that much prescribed by the doctors compare to other molecules that is why the graph is showing their stagnant position over the years in each month with a very low numbers.

Overall when doctors prescribe medicines to patients for diseases under this therapeutic class, they prefer the molecule **Azithromycin**. **Erythromycin** also gets priority but not as much as the earlier one.

RECOMMENDATION: This analysis is also showing the trend of decrease in popularity for **Erythromycin** and increase in that of for **Clindamycin** and strategies to act in accurate manner. It is also showing that **Azithromycin** is still the most popular molecule. Companies need to visualize the potential generic shifting event to act accordingly. SPL needs to maintain their focus on the brand with **Azithromycin** and promote their brand noticeably to the doctors.

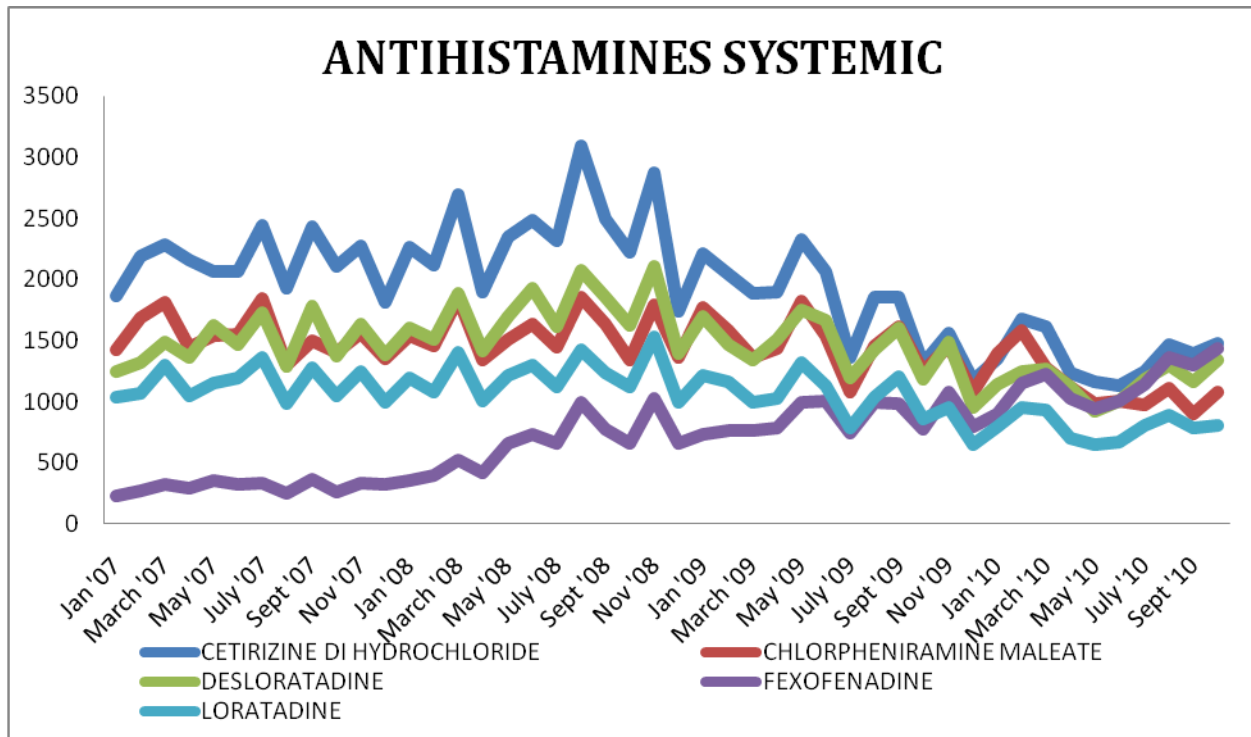
3.2.7 ANTIHISTAMINES SYSTEMIC

At present all the top five molecules under this therapeutic class are prescribed by doctors around same numbers according to graphs. The lines are showing the close positioning of these molecules in the list of doctors' preference. But the graph is showing the fact there is a significant trend changing throughout this analysis period (**Graph: M1.7**).

The oldest molecule under this therapeutic class **Cetirizine** is still the most preferred molecules by the doctors while prescribing medicines. The change is initially it was alone the most preferred molecule and it had no alternatives but with time the scenario is changed. The trend is showing downward sloping but decrease in numbers is not by a high margin.

The most potential molecule in the market is **Fexofenadine** which is prominent in the graphical presentation where the upward rise of this molecule can be seen. According to numbers it is prescribes almost as many times as the leader molecule by the doctors. It also is showing future

possibilities for it in the market. **Desloratadine** is another molecule that is showing upward trend recently and is prescribed as many numbers close to **Fexofenadine**.



Graph: M1.7

Overall the promise is shown from the molecule **Fexofenadine** and the popularity of this molecule among the doctors is increasing with time. **Cetirizine** is still the most prescribed molecule but losing the popularity.

RECOMMENDATION: This analysis is also showing the increasing popularity of the molecule **Fexofenadine** among the doctors and the fact is slowly this molecule is taking the place of **Cetirizine**. The later one is the main focused molecule of SPL under this therapeutic class, but now SPL should increase its investment to the brand “Fexo” with the molecule **Fexofenadine** along with maintaining the efforts toward **Cetirizine**.

The analysis on this report is based on the top nine therapeutic classes (value wise) which are most important to SPL but in this part only seven of those nine classes are analyzed as data for the other two classes MULTIVITAMINS+MINERALS and CALCIUM are not available.

3.3 OPINION OF PRODUCT MANAGERS

A set, open ended questionnaire was provided ([APPENDIX C](#)) to the relevant product managers with some significant questions for analysis. Apart from some generalize questions there were also some specific question regarding generics and the brands. From those answers, reasons behind the gaps and improvement of SPL performance in the market and the plans for future are more evident.

3.3.1 ANTIULCERANT

Antiulcerant is the class under which the most numbers of medicines are prescribed and sold in Bangladesh pharmaceutical market. Ulcer is one of the most common problem of people over here and life style is one key factor influencing ulcer problems.

From the product manager it was known that Antiulcerant generics are divided into two segments, Non-Systemic and Systemic. The division is as following,

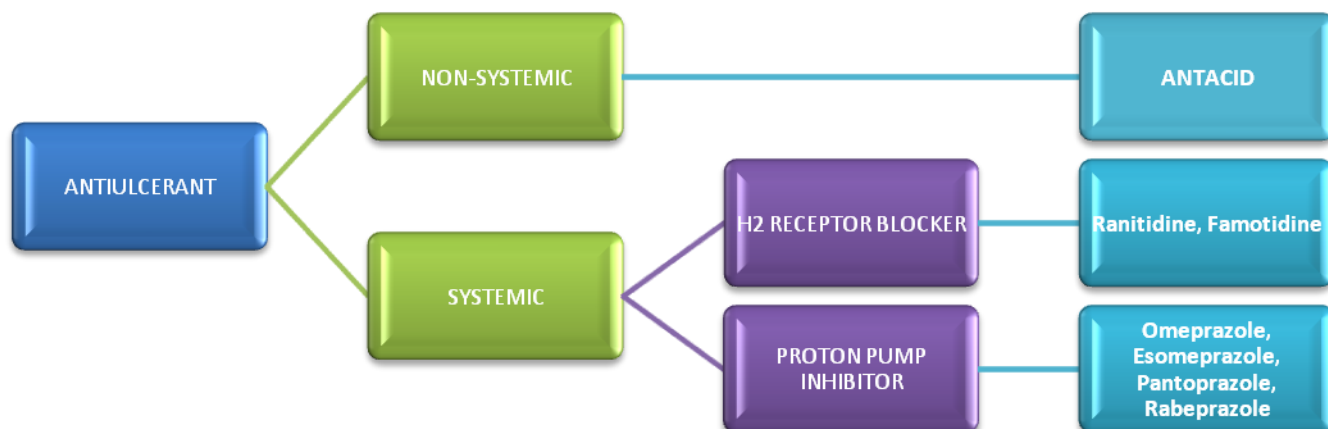


Figure 2: Division of ANTIULCERANT Generics

Among these, non-systemic generic work without affecting the blood, which means these medicines while doing remedy do not get mix with blood circulation. Systemic generics are more

effective ones. Systemic generics are also divided into two parts, one is H2 receptor blocker, under which molecules like Ranitidine and Famotidine come. “Neotack” is the SPL brand with Ranitidine generic. The second one is Proton Pump Inhibitor (PPI) with generics like, Omeprazole, Esomeprazole, Pantoprazole and Rabeprazole.

While talking about generic shifting the product manager said that the initial shifting is happening from generics of H2 receptor blocker to PPIs. The reasons behind are, comfort of patients and high level of efficiency. Doctors are preferring more the PPI molecules than the other ones. That is the reason Ranitidine had a negative growth and Omeprazole has taken a lead in the market. The market of the molecule Omeprazole is still booming and SPL has an over 100 crore taka brand “Seclo” under this generic. This was the first molecule that was in the market under PPIs and every company has put a huge promotional effort to build the market and these constant efforts have brought a significant place for this molecule.

The second level shifting is occurring within the PPIs where preference is now shifting from Omeprazole to Esomeprazole. The latter one is the S-isomer of Omeprazole and it is the more active form and again in the world market Esomeprazole has more acceptance than Omeprazole.

Among other molecules, Lansoprazole is not accepted in Bangladesh market, so SPL is not focusing on this molecule. **Incepta Pharma** has a huge lead with their brand under Pantoprazole generic reaching that level is quite difficult. SPL is immensely focusing on their brand with Omeprazole now and their future plan is to put huge promotional effort to their brand “Nexum” under Esomeprazole generic realizing potentiality of the molecule and to cope up with the shifting and be the market leader.

3.3.2 CEPHALOSPORINS & COMBS

According to the product manager there are four generations of Cephalosporins medicines in Bangladesh. The first generation medicines cover diseases from gram positive bacteria; the second generation covers diseases by gram negative bacteria; the third generation medicines cover both gram positive and gram negative bacterial diseases and the fourth generation covers both diseases but specially gram negative bacterial diseases for critically ill patients.

Generic shifting events occurs in this therapeutic class due to various reasons, such as; to improve against bacterial resistance level, to cope up with global scenario, to deal with the psychology of patients to depend on expensive drugs but specially to increase the bacterial coverage.

Cefixime is the most preferred molecule under this therapeutic class due to efficacy level, dosing convenience (once daily), low level of bacterial resistance and also high value of medicines. But Ceftriaxone is another molecule which has shown promising performance. It is a molecule which can be used in surgery as injection medicines and there is no alternative of this generic. But again Cefuroxime Axetile, which is a second generation generic recently, has come into limelight. The main advantage of this generic is in switch therapy. It is available in both injection and oral form, which is better for surgery patients to treat with the same generic. Though the molecule Ceftriaxone cannot be used in oral form, after the injection course, to replace this generic shifting occurs toward Cefixime molecule.

“Cef-3” is the most popular brand of SPL under this therapeutic class which is of Cefixime generic. There was huge investment and promotional activities behind this to promote this brand. Again their brand “Ceftron” of Ceftriaxone generic is one of the most trusted brands in surgery medication. Last year SPL has reduces its price and also gave lucrative gifts; which has resulted a 50% annual sales increase. In the generic Cefuroxime Axetil, SPL has the brand “Cefotil” and they have increased their investment on this brand recently. The main reason behind that is to diversify competition level from the generic Ceftriaxone. Overall SPL is making huge promotional effort for the last two years for its brands under this therapeutic class. A huge investment is done through huge sampling and free gifts to doctors.

3.3.3 ANTIRHEUMATIC NON-STEROID

According to the product manager there are several reasons why generic shifting events occurs in this therapeutic class, such as, availability of new generics in world market, better beneficial alternative than the current preferred molecule, if current drugs cause high side effects and also

patients convenience that is the dosage level like, Aceclofenac is needed to be taken twice a day whereas Tenoxicam is needed only once.

Diclofenac is still the most preferred molecule by the doctors and it is the oldest molecule under this class in the market. The molecule is cost effective to patients and also it can be available in eleven form of products, like-Oral, Injectable, Eye drops etc. this wide range of products, price sensitivity and high level of efficacy has helped to maintain its popularity.

But at present time, the brand of SPL with this molecule, “Clofenac” has a decreasing trend and it is at the second position than “Voltalin (NVR)”. According to the product manager, it is due to the fact that filed colleagues are focused on several products under same class and concentration is diversified. Again the leader **Novartis** is the originator of this generic, so they have advantage on this. Apart from these reasons, there are 30 crore taka markets for SPL with “Clofenac” suppositories, but these are melting at the normal temperature during summer time whereas other competitors’ brands are not melting down. So SPL is continuously losing prescription share of “Clofenac” suppositories.

Different molecules are preferred by doctors due to different reasons. Like, Aceclofenac is very useful for Arthritis patients, plain Naproxen is good for Cardiac patients. Again Tenoxicam has usage convenience (once daily), so doctors prescribe different generics according to different patients’ requirements. To improve SPL is planning to increase its promotional effort and improve the quality. Again they are planning to launch brand with the molecule Tenoxicam.

3.3.4 NON-NARCOTIC ANALGESICS

Paracetamol, Ketorolac and Caffeine are the three key generics in this therapeutic class though among them Caffeine is one combination with Paracetamol. Paracetamol is the highest valued generic under this class and Caffeine is one combination of it, especially effective in tiredness due to fever. Ketorolac is the next promising molecule though it has a huge gap with Paracetamol.

Paracetamol is a very old molecule and still it is at the top of preference list due to several reasons. Safety to any age group, efficacy level, dosage convenience and cost effectiveness are the main benefits of this molecule. Its popularity has increased to such a level that no other molecule of such importance could outweigh it in the market.

Ketorolac is the next promising molecule in the market and the generic is used in tablet form for acute pain relief and in injectable form for post operative pain relief.

Under this class, the top position is secured by Beximco Pharmaceuticals with its brand “Napa” and “Napa Extra”. Under Paracetamol and Caffeine molecules, there is huge OTC sale of these drugs and acceptance level of “Napa” brands are much higher among the patients than SPL brands such as, “Ace” and “Ace Plus” due to sustainable brand image. Beximco also do extra promotional activities (such as, Chemist bonus, Chemist promotions) for their “Napa” brands.

Under Ketorolac molecule, Renata is the leader company with its brand “Rolac”. In the tablet form, the gap with this brand of SPL brand is mostly high. Renata focuses on some specific brands throughout the year and “Rolac” is one of them. They put a huge promotional effort on “Rolac” than other generics under this class. Again Renata put promotional effort to non-graduate doctors for this brand which also makes the difference. SPL has plans to play good role through its promotional efforts with Ketorolac generic in the market to capture “Rolac (RTA)” share in the market.

Throughout this analysis period, there were no generic shifting event occurred of high importance. There is no other established molecule in the market to which preference would shift from Paracetamol. A potential shifting can be seen in near future from Ketorolac and Tramadol to Nalbuphine HCL in the market of injectable post operative pain reliever.

3.3.5 FLUOROQUINOLONES

Ciprofloxacin is the most preferred molecule in the Bangladesh pharmaceutical market with high margin of lead regarding value but the molecule as at its declining stage. Though this molecule is used only for urine infection worldwide, in our country doctors prescribe medicines with this molecule for almost all infection diseases. Again worldwide antibiotics are not given to patient

without proper bacterial culture test, but in our country Doctors go for blind therapy; that means they prescribe antibiotic medicines based on the pre conceptions observing the symptoms. Utilizing the lack of diagnostic efficiency, doctor's efficiency and also people unconsciousness due to illiteracy have make companies able to promote the molecule Ciprofloxacin which has given it a huge lead over other molecules in Bangladesh.

But now this molecule is having a negative growth and so do the SPL brand Ciprocin. According to the product manager, this downfall is due to huge competition in the market and also the entrance of more efficient molecules in the market. Levofloxacin is worldwide the most preferred molecule according to quality and efficacy. Another two new entrants in the market are Gemifloxacin and Moxifloxacin (not in the list of top five molecules). Generic shifting is happening toward these molecules from Ciprofloxacin within the therapeutic class. Outside the class the major shifting is occurring from Fluoroquinolones to Macolides; as medicines of Macrolides take less time and amount of medicine to cure the same disease than Ciprofloxacin. As per safety issues the shifting is happening to Cephalosporins & Combs.

With Levofloxacin molecule the brand of SPL is "Trevox" which is currently at second position value wise. In 2008 it reached the top position as a result of the campaign SPL arranged to sustain the growth. Though it failed to sustain as Incepta increased its investment and focus to their brand to regain the lead and also SPL did not want shift its investment to "Trevox" to the level which would have hamper their cash cow brand "Ciprocin".

Currently SPL is working on strategies to improve its position. In 2010 it has again arranged a campaign though it could only be able to improve the performance at moderate level. SPL is thinking of shifting its investment a bit from Ciprofloxacin to Levofloxacin and also launch a new product with the molecule Gemifloxacin.

3.3.6 MACROLIDES & SIMILAR TYPE

Under this therapeutic class, once both Erythromycin and Azithromycin were at close position regarding value, but since then, the first one had negative growth and the latter had constant high growth and is still the top preferred molecule and leader generic under this class.

This growth and shifting of preference is due to several reasons. Azithromycin is a very safe generic specially for children under one year and also pregnant women. It has tremendous dosage convenience for patients over other molecules. It is need to be taken once daily for just three days. This issue of convenience is also causing generic shifting from even molecules from other class like Fluoroquinolones to this generic. It is also cost effective and it has high level of efficacy.

Clindamycin is the next promising molecule under this class that has shown potentiality and influencing generic shifting from Erythromycin as it is considered as more safe and efficient than the earlier one. But the most important factor that influence generic shifting under this class is resistance level of the body. Longer usage of these generics build up resistance in the body and after a certain period generics do not work well for treatment. At that moment introducing a new generic become very practical. From this point of view, Clindamycin is a fairly new generic in Bangladesh pharmaceuticals market. It is also dosage convenient and cost effective.

SPL is at very good position under this class with its different brands. According to the product manager, efficient field force, brand image of SPL, consistent and pre-planned promotional strategies has enabled the company to perform well continuously. In near future, SPL is progressing with plans to move ahead than performance of **Renata** and be the leader with Clindamycin generic.

3.3.7 ANTIHISTAMINES SYSTEMIC

Cetirizine is the highest revenue earning molecule under this therapeutic class for SPL and also almost every company has product with this molecule but according to the product manager of SPL high growth cannot be expected from this molecule due to several reasons. This molecule is the oldest molecule under this class in the Bangladesh pharmaceutical market (20-22 years) and has passed it growth phase. For this fact, sales trend can only be expected to be according to remaining potentiality. “Alatrol” is the SPL brand under this molecule generating highest revenue for SPL under this class and also the brand is the leader in relevant market.

The next promising molecule is Fexofenadine with high potentiality due to doctors' preference and high level of efficacy. Patients' feedback is also very good of the medicines with this molecule and patients of almost all age can have these drugs. For these reasons, business perspective and also the fact that it is difficult to gain long time stability with only Cetrizine molecule, SPL has recently launched its brand "Fexo" (Tablets- April 2008 and Suspension- April 2009) under this molecule and promoting this brand with high investment. "Fexo" has managed to move to the second position rapidly and having a growth of higher rate than the leader, it is expected to move to the leading position in very quick time. According to the product manager, the image of SPL as a company, high focus on the brand, easy to remember brand name and also lack of biased doctor has influenced the high growth of "Fexo".

There are 14 brands of SPL under this therapeutic class and "Alatrol" and "Fexo" are the most popular. But there are also other brands which are not having acceptable growth due to several reasons. Other than the fact that the drug might be less effective, the brands might be less focused from SPL. SPL tries to maintain the lead of "Alatrol" and improve the growth of "Fexo". These two are the prime priority to SPL and so other brands might be losing some attention. "Sedno" is one such brand under Desloratadine molecule, which is less promoted and less focused by SPL.

To cope up with worldwide competition and also due to business perspective generic shifting is happening under this class according to the product manager. SPL is planning to go for investments and promotion to take the brand "Fexo" at top position in 2011.

3.3.8 CALCIUM

Under this class, Plain Calcium was the main generic in the market but to increase efficiency level different combinations with vitamins or minerals were introduced in the market. SPL is in the market with the all available five combinations with good stand.

The market is shifting toward the combination Calcium+Vitamin D from just Plain Calcium as vitamin D increases the absorption power of calcium in human body. This combination is the current market leader and SPL has just reached the leader position with high growth 125% in this term. According to the product manager, this growth was possible due to some factors. The tablet

was converted to conventional tablet from large chewable ones which largely omitted patients' discomfort. Again SPL put huge promotional effort to doctors which influenced prescribing their brand "Calbo-D". Also, SPL has increased their target group for this combination, while Plain Calcium is good for the pregnant women; this combination is suitable for pregnant women as well as older patients who do not much go outside in the sunlight.

The next combination that has a potentiality in the market is Calcium+Vitamin D+Multiminerals. Though the brand of SPL with this combination is not doing as well as its other brands but the product manager said that after sustaining the growth of "Calbo-D" they will focus more on the growth of this brand "Calboplex".

SPL has different strategies for their different brands under each combinations. For Plain Calcium brand "Calbo", they have changed the pack size to increase the growth. They are planning to put extra effort for another one year to sustain the high growth of "Calbo-D" providing the doctors huge sampling or gifts. And for "Calboplex" they are depending now on literature wise promotional activities.

4.1 FINDINGS

The report is prepared to analyze the whole pharma market of Bangladesh to explore the trend of generic shifting and to find out the path that SPL is following. Overall findings from this report are as following,

4.1.1 Reasons behind Generic Shifting

There are several reasons that influence the market or doctors to shift their preference from one generic or molecule to another. The reasons may vary under different classes or with time. These reasons are,

- Global pharmaceutical industry is a huge market and to be as a good player in that market it very important to cope up with the trend of the world market. To compete well at the global platform, manufacturers try to bring the same changes in the domestic market that are in the world market. For example **Levofloxacin** is the more accepted molecule than **Ciprofloxacin** under **Fluoroquinolones**. That's why though **Ciprofloxacin** is the most preferred molecule in Bangladesh but now companies are also focusing on **Levofloxacin** generic.
- Many times generic shifting occurs when there is a more effective generic available in the market than the current one. Doctors prefer that molecule which can produce better results. For example, doctors now prefer the combination **Calcium+Vitamin D** instead of **Plain Calcium** as it increases the calcium absorption power of body. Again **Levofloxacin** is worldwide the most preferred molecule according to quality and efficacy under the class **Fluoroquinolones** that is why growth of **Ciprofloxacin** is decreasing.
- Often dosage convenience of the generic shift preference from one generic to another as it is more comfortable and cost effective for the patients. For some generics patients need to take more tablets than others for having the same result. For example, the **Erythromycin** generic is need to be taken four times for seven to fourteen days, whereas, **Azithromycin** generic is taken only once daily for just three days. This reduced number of medicines taken improves patients' convenience and cost effectiveness.

- Sometimes one generic is more expensive than other and for only the business purpose the shifting happens to the more expensive generic and again sometimes shifting occurs to more cost effective generic. For example, **Omeprazole** is more expensive than **Ranitidine** which provide high revenue or **Diclofenac** is more cost effective to the patients.
- Companies' promotional effort for their particular brand helps to change doctors' preference from one molecule to another. Manufacturers give gifts, samples to influence the physicians' choice. For example, SPL has given gifts and sampling to doctors to promote their brand "Calbo-D" as well as the combination Calcium+Vitamin D.
- For better coverage of disease level many time new generics are introduced in the market. For example, there are four generations of **Cephalosporins** medicines in Bangladesh. The first generation medicines cover diseases from gram positive bacteria; the second generation covers diseases by gram negative bacteria; the third generation medicines cover both gram positive and gram negative bacterial diseases and the fourth generation covers both diseases but specially gram negative bacterial diseases for critically ill patients.
- Safety to patients is also an influencing factor behind generic shifting. For example, Azithromycin is a very safe generic for children under one year and pregnant women. That was an influencing factor to the shifting of preference to this molecule.
- There is psychology of patients that expensive medicines are more effective. That is why market often shifts to expensive generics as doctors tend to prescribe those medicines. Again patients are more comfortable sometimes with the traditional form thus companies tend to focus on patients want. Patients want to quick relief sometimes influence doctors to prescribe one generic over another.
- Doctors' preference and market trend shifts over time according to patients need also. For example, under **Antirheumatic Non-Steroid** class, **Aceclofenac** is very useful for Arthritis patients, plain **Naproxen** is good for Cardiac patients. Again **Plain Calcium** is good for pregnant women.

4.1.2 How Companies Influence Shifting

There are almost 250 companies in the Bangladesh pharmaceutical market and for business purposes often different companies specially the major key player of the industry influence generic shifting knowingly or unknowingly. The factors are as following,

- Companies do huge promotional effort to influence doctors and also the market to promote their brand. Often companies promote one brand more vigorously than other which might represent any particular generic thus sale of that particular generic might also increase. For example, **Beximco pharma** provide bonus offer for their brand “Neoceptin R” to sustain their sales or **Incepta pharma** give the doctors gifts and facilities to promote their brand with pantoprazole, “Pantonix”.
- Different companies often focus on different molecules due to price advantage or according to their convenience. That’s why they promote vigorously to doctors of that generic and gradually preference shifts from one generic to another.
- When company comes with any new generic in the market it put extra promotional effort to promote that molecule and establish it in the market. These extra efforts influence the preference trend to shift from one generic to another. For example, Incepta Pharmacame in the market with the generic **Clindamycin** and their promotional effort has created a preferred position for it in the market.
- Often originator of the generic comes with their brand in the market and promotes that. This effort increases doctors’ and chemists’ trust on them as they are the originator and they prefer their molecule. For example, **Novartis** is the originator of the generic **Diclofenac** and so, their brand “Voltalin” get more preference than any other brand in the market.
- Utilizing the lack of diagnostic efficiency, doctor’s efficiency and also people unconsciousness due to illiteracy have make companies able to promote the molecule **Ciprofloxacin** which has given it a huge lead over other molecules in Bangladesh though worldwide, **Levofloxacin** is the most preferred generic.

4.1.3 Overall Shifting Trend

- Sales trend can only be expected to be according to remaining potentiality of the generic as everything has a lifespan.
- In the Bangladesh market, companies utilize the lack of diagnostic efficiency, doctor's efficiency and also people unconsciousness due to illiteracy to promote any generic.
- Under Antiulcerant therapeutic class, the market is shifting now toward **Esomeprazole** molecule though the market for the generic **Omeprazole** is still booming.
- **Lansoprazole** is not accepted in the Bangladesh parma market.
- **Cefuroxime Axetile**, which is a second generation generic recently, has come into limelight due to its main advantage of switch therapy easily from injections to oral form.
- Under Fluoroquinolones class, generic shifting is happening from **Ciprofloxacin** to **Gemifloxacin** and **Moxifloxacin**.
- **Paracetamole**, **Cefixime** and **Diclofenac** is still the most preferred molecule by the doctors and other generics are used according to patient's needs.
- This analysis is also showing the increasing popularity of the molecule **Fexofenadine** among the doctors and the fact is slowly this molecule is taking the place of **Cettrizine**.
- Popularity of **Erythromycin** is decreasing and **Clindamycin** is increasing but **Azithromycin** is still the most popular molecule. The present trend is showing that by 2012, **Clindamycin** would outweigh **Erythromycin** and be the 2nd top preferred molecule in the market.
- With time different new generics are coming in the world market with new researches. Patent restrictions are removed from many of those. To survive in this global scenario manufacturers also strategize and introduce new brands.

4.1.4 SPL Planning

According to market condition and shifting trends, Square Pharmaceuticals strategize and make plans to improve and sustain in the business in all the generics. As they are the leader in the market, to retain that place it is very much important for the company to do proper planning and guide the workforce accordingly.

- SPL is planning to increase its investment on the generics **Levofloxacin, Calcium+Vitamin D** and **Esomeprazole** and want to launch brand under the generic **Tenoxicam** under the Antirheumatic non-steroid class.
- SPL tend to use brand names that are easy to pronounce or remember or which are more likely to be recalled by doctors promptly. For example, easy to remember brand name has influenced the high growth of “Fexo”.
- Focusing on brands one after another is one significant plan for the companies’ strategies. As same filed force is giving attention to all the brands under one class, after ensuring sustained performance of one brand they would focus on another one. For example, SPL has started focusing on the brand “Calbo-D” after ensuring the position of “Calbo”. Again they have planned to give emphasize on “Calbo-D” for another one year and after ensuring its position SPL will focus on “Calboplex”.
- Improved compliant management is one significant part of SPL planning and they continuously tries to improve the medicine quality. They changed chewable tablet to traditional ones for “Calbo-D”. Again they are trying to change the melting temperature for the “Ciprocin” suppository tablet.
- SPL use lucrative gifts, price reduction offer as their promotional tools. But unlike other companies they do not use bonus offer i.e. with 10 packs one is free; as they feels it is not a suitable option for their business and also there is chance for hampering relationships with their distributors.
- SPL wants to achieve OTC potentiality for the **Clindamycin** generic and wants to be the leader in this molecule by 2013.

4.2 CONCLUSION

Pharmaceutical is the second largest revenue generating industry in Bangladesh, and the country looks well set to merge as a global hub for quality medicines. A new era has begun for Bangladesh pharmaceutical sector with the TRIPs agreement from 2005 and will continue up to 2016. These eleven years 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. Healthy growth is likely to encourage the pharmaceutical companies to introduce newer drugs and newer research products, while at the same time maintaining a healthy competitiveness in respect of the most essential drugs.

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